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Тематика журнала: актуальные вопросы современной экономики и социологии - от теоретических и экспериментальных исследований до непосредственных результатов управленческой и производственной деятельности. Публикации в журнале учитываются как опубликованные работы при защите диссертаций на соискание ученых степеней России и зарубежья.

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- Основной раздел: социально-экономические аспекты развития современного государства;
- Современные технологии управления организацией;
- Актуальные вопросы политики и права;
- Современные науки и образование;
- Информационные и коммуникативные технологии;
- Здравоохранение в обществе.

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STUDYING THE WIDTH OF PROTECTION DURING CULTIVATION

Abstract. Initial processing between rows of cotton is one of the most important agrotechnical requirements, and the future fast or slow development of cotton depends on the quality of this activity. This activity is carried out with the help of cultivators, and the composition of their working bodies must first be correctly selected in accordance with the soil type of each field, and then adjusted in accordance with the established technological process. In this case, of course, there is a fixed value of the protective width-distance between a row of plants and the working bodies. Increasing the width of this protection reduces the efficiency of cultivation, and excessive narrowing causes more damage to young cotton seedlings. This article talks about recommendations for studying the width of protection during the primary processing of cotton rows.

Keywords. Cotton row spacing, protection width, initial processing, adjustment, soil, lateral deformation, sphere radii, flat blade, disc diameter, processing depth.

One of the important considerations for protection is the side of the soil under the influence of the cultivator and the distance of its spread, whether it is longer or shorter depends on the type and shape of the working organ, as well as the type of soil and the depth of reinforcement is. The general recommendations given by scientific institutions and experts are not suitable for all conditions, especially for cultivated areas with heavy soil.

According to the above-mentioned considerations, in order to further study this issue, a number of experiments were conducted with working bodies used in the initial cultivation of cotton and allowing to narrow the width of protection during the years 2018-2023. The experiment was carried out with one-sided flat blades (razors) with a coverage width of 165 mm and spherical radii with the same outer diameter of 260, 300, 340, 380 mm, i.e. discs with a diameter of 355 mm, and a large diameter of 300 mm. soil deformation with conical rotary working bodies was studied.

The description of the soil of the cultivated fields where the experiments were conducted is presented in Table 1, and the experimental options and their

results are presented in Table 2. The method of Professor M. Kh. Pigulevsky was used to determine the amount of soil deformation.

Table 1

Hardness and humidity in layers where lateral soil deformation is studied

Soil layers, cm	Soil hardness, n/cm ²	Soil moisture, %
0-5	48-54	11-13
5-10	112-116	15-16
10-15	148-155	16-18

According to the results of all the tested options, the soil is significantly less deformed under the influence of the disc compared to the deformation under the influence of the blade and conical rotary working body. For example, in variant 1, soil deformation under the influence of a disk with a diameter of 260 mm is 1.9 cm, under the influence of a blade this indicator is 3.3 cm, and under the influence of a conical rotary working body - 2.4 cm. is forming (Table 2).

In the 1st variant of the experiment, the influence of the change in the diameter of the disc on soil deformation was studied. In this case, the deformation of the soil increases with the increase in the diameter of the disk. For example; soil deformation for a disk with a diameter of 260 mm is 1.9 cm, and for a disk with a diameter of 380 mm, this indicator is 3.1 cm.

In the 2nd variant of the experiment, the influence of the change of the disk installation angle on soil deformation was studied. In this case, the deformation of the soil increases in accordance with the increase of this angle. For example, when this angle is 50, soil deformation is 1.9 cm, and when it is 200, soil deformation is 3.4 cm.

In the 3-4 variants of the experiment, it was found that with the increase in the depth of processing and the speed of aggregate movement, the deformation of the soil increases correspondingly, and the deformation of the soil increases accordingly. For example, in option 4, when the speeds were increased from 0.8 to 2.6 m/s, soil deformation under the influence of a disk with a diameter of 260 mm increased from 1.9 to 2.8 cm, and under the influence of a blade it significantly increased, or increased from 3.3 cm to 4.9 cm.

Table 2

Kultivator ish organlari turi va o'lchamlariga qarab tuproqni yon tomonga deformatsiya miqdorining o'zgarishi

Option number	Disc diameter mm	Disc mounting angle, grad	Processing depth, cm	Movement speed m/s	The amount of lateral deformation of the soil in cm		
					Type of work body		
					knife	disc	Conical rotary
1	260	5	7	0,8	3,3	1,9	2,4
	300	5	7	0,8	3,3	2,3	2,4
	340	5	7	0,8	3,3	2,7	2,4

	380	5	7	0,8	3,3	3,1	2,4
2	260	5	7	0,8	3,3	1,9	2,4
	260	10	7	0,8	3,3	2,4	2,4
	260	15	7	0,8	3,3	2,8	2,4
	260	20	7	0,8	3,3	3,4	2,4
3	260	5	5	0,8	2,8	1,5	2,0
	260	5	7	0,8	3,3	1,9	2,4
	260	5	9	0,8	4,2	2,4	3,0
	260	5	11	0,8	5,0	3,0	3,8
4	260	5	7	0,8	3,3	1,9	2,4
	260	5	7	1,3	3,6	2,2	2,6
	260	5	7	1,7	3,9	2,3	2,8
	260	5	7	2,1	4,4	2,5	3,1
	260	5	7	2,6	4,9	2,3	3,5

Therefore, according to the above results of the conducted experiments, it is possible to increase the efficiency of cultivators by narrowing the width of the protection during the initial treatment between the rows of cotton:

- Spherical disks with a diameter of 260 mm should be installed on the cultivator in the initial cultivation of cotton..

- disks should be placed on both sides of cotton rows at a distance of 7...8 cm with the surface side, and the cutting edge of the disk should be set at an angle of 8...100 to the direction of aggregate movement.

As a result of the application of these recommendations in the initial cultivation of cotton, the efficiency of the use of cultivators can be increased by 8...12%..

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PRACTICAL ADVANTAGES OF TRANSFORMING INTO IFRS

Abstract. In the article, in the improvement of financial reporting, the transition to international financial reporting standards (IFRS) and its introduction are all that it is an urgent issue for many countries in the world on the basis of financial statement compilation results in countries preparation of financial statements and financial statements in our country scientific and practical conclusions on the transition to international standards and suggestions and recommendations for the transition to international standards of financial reporting have been formed.

Keywords: national accounting standard, financial accounting transition to international financial reporting standards (IFRS) and its implementation is an urgent issue for all countries.

INTRODUCTION

To the economy of the country based on the experiences of developed countries investment environment by applying international standards of financial reporting improvement is made possible. International Federation of Accountants (IFAC) as stated in the directive: "Financial reporting at the macro and micro level of the state illuminate politics and long-term public services and economy helps to stabilize" [3]. Financial report today transition into international financial reporting standards (IFRS) and its implementation is an urgent issue for all countries. In the world In many countries, financial statements are compiled as a result of financial statements on the basis of which a financial report is being drawn up.

LITERATURE REVIEW

Some of the ways to transition to international standards of financial reporting issues, theoretical and methodological issues, foreign economists A. Arens, R. Adams [3], by M. Benis, R. Dodge, D. R. Carmichael, Dj. Robertson and other scientists studied. Financial report by scientists of our country in the following years scientific articles devoted to the improvement of research R.D. Dusmuratov [13], What we see in the research of A.K. Ibragimov, I.N. Ismanov, B.A. Khasanov and others possible.

RESEARCH METHODOLOGY AND EMPIRICAL ANALYSIS

International standards of financial reporting - the so-called Committee is a set of rules recommended for application to member states. The birth of this international standard is the internationalization of financial reporting directly related to the activities of the Standards Committee (MHHSSQ). It is an international organization a number of leading countries (Australia, Canada,

France, Germany, Japan, Mexico, the Netherlands, the United States, Great Britain and Ireland) of accountants established by mutual agreement by professional associations. The function of the committee includes the following objectives [2]:

- financial reporting, taking into account the interests of the public formulating and publishing standards, preparing and presenting reports provision of rules, public application and compliance with them encouragement;
- norms related to presentation of financial reports, account work on improvement and coordination of standards and procedures.

Reorganization of the national report according to international reporting standards, international In practice, it is carried out in two ways, that is, the transformation of financial statements making and conversion methods. The transformation method internationalizes the indicators of the previous reporting period refers to re-adjustment according to standards. A company for that first, according to national standards, accounting for economic transactions and events and then adjust the financial reporting indicators to international standards adapts and changes. The differences that occurred during the transition to international standards were not distributed accounting as part of profit (unreimbursed loss) is accepted in international practice. These differences are criteria for recognition of income and expenses in national and international standards characterized by For example, the amount of income according to our national standards determined by the size of the shipped product (work, service), international standards and according to the volume of proceeds from sales. Corrective when switching from one system of financial reporting to another under the influence of records, not only on the balance sheet and financial results reporting items, as well as cash flows and equity changes occur in the relevant articles of the reports. for this the following should be done [6]:

-revaluation of reserves. If the company's account policy the used production reserve estimation method is in accordance with international standards if it differs from the provided methods, then in our national accounting system the lifo method it is assumed that its application has been canceled;

- carrying out an inventory of fixed assets, in which their moral and valuation losses due to physical wear and tear are determined;
- on long-term financial leased assets checking the correctness of the account of deferred income;
- separation of assets and liabilities into long and short term, etc.

CONCLUSION AND DISCUSSION

Financial statements in accordance with the Financial Statements the process of transformation plays an important role. Financial reports transformation is based on accounting regulations to revise the formed accounting works based on the requirements of international standards the process of making

appropriate adjustments to grouping and reporting forms is considered In the future, in the coordination of financial statements with the MHSS, they have transformation of reports on national accounting It is intended to be implemented by our accountants and specialists would be appropriate. The transformation should be carried out in the following stages we think that.

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Annotatsiya. Maqolada ekologik karkasning tarkibiy-funksional tuzilishi va uni asosini tashkil etuvchi markaziy yadrolarni kompleks baholash metodikasi taxlil qilingan. Tadqiq etilayotgan hududlarni markaziy yadro sifatida belgilashda quyidagi asosiy jihatlarga etibor qaratildi: optimal maydonga egaligi, noyob turlarga va fitotsenozlarga boyligi, landshaftlarning xilma-xilligi. Olingan natijalar asosida ekologik karkas tarkibini takomillashtirish boʻyicha tavsiyalar ishlab chiqiladi.

Kalit soʻzlar. ekologik tarmoq, markaziy yadrolar, ekokoridorlar, ekotarmoq tarkibi, suv yigʻish havzasi, bioxilma-xillik, ekotarmoqning iyerarxik tuzilishi.

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EVALUATION CRITERIA AND METHODS CORE AREAS

Abstract. The article analyzes the structural and functional structure of the ecological frame and the methodology of comprehensive evaluation of the central cores that form its basis. When defining the researched areas as the central core, attention was paid to the following main aspects: having an optimal area, rich in unique species and phytocenoses, diversity of landscapes. Based on the obtained results, recommendations for improving the composition of the ecological framework will be developed.

Keywords. ecological network, central cores, ecocorridors, ecosystem composition, water catchment, biodiversity, hierarchical structure of the ecosystem.

KIRISH. XXI asr boshlariga qadar biologik xilma-xillik(BX)ni saqlab qolishning asosiy yo‘nalishlaridan biri muhofaza etiladigan tabiiy hudud(METH)larni tashkil etish hisoblangan. Lekin, globallashuv davrida tabiatni muhofaza qilishning bunday shakli insoniyat uchun atrof-muhitning qulay holatini saqlash hamda qo‘llab quvatlash imkoniyatiga ega emasligi bilan izohlanmoqda. Hozirgi kunda jamiyatning barqaror rivojlanishi va ekologik havsizligini ta‘minlash uchun turli maqom va rejimga ega bo‘lgan METHlarni yagona tizimga birlashtirishga, ya‘ni ekologik infratuzilmani yaratishga alohida e‘tibor qaratilmoqda.

METHlarni geoekologik yo‘laklar va bufer zonalar yordamida shakllangan muayayn mintaqadagi integratsiyasi tizim elementlari o‘rtasidagi o‘zaro ta‘sir va aloqadorlikni kuchayishiga hamda yaxlitlikni ta‘minlanishiga olib keladi. Bunday yondashuv ushbu tizimda yangi xususiyat va imkoniyatlarni shakllantiradi. Natijada, METHlar tizimi funksional dasturlashtirishdan inson manfaatlariga xizmat qiluvchi ekologik karkas sifatida boshqarilishga o‘tadi [1; 26-27-b., 8; 19-b., 10]. Ilmiy adabiyotlarda «ekologik karkas» boshqa atamalarga nisbatan keng ommalashgan bo‘lib, ekologik karkas konsepsiyasi mazmun mohiyatiga ko‘ra geografiya va ekologiya sohasidagi ilmiy yo‘nalishlarga to‘liq mos keladi. Deyarli barcha tadqiqotchilar tomonidan ekologik karkas yoki ekologik tarmoqlar METHlar tizimining takomillashgan shakli sifatida baholangan. METHlar tizimini to‘liq va yaxlitligini ta‘minlash orqali ekologik karkas shakllantiriladi. Shu bois, METHlarning turli toifalari funksiyasiga ko‘ra ekologik karkas elementlariga mos holatda baholandi.

Ekologik karkas tushunchasini ifodalashda va nomlashda ilmiy tushunchalarning mohiyatiga turlicha yondashuvlarning ko‘pligi, bu boradagi ba‘zi talqinlarining bir-biriga qarama-qarshiligi xosdir. Lekin, ekologik karkasning strukturasi, iyerarxik darajalari, har bir elementning funksiyasi va tipologik klassifikatsiyasi bo‘yicha berilgan fikrlar bir-birini to‘ldiradi. Ekologik karkasning turli darajadagi elementlari (global, mintaqaviy, mahalliy) geografik tizim hisoblanadi. Tizim ijtimoiy, iqtisodiy va ekologik funksiyalarni bajaruvchi markaziy yadro, geoekologik qayta tiklash hududlari, geoekologik yo‘laklar va himoya zonalar kabi asosiy elementlardan iborat bo‘lib, sifat jihatdan o‘zaro teng tarkibiy qismlar sifatida ko‘riladi.

ADABIYOTLAR TAXLILI VA METODLAR. METHlar tizimini takomillashtirish orqali ekologik karkasni tashkil etish bo‘yicha dastlabki ishlar XX asrning 70 yillarida Yevropa Ittifoqi mamlakatlaridan Estoniya va Litvada amalga oshirilgan [13, 14]. Estoniyada ishlab chiqilgan «ekologik kompensatsiyalangan rayonlar tarmog‘i» ekologik tarmoqlarni yaratishdagi dastlabki innovatsion yondashuv hisoblanadi. Dastlab ekotarmoqlar Estoniyada «ekologik kompensatsiyalangan rayonlar tarmog‘i», Litvada «tabiat ramkasi», Chexiya va Slovakiyada «barqaror landshaftlarning hududiy tizimi», Rossiyada «yashil mintaqa hududlari va muhofaza qilinadigan tabiat tizimlari», AQShda

«Yovvoyi hududlar tarmogʻi», Avstraliya va Portugaliyada «yashil yoʻlak» sifatida nomlangan [12; 5-b].

Ekologik karkasning asosiy funksiyasiga tabiiy jarayonlarning tabiiy holatini taʼminlash, mavjud landshaftlar, biologik turlar va populyatsiyalarni muhofaza qilish hamda ekologiyalashtirilgan xoʻjalik faoliyatlarini qoʻllab quvatlash kiradi [6; 46-b., 9]. Tabiatni muhofaza qilish hamda undan oqilona foydalanishga yoʻnaltirilgan mazkur tizim tabiatni muhofaza qilishning boshqa shakllaridan voz kechishni anglatmaydi, balki ularning integratsiyasini va majmualari rivojlanishini taʼminlaydi. Ekologik karkasning funksiyalari keng spektrga ega boʻlib, muxit hosil qilishdan tortib axborot funksiyagacha qamrab oladi [5, 11].

NATIJAR VA MUHOKAMA. Ekologik karkasni tashkil etishda ekologik muvozanatni saqlab turish uchun har-bir hududning kompensatsion imkoniyatini yetarli boʻlishiga hamda antropogen bosimni doimiy ravishda ortib borishga eʼtibor qaratish zarurdir. Ekologik karkasning hududi optimal kattalikka ega boʻlsa, uning alohida elementlari oʻrtasida axborot, modda va energiya almashuvining yuqori intensivligi taʼminlanadi. Bu orqali, ekologik karkas oʻzining muhitni shakllantiruvchi va himoya qiluvchi funksiyasini samarali bajarishi mumkin. Quyidagi uch tipdagi hududlar uchun optimal maydon kattaligini aniqlash boʻyicha muayyan tajribalarga asoslangan hisob-kitoblar mavjud; tabiiy landshaftlar (METHlar, tabiiy ekotizimlar, suv havzalari), agrolandshaftlar (sugʻoriladigan yerlar, yaylovlar, ixotazorlar, bogʻlar va boshqa.) va urbolandshaftlar (aholi punktlari, sanoat, transport, aloqa yerlari)ning oʻzaro nisbati mos holda 50, 40 va 10%dan ortib ketmasligi kerak.

Agar agrolandshaft va urbolandshaftlar optimal tarzda tashkil etilsa ekologik muvozanatni saqlab turish qobiliyatiga ega boʻlgan hududlar, yaʼni METHlarning ulushi ekologik karkasning yarmini tashkil etishi kerak [6]. Ekologik karkasni optimal shaklga keltirish uchun uni tashkil etuvchi elementlarning samaradorligini baholash talab etiladi. Shuning uchun, ekologik karkasning asosiy elementlarini baholashga eʼtiborimizni qaratdik.

Ekologik karkasning yadrosini METHlar (I-IV toifalari) bilan birga tabiatdan foydalanish meyorlari qatʼiy belgilangan va ehtiyotkorona rejimiga ega boʻlgan hududiy majmua tashkil etadi. Bundan tashqari, har qanday tizim kabi, ekologik karkas ham juda murakkab tuzilishga ega boʻlib, maydonli, chiziqli va nuqtali obyekt hamda hududlardan iborat boʻladi. Ekologik karkasning maydonli obyektlari - keng koʻlamdagi tabiat komplekslari boʻlib, maydonning kattaligi va yuqori darajadagi xilma-xillik sababli yirik hududlarda tabiiy jarayonlarning borishini hamda ekologik balansning barqarorligini taʼminlaydi [10, 11].

Markaziy yadro muhit hosil qiluvchi hududlar boʻlib, mintaqada tabiiy-hududiy komplekslardagi zaruriy parametrlarining sifatini saqlash hisobiga (biotani takror ishlab chiqarish, genofondni saqlab qolish, fitonsidlar ishlab chiqarish va boshq..) suv resurslarini tartibga soluvchi, suv va tuproqni himoya qiluvchi hamda ekologik muvozanatini saqlashni quvatlovchi funksiyalarni

bajaradi. Ekologik karkasning asosi bo'lgan markaziy yadro hududlarini baholashda A.A.Blakbern va O.N.Kalinixinlar tomonidan tavsiya qilingan metodlardan foydalanish mumkin. Mazkur yondashuvda baholash ishlari maydon kattaligi, turlarga boyligi, fitotsenozlar soni va landshaftlarning xilma-xillik ko'rsatkichlari asosida amalga oshiriladi [2, 3]. Olingan natijalar asosida noyob tabiiy obyektlarni 1 va 2-darajali markaziy yadro hududlari sifatida aniqlash imkoniyatiga ega bo'linadi. Markaziy yadro hududlarining maydon kattaligini baholashda quyidagi formula asosida hisoblab chiqiladi:

$$St = \sum \sum S_{ij} (jKg),$$

bu yerda, St– markaziy yadro maydon kattaligi uchun belgilangan ballar yig'indisi, j - markaziy yadro sifatida belgilangan hudud yoki obyektidagi landshaft turlari (qumliklar, to'qayzorlar tabiiy o'rmon massivlari, yaylovlar, suv havzalari va boshq.), Si – har-bir landshat turini egallagan maydoni bo'yicha ballar yig'indisi (1-javdal asosida); jKg– landshaft turlaridagi ekologik holat koeffitsienti (6-formula asosida ishlab chiqiladi).

Noyob tabiiy hududlarni markaziy yadro sifatida ajratishda ularning har biridagi BXning darajasi ham tahlil qilinadi. Biologik turlarga boyligi ekspertlar tomonidan belgilangan ballar bo'yicha aniqlanadi. Noyob turlar uchun quyidagi ballar taklif etiladi: mintaqa uchun noyob bo'lgan 1 ta turga, 0.5 ball; O'zbekiston Respublikasi Qizil kitobiga (2019) kiritilgan 1 ta turga, 1 ball; IUCN va Halqaro Qizil kitobga kiritilgan 1 ta turga, 1.5 ball. Turlarning boyligi bo'yicha umumiy ballar quyidagi formula bo'yicha hisoblab chiqiladi:

$$B_t = \sum \sum B_{ij}, \quad (2)$$

bu yerda, Bt-markaziy yadro hududining turlarga boyligini belgilab beruvchi ballar yig'indisi; j - landshaft turlari; Bi-turlarning boyligi bo'yicha har bir landshaft turining ballar yig'indisi.

Fitotsenozlarga boylik ko'rsatkichi ham ekspert ballari asosida aniqlanadi: markaziy yadro hududida bitta fitotsenoz bo'lsa, 1 ball; agar fitotsenoz O'zbekiston Respublikasi "Qizil kitobi"ga kiritilgan bo'lsa, 2 ball beriladi. Bu quyidagi formula bilan hisoblab chiqiladi:

$$F_t = \sum \sum F_{ij},$$

bu yerda, Ft–Markaziy yadro hududini fitotsenozlarga boyligini belgilab beruvchi ko'rsatkich; j - landshaft turlari; Fi-landshaft turlari bo'yicha fitotsenozlarning xilma-xillik ko'rsatkichining ballar yig'indisi (1-javdal).

Geotizimlarning xilma-xillik ko'rsatkichi markaziy yadrodagi landshaft turlarini aniqlash orqali baholanadi. Bu ko'rsatkich ham ball berish orqali aniqlanadi: 1 ta landshaft turiga 1 ball. Bu quyidagi formula bilan hisoblab chiqiladi:

$$E_t = \sum n_j,$$

bu yerda, Et–markaziy yadrodagi landshaft xilma-xilligining qiymat ko'rsatkichi; j – landshaft tipi, n – landshaft tiplarini soni.

Tadqiq etilayotgan mintaqaning tabiiy potentsiali belgilab beruvchi ballar yig'indisi quyidagi formula bilan aniqlanadi:

$$P_t = \sum \sum ij = S_t + B_t + F_t + E_t,$$

bu yerda, P_t –tadqiq etilayotgan obyektning noyoblik darajasini belgilab beruvchi ballar yig'indisi, i – baholash xususiyatini belgilab beradi (S – maydon, B – tur xilma-xilligi, F – fitotsenoz xilma-xilligi, E – landshaft xilma-xilligi); j – landshaft tipi; S_t, B_t, F_t, E_t – tadqiq etilayotgan hududning xar bir xususiyatini belgilab beruvchi ballar.

1-jadval

Markaziy yadro hududlarini maydon kattaligi va turlarga boyligi bo'yicha ekspert ballari

Maydon kattaligi bo'yicha balli baholash xarakteristikasi.		Turlarga boyligi (o'simlik turlarining soni bo'yicha)	
Si (ra)	ball	N tur soni	ball
1-10	1	≤ 100	1
11-50	2	101-150	2
51-100	3	151-200	3
101-300	4	201-250	4
301-500	5	251-300	5
501-750	6	301-350	6
751-1000	7	351-400	7
1001-2000	8	401-450	8
2001-3000	9	451-500	9
> 3000	10	>500	10

Landshaftning ekologik holatining koeffitsenti (K_g) quyidagi formulasi bilan hisoblab chiqilgan:

$$K_g = \frac{C_p}{C_d} \quad (6)$$

bu yerda, K_g -% hududdagi geotizimning o'zgarishga uchramagan maydoni; C_p -% landshaftning imkoniyatidan kelib chiqib o'zgartirish mumkin bo'lgan maydon kattaligi. C_d -bo'yicha ko'rsatkichlar ekspertlar tomonidan aniqlanadi. K_g ning qiymatlari bo'yicha landshaftlarning ekologik holati quyidagi gradatsiyalar bo'yicha baholanadi: yaxshi–1,5 dan katta; qoniqarli– 1.1-1.5; qoniqarsiz–0.9-1.1; tang –0.5-0.9; halokatli –<0.5.

Olingan natijalar asosida mintaqadagi har-bir yadroning ekologik karkasdagi ahamiyatini belgilab beruvchi ballar aniqlanadi. Bu yondashuv orqali mintaqadagi markaziy yadro hududlarini ahamiyatiga ko'ra turli darajalarga ajratish mumkin. Bufer zonalarda yerdan va tabiiy resurslardan foydalanishni amalga oshirishda mavjud an'anaviy va tejamkor usullarni saqlab qolishga shuningdek, boshqa muqobil usullarni ham keng qo'llashga e'tibor qaratiladi. Bufer zonalarida o'zlarining joylashish xususiyati va ahamiyatiga ko'ra tabiatni muhofaza qilishning ikki asosiy turi ajratiladi: birinchisi, resurslarni qayta tiklanishi uchun qulay muhitni saqlovchi; ikkinchisi sanitariya-gigiyena holatini sog'lomlashtirish uchun qulay muhitni ta'minlovchi turlardir.

Bufer zonalarning optimal kengligini belgilashda V.V.Suxanov (1993), K.N.Dyakonov va A.V.Doncheva (2002) kabi tadqiqotchilarning ishlarida keltirilgan metodik ishlanmalardan foydalanish mumkin. METHlarning bufer zonalari optimal kengligi quyidagi formula orqali aniqlanadi:

$$A_2 = [(1-Z)^{-1/Z} - 1]A_1, (7)$$

bu yerda, A_2 –METHning bufer zonasi, $Z=0,25$ ga teng bo‘lgan o‘zgarish son; A_1 –METHning maydoni, Optimal kattalikdagi bufer zona METHning maydoniga nisbatan 2.16 marotaba katta bo‘lishi belgilab qo‘yilgan.

METHlarning bufer zonalari o‘lchami aylana shakliga ega bo‘lgan R_1 radiusi bilan aniqlanadi. Bufer zonaning tashqi chegarasi $R=1,78R_1$ radiusi bilan topiladi. Agar, METH R_1 radiusiga mos holda doira shakliga ega bo‘lsa, METH atrofidagi bufer zonaning ham tashqi radiusi $R=1,78R_1$ bilan halqa ko‘rinishida bo‘lishi kerak. METHning chegarasi doira shakliga ega bo‘lmasa, bufer zonaning optimal kattaligi ko‘pburchak uchlarning koordinatalarini METH chegarasiga yaqinlashtirish asosida hisoblab chiqiladi. Mazkur formuladan foydalanib har bir ekologik karkas elementi uchun bufer zonasi hisoblab chiqiladi. Optimal kattalikdagi bufer zonalar METHlar tizimining tabiatni muhofaza qilishdagi samaradorligini qo‘llab quvatlash va muhofazaga olingan ekotizimlarni barqarorligini ta‘minlashga xizmat qiladi.

XULOSA.

1. Ekologik karkasning tarkibiy-funksional tuzilishini o‘rganish va samaradorligini aniqlashda markaziy yadrolarni kompleks baholash talab etiladi. Bunday yondashuv markaziy yadrolarni ekologik ahamiyati bo‘yicha ularni qiyosiy tahlilini amalga oshirish imkonini beradi. Baholash natijalariga ko‘ra markaziy yadrolarni ekologik ahamiyati bo‘yicha 1 va 2 tartibli hududlarga ajratish mumkin. Agar, ekologik karkas tarkibidagi 1 tartibli markaziy yadrolar yetarli bo‘lmasa, yangi muhofaza etiladigan tabiiy hududlarni tashkil etish yoki mavjudlarini kengaytirish bo‘yicha tavsiyalar ishlab chiqiladi.

2. METHlar tizimi ekologik karkas tarkibida o‘ziga xos ekologik vazifalarni bajaruvchi va makonda bir-biri bilan o‘zaro bog‘lanmagan tabiiy va antropogen hududlar o‘rtasidagi yaxlitlikni ta‘minlash vazifasini bajaradi. Ekologik karkas tarkibida METHlar ekologik muvozanatni ushlab turuvchi, resurslarni saqlovchi va boyituvchi, tabiiy muhit hosil qiluvchi turli funksiyalarni bajarish bilan birga mazkur xususiyatlardan oqilona foydalanish uchun qulay sharoitni yaratadi. Natijada geokomplekslarda yuqori axborot beruvchanlik, hududda muhitning ekologik parametrlariga jiddiy ta‘sir qila olishi, barqarorligi, tabiiy-resurs imkoniyatining o‘ziga xosligi va qayta tiklanishi, tabiiy obyektlardagi yuqori estetik qimmatga ega bo‘lgan xususiyatlar saqlanib qoladi.

3. Ekologik karkasning samaradorligi uni tashkil etuvchi elementlarning to‘liqligi va bir-biri bilan bog‘langanlik ko‘rsatkichi hamda belgilangan funksiyalarni bajara olish darajasi bilan belgilanadi. Shu bois, mazkur funksiyalarni qanchalik samarali bajara olishini baholash juda muhimdir. Baholash natijalariga asoslanib yangi METHlarni tashkil etish yoki mavjud

METHlarni huquqiy maqomini qayta ko‘rib chiqish bo‘yicha takliflar beriladi. Ekologik karkasning samaradorligi baholashda markaziy yadrolarning soni, ularning katta-kichikligi, geoeologik yo‘laklarning uzunligi, markaziy yadro va geoeologik yo‘laklarni mintaqa maydoniga nisbatan ulushi, karkas elementlarini bir-biri bilan bog‘langanlik darajasi kabi ko‘rsatkichlardan foydalanish maqsadga muvofiqdir.

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LINGUISTIC CHARACTERISTICS OF INTERCULTURAL COMPETENCE AS A PART OF TEACHERS' PROFESSIONAL COMPETENCE

Abstract. Intercultural competence is considered to be a core element for the professional and social competence of a teacher. Intercultural competence comprises a system of lingua-cultural knowledge which is developed at the foreign language learning stage. The development of intercultural competence is fostered by such didactic methods as the lingua-conceptual approach to teaching of foreign language, working with authentic texts and films, corrective exercises which are targeted at eliminating possible communication failures. Communication classes are conducted in interactive form and involve role playing and training activities, wherein intercultural communication peculiarities are taken into consideration.

Keywords: culture, education, competence, development, intercultural, lingua-cultural knowledge.

Introduction. Professional competence means knowledge, skills, abilities and personal qualities, which are required by a specialist in order to solve professional problems. The professional competence of a teacher is a systemic phenomenon, which represents the combination of the pedagogical knowledge, experience, individual characteristics and qualities necessary to carry out effectively educational activities, specifically to organize the process of pedagogical communication and personal development (McBer, 2000, Anderson, 2004, Darling-Hammond & Baratz-Snowden, 2005).

Successful integration of the individual into the European educational space is directly related to the study of foreign languages. Gaining a pragmatic sense of orientation in a modern educational system means setting new goals for foreign language learning. Both the linguistic training parameters and their substantial sociocultural component are subject to change. At the forefront of foreign language learning come the development of intercultural competence and the ability to conduct intercultural dialogue (CEFR, 1986). The development of intercultural communicative competence is a key element for the professional development of specialists. This competence concept has turned into one of the leading pedagogical theories of our contemporary world (Byram, 1997). A system of education can be considered effective only when it educates an individual to be competent and able to perform adequately and behave appropriately in varying situations, applying knowledge in practice and assuming the responsibility for

actions performed. A competent professional does not only possess the ability to meet professional standards, but strives to evolve as a personality. Intercultural competence is a person's ability to free one's potential in intercultural communication, to choose adequate behavioral patterns and achieve positive results in the dialogue of cultures (Olson & Kroeger, 2001). K. Knapp defines intercultural competence as the ability to understand representatives of other cultures as if they were representatives from one's own culture (Knapp, 1987). Among basic skills, constituting intercultural competence, research has pinpointed the ability to decipher phenomena pertaining to a different lifestyle and hierarchy of values, the ability to understand and accept facts about a foreign culture, compare these facts with one's personal cultural experience, comprehend them and initiate a dialogue therewith and, thus, enrich one's personal picture of the world (Samovar, Porter & Stefani, 1998).

Intercultural competence is becoming the key to effective cooperation in the professional pedagogical community. Future teachers must not only be able to live in a multicultural society, but also be able to solve effectively professional tasks in a multicultural society. The model of intercultural competence in the modern educational space presupposes that a teacher masters a number of special knowledge, skills, values, personality traits and modes of behavior. The basic requirements for intercultural competence are knowledge about other cultures and understanding of other people's behaviors and ways of thinking, skills of communication with representatives of other cultures, tolerance, empathy and interest in the communicative situation, psychosocial sensitivity, and a lack of bias and prejudice. Intercultural competence implies the knowledge of the principles and rules of intercultural communication, including the ability to understand and interact with different cultures while maintaining the own cultural identity. Intercultural competence is considered to be a core element for the professional and social competence of a teacher (Moosmüller, 1996, Corbett, 2003).

Methods. The Common European Framework of Reference for Languages (CEFR) defines core competencies for foreign language teaching, such as: Communicative competence, which provides speakers with the skills of spoken and written communication in any individual's professional and social life; Political and social competence directed toward the functioning and development of democratic institutions; Intercultural competence, which ensures an awareness of living in a multicultural society and effective communication with representatives of other cultures in order to prevent the outbreak of xenophobia, intolerance and a climate of dissent; The competence needed for developing teachers' abilities and their willingness to partake of lifelong learning, both in their professional and social life (CEFR, 1986).

Intercultural competence stands for the necessary basic knowledge used by a person in life activities and reflecting the perception of the system of values, norms and rules pertinent to the respective culture and language. Intercultural

competence comprises a system of lingua-cultural knowledge which is developed at the foreign language learning stage. It comprises a system of cross-cultural views and individual norms of conduct which are developed on the grounds of cultural and language samples during the person's upbringing, education and professional activity (Gudkov, 2003). Adaptation to a new multicultural context requires teacher knowledge of cultural peculiarities, habits, traditions, native speakers' norms of conduct, and the ability to comprehend and adequately use this knowledge during communication. W. B. Gudykunst and Y.Y. Kim pinpoint the following abilities necessary for the development of intercultural competence: knowledge about society, intercultural knowledge, ability to assimilate new cultural information and become adapted to it, flexibility in new situations, and empathy towards communicants from foreign cultures (Gudykunst, 1993, Kim, 1993). Intercultural competence constitutes a basic criterion for working in an international group. Intercultural communication becomes possible due to the integrative foreign language communicative competence. One of the pedagogical tasks for foreign language teachers is to instill in students a tolerant attitude toward the target culture, to develop the students' objective assessment of the cultural phenomena of other people, the awakening of the students' desire to learn more about the country of the target language, taking into account the cross-fertilization of cultures. Students of any foreign language, must, above all, understand the world of the people who speak it. Only in this case can we talk about the dialogue of cultures (Phipps & Gonzalez, 2004).

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O'ZBEKISTONDA SOG'LIQNI SAQLASH MARKETINGI STRATEGIYALARINING AYRIM JIHLTLARI

Annotatsiya. Ushbu maqolada Sog'liqni saqlash sohasidagi marketing strategiyasining ayrim jihatlari yoritib berilgan. Hozirgi kunda O'zbekistondagi tibbiy xizmatlar sohasida marketing faoliyatini qanday strategiya asosida olib borish bo'yicha taklif va tavsiyalar berilgan.

Kalit so'zlar: Strategiya, sog'liqni saqlash marketinggi, raqamli marketing, tibbiy xizmatlar.

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SOME ASPECTS OF HEALTH CARE MARKETING STRATEGIES IN UZBEKISTAN

Abstract. In this article, some aspects of the marketing strategy in the field of healthcare are highlighted. At present, proposals and recommendations have been made on the basis of which strategy to conduct marketing activities in the field of medical services in Uzbekistan.

Keywords: Strategy, healthcare marketing, digital marketing, medical services

Kirish. Ilgari sog'liqni saqlash marketingi bosma, televideniya, radio va to'g'ridan-to'g'ri pochta kabi an'anaviy taktikalarga e'tibor qaratgan. Marketologlar kompaniyalarni boshlashadi va reklamalar chop etilgandan so'ng real vaqt rejimida o'zgartirishlar kirita olmay, eng yaxshisiga umid qilishadi. Kasalxonalarda bemorlarni qabul qilish ham osonroq bo'ldi, chunki aholi, umuman olganda, ularning sog'lig'iga nisbatan faol emas edi. Bundan tashqari, sog'liqni saqlash xarajatlari hozirgidan ancha past edi, shuning uchun bemorlar hozirgi kabi xarajatlarga asoslangan protseduralarni rad etmadilar yoki kechiktirmadilar.

Tadqiqot mavzusi bo'yicha adabiyotlar sharhi (taxlili). Bugungi sog'liqni saqlash iste'molchisi o'tmishdagi sog'liqni saqlash iste'molchisidan ancha farq qiladi. Bemorlar sog'lomroq, uzoq umr ko'rishadi va sog'liqni saqlash

tashkilotlariga kamroq ishonadilar. Bugungi bemorlar ham Internetda keng qamrovli tadqiqotlar o'tkazishlari mumkin, ya'ni ular o'zlari oladigan xizmatlarga ko'proq e'tibor berishadi. Shuningdek, ular shunga o'xshash sharoitlarga ega bo'lishi mumkin bo'lgan boshqa bemorlar bilan muloqot qilish uchun shifokorlarning sharhlari, reytinglari va onlayn forumlardan foydalanishlari mumkin.

Raqamli marketing provayderlarga bugungi kunning tobora ko'payib borayotgan onlayn aholisini xursand qilish uchun onlayn platformalar orqali takliflarni targ'ib qilish imkonini beradi. Raqamli marketing zamonaviy va o'sib borayotgan raqamli davrda provayderlar uchun majburiy sarmoyadir. Raqamli marketing nafaqat sog'liqni saqlash tizimlariga hozirgi va kelajakdagi bemorlar bilan aloqada bo'lishga yordam beradi, balki bemor va shifokorlarni jalb qilish, saqlash va tarmoq ichidan foydalanishda yordam beradi.

Tadqiqot metadogiyasi. Sog'liqni saqlashda raqamli marketingning o'rni Sog'liqni saqlash iste'molchilari aloqa tezligi va qulayligi va qulayligi uchun onlayn xizmatlarni tanlamoqda. Becker's Hospital Review tushuntirganidek [1], "Kasalxonalar ajoyib darajada aqlli, shaffoflik va tibbiy xizmat ko'rsatuvchi provayderlardan ikki tomonlama aloqani talab qiladigan iste'molchilar bilan ish olib boradi. Ushbu yangi iste'molchi brendiga murojaat qilish uchun sog'liqni saqlash sotuvchilari innovatsion raqamli marketing taktikasini qo'llashlari kerak.

Tahlil va natijalar muhokamasi. Foydalanish uchun 6 ta raqamli marketing strategiyasi. Yuqorida aytib o'tganimizdek, sog'liqni saqlash marketingi inqilobning o'rtasida. Ushbu oltita raqamli taktika bemorlarni jalb qilish va bugungi raqobatbardosh sog'liqni saqlash sohasida doimiy o'sishni ta'minlash uchun juda muhimdir.

1. Qidiruv uchun optimallashtirish (SEO) Think With Google Study tadqiqotiga ko'ra [2], qidiruv tizimlari shifoxona veb-saytlariga boshqa manbalarga qaraganda uch baravar ko'p tashrif buyuruvchilarni jalb qiladi. Tadqiqot shuni ko'rsatdiki, kasalxonalarni mobil qurilmada tadqiq qilgan bemorlarning 44 foizi oxir-oqibat uchrashuvni rejalashtirishadi. Iste'molchilar qulayliklarni topish yoki ularning sog'lig'i haqida so'rash uchun qidiruv tizimlaridan keng foydalanishi natijasida sog'liqni saqlash bo'yicha marketologlar qidiruv tizimini optimallashtirishni davom ettirishlari kerak. Umumiy raqamli strategiyani ko'rib chiqayotganda (SEO) birinchi navbatda.

Sog'liqni saqlash bo'yicha sotuvchilar qidiruv tizimlariga o'zlarining organik tarkibini tanib olish va tartiblashda yordam berishlari mumkin - masalan, blog postlari, bemorlarning sharhlari va ma'lumot beruvchi tasvirlar yoki videolar - sahifani tegishli kalit so'zlar bilan belgilash, ma'lumot beruvchi sahifa tavsiflarini yozish va strategik HTML sarlavhalarini yaratish va boshqa usullar. Ovozli qidiruvning kuchayishi bilan, xususan, sotuvchilar ushbu so'rovlarning noyob iboralari va tuzilishiga mos keladigan tarkibni yaratishga ishonch hosil qilishlari kerak. Bundan tashqari, mobil qidiruvlar umumiy veb-qidiruvlarning 50% dan ortig'ini tashkil qilgani uchun saytingiz ham mobil navigatsiyani

osonlashtirish uchun mo'ljallangan bo'lishi muhimdir. Bu mobil qidiruv va ko'rish uchun veb-sahifalarni optimallashtirish, dinamik dizaynga ustunlik berish va tez yuklash vaqtlarini saqlashni anglatadi.

2. Video kontent ishlab chiqarish Video marketing iste'molchilarni, ayniqsa sog'liqni saqlashni jalb qilishning navbatdagi asosiy imkoniyatini egallaydi. Eyeview Digital tadqiqotiga ko'ra [3], ochilish sahifalarida videodan foydalanish konversiyalarni 80% gacha oshirishi mumkin. Sog'liqni saqlash tug'ma shaxsiy, hikoyalarga boy sanoat bo'lganligi sababli, video juda kuchli ilovalarga ega bo'lishi mumkin. Bemor hikoyalari dinamik hikoyalar va vizual tasvirlar bilan jonlantiriladi, bu esa saytga yangi tashrif buyuruvchilarga uchrashuv tayinlashdan oldin ham tashkilotga ishonch hissini rivojlantirishga imkon beradi.

Bundan tashqari, video murakkab sog'liq muammolari yoki kasalliklar haqida oddiy, tushunarli vizual formatda ma'lumot berish uchun ideal vositadir. U jamoat salomatligi tashabbuslari haqida muhim ma'lumotlarni tarqatish, jarrohlikdan keyingi tiklanish jarayonlarini tushuntirish va jamoatchilikni umumiy salomatlik haqida ma'lumot berish uchun ishlatilishi mumkin.

Video ishlab chiqarish nuqtai nazaridan ko'p vaqt va mehnat talab qiladigan vosita bo'lsa-da (va shuning uchun nisbatan qimmat), bu investitsiyaga arziydi ayniqsa yozma tibbiy kontentning to'yinganlik darajasi tufayli. Astma belgilari haqida noyob, yuqori darajali blog postini yaratish juda qiyin, masalan, Internetda bir xil aniq ma'lumotlarni o'z ichiga olgan juda ko'p maqola va blog postlari mavjud bo'lsa. Biroq, video ancha dinamik bo'lishi mumkin. Umumiy xabar bir xil bo'lsa ham, yaxshi ishlab chiqarilgan video, ehtimol, trafik bo'yicha blog postidan ustun bo'ladi va ko'proq konvertatsiya qiladi.

3. Ijtimoiy tarmoqlar orqali ishtirok etish. Ijtimoiy tarmoqlardan bemorlar bilan muloqot qilish, shifokorlarni qo'llab-quvvatlash va aholi salomatligini yaxshilash uchun foydalanish mumkin. Sog'liqni saqlash sohasidagi ijtimoiy media marketing strategiyalari jamoatchilik muhokamalarida ishtirok etish, tarmoq o'rnatish va aholi salomatligi haqida ma'lumotni targ'ib qilishni o'z ichiga olishi mumkin. Sog'lom ijtimoiy media mavjudligi ham bemorlarni jalb qilishga yordam beradi. Yaqinda o'tkazilgan tadqiqot shuni ko'rsatdiki, iste'molchilarning sog'liqni saqlash muassasasida davolanish to'g'risidagi qarorlarining 57 foizi ushbu provayderning ijtimoiy media aloqalari kuchli ta'sir ko'rsatadi, bu bemorlarning onlayn aloqada bo'lgan sog'liqni saqlash tashkilotlariga ishonishini ko'rsatadi. Shifokorlar, shuningdek, hamkorlik qilish, bilim almashish va birgalikda ishlash uchun ijtimoiy media tarmoqlaridan foydalanishlari mumkin, bu esa davolanish natijalarini potentsial ravishda yaxshilashi mumkin. Sog'liqni saqlash tizimlari o'zlarini faqat organik ijtimoiy media strategiyasiga aylantirmasliklari muhim: pullik ijtimoiy media reklamasi ham juda qimmatlidir va bu sizning tashkilotingiz izlayotgan aniq auditoriyani maqsad qilib olish va ularga erishishning eng yaxshi usuli bo'lishi mumkin. Pulli ijtimoiy kampaniyalar, boshqa kampaniyalar singari, tadqiqot va tarixiy

ma'lumotlarga asoslangan holda shakllantirilishi kerak. Muvaffaqiyatli bo'lsa, ular veb-saytingizga allaqachon tashrif buyurgan yoki tashkilotingiz taklif qiladigan xizmatlar turini qidirayotgan mavjud va potentsial bemorlarni qayta jalb qilish uchun ajoyib vositadir.

4. Yuqori darajada shaxsiylashtirilgan kompaniyalarni yaratish.

Salomatlik - bu shaxsiy mavzu. Shu sababli, sog'liqni saqlash marketingi yuqori darajada shaxsiylashtirilgan bo'lishi kerak. Har qanday odam tibbiy yordamga murojaat qilishi mumkin bo'lgan sabablar umumiy sog'lomlikka erishish istagidan hayot uchun xavfli favqulodda vaziyat yoki kasallikgacha bo'lishi mumkin. Xuddi shunday, sog'liqni saqlash sohasidagi xabarlar chuqur hissiy bo'lishi mumkin va sotuvchilar to'g'ri bemorlarga erishish uchun noto'g'ri bemorlarni nishonga olishdan ehtiyot bo'lishlari kerak. Maqsadli auditoriyangizni tushunish rezonans beradigan reklama va kontentni ishlab chiqarishdagi birinchi qadamdir. Sog'liqni saqlash CRM (HCRM) platformasi, marketologlar uchun eng muhim vositadir: platformada saqlangan to'liq bemor ma'lumotlaridan foydalangan holda, sog'liqni saqlash sotuvchilari o'zlarining kompaniyalarini yaratish uchun juda batafsil maqsadli shaxslarni yaratishlari mumkin. Maqsadli shaxslar asosiy demografik ma'lumotlar (masalan, yoshi, jinsi va yashash joyi), mavjud sog'liqni saqlash ma'lumotlari (masalan, tashxis va prognoz tafsilotlari) va moyillik modellari yordamida tuziladi. Quyidagi misolni olaylik: Aytaylik, shifoxonaning marketing guruhi yangi maqsadni - ilgari sog'liqni saqlash tizimida bemor bo'lgan 67 yoshli erkakka duch keladi. Ushbu sog'liqni saqlash tizimida HCRM (Human Capital Relationship Management ya'ni Inson kapitali munosabatlarini boshqarish") platformasi mavjud bo'lganligi sababli, bashorat qiluvchi modellar uning muassasa bilan oldingi o'zaro aloqalari haqidagi ma'lumotlardan foydalanishi mumkin. Ortopediya uchun yuqori qiymatli xizmat ko'rsatish liniyasini o'stirish kompaniyasini yaratishda, marketing jamoasi iste'molchilar va sonlarni almashtirish operatsiyasiga nomzod bo'lishga moyil bo'lgan bemorlar ro'yxatini yaratish uchun HCRMDan foydalanadi bu bemor ham talablarga javob beradi. HCRMDa saqlangan aloqa afzalliklari (elektron pochta) bilan marketing jamoasi o'zlarining aloqalarini yanada segmentlashlari mumkin. Marketing jamoasi yangi ta'lim elektron pochta manzilini o'rnatadi, unda sonni almashtirish jarrohligining afzalliklari va uni yengillashtirishi mumkin bo'lgan alomatlar, HCRM tomonidan aniqlangan bir necha yuzlab bemorlar bilan birga ushbu maqsadli bemorga joylashtirishni rejalashtirish. Bizning bemorimiz ushbu xatni olgandan so'ng, muassasadagi provayder bilan maslahatlashadi. Shifokor bilan u yaxshi nomzod ekanligini aniqlagandan so'ng, u oxir-oqibat kestirib, almashtirish operatsiyasini rejalashtiradi. Ushbu misolda, marketing jamoasi HCRM-dan foydalanib, bemorga u afzal ko'rgan kanalga etib boradigan maqsadli yordamni yaratadi. Natijada, sog'liqni saqlash tizimi boshqa joyga o'girilishi mumkin bo'lgan yoki umuman davolanishdan qochgan bemorni qayta faollashtiradi.

5. Analitikaga ustuvor ahamiyat berish. Raqamli marketingning ajoyib jihatlaridan biri, agar kompaniya rejalashtirilganidek ketmasa, unumdorlikni

doimiy ravishda kuzatib borish va real vaqtda tuzatishlar kiritish qobiliyatidir. Marketing tahlillari har bir kompaniya uchun rejalashtirish va amalga oshirish paytida qaror qabul qilish jarayonini belgilashi kerak. Hech bo'lmaganda, sog'liqni saqlash sotuvchilari brend xabardorligi ma'lumotlariga, bloglar trafigiga, ijtimoiy faollikka, bosish stavkalariga va konversiya ko'rsatkichlariga kirish huquqiga ega bo'lishi va ularni muntazam tekshirib turishi kerak. Bu juda ko'p ma'lumotlarni tashkil qilishi mumkin, shuning uchun uni saralash va ishlatish uchun mustahkam vosita yoki tizimga ega bo'lish bir xil darajada muhimdir. HCRM yoki boshqa markazlashtirilgan tahlil platformasi boshlash uchun yaxshi joy. Tenglamaning boshqa tomonida, sog'liqni saqlash tashkilotlari raqamli kuzatuv va ma'lumotlarni yig'ish HIPAA tomonidan belgilangan siyosatlariga, shuningdek, Google Analytics [4] tomonidan belgilangan ma'lumotlarning maxfiyligi qoidalariga rioya qilishiga ishonch hosil qilishlari kerak. Sog'liqni saqlash sotuvchilari nimani (va qanday) kuzatishi mumkinligi bo'yicha qat'iy cheklovlar mavjud va qoidabuzarliklarning oldini olish uchun PII (shaxsiy identifikatsiya qilinadigan ma'lumotlar) har doim hurmat qilinishi kerak. Google Analytics orqali bemorning shaxsiy daxlsizligini buzmasdan foydali, amalda bo'ladigan ma'lumotlarni to'plash uchun sotuvchilar GAning shaxsiy o'lchovlaridan foydalanuvchining umumiy xususiyatlarini, masalan, kimdir mavjud bemor ("bemor") yoki yangi tashrif buyuruvchimi (yo'qmi) olish uchun foydalanishi mumkin. "bemor bo'lmagan"). Custom Dimensions-dan oqilona foydalanish sotuvchilarga to'g'ri kontentni to'g'ri kanallarda qabul qilishlari mumkin bo'lgan iste'molchilarga joylashtirish imkonini beradi - hatto shaxsiy demografik ma'lumotlar rasmda qolmagan bo'lsa ham.

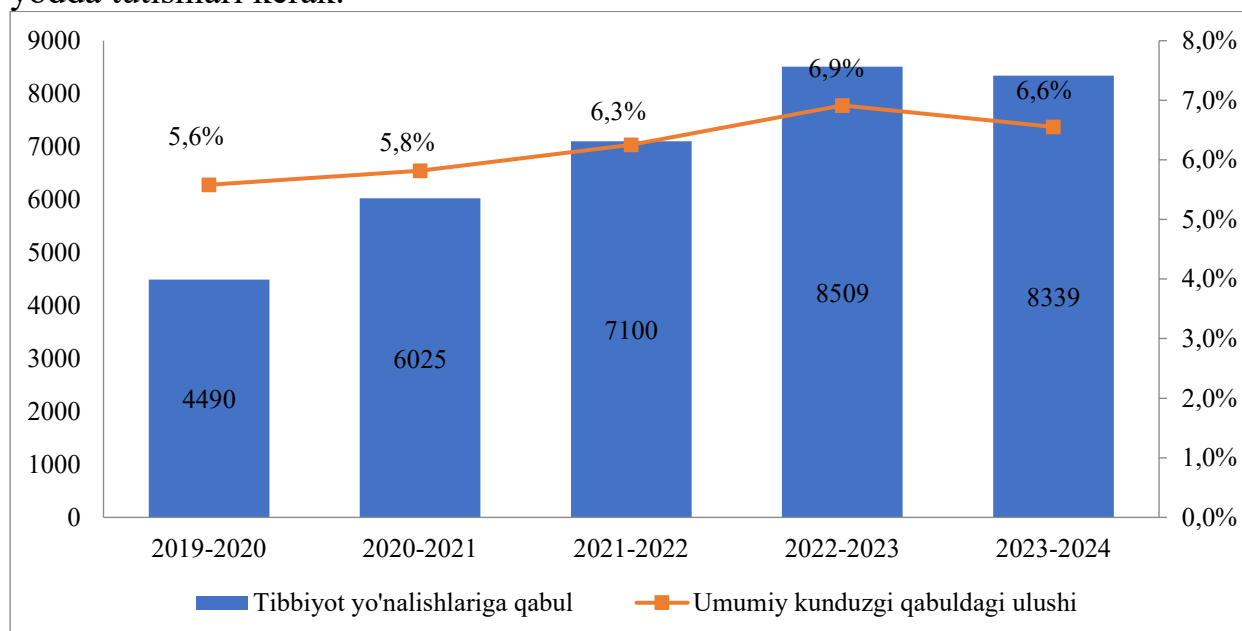
1-jadval

O'zbekiston davlat tibbiyot yo'nalishiga qabul kvotalarininig o'zgarishi [6]

O'quv yili	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	Grant	Kontrakt	Grant	Kontrakt	Grant	Kontrakt	Grant	Kontrakt	Grant	Kontrakt
Davlat tibbiyot oliy talim muassasalari										
Toshkent tibbiyot akademiyasi	510	835	861	1039	1004	1196	969	1741	985	1545
Toshkent pediatriya tibbiyot instituti	375	355	285	340	310	515	315	525	310	310
Qoraqolpog'iston tibbiyot instituti			196	204	200	275	210	170	205	205
Toshkent farmaseftika instituti	55	400	135	365	170	330	130	320	135	375
Toshkent davlat stomatologiya instituti	75	315	150	325	90	110	140	285	160	435
Andijon tibbiyot instituti	260	260	336	364	360	415	365	584	370	590
Buxoro tibbiyot instituti	160	280	264	336	305	395	320	650	330	695

Samarqand tibbiyot instituti	27 5	335	371	454	415	460	420	680	440	460
Farg'ona jamoat salomatligi tibbiyot instituti					165	235	170	365	180	409
Guliston davlat universiteti (tibbiyot fakultetlari)					10	40	10	40	30	70
Navoiy davlat pedagogika institute (tibbiyot fakultetlari)					10	40	10	40	20	30
Jizzax davlat pedagogika instituti (tibbiyot fakultetlari)					10	40	10	40	10	40
Jami:	17 10	2780	2598	342 7	3049	4051	3069	5440	3175	5164
O'quv yili kesimida jami qabul	4490		6025		7100		8509		8339	

6. Elektron pochta strategiyangizni yangilash. Ba'zilar aytganlariga qaramay, elektron pochta marketingi hali ham tirik va yaxshi. Bu nisbatan arzon, samarali va tezkor aloqa shakli bo'lib, tor maqsadli shaxsiylashtirish uchun juda ko'p imkoniyatlarga ega. To'g'ri bajarilganda, elektron pochta marketingi kampaniyasining ROI sezilarli bo'lishi mumkin - ammo sog'liqni saqlash sotuvchilari elektron pochta strategiyasini ishlab chiqishda bir nechta fikrlarni yodda tutishlari kerak.



1-rasm. O'zbekiston davlat tibbiyot yo'nalishiga qabul kvotalarining umumiy kunduzgi qabul parametrlariga nisbati foiz hisobida o'zgarishi [6]

Avvalo, mobil yetkazib berishni optimallashtirish muhim ahamiyatga ega. IBM Watson Marketing [5] kompaniyasining 2018-yilgi hisobotiga ko'ra, sog'liqni saqlash sohasidagi elektron pochta xabarlarining 47,6 foizi mobil qurilma orqali ochilgan bo'lsa, faqat 25,9 foizi ish stoli kompyuterida ochilgan. Sizning elektron pochta xabarlarinigiz ta'sirchan bo'lishi va eng muhimi, mobil interfeysda o'qilishi uchun sezgir dizayn juda muhimdir. Elektron pochta mazmuni nuqtai nazaridan, bir nechta tadqiqotlar ta'lim mazmuni butun sog'liqni saqlash sanoatida eng yaxshi natijalarni ko'rsatishini ko'rsatdi.⁸ Sog'liqni saqlash bo'yicha maslahatlar, simptomlarni engillashtirish bo'yicha takliflar yoki umumiy holatlar haqidagi ma'lumotlarga ega elektron pochta xabarlari konvertatsiyani umumiy kasalxona xabarnomalariga qaraganda yaxshiroq oshiradi. Ta'lim elektron pochta xabarlari, shuningdek, o'quvchilarni uchrashuvni osongina rejalashtirishga yoki qo'shimcha ma'lumot olish uchun qo'ng'iroq qilishga undaydigan aniq, to'g'ri CTA taqdim etishi kerak. Va nihoyat, elektron pochta marketingi taktikasi maxfiylikni birinchi o'ringa qo'yishi va shaxsiy ma'lumotlarni bemorning nozik ma'lumotlarini buzmaydigan tarzda boshqarishga e'tibor berishi kerak. Kasalxonalar va sog'liqni saqlash tashkilotlari keraksiz qo'rquvni uyg'otishni yoki potentsial bemorlarni raqobatchilarga, masalan, shoshilinch tibbiy yordam markazlari yoki chakana sog'liqni saqlash klinikalariga olib borishni xohlamaydilar, ularga ma'lum bir alomat tibbiy favqulodda vaziyatni bildirishini his qiladilar. Muayyan kasallik yoki tashxis haqida batafsil ma'lumotni taqdim etganda, elektron pochta mazmunini o'ylangan holda ishlab chiqish va himoyalangan aktivdan (masalan, PDF-ni yuklab olish uchun havola) foydalanish orqali bularning barchasidan qochish mumkin.

Hulosa va takliflar. Yakuniy fikrlar Raqamli marketing sog'liqni saqlash sohasini rivojlantirishga yordam berdi. Qidiruv mexanizmlarini vosita sifatida ishlatish, ajoyib multi-media kontenti bilan maqsadli ma'lumotni yaratish, bemorlarni ijtimoiy tarmoqlarga jalb qilish va kompaniya ma'lumotlari tahlilidan foydalanish orqali bemorlarning faolligi va sodiqligi tez yaxshilanadi. Natijada, sog'liqni saqlash bo'yicha sotuvchilar C-Suite uchun o'zlarining qadr-qimmatini ishonchli tarzda isbotlay olishadi - shu bilan birga, umuman olganda, bemorlarga yaxshi xizmat ko'rsatishga yordam beradi.

Sog'liqni saqlash tizimini rivojlantirishda va yuqori darajadagi xizmat sifatini ta'minlashda albatta eng asosiy omillardan biri bu ushbu sohada xizmat qilayotgan mutaxassislar soni va bilim darajasi deb o'ylaymiz, O'zbekistonda hamma sohada bo'lgani kabi, tibbiyot sohasida ham 2016-yildan so'ng islohatlar jadallashdi buni biz tibbiyot oliy ta'lim muassalariga qabul kvotalarining oshirilish va tibbiyot fakultetlarining xududlarda ochilishi bilan izohlashimiz mumkin.

Sog'liqni saqlash tizimida magistratura va doktoranturaga qabul jarayonlarida xorijiy til sertifikatini B2 darajadan B1 darajaga tushirilish [7] ushbu sohada kadrlarga bo'lgan yuqori talabni qondirishga sabab bo'ladi albatta.

Raqamli marketing allaqachon sog'liqni saqlash bo'yicha marketologlarning ishlash usulini tubdan o'zgartirdi - raqamli landshaft rivojlanib borar ekan, sog'liqni saqlash marketingi sanoati albatta rivojlanib boradi.

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THE INTERSECTION OF MARKETING AND ECONOMICS: EXPLORING CONSUMER BEHAVIOR IN MARKET DYNAMICS

Abstract. Exploring the complexities of consumer behavior and its influence on market dynamics provides a fertile ground at the junction of marketing and economics. This article analyzes how economic principles and consumer insights influence marketing strategies, underscoring the importance of consumer behavior in shaping market landscapes. Drawing on core theories from psychology and economics, such as the Theory of Planned Behavior by Ajzen (1991) and supply and demand principles by Mankiw (2020), the paper examines the psychological, social, and economic influences behind consumer choices. It also examines how these choices will affect market efficiency and economic steadiness (Samuelson & Nordhaus, 2010). Drawing from important works such as Kotler and Keller's Marketing Management (2016) and Solomon's Consumer Behavior (2018), the study offers a thorough insight into how companies can improve marketing tactics for better consumer involvement and long-term development. The results highlight the significance of utilizing a multidisciplinary strategy when dealing with the intricacies of consumer behavior in ever-changing market environments.

Keywords: Consumer behavior, marketing strategies, economic principles, market dynamics, Theory of Planned Behavior, supply and demand, market performance.

Introduction

Analyzing consumer behavior within market dynamics is an intriguing blend of marketing and economics, offering valuable insights into the process of individuals making purchasing choices and how these choices influence and are influenced by larger market trends. Marketing, as a field, is centered on comprehending and impacting consumer choices and actions to boost sales and meet business objectives (Kotler & Keller, 2016). On the contrary, economics focuses on how limited resources are distributed, types of markets, and how policies affect economic well-being (Mankiw, 2020). When merged, these areas provide a thorough structure for examining how consumers engage with markets, how businesses plan to address consumer demands, and how external economic elements impact these engagements. Consumer behavior is crucial for business success and is a key element of market dynamics. Theories on consumer behavior, like the Theory of Planned Behavior and the Consumer Decision-Making Process, offer important understanding into the psychological, social, and economic influences behind buying choices (Ajzen, 1991; Engel, Blackwell, & Miniard,

1995). Marketers can improve market performance by developing strategies that resonate with target audiences through understanding these behaviors (Solomon, 2018).

In terms of economy, consumer behavior influences and is influenced by different market factors such as supply and demand, pricing tactics, and competition. Market dynamics are crucial in shaping economic outcomes at both micro and macro levels, being influenced by consumer preferences and spending patterns (Samuelson & Nordhaus, 2010). Changes in consumer confidence can result in shifts in spending habits, which can impact both economic growth and stability (Katona, 1975). This article investigates how consumer behavior and market dynamics are intertwined when examining the overlap of marketing and economics. It looks at how marketing strategies are created using economic principles and consumer insights, and how they can be refined to achieve improved business and economic results. We seek to illuminate how consumer behavior influences market dynamics and propels economic advancement through this investigation.

Literature review

The meeting point of marketing and economics has always intrigued scholars, providing useful perspectives on consumer behavior and market trends. This review of literature combines important theories and discoveries from both disciplines to offer a thorough insight into the interactions and influences between them. Marketing literature has thoroughly investigated the elements that impact consumer behavior. Kotler and Keller (2016) stress the importance of grasping consumer preferences and behavior in order to create successful marketing strategies. Their research emphasizes the significance of dividing the market, selecting target markets, and establishing a brand's position when customizing marketing strategies for specific consumer segments. Economic theories offer a structure for comprehending consumer choices amid market forces. Mankiw (2020) explores the way market equilibrium is determined by supply and demand, impacting both prices and consumer decisions. These economic principles play a crucial role in forecasting the responses of consumers to shifts in market conditions.

Ajzen's (1991) Theory of Planned Behavior (TPB) is a fundamental concept for grasping the psychological elements of consumer behavior. The Theory of Planned Behavior suggests that an individual's decision to participate in a behavior is affected by their attitudes, subjective norms, and perceived behavioral control. This concept is frequently used in marketing to forecast and impact consumer behavior. Engel, Blackwell, and Miniard (1995) offer a thorough analysis of the process consumers go through when making decisions, including recognizing a problem, searching for information, evaluating options, making a purchase decision, and behaving post-purchase. This procedure is impacted by both internal factors (like mental states) and external factors (like social influences and economic conditions).

Cultural factors have a major impact on shaping consumer behavior. Solomon (2018) examines the influence of cultural norms and values on consumer choices and buying behavior. Marketers must comprehend these cultural dimensions in order to effectively penetrate and thrive in varied markets. The documented relationship between consumer confidence and economic stability is well-known. Katona (1975) emphasizes that changes in consumer confidence can result in alterations in spending habits, consequently impacting economic growth and stability. Elevated consumer confidence usually results in higher expenditure and economic growth, whereas decreased confidence can lead to lower spending and economic downturn. Behavioral economics connects psychology and economics, offering understanding of illogical consumer actions. Thaler and Sunstein (2008) demonstrate in their research on "Nudge Theory" how small alterations in choice presentation can have a large impact on consumer behavior. This theory is especially important when creating marketing strategies that lead consumers to desired behaviors.

Simon (1955) introduced the idea of bounded rationality, which questions the traditional economic belief in completely rational consumers. Bounded rationality indicates that consumers base their decisions on restricted information and cognitive constraints. This has significant consequences for marketers, as they need to simplify options and offer clear information to help with decision-making. Customer loyalty and brand equity play crucial roles in marketing strategy. Aaker (1991) explains that having a strong brand equity results in customer loyalty, leading to a competitive edge and sustained profitability in the long run. Creating and upholding brand equity requires ensuring quality remains consistent, delivering positive customer interactions, and communicating effectively. Consumer behavior and market dynamics have been altered by digital marketing. Chaffey and Smith (2017) point out the impact of digital channels like social media and e-commerce on consumer behavior in terms of information gathering, product evaluation, and purchase choices. Digital marketing plans need to adjust according to changing consumer behaviors. Segmenting the market is crucial in order to target various consumer groups efficiently. Wedel and Kamakura (2000) explore different methods of segmentation, such as demographic, psychographic, and behavioral segmentation. Precise segmentation enables marketers to customize their strategies based on the specific wants and preferences of various consumer segments.

Studying the role of pricing strategies in consumer behavior is essential. Monroe (2003) investigates the impact of pricing on how consumers view value and make buying choices. Utilizing psychological pricing methods like price anchoring and discounts can have a significant impact on consumer behavior and sales results.

There has been a thorough investigation into the influence of advertising on consumer behavior. Belch and Belch (2018) examine the impact of various advertising appeals, such as emotional and rational appeals, on consumer attitudes

and intentions to purchase. Successful advertising necessitates a thorough comprehension of the target demographic and the skill to craft engaging messages. The impact of societal factors on consumer behavior is undeniable. Asch's (1951) study on conformity illustrates the influence of social pressure and group dynamics on consumer decision-making. Marketers use these understandings to influence consumer choices using social proof and influencer marketing tactics. Ultimately, how consumers behave in reaction to economic fluctuations is a vital factor to consider. Schmitt and Dube (2018) delve into the impact of economic downturns and booms on consumer spending behaviors. In times of economic downturns, consumers tend to focus on necessary goods and services, whereas in times of economic growth, there is a rise in spending on non-essential items. Marketers must adapt their strategies to match these recurring shifts. To sum up, merging marketing and economic theories offers a strong structure for comprehending consumer behavior and market dynamics. Businesses can create better marketing strategies by considering psychological, social, and economic factors to meet consumer needs and adjust to market changes. Utilizing a multidisciplinary approach is crucial for attaining sustainable growth and a competitive edge in today's intricate market landscape.

Methodology:

This research utilizes a mixed-methods strategy to investigate how marketing and economics intersect, with a specific emphasis on how consumer behavior is influenced by market dynamics. Using both qualitative and quantitative methods enables a thorough examination, covering the full range and scope of the research inquiries.

The qualitative aspect includes conducting thorough interviews and focus groups with customers to understand their buying choices and the factors that impact these decisions. Creswell & Plano Clark (2018) state that this approach is useful for comprehending the intricate psychological and social aspects of consumer behavior. The interviews are partially structured, providing some room for flexibility while still ensuring important topics are addressed. Participants are chosen through purposive sampling in order to guarantee a broad spectrum of viewpoints.

The survey is given to a broad, diverse group of consumers as part of the quantitative analysis. The survey aims to measure the impact of different factors identified in the qualitative stage, including attitudes, subjective norms, perceived behavioral control (Ajzen, 1991), and economic conditions. Likert-type questions assess the intensity of these effects, generating data that can be statistically examined to detect trends and associations. Data analysis for the qualitative part includes using thematic coding to identify common themes and patterns in the interviews and focus groups (Braun & Clarke, 2006). Statistical analysis for the quantitative data is carried out with the help of SPSS software. Descriptive statistics provide a summary of the sample's demographic features and the central tendencies of the responses. Inferential statistics, like multiple regression analysis,

are utilized to explore the connections between independent variables (like economic factors and marketing strategies) and the dependent variable (consumer purchasing behavior). This method enables the examination of hypotheses generated from literature and qualitative results.

In order to guarantee the accuracy and dependability of the research, various steps are put into place. Triangulation is employed to validate results by combining data from various methods and sources, ultimately improving the credibility of the findings (Patton, 2002). The survey tool is tested in a pilot study to improve the questions and guarantee clarity. Furthermore, the survey scales are evaluated for internal consistency through reliability analysis techniques like Cronbach's alpha (Tavakol & Dennick, 2011). Ethical concerns are of utmost importance in this research. All participants are given informed consent and guaranteed that their responses will be kept confidential and anonymous. The research follows the ethical standards established by the American Psychological Association (APA, 2017), guaranteeing the protection of participants' rights and well-being during the study.

In general, this combination of methods offers a strong structure for examining the connection between marketing and economics. Through the integration of qualitative observations and quantitative information, the research effectively elucidates the intricacies of consumer behavior and the diverse characteristics of market trends. This thorough approach allows for a deeper insight into how marketing strategies can be enhanced in various economic situations, ultimately leading to more proficient business practices and policy development.

Data Analysis and Discussion:

The section of this study that analyzes data and discusses it synthesizes important discoveries from the literature review, emphasizing patterns, obstacles, and possibilities in using data analytics for strategic management choices.

An important idea that comes out of the readings is the significant effect of data analytics on strategic decision-making processes. Research conducted by Choo and Tan (2014) and Kim et al. (2016) highlights the importance of using data analytics to improve strategic agility, competitiveness, and innovation within organizations. By utilizing sophisticated analytics methods like predictive modeling and data mining, companies can enhance resource allocation, uncover growth prospects, and manage risks efficiently. Nevertheless, the literature also points out obstacles related to utilizing the complete capabilities of data analytics in strategic management. According to Kiron et al. (2017), issues related to data privacy and security are critical ethical and regulatory considerations. Concerns like violations of privacy and unfair biases in algorithms present moral challenges that demand thoughtful management and supervision. Furthermore, obstacles within organizations, such as a lack of understanding of data and unwillingness to change, can hinder the incorporation of data analytics into strategic decision-making processes (Zhu et al., 2006). Despite these obstacles, there are many

chances for organizations to utilize data analytics in strategic management, as indicated in the literature. Teece (2018) explains how new technologies like artificial intelligence (AI) allow businesses to analyze unstructured data sources and generate predictive insights, improving strategic foresight and innovation abilities. By adopting a culture focused on data and funding analytics, companies can secure a competitive advantage in the current fast-changing business environment. In general, the combination of results from the research highlights the significant impact of data analytics on guiding strategic management choices. Despite facing obstacles, organizations have extensive opportunities to utilize data analytics for strategic benefits. By overcoming ethical, regulatory, and organizational obstacles, companies can harness the complete power of data analytics and set themselves up for prosperity in a world that relies heavily on data.

Qualitative Data Analysis

Thematic coding of qualitative data from interviews and focus groups is conducted with the help of NVivo software. This procedure entails recognizing repeated themes and patterns that offer understanding into the psychological and social elements impacting consumer behavior. Key themes that come up are personal attitudes, social influences, and perceived control on purchasing decisions, which are consistent with Ajzen's (1991) Theory of Planned Behavior. Participants often note how social proof and recommendations from loved ones significantly impact their purchasing choices. This discovery highlights how social factors play a significant role in influencing consumer behavior, in line with Asch's (1951) study on conformity and social influence. Moreover, many participants feel that economic conditions play a major role in their spending behavior, as they consider factors like economic stability and personal financial security.

Quantitative Data Analysis

The SPSS software is utilized to analyze the quantitative survey data. Descriptive statistics give a summary of the sample's demographic features and the main tendencies of responses. The survey findings show that consumer buying behavior is greatly impacted by economic variables such as income and perceived economic status. Multiple regression analysis is employed to investigate the correlations between independent variables (such as attitudes, subjective norms, perceived behavioral control, and economic conditions) and the dependent variable (consumer purchasing behavior). The examination reveals that each of these variables are important indicators of consumer behavior, with economic circumstances and perceived behavioral control being the most influential. These results align with the qualitative analysis and are in line with the theoretical framework proposed by Mankiw (2020) and Ajzen (1991).

Integration of Qualitative and Quantitative Findings

Blending qualitative and quantitative results offers a comprehensive perspective of consumer behavior in market conditions. Qualitative data provides

detailed understanding of personal and social influences on consumer decisions, while quantitative data measures the effects and reveals larger trends and relationships. One important discovery is the notable impact of economic circumstances on influencing consumer actions. Both qualitative and quantitative analyses indicate that consumers are greatly affected by economic stability and personal financial security. This aligns with Katona's (1975) research on consumer confidence and economic cycles, indicating that during economic downturns people tend to spend less conservatively, whereas in economic upswings they tend to spend more freely. Another significant discovery is how social factors affect consumer behavior. The qualitative findings show that endorsements from reliable sources and social proof can strongly influence purchasing choices. The statistical data supports this, demonstrating that subjective norms play a significant role in predicting consumer behavior. This is consistent with Solomon's (2018) study of how cultural factors and social interactions impact consumer behavior.

Discussion

The results of this research carry significant implications for both marketing strategies and economic policy. It is essential for marketers to comprehend how economic conditions and consumer behavior interact in order to create successful strategies. In times of economic instability, marketers may concentrate on value-oriented communication and promotions to attract budget-conscious consumers. On the other hand, in times of economic prosperity, they could take advantage of positive consumer sentiment by marketing high-end products and services.

The importance of social factors indicates that marketers should utilize social proof and influencer marketing to improve the impact of their campaigns. Strategies that promote word-of-mouth referrals and foster a feeling of community surrounding a brand can be highly impactful. The results highlight the significance of preserving economic stability for boosting consumer confidence and expenditure from an economic policy standpoint. During times of economic instability, policymakers should consider how economic policies influence consumer behavior. To sum up, this research emphasizes the intricate relationship between marketing and economics in influencing consumer behavior. The study combines qualitative and quantitative data to offer a thorough insight into the factors influencing consumer choices in market trends. These valuable insights are crucial for marketers and policymakers looking to understand consumer behavior and market conditions.

Conclusion:

This research examines the complex link between marketing and economics, with a specific emphasis on how market dynamics impact consumer behavior. By utilizing both qualitative insights and quantitative analysis in a mixed-methods approach, we have gained a thorough understanding of the factors influencing consumer decisions. The results from analyzing interviews and focus

groups show that personal attitudes, social influences, and perceived control play important roles in influencing consumer behavior. These observations align with Ajzen's (1991) Theory of Planned Behavior, which suggests that these elements jointly impact individuals' intentions and actions. The qualitative data highlight the significance of social proof and recommendations from reliable sources, supporting Asch's (1951) findings on conformity and social influence.

Analysis using SPSS software shows that economic factors like income levels and perceptions of economic stability strongly influence consumer behavior. This is in line with Mankiw's (2020) beliefs about supply and demand, emphasizing how external economic influences impact consumer purchasing behaviors. Katona's (1975) research shows that consumer confidence is strongly impacted by economic conditions, demonstrating that stable economies encourage consumer spending, while uncertain economies result in more cautious financial decisions. Blending these qualitative and quantitative results gives a comprehensive perspective on consumer behavior in the context of market dynamics. The findings highlight how vital economic stability is for boosting consumer confidence and spending, indicating that government officials should focus on economic policies that uphold stability and reduce uncertainty. This can also boost the economy and encourage spending by consumers. Marketers should consider adapting strategies based on economic conditions, according to the findings. In times of economic decline, messages and promotions based on value can attract budget-conscious consumers. On the other hand, during periods of economic prosperity, marketers can take advantage of consumer confidence by advertising high-end products and experiences. Moreover, the notable impact of societal elements on consumer behavior suggests that utilizing social proof and influencer marketing can improve campaign efficiency, as emphasized by Solomon (2018).

In general, this research adds to a more profound comprehension of the relationship between marketing and economics, stressing the vital importance of consumer behavior in market dynamics. By combining knowledge from both fields, businesses and policy makers can create better tactics that meet customer needs and market demands, leading to sustainable growth and economic steadiness.

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ELEKTROMAGNIT INDUKSIYA JARAYONINI VIZUALLASHTIRISH

Annotatsiya. Maqolada elektromagnit maydonida zaryadlangan zarrachaning harakati va elektromagnit induksiya jarayonlari vizuallashtirilgan, hamda elektromagnitodinamika qonuniyatlari ko'rsatiladi.

Kalit so'zlar: Magnit oqimi, elektromagnit induksiya, magnit oqim tutilishi, solenoid, Induksion tok, sirkulatsiya, skalyar va fizik kattaliklar.

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VISUALIZATION OF THE ELECTROMAGNETIC INDUCTION PROCESS

Abstract. The movement of a charged particle in an electromagnetic field and the processes of electromagnetic induction are visualized in the article, as well as the laws of electromagnetic dynamics.

Keywords: Magnetic flux, Electromagnetic induction, magnetic flux capture, solenoid, Induction current, circulation, scalar and physical quantities.

Magnit oqimi. dS yuzadan \vec{B} magnit induksiyasi vektori (magnit oqimi) quyidagiga teng bo'lgan skalyar fizik kattaliklardir (1.5-rasm):

$$d\Phi_B = \vec{B}d\vec{S} = B_n dS$$

dS yuza normali yo'nalishiga vektorning proyeksiyasi

$$B_n = B \cos \alpha, [\Phi] = [B\vec{\sigma}] = [Tl \cdot m^2]$$

$\alpha - n$ va B vektorlar orasida sirdagi tokli kontur hosil qilgan magnit oqimi doimo musbatdir. Ixtiyoriy S yuzadan o'tayotgan magnit induksiyasi vektori oqimi

$$\Phi_B = \int_s \vec{B}d\vec{S} = \int_s B_n dS$$

Magnit maydonlar uchun gauss teoremasi. B vektor oqimi konturning ichida o'tadigan chiziqlar soni bilan aniqlanganligi uchun sirt shakliga bo'g'liq bo'lmaydi. Yopiq sirtga kiruvchi va undan chiquvchi kuch chizio'qlari soni bir hildir (1.6 -rasm). Magnit maydon uchun Gauss teoremasi: istalgan yopiq sirdan chiquvchi B vektor oqimi doimo nolga tengdir.

agnit maydoni uchun Gauss teoremasi tabiatda B vektor chiziqlari boshlanadigan va tugaydigan magnit zaryadlari yo'qligini bildiradi. B vektorning

sirkulyatsiyasi $B = \frac{\mu_0 I}{2\pi r}$. Berilgan yopiq \vec{L} kontur uchun \vec{B} vektorning sirkulyatsiyasi shu konturda olingan quyidagi intedralga aytiladi. $\int_L \vec{B} d\vec{l} = \int_L B_l dl$

dl-konturni aylanib o'tish yo'nalishlari kontur uzunligining elementi $\vec{B} \cdot d\vec{l} = B_l dl \cos \alpha$ vektorlar orasidagi burchak α . Konturni aylanib o'tish yo'nalishidagi konturning urinmai tashkil etuvchisi

$$B_l = B \cos \alpha, \quad \int B_l dl = \frac{\mu_0 I}{2\pi r} \int dl = \mu_0 I$$

Yopiq kontur bo'ylab B magnit maydon vektorining sirkulyatsiyasi konturni ψ o'rab oluvchi o'tkazgizdagi tok kuchiga doimo teng.

Magnit oqimi tutilishi. Yopiq kontur bilan chegaralangan sirdan o'qituvchi magnit oqimi shu konturning magnit oqimini tutushi deb ataladi. Konturdagi tokning magnit maydoni hosil qilgan konturning oqim tutishi o'zinduksiyaning oqimi tutishi deb ataladi. Solenoidning bir o'rami uchun $\Phi_1 = BS$ Barcha o'rami uchun

$$\psi = \Phi_1 N = BSN = \frac{\mu\mu_0 NI}{l} SN = \frac{\mu\mu_0 N^2 I}{l} S$$

Solenoidning magnit maydoni. Elektr toki oqadigan, spiral ko'rinishda o'ralgan izolyasiyalangan o'tkazgich solenoid deb ataladi. Barcha N o'ramlarni o'rab oluvchi ABCDA yopiq kontur bo'yicha B vector tsirkulyatsiyasi quyidagi integralga teng,

$$\int_{ABCD} B_l dl = \mu_0 NI$$

AB va CD qismlarda kontur magnit induksiyasi chiziqlariga perpendikulyardir, demak $B_l = 0$ (1.6-rasm). DA qismda kontur magnit induksiyasi chiziqlari bilan mos tushadi, solenoid ichida maydon birjinslidir sababli.

$$B = \text{shu } B_l, \quad \int_{DA} B_l dl = Bl = \mu_0 NI \Rightarrow B = \frac{\mu_0 NI}{l}$$

Toroidning magnit maydoni. O'zaqlarga tok o'tuvchi o'ramalar o'ralgan halqali g'altak toroid deb ataladi. Toroidning ichida magnit maydoni birjinsli bo'ladi, tashqarisida esa maydon mavjud bo'lmaydi. R radiusli aylanani kontur sifatida olamiz. Kontur uzunligi $l = 2\pi r$ ga teng. Sirkulyatsiya teoremasi

$B \cdot 2\pi r = \mu_0 NI$ Vakumdagi toroid magnit induksiyasi $B = \frac{\mu_0 NI}{2\pi r}$ N-toroid o'ramalari soni.

Magnit maydon uchun chegaraviy shatrlar. Ikkita Magnetiklar bo'linish chegarasida, bir asosi birinchi Magnetikda, boshqasi ikkinchi Magnetikda joylashgan, balandligi sezilmaydigan to'g'ri silindirni yasaymiz. Assos yuzasi shunchalik kichik bo'lgani uchun ikkita magnetiklar chegarasida \vec{B} vektor bir hil bo'ladi.

$$B_n \Delta S - B_{n'} \Delta S = 0$$

$$B_{n1} = B_{n2} \quad \frac{H_{n1}}{H_{n2}} = \frac{\mu_2}{\mu_1}$$

Gauss teoremasiga asosan:

Shunday qilib, ikkita dielektrik muhitning bo'linish chegarasini o'tishda H vektorning tangensial tashkil etuvchisi va B vektorning normal tashkil etuvchisi uzluksiz o'zgaradi, H vektorning normal tashkil etuvchi va B vektorning tangensial tashkil etuvchisi esa saqlab o'tadilar.

Elektromagnit induksiya- bu yopiq konturda, shu kontur bilan chegaralangan yuza orqali magnit induksiyasi oqimi o'zgarganda, elektr tokini hosil bo'lishi Konturda hosil bo'ladigan tok induksion tok deb ataladi.

Induksion tokning asosiy hususiyatlari:

1. induksion tok, kontur bilan bo'g'langan magnit induksiyasi oqimi o'zgargan holda, doimo hosil bo'ladi.

2. Induksion tokning kuchi magnit induksiyasim oqimi o'zgarishining usuliga bo'g'liq emas, magnit oqimining o'zgarish tezligiga bog'liqdir.

Induksion toklarnig hosil bo'lishi zanjirda, elektromagnit induksiyasi elektr yurituvchi kuchi deb ataladigan, elektr yurituvchi kuch borligidan dalolat beradi.

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LINGUISTIC ASPECTS AND FEATURES OF TERMS FOCUSED ON ECONOMICS AND FINANCE

Annotation. The specialized language of economics and finance is characterized by its unique terminology, which serves specific communicative functions within these fields. This article examines the linguistic aspects and features of economic and financial terms, focusing on their formation, semantics, pragmatics, and syntactic structures. By analyzing these features, the study aims to provide insights into how economic and financial language facilitates precise and effective communication among professionals and contributes to the broader understanding of these disciplines.

Key words: terminology, compounding, affixation, borrowing, denotative meaning, connotative meaning, polysemy, jargon.

The formation of terms in economics and finance often involves processes such as compounding, affixation, and borrowing from other languages.

1. Compounding: Many economic and financial terms are compounds, combining two or more words to form a single term with a specific meaning. Examples include "stock market," "credit risk," and "interest rate" (Algeo, 1991).

2. Affixation: Affixes, both prefixes, and suffixes, are frequently used to create new terms. Prefixes such as "macro-" and "micro-" distinguish between large-scale and small-scale phenomena (e.g., "macroeconomics" vs. "microeconomics"). Suffixes like "-nomics" and "-logy" denote fields of study (e.g., "economics," "finance").

3. Borrowing: Economic and financial vocabulary often includes terms borrowed from other languages, reflecting the global nature of these fields. Terms such as "inflation," "deflation," and "bonds" have origins in Latin and French (Durkin, 2014).

Semantics

The semantics of economic and financial terms are characterized by specificity and context-dependence.

1. Denotative Meaning: Terms in economics and finance typically have precise denotative meanings that are agreed upon by professionals in the field. For instance, "inflation" specifically refers to the general increase in prices and fall in the purchasing value of money (Mankiw, 2019).

2. Connotative Meaning: Some terms carry connotative meanings that reflect broader economic or social contexts. For example, "bull market" and "bear

market" not only describe market conditions but also evoke imagery of aggressiveness and caution, respectively (Shiller, 2000).

3. Polysemy: Many economic and financial terms are polysemous, meaning they have multiple related meanings. The term "capital" can refer to financial assets, physical assets, or human capital, depending on the context (Becker, 1964).

Pragmatics

Pragmatic aspects of economic and financial language involve the use of terms in context to achieve specific communicative purposes.

1. Speech Acts: Economic and financial terms are often used in performative speech acts, where stating a term can enact a certain action. For instance, declaring bankruptcy or issuing a bond involves specific terminological usage that triggers legal and financial processes (Searle, 1969).

2. Contextual Usage: The meaning and impact of economic and financial terms can vary significantly depending on the context. For example, "liquidity" in the context of a firm's assets differs from its use in discussing market conditions (Keynes, 1936).

3. Professional Jargon: The use of jargon is prevalent in economics and finance, serving to both include and exclude. It facilitates precise communication among experts but can also create barriers for laypeople (Crystal, 2003).

Syntactic Structures

The syntactic structures of economic and financial terms often reflect their function and complexity.

1. Nominalization: Nominalization, or the use of nouns derived from verbs or adjectives, is common in economic and financial language. Terms like "investment" (from "invest") and "regulation" (from "regulate") are examples (Halliday & Martin, 1993).

2. Complex Noun Phrases: Economic and financial discourse frequently employs complex noun phrases to convey detailed information succinctly. Examples include "interest rate swap" and "collateralized debt obligation" (CDO) (Quirk et al., 1985).

3. Passive Constructions: Passive voice is often used to emphasize actions or results rather than the agents performing them. For instance, "The policy was implemented to stabilize the market" shifts focus from the policymakers to the policy itself (Biber et al., 1999).

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IKKINCHI TARTIBLI CHIZIQLI DIFFERENSIAL TENGLAMALAR SISTEMASINI INTEGRALLASH

Annotatsiya. Bu ishda bir jinsli sistemaning formal yechimlarini tuzish o‘rganilgan. $\det[\mathbf{B}_0(\tau) - \mathbf{wA}_0(\tau)] = \mathbf{0}$ bir jinsli sistemaning xarakteristik tenglamaning nol ildizlari yo‘q bo‘lgan va nol ildizlari bo‘lgan hollar uchun $2n$ -ta har xil formal yechimlarini tuzish qaralgan.

Kalit so‘zlar: bir jinsli sistema, ildiz, formal, asimptotik, fundamental yechim, asimptotik xususiy yechim.

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INTEGRATION OF A SYSTEM OF SECOND-ORDER LINEAR DIFFERENTIAL EQUATIONS

Abstract. In this work, the formation of formal solutions of a homogeneous system is studied. Formulation of $2n$ different formal solutions of the characteristic equation of the $\det[\mathbf{B}_0(\tau) - \mathbf{wA}_0(\tau)] = \mathbf{0}$ homogeneous system for cases with and without zero roots is considered.

Keywords: homogeneous system, root, asymptotic, fundamental solution, asymptotic eigensolution.

Quyidagi

$$A(\tau, \varepsilon) \frac{d^2 x}{dt^2} + \varepsilon C(\tau, \varepsilon) \frac{dx}{dt} + B(\tau, \varepsilon) x = P(\tau, \varepsilon) e^{i\theta(t, \varepsilon)} \quad (1)$$

ko‘rinishdagi parametr ga bog‘liq bo‘lgan ikkinchi tartibli chiziqli differensial tenglamalar sistemasini integrallash masalasini qaraymiz, bunda

$x(t, \varepsilon)$ -n-o'lovli vektor $\tau = \varepsilon t$ - sekin o'zgaruvchi vaqt $\varepsilon < 1$ -kichik haqiqiy parameter; $\theta(t, \varepsilon)$ - skalyar funksiya, $i = \sqrt{-1}$; $A(\tau, \varepsilon), B(\tau, \varepsilon), C(\tau, \varepsilon) - (n \times n)$ matritsalar $P(\tau, \varepsilon)$ - n-o'lovli vektor, quydagi shartlar bajarilsin:

$A(\tau, \varepsilon), B(\tau, \varepsilon), C(\tau, \varepsilon)$ matritsalar va $P(\tau, \varepsilon)$ -vektor funksiya berilgan $\tau \in [0, L]$ oraliqda ε parametrning darajalari bo'yicha yaqinlashuvchi qatorga yoyilsin:

$$C(\tau, \varepsilon) = \sum_{s=0}^{\infty} \varepsilon^s C_s(\tau), P(\tau, \varepsilon) = \sum_{s=0}^{\infty} \varepsilon^s P_s(\tau), (2)$$

$$A(\tau, \varepsilon) = \sum_{s=0}^{\infty} \varepsilon^s A_s(\tau), B(\tau, \varepsilon) = \sum_{s=0}^{\infty} \varepsilon^s B_s(\tau)$$

$$\forall \tau \in [0, L], \det A_0(\tau) \neq 0 (3)$$

$\theta(t, \varepsilon)$ funksiya'ning $\frac{d\theta}{dt}$ hosilasi sekin o'zgaruvchi funksiya, ya'ni

$$\frac{d\theta}{dt} = k(\tau) (4)$$

(2) qatorlarni koeffisientlari $A_s(\tau), B_s(\tau), C(\tau), P_s(\tau) s = 0, 1, 2, \dots$ va $k(\tau)$ funksiya berilgan $[0, L]$ kesmada cheksiz differensiallanuvchi sistemani o'rganishda uning xarakteristik tenglamasi deb ataluvchi

$$\det[B_0(\tau) - wA_0(\tau)] = 0 (5)$$

tenglama muhim ahamiyatga ega. Sistemani umumiy yechimini tuzish uchun uni

$$A(\tau, \varepsilon) \frac{d^2 x}{dt^2} + \varepsilon C(\tau, \varepsilon) \frac{dx}{dt} + B(\tau, \varepsilon)x = 0 (6)$$

bir jinsli qismining $2n$ ta chiziqli bog'lanmagan $x^{(1)}(t, \varepsilon), x^{(2)}(t, \varepsilon), \dots, x^{(2n)}(t, \varepsilon)$ yechimlarni topish zarur, shuningdek bir jinsli bo'lmagan (1) sistemani qandaydir $\tilde{x}(t, \varepsilon)$ xususiy yechi mni aniqlash kerak [1]. U holda (1) sistemaning umumiy yechimi

$$x(t, \varepsilon) = \sum_{i=1}^{2n} c_i x^{(1)}(t, \varepsilon) + \tilde{x}(t, \varepsilon).$$

ko'rinishda ifodalanadi, bunda $\bar{c}_i (i = \overline{1, 2n})$ - ixtiyoriy o'zgarimas.

Agar t berilgan kesmada o'zgarganda **colon** $(x^{(i)}(t, \varepsilon), \frac{dx^{(i)}(t, \varepsilon)}{dt}), i = \overline{1, 2n}$

ustunli vektorlardan tuzilgan $(2n \times 2n)$ –matritsaning determinant noldan farqli bo'lsa, u holda bir jinsli sistemaning $x^{(i)}(t, \varepsilon), x^{(1)}(t, \varepsilon)$ yechimlari chiziqli bog'langan bo'ladi. Bunday yechimlar to'plami (6) sistemaning fundamental yechimlar sistemasini deyiladi.

Shuning uchun ikkita masalani qaraymiz.

(6) bir jinsli tenglamalar sistemasining fundamental yechimlar sistemasini asimptotik ko'rinishda ifodalash;

(1) bir jinsli bo‘lmagan sistemaning asimptotik xususiy yechimni tuzish, bu hol uchun quydagi hollarni qaraymiz: a) “rezanans” bo‘lmagan hol, ya’ni $k^2(\tau)$ funksiya (5) xarakteristik tenglamaning $w_i(\tau) (i = \overline{1, n})$ ildizlardan hech biriga teng bo‘lmagan; b) “rezanans” bo‘lgan hol ya’ni $k^2(\tau)$ funksiya (5) tenglamaning ildizlaridan hech bo‘lmasa bittasiga teng bo‘lgan hol.

Faraz qilaylik (5) xarakteristik tenglamaning barcha $w_i(\tau) (i = \overline{1, n})$ ildizlari $[0, L]$ kesmada $w_i(\tau) \neq 0, w_i(\tau) \neq w_j(\tau), (i, j = \overline{1, n})$ shartlarni qanoatlantirsin. Bu hol uchun (6) bir jinsli sistemani yechimini quydagi teorema ko‘rsatadi.

1-Teorema. Agar (5) xarakteristik tenglamaning ildizlari $[0, L]$ kesmada noldan farqli va bir-biroga teng bo‘lmasa, u holda $[0, L]$ kesmada (6) Sistema

$$x(t, \varepsilon) = v(\tau, \varepsilon)y(t, \varepsilon) \quad (7)$$

ko‘rinishdagi $2n$ ta formal yechimga ega bo‘ladi, bunda $y(t, \varepsilon)$ funksiya

$$\frac{dy}{dt} = \lambda(\tau, \varepsilon)y \quad (8)$$

tenglamadan aniqlanadi, n -o‘lchovli $v(\tau, \varepsilon)$ vektor va $\lambda(\tau, \varepsilon)$ skalyar funksiya darajali qatorga yoyiladi:

$$v(\tau, \varepsilon) = \sum_{s=0}^{\infty} \varepsilon^s v_s(\tau), \lambda(\tau, \varepsilon) = \sum_{s=0}^{\infty} \varepsilon^s \lambda_s(\tau). \quad (9)$$

Isbot. (7), (8) larni (6) sistemaga qo‘yib ushbu ayniyatga ega bo‘lamiz:

$$A(\tau, \varepsilon)(\varepsilon^2 v''(\tau, \varepsilon) + \varepsilon \lambda'(\tau, \varepsilon)v(\tau, \varepsilon) + 2\varepsilon \lambda(\tau, \varepsilon)v'(\tau, \varepsilon) + \lambda^2(\tau, \varepsilon)v(\tau, \varepsilon)) + \varepsilon C(\tau, \varepsilon)(\varepsilon v'(\tau, \varepsilon) + \lambda(\tau, \varepsilon)v(\tau, \varepsilon)) + B(\tau, \varepsilon)v(\tau, \varepsilon) = 0 \quad (10)$$

bu ayniyatda ε parametrning bir xil darajalari oldidagi koeffisientlarni tenglashtirib va (2), (9) qatorlarni etiborga olib cheksiz algebraik tenglamalar sistemasiga ega bo‘lamiz

$$(B_0 + \lambda_0^2 A_0)v_0 = 0 \quad (11)$$

$$(B_0 + \lambda_0^2 A_0)v_s = b_s, s = 1, 2, 3 \dots \quad (12)$$

bunda

$$b_s(\tau) = -2\lambda_0 \lambda_s A_0 v_0 + f_s, s = 1, 2, 3, \dots \quad (13)$$

$$f_s(\tau) = - \sum_{i=1}^s B_i v_{s-i} - \sum_{i=1}^{s-1} \sum_{j=0}^{s-i} \sum_{k=0}^{s-i-j} \lambda_i \lambda_j A_k v_{s-1-i-j} - \sum_{i=1}^{s-1} \sum_{j=0}^{s-i} \lambda_0 \lambda_i A_j v_{s-i-j} - \sum_{i=1}^s \lambda_0^2 A_0 v_{s-i} - \sum_{i=0}^{k-1} \sum_{j=0}^{s-1-i} \lambda_i C_j v_{k-1-i-j} - 0 - 2 \sum_{i=0}^{s-1} \sum_{j=0}^{s-1-i} \lambda_i A_j v'_{k-1-i-j} - \sum_{i=1}^{s-2} C_i v'_{s-2-i} - \sum_{i=1}^{s-2} A_i v''_{s-2-i} \quad s = 1, 2, 3, \dots \quad (14)$$

Teoremaning shartiga asosan bu ildizlar oddiy, u holda ularning har biriga bitta $\varphi_i(\tau)$ xos vektor mos kelib

$$(B_0 - w_i A_0)\varphi_i = 0$$

munosabatni qanoatlantiradi va noldan farqli bo'lgan ixtiyoriy skalyar ko'paytma aniqligida aniqlanadi. Bu holda B_0 matritsaga qo'shilgan A_0 vektor mavjud bo'lmaydi. Bu holda

$$(B_0 - w_i A_0)z = A_0 \varphi_i, (i = \overline{1, n}) \quad (15)$$

tenglama yechimga ega emas. (11), (12) tenglamalar sistemasini qaraymiz. (11) tenglama noldan farqli yechimga ega bo'ladi faqat va faqat qachonki

$$\lambda_0^2 = -w_i, (i = \overline{1, n})$$

bo'lsa, bundan $2n$ -ta har xil $\lambda_0(\tau)$ larni aniqlaymiz:

$$\lambda_0(\tau) = \pm i\sqrt{w_i(\tau)}, (i = \overline{1, n}) \quad (16)$$

U holda (11) dan n ta har xil $v_0(\tau)$ vektor funksiyalar aniqlanadi:

$$v_0(\tau) = \varphi_i(\tau), (i = \overline{1, n}) \quad (17)$$

bunda $\varphi_i(\tau)$, $A_0(\tau)$ matritsaga nisbatan $B_0(\tau)$ matritsaning hos qiymatlari. (16) munosabat orqali aniqlangan $\lambda_0(\tau)$ funksiyalardan bittasini $w_2(\tau)$ orqali belgilaymiz, hos qiymatga mos keluvchi $A_0(\tau)$ matritsaga nisbatan $B_0(\tau)$ matritsaning hos vektorni $\varphi_z(\tau)$ deb olamiz. Buni etiborga olib (12) tenglamani

$$(B_0 - w_0 A_0) = b_s, s = 1, 2, 3, \dots \quad (18)$$

ko'rinishda yozamiz.

Isbotlangan 1 teorema (1.5) bir jinsli sistemaning xarakteristik tenglamaning nol ildizlari yo'q bo'lgan va nol ildizlari bo'lgan holler uchun $2n$ -ta har xil formal yechimlarini tuzish imkoniyatini beradi. Agar bu yechimlar qaralayotgan $[0, L]$ oraliqda chiziqli bog'lanmagan bo'lsa, u holda bu (5) sistemaning umumiy formal yechimini tuzish imkoniyatini beradi.

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VEKTOR MAYDONIDAGI BIRINCHI TARTIBLI AMALLARNI GAMILTON OPERATORI BILAN ALMASHTIRISH

Annotatsiya. Bu ishda vektor analizning asosiy tushunchalaridan biri Gamilton operatori haqida ma'lumot keltirilgan. Birinchi tartibli differensialvektor amallar keltirib o'tgan.

Kalit so'z: Gamilton operatori, vektor, gradient, divergensiya.

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FIRST-ORDER OPERATIONS IN THE VECTOR FIELD EXCHANGE WITH THE HAMILTON OPERATOR

Abstract. In this work, one of the main concepts of vector analysis is information about the Hamiltonian operator. The differential vector of the first order was cited by the operations.

Keywords: Hamilton operator, vector, gradient, divergence.

Oxyz fazoning ω sohasida

$$\vec{a}(M) = P(x, y, z)\vec{i} + Q(x, y, z)\vec{j} + R(x, y, z)\vec{k}$$

vektor maydon berilgan bo'lsin, unda $P(x, y, z), Q(x, y, z), R(x, y, z)$ funksiyalar differensiallanuvchi funksiyalar.

Divergensiyaning hisoblashda quyidagi kossalardan foydalaniladi:

$$1^0. \operatorname{div}(\vec{a}(M) + \vec{b}(M)) = \operatorname{div}\vec{a}(M) + \operatorname{div}\vec{b}(M);$$

$$2^0. \operatorname{div}C \cdot \vec{a}(M) = C \cdot \operatorname{div}\vec{a}(M), \text{ bunda } C - \text{o'zgarmas son}$$

$$3^0. \operatorname{div}u(M) \cdot \vec{a}(M) = u(M)\operatorname{div}\vec{a}(M) + \vec{a}(M)\operatorname{grad} u(M),$$

bu yerda $u(M)$ – skalyar maydonni aniqlovchi funksiya.

Ta'rif. $\vec{a}(M)$ vektor maydonning *divergentsiyasi (uzoqlashuvchisi)* deb M nuqtaning skalyar maydoniga aytiladi, u $\operatorname{div}\vec{a}(M)$ ko'rinishda yoiladi va

$$\operatorname{div}\vec{a}(M) = \frac{\partial P}{\partial x} + \frac{\partial Q}{\partial y} + \frac{\partial R}{\partial z} \quad (1)$$

formula bilan aniqlanadi, bu yerda xususiy hosilalar M nuqtada hisoblanadi.

Agar fazodagi biror D soxaning xar bir $M = M(x, y, z)$ nuqtasida

$u = u(M) = f(x, u, g)$ skalyar funksiya berilgan bo'lsa, u xolda bu soxada skalyar maydon berilgan deyiladi. $u = f(x, u, z)$ funktsiya maydon funksiyasi deyiladi.

Faraz qilaylik, $Oxyz$ fazoning ω sohasida quyidagi vektor maydon berilgan bo'lsin:

$$\vec{a}(M) = P(x, y, z)\vec{i} + Q(x, y, z)\vec{j} + R(x, y, z)\vec{k}.$$

Ta'rif. $\vec{a}(M)$ vektor maydonning *uyurmasi* (yoki *rotori*) deb M nuqtaning $rot\vec{a}(M)$ bilan belgilanadigan va

$$rot\vec{a}(M) = \left(\frac{\partial R}{\partial y} - \frac{\partial Q}{\partial z}\right)\vec{i} + \left(\frac{\partial P}{\partial z} - \frac{\partial R}{\partial x}\right)\vec{j} + \left(\frac{\partial Q}{\partial x} - \frac{\partial P}{\partial y}\right)\vec{k} \quad (2)$$

formula bilan aniqlanadigan vektor maydoniga aytiladi, bunda xususiy hosilalarni $M(x, y, z)$ nuqtada topamiz.

Uyurmaning ta'rifidan foydalanib, quyidagi xossalarning to'g'ri ekaniga ishonch hosil qilish mumkin:

$$1^0. rot(\vec{a} + \vec{b}) = rot\vec{a} + rot\vec{b};$$

$$2^0. rot(C\vec{a}) = Crot\vec{a}, \text{ bunda } C \text{ -- o'zgarmas skalyar};$$

$3^0. rot(u\vec{a}) = u \cdot rot\vec{a} + (grad\ u) \times \vec{a}$, bunda $u = u(M)$ skalyar maydonni aniqlovchi funksiya.

Vektor analizning *grad*, *div*, *rot* differensial amallarini simvolik ∇ vektor yordamida (Nabla vektor-Gamilton operatori) ifodalash qulaydir:

$$\nabla = \frac{\partial}{\partial x}\vec{i} + \frac{\partial}{\partial y}\vec{j} + \frac{\partial}{\partial z}\vec{k}.$$

Bu vektorni u yoki bu (skalyar yoki vektor) kattalikka qo'llanishni bunday tushunmoq kerak: vektor algebra qoidalariga ko'ra bu vektorni berilgan kattalikka ko'paytirish amalini bajarish lozim, so'ngra $\frac{\partial}{\partial x}, \frac{\partial}{\partial y}, \frac{\partial}{\partial z}$ simvollarning bu kattalikka ko'paytirishni tegishli hosilani topish sifatida qarash kerak.

Bu vektor bilan amallar bajarish qoidalarini qarab chiqamiz:

1. ∇ nabla-vektorning $u(M)$ skalyar funksiyaga ko'paytmasi shu funksiyaning gradientini beradi:

$$\nabla u = \left(\frac{\partial}{\partial x}\vec{i} + \frac{\partial}{\partial y}\vec{j} + \frac{\partial}{\partial z}\vec{k}\right)u = \frac{\partial u}{\partial x}\vec{i} + \frac{\partial u}{\partial y}\vec{j} + \frac{\partial u}{\partial z}\vec{k} = grad\ u.$$

Shunday qilib, $\nabla u = grad\ u$.

2. ∇ nabla-vektorning

$$\vec{a}(M) = P(x, y, z)\vec{i} + Q(x, y, z)\vec{j} + R(x, y, z)\vec{k}$$

vektor funksiya bilan skalyar ko'paytmasi shu funksiyaning divergensiyasini beradi:

$$\begin{aligned} \nabla \cdot \vec{a} &= \left(\frac{\partial}{\partial x}\vec{i} + \frac{\partial}{\partial y}\vec{j} + \frac{\partial}{\partial z}\vec{k}\right) \cdot (P(x, y, z)\vec{i} + Q(x, y, z)\vec{j} + R(x, y, z)\vec{k}) = \\ &= \frac{\partial P}{\partial x} + \frac{\partial Q}{\partial y} + \frac{\partial R}{\partial z} = div\vec{a}. \end{aligned}$$

Shunday qilib, $\nabla \cdot \vec{a} = div\vec{a}$.

3. ∇ nabla-vektorining

$$\vec{a}(M) = P(x, y, z)\vec{i} + Q(x, y, z)\vec{j} + R(x, y, z)\vec{k}$$

vektor funksiyaga vektor ko'paytmasi shu funksiyaning uyurmasini beradi:

$$\begin{aligned} \nabla \times \vec{a} &= \begin{vmatrix} \vec{i} & \vec{j} & \vec{k} \\ \frac{\partial}{\partial x} & \frac{\partial}{\partial y} & \frac{\partial}{\partial z} \\ P & Q & R \end{vmatrix} = \\ &= \left(\frac{\partial R}{\partial y} - \frac{\partial Q}{\partial z}\right)\vec{i} + \left(\frac{\partial P}{\partial z} - \frac{\partial R}{\partial x}\right)\vec{j} + \left(\frac{\partial Q}{\partial x} - \frac{\partial P}{\partial y}\right)\vec{k} = \text{rot}\vec{a}. \end{aligned}$$

Shunday qilib, $\nabla \times \vec{a} = \text{rot}\vec{a}$.

Vektor maydondagi ikkinchi tartibli amallarni ko'ramiz. Shuni aytib o'tish kerakki, *gradu*, *rot* \vec{a} amallari vektor maydonlarni vujudga keltiradi, *div* \vec{a} amali esa skalyar maydonni vujudga keltiradi. ko'rsatilgan amallarning quyidagi kombinatsiyalari bo'lishi mumkin: *div gradu*, *grad div* \vec{a} , *rot rot* \vec{a} , *div rot* \vec{a} , bular ikkinchi tartibli amallar deyiladi. Ulardan eng muhimlarini qarab chiqamiz.

$$1. \text{div rot}\vec{a} = 0.$$

Haqiqatan ham, agar vektor maydon

$$\vec{a} = P(x, y, z)\vec{i} + Q(x, y, z)\vec{j} + R(x, y, z)\vec{k}$$

bo'lsa, u holda ikkinchi tartibli aralash hosilalarning tengligi uchun

$$\begin{aligned} \text{div rot}\vec{a} &= \frac{\partial}{\partial x} \left(\frac{\partial R}{\partial y} - \frac{\partial Q}{\partial z}\right) + \frac{\partial}{\partial y} \left(\frac{\partial P}{\partial z} - \frac{\partial R}{\partial x}\right) + \frac{\partial}{\partial z} \left(\frac{\partial Q}{\partial x} - \frac{\partial P}{\partial y}\right) = \\ &= \frac{\partial^2 R}{\partial x \partial y} - \frac{\partial^2 Q}{\partial x \partial z} + \frac{\partial^2 P}{\partial y \partial z} - \frac{\partial^2 R}{\partial y \partial x} + \frac{\partial^2 Q}{\partial x \partial z} - \frac{\partial^2 P}{\partial z \partial y} = 0 \end{aligned}$$

bo'ladi. Shu natijaning o'zini nabla-operator

$$\text{div rot}\vec{a} = \nabla \cdot (\nabla \times \vec{a})$$

yordamida ham olish mumkin, chunki bu yerda uchta vektorning aralash ko'paytmasini hosil qilamiz: ∇, ∇ va \vec{a} , bularning ikkitasi bir xil. Bunday ko'paytma nolga teng bo'lishi ravshan.

$$2. \text{rot grad } u = 0.$$

Haqiqatan,

$$\text{grad } u = \frac{\partial u}{\partial x}\vec{i} + \frac{\partial u}{\partial y}\vec{j} + \frac{\partial u}{\partial z}\vec{k}$$

bo'lgani uchun ikkinchi tartibli aralash ko'paytmalarning tengligi tufayli:

$$\begin{aligned} \text{rot grad } u &= \vec{i} \left[\frac{\partial}{\partial x} \left(\frac{\partial u}{\partial z}\right) - \frac{\partial}{\partial z} \left(\frac{\partial u}{\partial y}\right) \right] + \vec{j} \left[\frac{\partial}{\partial z} \left(\frac{\partial u}{\partial x}\right) - \frac{\partial}{\partial x} \left(\frac{\partial u}{\partial z}\right) \right] + \\ &+ \vec{k} \left[\frac{\partial}{\partial x} \left(\frac{\partial u}{\partial y}\right) - \frac{\partial}{\partial y} \left(\frac{\partial u}{\partial x}\right) \right] = \vec{i} \left(\frac{\partial^2 u}{\partial y \partial z} - \frac{\partial^2 u}{\partial z \partial y} \right) + \vec{j} \left(\frac{\partial^2 u}{\partial z \partial x} - \frac{\partial^2 u}{\partial x \partial z} \right) + \\ &+ \vec{k} \left(\frac{\partial^2 u}{\partial x \partial y} - \frac{\partial^2 u}{\partial y \partial x} \right) = \vec{0}. \end{aligned}$$

Shu natijaning o'zini ∇ nabla-operator yordamida ham hosil qilish mumkin:

$rot\ grad\ u = \nabla \times \nabla u = (\nabla \times \nabla)u = \vec{0}$,
 chunki bir xil vektorlarning vektor ko‘paytmasi nol vektorga teng.

$$3. div\ grad\ u = \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} + \frac{\partial^2 u}{\partial z^2}.$$

Haqiqatan ham,

$$grad\ u = \frac{\partial u}{\partial x} \vec{i} + \frac{\partial u}{\partial y} \vec{j} + \frac{\partial u}{\partial z} \vec{k}$$

bo‘lgani uchun

$$div\ grad\ u = \frac{\partial}{\partial x} \left(\frac{\partial u}{\partial x} \right) + \frac{\partial}{\partial y} \left(\frac{\partial u}{\partial y} \right) + \frac{\partial}{\partial z} \left(\frac{\partial u}{\partial z} \right) = \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} + \frac{\partial^2 u}{\partial z^2} \quad (3)$$

bo‘ladi.

(3) tenglikning o‘ng tomoni simvolik tarzda bunday belgilanadi:

$$\Delta u = \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} + \frac{\partial^2 u}{\partial z^2}$$

yoki

$$\Delta u = \left(\frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} + \frac{\partial^2}{\partial z^2} \right) u.$$

Bunda

$$\Delta = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} + \frac{\partial^2}{\partial z^2} \quad (4)$$

simvol *Laplas operatori* deyiladi. Bu operatorni ∇ vektorning skalyar kvadrati tarzida qarash tabiiydir. Gamilton operatorining skalar maydoni Laplas operatorini beradi.

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**ENERGOTEKNOLOGIYA FANINI O'QITISHDA KO'RGAZMALI
NAMOIYISH EKSPERIMENTAL METODLARNI QO'LLASHNI
SAMARALI TOMONLARI**

Аннотация. Та'limning yangi innovatsiyon ko'rgazmali namoyish eksperimental uslublarini yaratish va amalda tadbiq etish "Energotexnologiya" fanini o'rganishda innovatsion pedagogik texnologiyalardan foydalanish yo'llari, fanning maqsad vazifalari, fanni o'qitishda vizual materiyalardan foydalanish kabi masalalar yoritilgan.

Калит сўзлар: Vizual materiyallar, pedagogik texnologiya, texnologik jarayon, eksperiment, quyosh paneli, kremniy.

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**DEMONSTRATION OF EFFECTIVE ASPECTS OF THE USE OF
EXPERIMENTAL METHODS IN THE TEACHING OF ENERGY
TECHNOLOGY SCIENCE**

Abstract. Creation and practical application of new innovative demonstration methods of education, methods of using innovative pedagogical technologies in the study of the science of "Energy Technology", the goals of the science, and the use of visual materials in the teaching of the science are covered.

Key words: Visual materials, pedagogical technology, technological process, experiment, solar panel, silicon.

Texnika oliy talim muassasalarida an'anaviy dars uslublari bugungi talab darajasiga javob bermasdan qoldi. Ta'limning yangi innovatsiyon korgazmali namoyish eksperimental uslublarini yaratish va amalda tadbiq etish samarali ekanligi ma'lum boldi.

Namoyish eksperimentining boy didaktik imkoniyatlari axborot uzatishda ilg'or samarali texnologiyalarni joriy qilish imkonini beradi. Bu o'quv jarayonida eksperimentdan foydalanishning mavzuga aloqador holatda amaliyot bilan bog'lagan holda ishlata bilish bilan bo'g'liq xisoblanadi.[1]

Ushbu fanni organishda namoyish eksperimental uslublarni maqsadlari:
-fanning predmeti va mazmuni haqida ma'lumot berish;

- materiallar va ulardan tayyorlangan mahsulotlar ishlab chiqarishda energiya sarfini kamaytirishni ta'minlaydigan asosiy chora-tadbirlarni o'rganish;
- Kimyo sanoatida energiya tejovchi yangi texnologiyalarni o'rganish.

Ushbu fan texnologik jarayonlarning termodinamik nazariyasi usullarini qo'llab mamlakatimizdagi kimyo sanoatida texnologiya tizimlarini tahlil qilish, optimallashtirish masalalarini echish jarayonini, zamonaviy namoyish eksperimental usullardan foydalanib o'rganish amaliy tadqiqot natijalarining respublikamizdagi ijtimoiy-iqtisodiy islohotlar natijadorligiga ta'siri kabi masalalarni xam qamrab oladi.

Namoyish eksperimentlarini muammoli ko'rsatish, talabalarning fikrlash qobiliyatlarini faollashtirishni boshqarishning turli usullaridan foydalanish imkoniyatlarini belgilaydi. Ko'rgazmali vositalardan foydalanishning samaradorligi psixologik-fiziologik omillarga bog'liq. Ma'ruzachi o'z bayonotida eksperimentni kiritish bilan talabalarning axborotni qabul qilish psixologik holatini o'zgartirgan holda ularga ijobiy ta'sir ko'rsatadi. Ko'rish va eshitish kanallarining bir vaqtda ishlashi o'quv axborotining ishonchli qabulini va xotirada mustahkam joylashuvini ta'minlaydi.[2]

Jizzax politexnika institutida laboratoriya mashg'ulotlarini bajarish hozirgi kunda toliq muqobil energiya manbalaridan (yani quyosh panelidan) foydalanib amalga oshirilmoqda yani tarmoqdan olinadigan energiya boshqa turdagi energiyaga aylantirish xisobiga amalga oshirilmoqda misol uchun biz xam hozirda shu elektr energiyasidan foydalanib elektr yoy pechin tayyorlab kremniy elementini laboratoriyada olish jarayonlarini organayapmiz.



1-rasm.

Jizzax politexnika institutida institutida xalqaro korgazmada yaratilgan namoyish eksperimental elektr yoy pechi taqdimoti

Zamonaviy talaba – dars jarayonida yangi texnika vositalari, kompyuterlar, EHM turli didaktik elektron qurilma va boshqalardan samarali foydalanish namoyish eksperimental malaka va ko'nikmalarini chuqur egallagan bo'lishi

shart. Yangi namoyish eksperimental pedagogik texnologiyaga asoslangan dars talabalarni real ishlab chiqarish vaziyatlarini modellashtirish, oyin holatlarini yuzaga keltirishga o'rgatadi.



2-rasm.

Jizzax politexnika institutida xalqaro korgazmada namoyish eksperimental elektr yoy pechidan foydalanib termodinamika qonunlarini o'rganish jarayoni

Talabalarga dars jarayonini tashkil etishda ko'rgazmali namoyish eksperimental uslublardan foydalanish orqali mavzu mazmunini ochishning samarali yuqorida korgan uslublarni qo'llash dars jarayonidagi o'qituvchining boshqaruv rolini oshirish va talabalarning mustaqil fikrlash qobiliyatlarini o'sib borishini, o'zlashtirish ko'rsatgichlarni yaxshilashni hamda talabalarning muammolarni yechishga ijodiy ishtirok etishlari kabi qobiliyatlarini rivojlantirishga asos bo'ladi.[3]

Har bir o'quv mashg'ulotida o'qitishning namoyish eksperimental elektron vositalari turlarini tanlash – individual ijodiy jarayon. Har bir o'qituvchi uni o'z predmeti mazmunidagi bilimlarni, o'quvchilarning o'ziga hos xususiyatlarini, ularning tayyorgarlik darajasini, o'quv predmetiga munosabatini inobatga olgan holda bajaradi. [4].

Texnika oliy talim muassasalarida energotexnologiya fanini o'rganishda namoyish eksperimental elektr yoy pechidan foydalanib termodinamika qonunlarini o'rganish, ikkilamchi energiya resurslari va boshqalarni kamaytirish maqsadida zamonaviy sanoat kimyoviy-texnologik jarayonlarini takomillashtirish yo'nalishlari haqida xam bilim beriladi.

Ko'rgazmali namoyish eksperimental innovatsiyon pedagogik texnologiyalar noan'anaviy dars uslublari bilan uyg'unlashgan bo'lib dars

jarayonida talabanning mustaqil fikrlashi, erkin faoliyat yuritishga o'rganishiga amaliy yordam bermoqda. Korgazmali namoyish eksperimental pedagogik texnologiyali dars mashg'ulotlari o'qituvchi va talabadan ijodiy fikrlash, topshiriq va vazifalarga tez javob topishni talab etadi.

Ta'lim jarayonida pedagogik texnologiyalarni amalda qo'llashning hozirgi holatining tahlili shuni ko'rsatadiki, bugungi kunda eng ko'p ishlab chiqilgan soha – bu ma'lum o'quv predmeti, didaktik mavzu yoki savol doirasida aniq o'quv materialini o'zlashtirish yo'lini tasvirlovchi o'qitish texnologiyasi hisoblanadi Danilyuk A.Ya.[5].

Misol tariqasida, 20 minutga mo'ljallangan o'quv materialini muayyan ketma - ketlikdagi turli metodlarni uyg'unlashtirish yordamida uzatish. Unga ko'ra, yangi mavzuni bayoni 6-7 minutlik ma'ruzadan boshlanishi, so'ng esa 3-4 minut ma'ruza qilingan o'quv materialini vizuallashtirish, ya'ni unga doir ko'rgazmali materiallar eksperimental amaliy mashqlar asosida tushuntirish, 3-4 minut davomida esa, unga doir biror tajribani namoyish qilish yoki biror misolni tahlil qilish va oxirida 6-7 minut davomida o'quv materialini mustahkamlashga qaratilgan mustaqil yoki guruhviy amaliy mashq o'tkazish jarayonini samarali tashkil etilishini ta'minlaydi.

Energotexnologiya fanining ham fizika fani singari namoyish eksperimental elektron vositalar asosida rivojlanishi ishlab chiqarishning texnikaviy darajasiga ta'sir ko'rsatadi. Texnika fanga asoslangan va ishlab chiqarish samaradorligini oshirishga yordam beruvchi, barcha qurilmalar va vositalar to'plamidir. [6]

Ta'lim metodlaridan bunday uyg'unlikda va ketma-ketlikda foydalanish natijasida, nafaqat ta'lim oluvchilarning diqqatini jalb etish darajasini oshirish va oxir oqibat ta'lim samaradorligini oshirishga erishish mumkin. [7]

Innovatsion pedagogic texnologiyalar aynan ta'lim-tarbiya jarayonida talabalar (tinglovchilar)ga muayyan fan (mavzu) bo'yicha bilim berish va shaxsini shakllantirishga qaratilgan o'qitishning zamonaviy uslublari va texnik vositalari majmuidir.

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**TEXNIKA OLIY TALIM MUASSASALARIDA
ENERGOTEXNOLOGIYA FANINI O'QITISHNING INNOVATSIYON
METODIKASI**

Аннотация. "Energotexnologiya" fanini o'rganishda innovatsion pedagogic texnologiyalardan foydalanish yo'llari, fanning maqsad vazifalari, fanni oqitishda vizual materiyallardan foydalanish yo'llari kabi masalalar yoritilgan.

Kalit so'zlar: Vizual materiyallar, pedagogik texnologiya, texnologik jarayon, kompyuter, multimediya, internet.

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**INNOVATIVE METHODOLOGY OF ENERGY TECHNOLOGY
TEACHING IN TECHNICAL HIGHER EDUCATION INSTITUTIONS**

Abstract. Issues such as ways of using innovative pedagogical technologies in studying the science of "Energy Technology", goals of science, ways of using visual materials in teaching science are covered.

Key words: Visual materials, pedagogical technology, technological process, computer, multimedia, Internet.

Texnika oliy talim muassasalarida energotexnologiya fani an'anaviy dars uslublari bugungi talab darajasiga javob bermasdan qoldi. Energotexnologiya ta'limning yangi innovatsiyon uslublarni yaratish va amalda tadbiiq etish ehtiyoji yuzaga keldi.

Ushbu fanning yana maqsadlari:

- fanning predmeti va mazmuni haqida ma'lumot berish;
- materiallar va ulardan tayyorlangan mahsulotlar ishlab chiqarishda energiya sarfini kamaytirishni ta'minlaydigan asosiy chora-tadbirlarni o'rganish;
- Kimyo sanoatida energiya tejovchi yangi texnologiyalarni o'rganish.

Ushbu fan texnologik jarayonlarning termodinamik nazariyasi usullarini qo'llab mamlakatimizdagi kimyo sanoatida texnologiya tizimlarini tahlil qilish, optimallashtirish masalalarini echish jarayonini, zamonaviy innovatsiyon pedagogik tadqiqot usullalaridan foydalanib organish amaliy tadqiqot

natijalarining respublikamizdagi ijtimoiy-iqtisodiy islohotlar natijadorligiga ta'siri kabi masalalarni xam qamrab oladi.

Jizzax politexnika institutida laboratoriya mashg'ulotlarini bajarish hozirgi kunda toliq muqobil energiya manbalaridan (yani quyosh panelidan) foydalanib amalga oshirilmoqda yani tarmoqdan olinadigan energiya boshqa turdagi (issiqlik yani silikat materiyallarni tayorlash va boshqalar) energiyaga aylantirish xisobiga amalga oshirilmoqda.

Zamonaviy talaba – dars jarayonida yangi texnika vositalari, kompyuterlar, EHM va boshqalardan samarali foydalanish malaka va ko'nikmalarini chuqur egallagan bo'lishi shart. Yangi pedagogik texnologiyaga asoslangan dars talabalarni real ishlab chiqarish vaziyatlarini modellashtirish, oyin holatlarini yuzuga keltirishga o'rgatadi.

Har bir o'quv mashg'ulotida o'qitishning elektron vositalari turlarini tanlash – individual ijodiy jarayon. Har bir o'qituvchi uni o'z predmeti mazmunidagi bilimlarni, o'quvchilarning o'ziga hos xusisiyatlarini, ularning tayyorgarlik darajasini, o'quv predmetiga munosabatini inobatga olgan holda bajaradi [1].

Energotexnologiya fanini organishda suv bug'i, ikkilamchi energiya resurslari va boshqalarni kamaytirish maqsadida zamonaviy sanoat kimyoviy-texnologik jarayonlarini takomillashtirish yo'nalishlari haqida xam bilim beriladi.

Innovatsiyon pedagogik texnologiyalar noan'anaviy dars uslublari bilan uyg'unlashgan bo'lib dars jarayonida talabaning mustaqil fikrlashi, erkin faoliyat yuritishga o'rganishi bilan bog'liq bo'lib qolmoqda. Yangi pedagogik texnologiya dars mashg'ulotlarida o'qituvchi va talabadan ijodiy fikrlash, topshiriq va vazifalarga tez javob topishni talab etadi.

Ta'lim jarayonida pedagogik texnologiyalarni amalda qo'llashning hozirgi holatining tahlili shuni ko'rsatadiki, bugungi kunda eng ko'p ishlab chiqilgan soha – bu ma'lum o'quv predmeti, didaktik mavzu yoki savol doirasida aniq o'quv materialini o'zlashtirish yo'lini tasvirlovchi o'qitish texnologiyasi hisoblanadi Danilyuk A.Ya. [2].

Energotexnologiya fanini oqitishda pedagogik texnologik ta'lim va tarbiya jarayonini aniq rejalashtirishni, oqitish samaradorligi oxirgi bo'ladigan natijaga etishishni talab etadi. Energotexnologiya fanini oqitishda texnologiya ta'lim jarayoni talabalarning malaka maxorati rivojlanishini talab etadi, ilmiy ijodiy fikrlashga o'rgatishni, mustaqil eksperimental o'qishga o'rgatishni og'zaki va yozma rivojlantirishni, texnika soxasida energetik muammolarga doir zamon talabiga mos bilim olishda faollik ko'rsatishni talab etib qoladi.

Mazkur fanni o'qitish jarayonida ta'limning zamonaviy metodlari, pedagogik va axborot-kommunikatsiya texnologiyalari va o'qitish vositalarini (kompyuter, multimediya va boshqalar) qo'llanilishi nazarda tutilgan. Shu bilan birga talabalar fanni o'zlashtirish jarayonida:

- ma'ruza darslarida zamonaviy kompyuter texnologiyalari yordamida elektron-darsliklardan;

- amaliy mashg'ulotlarida kichik guruxlar musobaqalari, guruxli fikrlash innovatsion pedagogik texnologiyalarini uzlkusiz qo'llash nazarda tutiladi.

VIZUAL MATERIYALLAR

1-ilova

ENERGOTEXNOLOGIYA FANI VAVAZIFALARI

Fanning maqsadi - Fanni o'qitishdan maqsad - talabalarga kimyoviy texnologik jarayonlarni termodinamikasi, ishlab chiqarish jarayonlarini termodinamik baholash, energiyani tejash, ikkilamchi energiya manbalarini aniqlash va maqsadli foydalanish uchun texnologik hisoblarni o'rgatish hamda amaliyotda tatbiq etish ko'nikmasini hosil qilishdan iborat

Fanning vazifalari -Ushbu maqsadga erishish uchun fan talabalarni nazariy bilimlar, amaliy ko'nikmalar, yuqori samarali kimyoviy texnologik jarayonlar va ular haqida fundamental bilimlar asosida talabalarda texnologik hisoblarni bajarish hamda ilmiy dunyoqarashini shakllantirish vazifalarini bajaradi.

2-ilova

Texnologik jarayonlarni ularda olib boriladigan jarayonlar bo'yicha sinflash ularni o'rganish bilan birga har bir jihozni kompleks texnologik va mexanik hisoblash uchun kerak bo'ladi.

TEKNOLOGIK JARAYONNI OLIB BORADIGAN JIXOZLARNING SINFLANISHI

1. Kimyo sanoatidagi mexanik jarayonlar nasoslar, sentrofuga, aralashtirgich, kompressorlar, tindirgichlar, filtrlar yordamida olib boriladi.
2. Kimyo sanoatida issiqlik jarayonlari uchun – trubali pechlar, olovli isitgichlar, issiqlik almashtirgichlar, kondensatorlar kerak.
3. Kimyo sanoatida massa almashuv jarayonlari asosan colonna turidagi jixozlarda: rektifikatsiya kolonnalarida, absorber, desorber, ekstraktorda olib boriladi.
4. Kimyo sanoatida mexanik jarayonlar maydalagichlarda, tegirmonlarda, qattiq moddalarni elaklarda saralash (klassifikatorlarda) va dozatorlarda olib boriladi.
5. Kimyoviy jarayonlar – konstruksiyalari har xil bolgan reaksiyon jixozlarda-reaktorlarda olib boriladi.

1. Kimyo sanoati energotexnologiyalari faniniing maqsadi.
2. Kimyo sanoati energotexnologiyalari fanining vazifalari.
3. Texnologik jarayonni olib boradigan jixozlarning sinflanishi.
4. Kimyo sanoatida jixozlar qanday turlarda ishlaydiganlarga bolinadi.
5. Kimyo sanoati energotexnologiya fanini oqitishda innovatsiyon texnologiyalardan foydalanish talabalarga qanday imkoniyatlarni beradi.
6. Kimyo sanoati energotexnologiyalar fanini oqitishda qanday texnik vositalardan foydalaniladi.
7. Jizpida xozirgi kunda tarmoqdan olinadigan energiyani qanday turdagi energiyaga aylantirilib laboratoriya mashgulotlari bajarilmoqda.
8. Maxsulot tannarxini arzonlashtirish.

Innovatsion pedagogic texnologiyalar aynan ta'lim-tarbiya jarayonida talabalar (tinglovchilar)ga muayyan fan (mavzu) bo'yicha bilim berish va shaxsini shakllantirishga qaratilgan o'qitishning zamonaviy uslublari va texnik vositalari majmuidir.

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FJSTI, Biofizika va axborot texnologiyalari kafedrasida o'qituvchisi

XAYOT FAOLIYATI FANINI O'QITISHDA INTERFAOL METODLARDAN FOYDALANISH

Annotatsiya. Ushbu maqolamizda Tibbiy ta'lim yo'nalishida taxsil olayotgan talabalar uchun "Hayot faoliyati xavfsizligi" fanini o'qitishda grafik organayzerlarni qo'llashning o'rni va ahamiyati haqida ma'lumotlar beriladi.

Kalit so'zlar: empirik, kognitiv, evristik, inversion, kreativ, adaptive, inkluziv.

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USING INTERACTIVE METHODS IN LIFE SCIENCE TEACHING

Annotation. In this article, information is given about the role and importance of using graphic organizers in teaching the science of "Safety of life activities" for students studying in the field of medical education.

Key words: empirical, cognitive, heuristic, inversion, creative, adaptive, inclusive.

“Hayot faoliyati xavfsizligi” fanini o'qitishda zamonaviy pedagogik texnologiyalarni, interfaol metodlarni qo'llash, talablarning mavzularni faol o'zlashtirishlarida samarali ta'sir ko'rsatadi. Hozirda zamonaviy pedagogik texnologiyalarning turli yo'nalishlari mavjud bo'lib, ulardan asosiylari empirik, kognitiv, evristik, kreativ, inversion, integrativ, adaptiv, inkluziv pedagogik texnologiyalardir. Bu yo'nalishlarning asosiy xususiyatlari quyidagicha:

Empirik – sezgi a'zolari orqali bilim olish. Bu texnologiyada asosiy e'tibor sezgi a'zolarining tabiiy rivojlanganlik imkoniyatlariga tayangan holda bilim berish va ularni yanada takomillashtirib borishga qaratiladi.

Kognitiv – atrofdagi olam to'g'risidagi bilimlar doirasini kengaytirish texnologiyasi. U tabaqalashtirilgan (tarkibiy qismlarga ajratib o'rganish) tafakkurni shakllantiradi, bilish ehtiyojlarini rivojlantiradi.

Evristik – yo'naltiruvchi savollar berish yo'li bilan ta'lim berish lozim. Topqirlik, faollikni rivojlantirishga xizmat qiluvchi, o'quv-izlanish ta'lim metodi bo'lib, optimallashtirilgan (bir necha variantlardan eng ma'qulini, mosini, muvofiq'ini tanlash) tafakkurni rivojlantiradi.

Kreativ – tadqiqot xarakteriga ega bo'lib, talabalarda maqsadga yo'naltirilgan ijodiy tafakkurni jadal rivojlantiradi.

Inversion – axborotlarni turli tomondan o‘rganish, o‘rnini almashtirish xususiyatiga ega bo‘lib, tafakkur (fikrlash) tizimini shakllantiradi.

Integrativ – axborotlarni tashkil qiluvchi cheksiz ko‘p kichik qismlarning o‘zaro ajralmas bog‘liqligi, ularning yaxlitligi, bir butunligi asosida yagona to‘g‘ri xulosani aniqlash.

Adaptiv – axborotlarni va ulardan foydalanish jarayonini o‘rganish hamda o‘rgatish uchun qulaylashtirish va moslashtirish asosida kutilgan natijaga erishish.

Inkluziv – o‘qituvchi bilan talabaning o‘zaro munosabatlarida tenglik asosida ta‘lim tarbiya jarayonini tashkil qilish. Ta‘limning zamonaviy inovatsion texnologiyasi an‘anaviy ta‘lim texnologiyalaridan quyidagilarga ko‘ra farq qiladi: «Mashg‘ulotning asosiy maqsadi – tafakkur jarayonini tashkil etishdir, bilim ko‘nikma, malakalar – o‘quvchi faoliyatining mahsuli sifatida vujudga keladi. Tafakkur jarayonining quvvati bilimlar quvvatidan yuqori turib, u shaxsning o‘z-o‘zini rivojlantirish usuri tarzida namoyon bo‘ladi, ijodiy izlanishning natijasi kabi, mazkur jarayonning o‘zi ham o‘ta muhim bo‘lib, aynan u o‘qituvchi va o‘quvchining ijodkorlik quvonchiga, yangilik olishga ilhomlantiradi, mustaqil izlanish va ijodiy faoliyatni tashkil etishga undaydi. «O‘qituvchi faoliyat algoritmini yaratadi. Bu esa, o‘z navbatida, ijodiy tafakkur jarayonini, amaliy, shaxsiy fikrlashni, olamni inson tomonidan har tomonlama, qoniqarli idrok etilishini ta‘minlaydi. «O‘quvchining sub‘ektivligi amalga oshadi: bilish usulini mustaqil belgilash, muammo yechimini topishda o‘z dunyoqarashi, tafakkur tarzidan kelib chiqish, xato qilish huquqiga egalik ta‘minlanadi. Bunday mashg‘ulotlarning asosiy qoidasi: «o‘zing bilgancha bajar, o‘z layoqating, qiziqishlaring va shaxsiy tajribangga asoslan, o‘z xatoingni o‘zing tuzat» kabi ko‘rsatmalarda o‘z ifodasini topadi. An‘anaviy ta‘lim texnologiyasiga asoslangan mashg‘ulotlar esa aksincha «xuddi men kabi yoki mendan yaxshiroq bajar» qoidasiga muvofiq tashkillashtiriladi. «Muammoli va shaxsiy vaziyatlar, istenosiz tahlil hamda qarshiliklarni yengishga asoslanganligi tufayli o‘quvchining borlig‘ini namoyon qiladi, u nimalarnidir bilgani holda bilimlari to‘liq emasligi, o‘z shaxsiy tajribasiga asoslanishi lozimligini anglaydi. Mustaqil fikrni bildirishga bo‘lgan ehtiyojni, ta‘limga nisbatan rag‘batni his qiladi. O‘qituvchi va o‘quvchi o‘rtasida balki shunchaki an‘anaviy o‘zaro aloqadorlik emas, balki hamkorlik munosabati o‘rnatiladi. O‘qituvchi o‘quvchilar bilan birga bilish faoliyatida ishtirok etadi, topshiriqlarni bajaradi. Odatdagi, ko‘nikib qolingani tushuntirishlar o‘rnini o‘zaro hamkorlik egallaydi. «Zarur ma‘lumotlarni o‘qituvchi oz ozdan berib boradi. Bunda o‘quvchilarning mustaqil fikrlashlari uchun imkoniyat qoldirishga e‘tibor qilinadi. «Ijodiy izlanuvchanlik faoliyati kichik guruhlarda amalga oshiriladi. Izlanish natijalari sinf o‘quvchilarining barchasiga ma‘lum qilinadi, barcha yangi bilimlarni egallashi uchun sharoit yaratiladi. Jamoada shaxsning o‘z o‘rni borligini anglash, tengdoshlarining o‘ziga xos xususiyatlarini hurmat qilish tuyg‘ulari shakllanadi. «An‘anaviy ta‘limda tashqaridan kuzatilgan shaxsiy faoliyatini quyi darajada baholash hodisasi ro‘y

bermaydi, shu bois ijobiy g'oyalarga tayangan holda ishlash muhiti qaror topadi. Bu esa o'quvchida ta'lim olishga rag'bat uyg'otibgina qolmay, unda bilim olish, bu yo'lda tinimsiz izlanish, mehnat qilish zarurligini anglay olish layoqatini shakllantiradi. Shaxsga yo'naltirilgan ta'lim texnologiyasini qo'llashga qadar hamda undan keyin o'quvchilarning kasbiy faoliyati va o'z o'rnilarini anglashga oid tasavvurlari o'rganilgan vaqtda ularning quyidagi tasavvurlarga egaliklari aniqlandi: nazorat darajasi, anglangan nazorat, kasbiy faollikni erishilgan yutuqlarning omili sifatida qabul qilish, o'z-o'ziga ishonch, tushuntirish uslubi, ta'lim olish usullari va boshqalar. Demak, ta'lim har bir o'quvchining qiziqishi va bilish qobiliyatining o'quv faoliyatini tashkil etish jarayonida namoyon qilish imkoniyatini yarata olishi zarur. Bu holat o'quvchining bilish ob'ekti va predmeti bo'lgan shaxsiy xususiyatlarini aniqlash asosida, uning shaxs sifatida rivojlanishini va o'z-o'zini rivojlantirishini ta'minlaydi. Shunday qilib, pedagog-o'qituvchilarning zamonaviy pedagogik texnologiyalarning mohiyatidan xabardorliklari hamda ularni ta'lim jarayonida samarali qo'llay olishlari, shuningdek, didaktik va metodik masalalarning o'z yechimlarini topishi kadrlar tayyorlash milliy modelini ro'yobga chiqarishning muhim bosqichidir. Zero, pedagog-o'qituvchi qo'lida bilimga chanqoq talabalar, fan mazmuniga mos dastur, qo'llanma, darsliklar mavjud bo'lsa, u didaktik va metodik jarayonni muvaffaqiyatli amalga oshirish uchun bilim faoliyatini tashkiliy shakllaridan samarali foydalanib, zamonaviy pedagogik texnologiyalarni izchil va ketma-ket amaliyotga joriy etishi mumkin.

Hozirda dunyoning rivojlangan mamlakatlarida ta'lim-tarbiya jarayonining samaradorligini kafolatlovchi zamonaviy pedagogik texnologiyalarni qo'llash borasida katta tajriba asoslarini tashkil etuvchi metodlar interfaol metodlar nomi bilan yuritilmoqda. Shu o'rinda "Interaktiv" dars metodini "interfaol" deb chala tarjimasini aytish mazmunan xato ekanligiga e'tiboringizni qaratmoqchimiz. "Interaktiv" so'zi qo'shma so'z bo'lib, agar tarjima qilish zarur bo'lsa, unda har bir so'zni tarjima qilish kerak. "Interaktiv" inglizcha "Interactive" so'zidan olingan bo'lib, "o'zaro harakat va ta'sirlanish" degan ma'noni anglatadi. Tibbiyot va sog'liqni saqlash sohasida ayniqsa, biotexnologiya, genetik injeneriya, biologiya, nanotexnologiya, texnologiya kabi ilmiy yo'nalishlarda olimlarning o'dob-axloqi va mas'uliyati masalasi hamon dolzarbligicha qolmoqda. So'nggi paytlarda raqamli tibbiyot va yangi texnologiyalarni ijtimoiy idrok etishga alohida e'tibor qaratilmoqda. Sog'liqni saqlash amaliyotiga axborot texnologiyalarining joriy etilishi shifokorlar va bemorlar o'rtasidagi o'zaro munosabatlarning shakl va usullarini, diagnostika va davolash jarayonlarini, kasalliklarning oldini olish va salomatlikni tiklash usullarini sezilarli darajada o'zgartirmoqda. Hozirgi vaqtda kompyuterlar tibbiyotning ko'plab sohalarida keng tarqalgan. Kompyuterlashtirilgan shifokor buyrug'iga kirishdan boshlab-shifokor retseptlarining kompyuterlashtirilgan tizimi, operatsiyalar paytida jarrohlarga yordam beradigan robot stajyorlar bilan yakunlanadi

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QISHLOQ XO'JALIGIDA SUN'IY INTELLEKT TEXNOLOGIYALARIDAN FOYDALANISH

Annotatsiya. Sun'iy intellekt fermerlikni yanada samarali va barqaror qilish orqali qishloq xo'jaligini o'zgartirish uchun katta imkoniyatlarga ega.

Kalit so'zlar: sun'iy intellekt, mashinani o'rganish, aqlli texnologiyalar, raqamli qishloq xo'jaligi.

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USE OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN AGRICULTURE

Abstract. Artificial intelligence has great potential to transform agriculture by making farming more efficient and sustainable.

Keywords: artificial intelligence, machine learning, smart technologies, digital agriculture.

KIRISH

Sun'iy intellekt an'anaviy dehqonchilik muammolarini hal qilish orqali qishloq xo'jaligi sanoatida katta xissa qo'shib kelmoqda. SIDan foydalanish bilan fermerlar o'z faoliyatini optimallashtirishi, hosildorlikni oshirishi, xarajatlarni kamaytirishi mumkin. Sun'iy intellekt fermerlikni yanada samarali va barqaror qilish orqali qishloq xo'jaligini o'zgartirish uchun katta imkoniyatlarga ega.

ADABIYOTLAR TAHLILI

Toshpo'latov D.Sh., Mamatqulov Q.E. lar o'zlarining ilmiy ishlarida sun'iy intellekt texnologiyalaridan qishloq xo'jaligida foydalanish imkoniyatlarini o'rganishgan. Qishloq xo'jaligida sun'iy intellekt ilovasidan hosildorlikni oshirish, xarajatlarni kamaytirish va resurslarni optimallashtirishga yordam berishini tadqiq etishgan [1]. Nabokov V.I., Nekrasov K.V., Zueva O.N., Donskova L.A. lar SI texnologiyalari qishloq xo'jaligi ishlab chiqarishining turli sohalarida qo'llanilishi, ular turli omillarga qarab hosildorlikni bashorat qilishda o'z tajribalarini qo'llay boshladilar, atrof-muhit, iqlim va tuproq sharoitlariga qarab kofe hosildorligini aniq prognoz qilishdi [2]. Nabokov V.I., Ishniyazova A.R., Nekrasov K.V.lar Mashinani o'rganish (ML) usullari o'simliklarning rivojlanishi bo'yicha katta hajmdagi kirish ma'lumotlarini qayta ishlash shu asosda

ekinlar hosildorligini juda aniq bashorat qilish bo'yicha ko'plab ma'lumotlar ishlab chiqdilar[3].

TADQIQOT METODOLOGIYASI

O'zbekistonda qishloq xo'jaligida sun'iy intellektni tashkil etish katta iqtisodiy foydalar taqdim etadi. Mazkur maqolada qishloq xo'jaligida sun'iy intellektni tashkil etish tahlil qilingan, qolaversa kuzatish, taqqoslash, qiyoslash usullaridan foydalanilgan. Asosiy e'tibor qishloq xo'jaligida sun'iy intellektni tashkil etishga qaratilgan bo'lsa-da, bu maqolada qishloq xo'jaligiga qiziqqan boshqa ko'plab manfaatdor tomonlarga ham foyda keltiradi.

MUHOKAMA VA NATIJALAR

Sun'iy intellekt (SI) texnologiyalari milliy iqtisodiyotning turli tarmoqlarida, jumladan, qishloq xo'jaligida qo'llaniladi. Tadqiqotning maqsadi SI texnologiyalarini qishloq xo'jaligida qo'llashning mohiyati va yo'nalishlarini ko'rib chiqishdir. Bu texnologiyalar qishloq xo'jaligining turli sohalarida qo'llaniladi: o'simlik kasalliklarini aniqlash, begona o'tlarni tasniflash va aniqlash, mevalarni aniqlash va hisoblash, suv va tuproqni boshqarish, ob-havo (iqlim) prognozi, hayvonlarning xatti-harakatlarini aniqlash. Qishloq xo'jaligida qo'llaniladigan SI texnologiyalari bir qator muhim xususiyatlarga ega. Birinchidan, bu dasturiy ta'minot va apparat vositalari. SI texnologiyalari qishloq xo'jaligida mavhum xulosalar chiqarish, tasvirlarni tan olish, to'liq bo'lmagan ma'lumotlar sharoitida harakatlarni amalga oshirish, ijodkorlik va o'z-o'zini o'rganish qobiliyatidan iborat bo'lgan ishlarni bajarishda intellektual funktsiyani bajaradi. SI texnologiyalaridan foydalanishning kuchli tomonlari qishloq xo'jaligi tarmoqlarida mehnat unumdorligini oshirish, boshqaruv qarorlarini qabul qilish samaradorligini oshirish, shuningdek, axborotdan foydalanish imkoniyatlarini oshirish, ish joyidagi inson imkoniyatlarini kengaytirish va yangi kasblarning paydo bo'lishini o'z ichiga oladi. Asosiy imkoniyatlar turli xil texnik yutuqlar, xususan, mashinalarni o'rganish, neyron tarmoqlardan foydalanish, katta ma'lumotlar va boshqalar bilan bog'liq. Bu yuqori texnologiyali tarmoqlarda, jumladan, dasturlashda qo'shimcha ish o'rinlarini yaratadi. SI texnologiyalari butun dunyo bo'ylab oziq-ovqat ishlab chiqarishni optimallashtiradi va global ochlik muammosining og'irligini kamaytiradi. O'rganish natijalaridan ijro hokimiyati organlari qishloq xo'jaligini innovatsion rivojlantirish va tarmoqni texnik modernizatsiya qilish dasturlarini ishlab chiqishda foydalanishlari mumkin.

SI texnologiyalari allaqachon milliy iqtisodiyotning turli sohalarida qo'llanilmoqda. Tibbiyotda ular katta hajmdagi ma'lumotlarni qayta ishlashga asoslanib, yuqori aniqlik bilan o'z vaqtida tashxis qo'yish imkonini beradi. Ushbu texnologiyalar kundalik hayotda keng qo'llaniladi. Sanoatda SI ishchilar uchun zararli va xavfli ishlab chiqarish jarayonlarini to'liq avtomatlashtirish imkonini beradi. SIga asoslangan aqlli uy texnologiyasi signallarning ishlashini optimallashtiradi, xaridlarni amalga oshirishga yordam beradi va hatto xodim

uchun xaridlarni amalga oshiradi. Bu texnologiyalar qishloq xo‘jaligida tobora muhim ahamiyat kasb etmoqda.

Tadqiqot maqsadi - qishloq xo‘jaligida sun‘iy intellekt texnologiyalarini qo‘llashning mohiyati va yo‘nalishlarini ko‘rib chiqish. SI texnologiyalari qishloq xo‘jaligi ishlab chiqarishining turli sohalarida qo‘llanilishi mumkin.

XULOSA

Xulosa qilib aytish mumkinki, sun‘iy intellektning qishloq xo‘jaligiga tatbiq etilishi fermerlarga o‘z faoliyatini optimallashtirish va hosildorlikni oshirish uchun yangi imkoniyatlar ochdi. SI qishloq xo‘jaligining turli sohalarida, aniq dehqonchilikdan ekinlar hosildorligini bashorat qilish va chorva mollarini kuzatishgacha qo‘llaniladi. Bu texnologiya fermerlarga to‘g‘ri qaror qabul qilishda yordam beradi, xarajatlarni, isrofgarchilikni va hosilni yo‘qotishni kamaytiradi va barqaror dehqonchilik amaliyoti maqsadiga hissa qo‘shadi. SI texnologiyasida davom etayotgan yutuqlar bilan biz qishloq xo‘jaligi sanoatida keyingi taraqqiyot va innovatsiyalarni kutishimiz mumkin.

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O'YINCHILARNING BOSHQARILISHINI GEOMETRIK CHEKLASHLAR BILAN TADBIQ USULI HAQIDA

Annotatsiya: Maqolada differensial tenglamalar tizimiva doimiy matritsalar, qochuvchi va quvuvchi funksiyalarni ziddiyatli boshqaruv jarayonlaridagi xal qiluvchi funksiyalar usuli qo'llanilgan

Kalit so'zlar: differensial tenglamalar, matritsa, proyeksiyalash, Lebeg integrali, fazo.

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ON THE METHOD OF APPLYING PLAYER MANAGEMENT WITH GEOMETRIC CONSTRAINTS

Annotation. In the article, the system of differential equations and constant matrices, the method of solving functions in conflict management processes of evading and chasing functions is used.

Key words: differential equations, matrix, projection, Lebesgue integral, space.

n -o'lchovli Evklid fazosida \mathbb{R}^n , z nuqtasi kechiktirilgan argumentli chiziqli differensial tenglamalar tizimiga muvofiq harakat qiladi:

$$\dot{z}(t) + Bz(t-h) - Cu(t) + Dv(t), \quad t \geq 0, \quad (1)$$

bu yerda $z = (z_1, z_2, \dots)$ fazo koordinatalarining \mathbb{R}^n , fazodan vektori, $n \geq 1$; h - kechikish qiymati - qattiq musbat raqam; A, B, C, D - o'lchamlari mos ravishda $(n \times n)$, $(n \times n)$, $(n \times p)$, $(n \times q)$, bo'lgan doimiy matritsalar; $u(t) \in \mathbb{R}^p$ - ta'qib qiluvchini boshqarish, $v(t) \in \mathbb{R}^q$ - qochishni boshqarish.

Ta'qib etayotgan va qochib ketayotgan o'yinchilar $u(\cdot)$, $v(\cdot)$ kabi ruxsat etilgan boshqaruv elementlari sifatida geometrik cheklovlarni [2], [3]

$u(t) \in P$, $v(t) \in Q$, $0 \leq t < +\infty$, (2) qondiradigan o'lchanadigan vektor funksiyalarini tanlaydilar, bunda P va Q - bo'shliqlarning bo'sh bo'lmagan ixcham kichik to'plamlari \mathbb{R}^p va \mathbb{R}^q , javob beradi. Shuni ta'kidlash kerakki, bu holda differensial ta'qib o'yinlari nazariyasining birinchi usulini qo'llash orqali

ta'qibni kechiktirish bilan yakunlash uchun etarli shartlar olinadi. Quyida hamma joyda biz o'lchaydigan $u(t), v(t), 0 \leq t < +\infty$, cheklovlarni (2) qondiruvchi o'lchanadigan funksiyalar mos ravishda ta'qib etuvchi va qochib ketuvchi o'yinchilarning ruxsat etilgan boshqaruvlari deb ataladi.

Bundan tashqari, $M = M_0 + M_1$, ko'rinishdagi M to'plam R^n bo'shliqlarga ajratiladi, bunda $M_0 - R^n$, $M_1 -$ fazoning chiziqli pastki fazosi, $L, L -$ kichik fazoning ixcham kichik to'plami, $L -$ ortogonal to'ldiruvchidir. R^n dagi M_0 pastki fazosi (ya'ni, $M_0 \oplus L = R^n$); M to'plami terminallar to'plami deb ataladi.

R^n dan $L: \pi: R^n \rightarrow L$; ga ortogonal proyeksiyalash operatorining matritsasini π - bilan belgilaymiz; bir qiymatli ko'p qiymatli funktsiyaning (ko'p qiymatli yoki xaritalash) integrali uning Lebeg integrali [1]; tizimning boshlang'ich pozitsiyasi (1) $n -$ o'lchamli $z_0(\cdot) \in X$, funktsiyadir,

((bu yerda $X=z()$: $z(t)$ absolyut uzluksiz funktsiya, (3) $[-x, 0]$ segmentida aniqlangan, $z(0) \in R \setminus M$))

Ta'qib qilish muammosi (1) tenglamadagi $u(t)$ boshqaruvini tanlash orqali $z(t)$ ni $z_0(\cdot) \in X$ dan oxirgi vaqtda $t = t(z_0(\cdot))$. M terminallar to'plamiga o'tkazishdir.

Qochayotgan o'yinchining maqsadi o'yinning oxirini iloji boricha kechiktirishdir. Quyidagi xossalarga ega [2-3] matritsali funktsiyani $K(t), -\infty < t \leq \tau, -$ deb belgilaymiz: a) $K(t) = \tilde{K}, t < 0, \tilde{K} - n \times n$; tartibli nol matritsa; b) $K(0) = E, E - n \times n$; tartibli bir xillik matritsasi; v) $K(t), 0 \leq t \leq \tau$, matritsaning elementlari $C^1[0, \tau]$; sinfiga kiradi; d) $K(t)$ matritsali differensial tenglamani qanoatlantiradi

$$\dot{K}(t) = -AK(t) + BK(t-h), t > 0. \quad (4)$$

a) - b) shartlarni qanoatlantiruvchi $K(t)$, matritsa funktsiyasining yagonaligi mavjudligini (4) tenglama bosqichlari bo'yicha odatiy integrallash usuli bilan isbotlash mumkin. $\tau > 0$, ixtiyoriy son va $t \in [0, \tau]$. bo'lsin.

Ta'rif. Biz aytamizki, (1), (2) o'yinda $z_0(\cdot) \in X$ boshlang'ich pozitsiyasidan $T = T(z_0(\cdot)) > 0$, har qanday ruxsat etilgan nazorat soni mavjud bo'lsa, chekli vaqt ichida ta'qibni yakunlash mumkin. Qochayotgan o'yinchi $v = v(t), t \in [0, T]$, shunday boshqarish usulini topish mumkin $u(t) = U(t, v(s), 0 \leq s \leq t)$, yechim $z(t), 0 \leq t < +\infty$, tenglama (1) boshlang'ich sharti (3) ostida, ba'zi $t = t^* \in [0, T]$ uchun $z(t^*) \in M$. inklyuziyani qondiradi.

Ta'qib qiluvchi va qochuvchi o'yinchining ruxsat etilgan boshqaruv elementlari $u = u(s), v = v(s) [0, t], t > 0$, oraliqda tanlansin, keyin (1) tenglamaning $z(t)$ yechimi uchun.) dastlabki shart (3) ga ko'ra quyidagi formula o'rinli [2]:

$$z(t) = \Phi(t)z_0(\cdot) - \int_0^t K(t-s)[Cu(s) - Dv(s)]ds. \quad (5)$$

Proyeksiya operatorini tenglikning ikkala qismiga (5) qo'llasak, biz $\pi z(t) = \Phi(t)z_0(\cdot) - \int_0^t [F_1(t-h)u(t-s) - F_2(t-h)v(t-s)]ds$, (6) ni olamiz, bunda $F_1(t-h)$ xaritalash matritsasi $\pi K(t-h)C: \mathbb{R}^p \rightarrow L$ (7) o'lchamga $(p \times p)$, ega, $F_2(t-h)$ esa $\pi K(t-h)D: \mathbb{R}^q \rightarrow L$ xaritalash matritsasi $(q \times p)$ o'lchamga ega.

Faraz 1. τ_0 raqami borki, $\pi K(t-h)C$ chiziqli operatori \mathbb{R}^p fazosini L ostfazosiga barcha $t \in (0, \tau_0)$ uchun birma-bir xaritalashni amalga oshiradi (demak, $\dim L = p$).

e_1, e_2, \dots, e_p vektorlari L ostfazoning asosini tashkil etsin. Keyingi o'rinda L dan barcha vektorlar faqat shu asosda ko'rib chiqiladi. π matritsasi quyidagi blok

ko'rinishga ega: $\pi = \begin{pmatrix} E_p & \tilde{} \\ \tilde{} & \tilde{} \end{pmatrix}$ bu yerda E_p o'lchamning identifikatsiya matritsasi $(p \times p)$, $\tilde{}$ esa nol matritsadir.

$\pi K(t-h)C$ matritsasini ko'rib chiqing. Yuqoridagi 1-farzdan foydalanib,

$$\pi K(t-h)C = \begin{pmatrix} F_1(t-h) \\ \tilde{} \end{pmatrix} \quad (8)$$

$t > h$ uchun nolga teng bo'lmagan determinant ekanligini ko'rsatish oson.

Xuddi shunday $\pi K(t-h)D$ matritsasini hisobga olib,

$$\pi K(t-h)D = \begin{pmatrix} F_2(t-h) \\ \tilde{} \end{pmatrix} \quad (9)$$

(8), (9) formuladagi $\pi K(t-h)Cu, \pi K(t-h)Dv$ vektordan e_1, e_2, \dots, e_p ni olamiz, $F_1(t-h)u, F_2(t-h)v$ ko'rinishda yoziladi.

Endi $F(t-h) = F_1^{-1}(t-h)F_2(t-h)$ matritsasini ko'rib chiqamiz.

Faraz 2. $z_0(\cdot) \in X$ boshlang'ich pozitsiyasi uchun $F(t-h), 0 \leq t \leq T$, matritsasi mavjud, shundayki: a) barcha $t \in [0, \tau]$ uchun

$$\hat{w}(t) = \pi K(\tau - t - h)C[P * F(\tau - t - h)Q],$$

$$\int_0^\tau [D - CF(\tau - t - h)]\pi K(\tau - t - h)Q dt \subset M_1;$$

$$\Phi(\tau)z_0(\cdot) \in W(\tau) = \int_0^\tau \hat{w}(t) dt.$$

to'plamlar bo'sh emas; b) inklyuziyada sodir bo'ladi. Teorema. $z_0(\cdot) \in X$ boshlang'ich pozitsiyasi uchun $\tau_1 = \tau_1(z_0(\cdot)) > 0$, vaqt momenti bo'lsinki, $\tau = \tau_1$ da 1,2-chi faraz shartlari bajarilsin. Keyin o'yinda (1), (2) boshlang'ich pozitsiyasidan $z_0(\cdot) \in X$ τ_1 vaqtida ta'qibni yakunlash mumkin.

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GOOGLE EARTH ENGINE PLATFORMASI ASOSIDA TUYAMO'YIN SUV OMBORINI YUZA SUV SATHINI O'ZGARISHINI TAXLIL QILISH

Annotatsiya. Hozirgi davrda suv omborlarining qurilishi va daryo suvining boshqarilishi, uning gidrologik rejimini o'zgartirib yuboradi va natijada boshqa tabiiy hodisalarining o'zgarishiga ta'sir o'tkazib, boshqa iqlim va tabiiy sharoitni yuzaga keltiradi. Maqolada Tuyamo'yin suv omborini yuzasini suv o'zgarishini Google Earth Engine platformasi yordamida o'suv stahi o'zgarishini kuzatish hamda o'iqtisodiyot tarmoqlarida va aholi ehtiyojlari qay darajada qondirishi tahlil qilingan. Tadqiqot ishi Sentinel-2 sun'iy yo'ldoshi suratlari asosida NDWI indeksini hisoblash asosida olib borildi.

Kalit so'zlar: NDWI, Sentinel-2, NDVI, NDSI, NIR, Landsat, Modis, Green, index, spektral.

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STUDY OF CHANGES IN THE SURFACE WATER LEVEL OF THE TUYAMOINSKOE RESERVOIR USING MODERN PROGRAMS BASED ON REMOTE SENSING DATA

Abstract: Currently, the construction of reservoirs and the management of river waters change its hydrological regime and, as a result, influence changes in other natural phenomena, creating a different climate and natural conditions. The article monitors water exchange on the surface of the Tuyamoinskoe reservoir using the Google Earth Engine platform, changes in the growth rate and the degree of satisfaction of the population's needs in economic sectors. analyzed.

The research work was carried out on the basis of calculating the NDWI index based on Sentinel-2 satellite images.

Key words: NDWI, Sentinel-2, NDVI, NDSI, NDSI, NIR, Landsat, Modis, Green, index, spectrum.

Kirish. Suv ombori bu sun'iy barpo qilingan suv obyekt bo'lib, o'zanda va daryo yoki irrigatsiya tarmoqlari quyilmasi yo'lida to'g'on yordamida to'sib suv to'planadi, saqlab turadi va zarur vaqtda foydalanish uchun ishlatiladi. Suv omborini barpo qilishdan asosiy maqsad:

- Qishloq xo'jaligi yerlarini qurg'oqchil davrda suv bilan taminlash.
- Elektr generatorlari yordamida aholini elektr bilan tamirlash.
- Aholini ichimlik suvi bilan uzliksiz ta'minlash va hakoza.

Suv omborlarining o'ziga xos xususiyatlari quyidagicha belgilanadi:

- Suv omborlari – inson tomonidan barpo qilinadigan va boshqariladigan suv obyekt bo'lib, tabiat hodisalarining kuchli ta'siri ostida faoliyat yuritadi. Shuning uchun suv omborlari tabiiy va sun'iy obyektlar orasida o'rin tutadi, ya'ni ular tabiiy-texnik tizimlardir

- Suv omborlarida ichki gidrofizik, gidrokimyoviy va gidrobiologik jarayonlar yuz beradi.

- Suv omborlari boshqa inshootlarga nisbatan ko'proq iqtisodiyot tarmoqlari tomonidan foydalaniladigan va o'ziga xos suv xo'jaligi kompleksini shakllantiruvchi suv manbasidir.

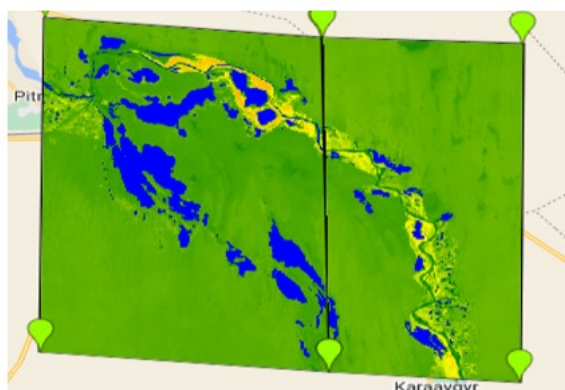
- Suv omborlarining rivojlanish va o'zgarish dinamikasi intensiv bo'lib, u gidrometeorologik jarayonlar, ishlash rejimi, atrof-muhit bilan o'zaro ta'siri kabi faktorlarga asoslanadi.

- Suv omborining atrof-muhitga ta'siri kuchli bo'lib, shu jumladan, salbiy ta'siri ham bo'lishi mumkin.¹

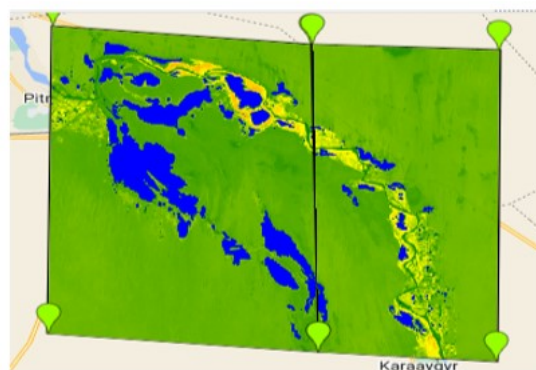
Asosiy qism. Hozirgi kunda zamonaviy texnologiyalar rivojlanishi oqibatida yer to'g'risidagi ma'lumotlarni sun'iy yo'ldosh maxsulotlardan foydalanib platformalar orqali olamiz. Shunday platformalardan birisi bu Google earth engine platformasi bu platforma yordamida yerdagi Normalized Difference Water Index (NDWI), Normalized Difference Vegetation Index (NDVI), Normalized Difference Salinity Index (NDSI) Normalized Difference Snow Index (NDSI) kabi indexlarni hisoblaymiz. Platforma asosiy Sun'iy yo'ldosh ma'lumotlari orqali ishlaydi. Asosan, Sentinel-2, Landsat va Modis sun'iy yo'ldoshlari bilan bog'liq holda ishlaydi. Maqolada Google earth engine yordamida Tuyamo'yin suv omborini maydonini o'zgarishini kuzatamiz. Ishni boshlashdan oldin indexni bilib olaylik va *nima uchun* suvni aniqlashni NDWI dan foydalanishimizni bilib olamiz. Normalized Difference Water Index yoki NDWI ochiq suvni aniqlashga va masofadan seziladigan tasvirlarda uning mavjudligini yaxshilashga yordam beradigan usuldir. Bunga yaqin infraqizil

¹ Ikramova M.R. "Suv omborlari gidrologiyasi: o'quv qo'llanma – Toshkent : Baktriya Press, 2019, 10 bet.

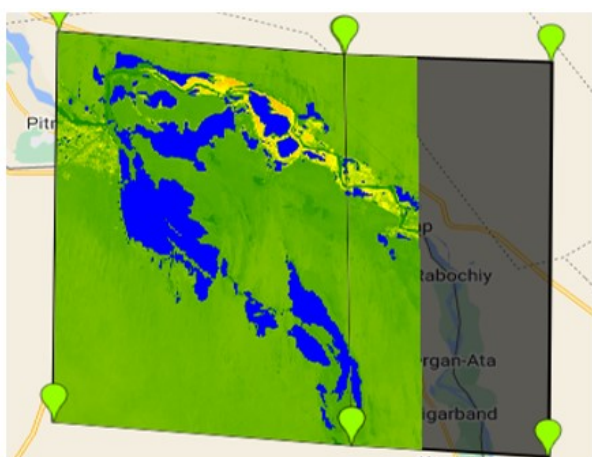
(NIR) va yashil spektral diapazonlardan foydalanish orqali aniqlanadi. Biz NDWI ni quyidagicha hisoblashimiz mumkin:



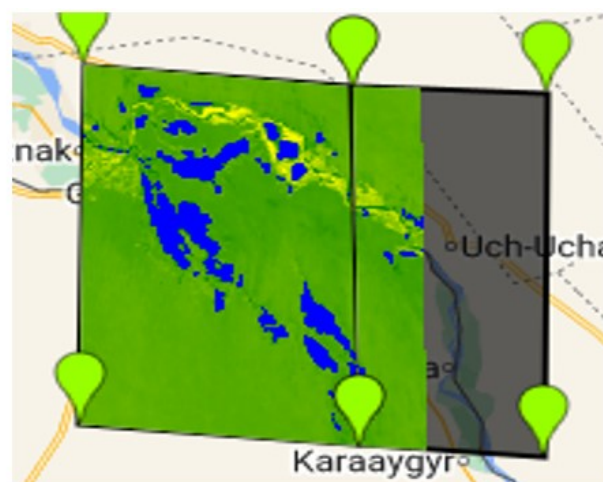
1- rasm. 05.07.2018 yil



2-rasm. 07.07.2020 yil



3-rasm. 07.07.2021 yil



4-rasm. 07.07.2022 yil

$$NDWI = \frac{GREEN - NIR}{GREEN + NIR} (1)$$

NDWI bizga uchta faktga asoslanib, ochiq suv va tuproqni farqlashga yordam beradi:

1. Suv yashil nurni ko'proq ko'rsatadi.
2. Suv NIR nurini kam ko'rsatadi.
3. Quruqlik o'simliklari va tuproqlari NIRni yaxshi aks ettiradi

NDWI ni hisoblashda Google earth enginingda Java tilidan foydalanib qildim. Bajarilgan ishning asosan sentinel-2 suniy yo'ldoshi maxsulotlaridan faoydalandim. Qilingan tadqiqotimiz yillar kesimida iyul oyiga to'g'ri keladi, buni yuqorda ko'rishimiz mumkin (1-4 rasmlar). Ammo iyul oyida ham bir kunga to'g'ri kelmaydi chunki sentinel sun'iy yo'ldoshi uchib o'tish kuni har xil kunga to'g'ri keladi. Albatta buning tadqiqotimiz natijasiga unchalik katta ta'sir qilmaydi. NDWI indeksining asosiy natijalari -1 dan +1 gacha bo'ladi. Suv xususiyatlari ma'lum bir aniq qiymatlarga ega bo'ladi, qolgan landshaft

elementlari tuproq va quruqlik oʻsimliklari esa qiymati nolga teng yoki manfiy qiymatlarga ega, chunki ular odatda yashil yorugʻlikdan koʻra koʻproq NIR ni koʻrsatadi.



5-rasm. Suv omborlarini yillar kesimidagi suv sath yuzasini oʻzgarish dinamikasi.

Tadqiqotimiz natijasi koʻra Tuyamoʻyin suv omborida yuza suvlari sathining dinamikasi yillar kesimida yuqordagi diogramma koʻrinishida koʻrsatdim.(5-rasm) Bundan koʻrinib turibdiki 2019 yildan, 2022 yilgacha yuza suvlari kamayganligini koʻrishimiz mumkin. 2022 yildan, 2023 yilgacha yuza suvlari oshganligini koʻrishimiz mumkin. Bundan kelib chiqadiki 2023 yilda Xorazm viloyati hududida suv tanqisligi 2022 yilga nisbatan kamiroq boʻlganligini bilishimiz mumkin.

Xulosa. Xulosa qilib shuni aytishimiz mumkinki bugungi davrga kelib zomonaviy texnologiyalar rivojlanishi orqali masofadan maʼlumotlar olish osonlashdi. Buning natijasida yuqordagi tadqiqotlar va boshqa murakkab boʻlgan tadqiqotlarni kameral sharoitlarda aniqlash imkoniyati mavjud boʻldi.

Tadqiqot natijasiga koʻra olingan maʼlumotlarni kelajakda suv toshqinlari yuzaga kelganda, qurgʻoqchil yillarni bashorat qilishda katta imkoniyatlar yaratadi. Suv toshqinlarni kelib chiqishida yuza suvlarni oʻrganish albatta muhim. Tuyamoʻyin suv ombori oʻzan hamda quyilma suv ombori turlariga kiradi oʻzan qismini oladigan boʻlsak u yerda yotqiziqlar koʻpligi hisobiga suv ombori yuzasi kattalashishi mumkin. Bundan qishloq xoʻjaligida foydalanadigan yerlar kamayishiga yoki yoʻqolishi olib keladi.

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METHODS FOR THE DEVELOPMENT OF PROFESSIONAL TRAINING OF HIGHER EDUCATIONAL INSTITUTIONS STUDENTS BASED ON INNOVATIVE APPROACHES

Annotation. This article examines the problems of training specialists in vocational education. Pedagogical science in the system of lifelong education, increasing its effectiveness, developing the theoretical and methodological foundations of its functioning, forecasting and developing current fundamental and applied research, innovative processes in pedagogy, differentiated forms of education, increasing the level of scientific research.

Keywords: Competency-based approach, blended learning, project-based learning, individualization of learning, digital literacy.

The development of professional training for students of higher educational institutions on the basis of innovative approaches involves the use of modern methods and technologies aimed at improving the quality of education and training of specialists who can successfully compete in the labor market. Here are some methods and strategies that can be used in this context:

Competency-based approach: Focuses on developing students' core competencies such as analytical thinking, communication, teamwork and digital literacy by introducing tasks, projects and practical exercises aimed at real-life professional situations.

Blended learning: A combination of online and offline learning formats that allows students to learn materials at their own pace and participate in interactive discussions and group projects.

Project-based learning: Organize learning around real-life projects that students must complete in teams, applying their knowledge and skills in practice and developing professional competencies.

Leveraging digital technologies: Adopting modern digital tools such as online courses, multimedia, virtual labs, collaboration platforms and artificial intelligence to enrich the learning experience and improve the effectiveness of training.

Individualization of learning: Development of training programs and materials that take into account the individual characteristics, interests and needs of students, using adaptive learning systems and feedback.

Continuous learning and self-development: Stimulating students to constantly update their knowledge and skills, providing opportunities to participate in conferences, seminars, webinars and other forms of professional

development, as well as the development of self-education and self-assessment skills.

Interdisciplinary Approach: Integration of knowledge and skills from different disciplines, allowing students to see connections between different areas of knowledge and find innovative solutions to complex problems and challenges.

Assessment and control of knowledge: Introduction of modern methods of assessment and control of knowledge, such as portfolios, tests with automatic verification, online exams and performance analytics, which allow teachers and students to effectively track progress and identify areas for further development.

Interaction with the professional community: Strengthening connections with representatives of the professional sphere, including employers, experts and graduates, for the purpose of exchanging experience, practical support and cooperation.

Flexibility and adaptability of educational programs: Development and regular updating of educational programs that take into account the requirements of the labor market, new scientific and technological achievements, as well as changes in the professional environment.

The introduction of innovative approaches to the professional training of students in higher education institutions can significantly improve the quality of education and prepare students for a successful career in the modern world. However, it is important to consider that innovations must be adapted to the specific conditions and needs of each educational institution, and also be accompanied by adequate support from the administration and teaching staff.

Zoya Ivanovna Yansufina's dissertation explores methods for improving the methodological training of future mathematics teachers in pedagogical universities based on innovative approaches to teaching. The work focuses on the analysis of the content of methods for the development of professional training of students and proposes new approaches to the formation of basic concepts and competencies [1].

Semyon Leonidovich Kaplan's dissertation is devoted to the study of the formation and development of innovative processes in Russian education, with an emphasis on the analysis of methods for the development of professional training of students of higher educational institutions based on innovative approaches [2]. The work examines major innovations in the field of education and presents the basic concepts and competencies necessary for the successful implementation of innovations.

The current state of development of professional competencies of students of higher educational institutions is characterized by the active introduction of innovations and the use of advanced technologies in the educational process. Important aspects of the development of professional competencies of students currently are:

Competency-based approach: Student learning and assessment is based on the development of key professional competencies such as analytical thinking, communication, teamwork, digital literacy and problem-based learning.

Integration of digital technologies: Introduction of digital technologies into the educational process, such as online courses, virtual laboratories, collaboration platforms

Continuous learning and self-development: Encouraging students to continually update their knowledge and skills, develop self-learning and self-assessment skills, and participate in professional events and networking.

Interdisciplinary approach: Knowledge integration knowledge and skills from different disciplines, allowing students to see connections between different areas of knowledge and find innovative solutions to complex problems and challenges.

Practice-oriented learning: Strengthening the connection between theory and practice by including practical classes, internships and projects in the curriculum. This allows students to gain experience and skills necessary for successful professional activities.

Conducting research work on the specifics of competencies when teaching independent hours in higher educational institutions involves studying the features of the organization and implementation of students' independent work, as well as the development of their key competencies. Such a study may consider the following aspects:

Analysis of the theoretical foundations of the competency-based approach and independent work of students, including a review of existing literature and research on this topic.

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XROM IONINI SORBSION-SPEKTROFOTOMETRIK ANIQLASH USULINI ISHLAB CHIQISH

Anotatsiya. Tabiiy va sun'iy obektlar tarkibidagi Cr (VI) ionini tez va samarali aniqlash tibbiyot, farmakologiya, biologiya, kimyo va texnika fanlarida muhim vazifa hisoblanadi. Amaldagi mavjud usullar qimmat, yuqori samarali emasligi va ko'p mehnat talab qiladigan usullar hisoblanadi. Ushbu tadqiqot yangi, ekologik toza, yuqori samarali, selektiv, tejamkor va ekspress analitik reagentni taqdim etadi. Ushbu ishda Cr (VI) ionini sorbsion-spektrofotometrik usullar bilan aniqlashda immobilizatsiyalangan (4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi) DNDK ning (polietilenpoliamin poliakrilonitril) PPA matritsasidagi analitik xususiyatlari titrlash, spektroskopik tahlilini amalga oshirish.

Kalit so'zlar. 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi, analitik reagent; xrom (VI) ionlarini aniqlash; immobilizatsiya; PPA matritsasi.

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DEVELOPMENT OF THE SORPTION-SPECTROPHOTOMETRIC DETERMINATION METHOD OF CHROMIUM ION

Abstract. Fast and effective determination of Cr (VI) ion in natural and artificial objects is an important task in medicine, pharmacology, biology, chemistry and technology. Current methods are expensive, not highly efficient, and labor-intensive. This study presents a new, environmentally friendly, highly efficient, selective, cost-effective and express analytical reagent. In this work, analytical properties of DNDK (polyethylenepolyamine polyacrylonitrile) immobilized (4,5-dihydroxy-2,7-naphthalenedisulfoic acid disodium salt) in the PPA matrix, titration, spectroscopic analysis for determination of Cr (VI) ion by sorption-spectrophotometric methods.

Keywords. Disodium salt of 4,5-dihydroxy-2,7-naphthalenedisulfoic acid, analytical reagent; determination of chromium (VI) ions; immobilization; PPA matrix.

Xrom barcha tirik organizmlarda oz miqdorda bo'lib, insulin faolligiga ijobiy ta'sir ko'rsatadi. [1].

Xrom o‘simliklar hayotida katta ahamiyatga ega bo‘lishiga qaramay, xrom kam o‘rganilgan, shuning uchun mahalliy va xorijiy adabiyotlarda yetarli darajada yoritilmagan. [2].

Tuproqdagi xromning xossalari va o‘simliklar tomonidan o‘zlashtirilishiga oid ko‘plab tadqiqotlar olib borilgan [3]. Bir qator tajribalarda ushbu elementning o‘simlik o‘sishiga ta‘siri aniqlangan [4]. Ba‘zi tadqiqotchilar xromning qishloq xo‘jaligi o‘simliklariga salbiy ta‘sirini o‘rganlar[5]. O‘simliklarga xrom qo‘llanilganda birikmalarning shakllariga qarab, turli ekinlarning o‘sishi va rivojlanishiga, ham turlicha ta‘sir ko‘rsatadi. Bu hosildorlik va mahsulot sifatida o‘z aksini topadi[6].

Uch valentli xrom suvlarda murakkab birikmalar shaklida, kolloid holatda va mexanik suspenziyalar bilan ko‘chib o‘tishga qodir. Olti valentli xrom anionlar holda eritmalarda uchraydi [7].

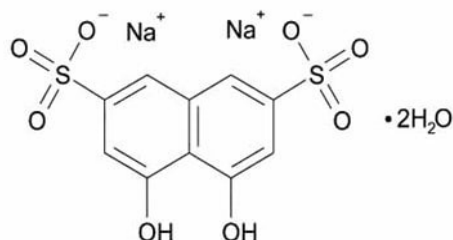
Tuproq o‘simliklardagi xromning asosiy manbai hisoblanadi. Tuproqdagi xrom miqdori uning asosiy birikmadagi konsentratsiyasi bilan belgilanadi [7]. Kislota magmatik jinslar xrom (4-25 mg/kg) kam miqdorda bo‘ladi. Cho‘kindi jinslar 160 mg / kg gacha bu elementni o‘z ichiga oladi. Xrom tarkibida eng ko‘p boyutilgan ultrabazik jinslar bo‘lib, ularning miqdori 450-600 mg/kg ga etadi.

Tuproqlarda xrom to‘rt xil ko‘rinishda bo‘lishi mumkin: uch valentli shaklda Cr_2O_3 ko‘rinishida va olti valentli shaklda CrO_4^- va $Cr_2O_7^-$ [8]. Xromning harakatchanligi kompleks birikmalar hosil bo‘lishi bilan ortadi. U organik moddalardan gumin kislotalari bilan juda kuchli komplekslar xosil qiladi. Bu kompleks tuproqda pH-5,5 dan yuqor qiymatlarida erigan holda qoladi, erkin Cr ionlari esa tez adsorbsiyalanadi va cho‘kmaga tushadi [9].

Geokimyoviy xossalari bo‘yicha xrom Fe^{3+} va Al^{3+} ga juda yaqin. Kislotali tuproqlarda uch valentli shakllar ko‘p uchraydi. Olti valentli xrom birikmalari yuqori oksidlanish-qaytarilish potentsialiga ega ishqoriy muhitda ustunlik qiladi. Ushbu birikmalar beqaror va osongina mobilizatsiya qilinishi mumkin, shu bilan o‘simliklarda xrom miqdorini oshirishga yordam beradi [8]. Olti valentli xrom o‘simliklar o‘zlashtirishi uchun eng qulay hisoblanadi, u tuproq sharoga qarab osongina uch valentli xromga aylanadi va aksincha. Xromning tuproqdagi xolati ko‘p jihatdan uning valentligi qiymatiga bog‘liq bo‘lib, kislota-ishqor va oksidlanish-qaytarilish sharoitlari, tuproq mikrobiologik faolligi, sorbsiya qobiliyati va tuproqdagi kompleksning kation xolati bilan belgilanadi. Masalan, kislotalilikning oshishi bilan gilfraksiyasining Cr^{3+} adsorbsiyasi kuchayadi, Cr^{6+} ioni adsorbsiyasini esa kamayadi. Tuproqdagi organik moddalari xrom (VI) ning xrom (III) ga qaytarilishini kuchaytiradi [10].

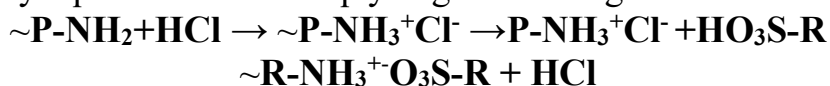
Analitik reagentlarning standart eritmasi. 4,5-digidroksi-2,7-naftalindisulfo kislotali ikki natriyli tuzi Ximreaktivsnab (Rossiya) OOO “Sintreyd-Kazan” AG kompaniyasidan sotib olingan (TU 6-09-05-13-71-88). DNDK eritmasini tayyorlash uchun 0,04 g reagent tortib olinib 100 ml kolbaga solindi va belgisigacha disstillangan suv qo‘shildi. Ushbu eritma analitik reagent sifatida

ishlatilgan. 1-rasmda DNDK analitik reaktivining molekulyar tuzilishini ko'rsatadi.



1-rasm. DNDK analitik reaktivining molekulyar tuzilishi.

Tadqiqot metodologiyasi. Tanlangan 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi analitik reaktivini polimer tashuvchilarda immobilizatsiya qilish mexanizmi quyidagida keltirilgan:

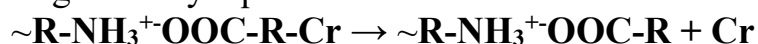


Birinchi jarayon - tashuvchi polimerlarning ion shakllarini ($\sim\text{R-NH}_3^+\text{Cl}^-$) tayyorlash. Shu bilan birga, 0,2 g polimer tashuvchilar ($\sim\text{R-NH}_3^+\text{Cl}^-$) 50 ml li kolbaga solingan, so'ngra 10 ml (0,1 N) HCl eritmasi qo'shilgan va hosil bo'lgan eritma xona haroratida 24 soat ushlab turilgan. Bir kundan so'ng, tashuvchi polimerlar neytrall holatgacha (pH=7) distillangan suv bilan yuvildi. Tanlangan tashuvchi polimerlarning neytrallanish darajasini aniqlash uchun lakmus qog'ozidan foydalanilgan. Natijada $\sim\text{R-NH}_3^+\text{Cl}^-$ hosil bo'ladi.

Ikkinchi jarayon DNDK analitik reaktivi yordamida tashuvchi polimerlarning immobilizatsiyalangan shaklini olishdir. Shu bilan birga, sig'imi 50,0 ml bo'lgan kolbalarga 10,0 ml 0,5% DNDK eritmasi (pH 2,5) so'ngra 0,2 g tashuvchi polimerlarning ion shakllari ($\sim\text{P-NH}_3^+\text{Cl}^-$) qo'shildi, shundan so'ng aralashma 50 marta/min tezlikda 5-8 daqiqa aralashtirildi. Nihoyat, DNDK ($\sim\text{R-NH}_3^+\text{O}_3\text{S-R}$) bilan immobilizatsiyalangan tashuvchi polimerlar distillangan suv bilan yuvilib, keyin xona haroratida quritilgan. Ushbu immobilizatsiya jarayonida DNDK analitik reaktivining sulfo funktsional guruhlari sorbentlarning amino funktsional guruhlari bilan elektrostatik ta'sir o'tkazdi. $\sim\text{R-NH}_3^+\text{O}_3\text{S-R}$ agressiv sharoitda termodinamik jihatdan barqaror.

Statik jarayonda xromning sorbsiya va desorbsiyasini o'rganish. Xromning $\sim\text{R-NH}_3^+\text{O}_3\text{S-R}$ da sorbsiyasi quyidagicha amalga oshirildi: 0,01 M xrom standart eritmasi $\sim\text{R-NH}_3^+\text{O}_3\text{S-R}$ bilan kolbada aralashtirildi; keyin $\sim\text{R-NH}_3^+\text{O}_3\text{S-R}$ eritmada ajratildi. Bu sorbsiya effekti ostida Cr (VI) ionlari $\sim\text{R-NH}_3^+\text{O}_3\text{S-R}$ bilan kimyoviy ta'sir o'tkazib, $\sim\text{R-NH}_3^+\text{O}_3\text{S-R-Cr}$ hosil qiladi. Cr (VI) ionlari gidroksil funktsional guruhlari bilan kimyoviy o'zaro ta'sir qiladi.

$\sim\text{R-NH}_3^+\text{O}_3\text{S-R-Cr}$ dan Cr (VI) desorbsiyasi quyidagicha amalga oshirildi: Sorbsiya jarayonlaridan so'ng $\sim\text{R-NH}_3^+\text{OOC-R-Cr}$ nitrat kislotasi (pH=1-1,5) bilan 1-2 daqiqa davomida aralashtiriladi, so'ngra $\sim\text{R-NH}_3^+\text{OOC-R-Cr}$ quyidagi sxema bo'yicha regeneratsiya qilinadi.:



$\sim R-NH_3^+O_3S-R$ regeneratsiyasi yuqori tezlik va yaxshi natijaga ega bo'lgan oson ishlaydigan jarayondir. Sorbsiya va desorbsiyadan keyin $\sim R-NH_3^+O_3S-R$ dagi Cr miqdori spektroskopik usullar bilan aniqlandi. Sorbsiyadan keyin immobilizatsiyalangan analitik reagent uchun olingan spektrlarning yorug'lik aks etishi, yorug'likning yutilishi va optik zichligi qiymatlarini o'lchash uchun spektroskopik usullar qo'llanilgan.

4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi reagenti Cr(VI) ioni bilan hosil bo'lgan kompleksini tanlab olingan optimal sharoitda nur yutish spektrlari olindi.

Aniqlash uslubi: 25 ml li o'lchov kolbalariga 2 ml 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi reagenti eritmasi, 5 ml pH=3 bo'lgan universal bufer eritma, 50 mkg/ml li Cr(VI) eritmasidan 1ml olib kolbaga solib distillangan suv bilan aralashtirib belgisigacha keltirildi. Hosil bo'lgan yangi kompleks birikma nur yutilish spektri taqqoslash eritmaga nisbatan qalinligi 1-1,0 sm standart bo'lgan kvarts va shisha kyuvetalardan foydalanib, spektrofotometr "UV-1800" asbobida o'lchandi. Reagentning yutilish spektri esa distillangan suvga nisbatan olindi. Natijalar 3.7-rasmda keltirilgan. Bunda keltirilgan yutilish spektri bo'yicha 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi reagenti Cr(VI) kompleksining maksimal optik zichlik nur yutish soxasi $\lambda_{komp}=580$ nm da joylashgan, 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi reagenti maksimal optik zichlik nur yutish pastroq to'lqin uzunligi sohasida ya'ni $\lambda_R=460$ nm da kuzatildi ($\Delta\lambda=115$ nm). Hosil bo'lgan kompleks birikmaning eng yuqori optik zichlik qiymatidan foydalanib ($\lambda=575$ nm bo'lgan sohada) (ϵ) molyar so'ndirish koeffitsiyentini ϵ_k qiymati quyidagi formula yordamida aniqlandi:

$$\epsilon_k = A/C \cdot l = 103046$$

Bu yerda: ϵ_k -nurning molyar so'ndirish koeffitsiyenti;

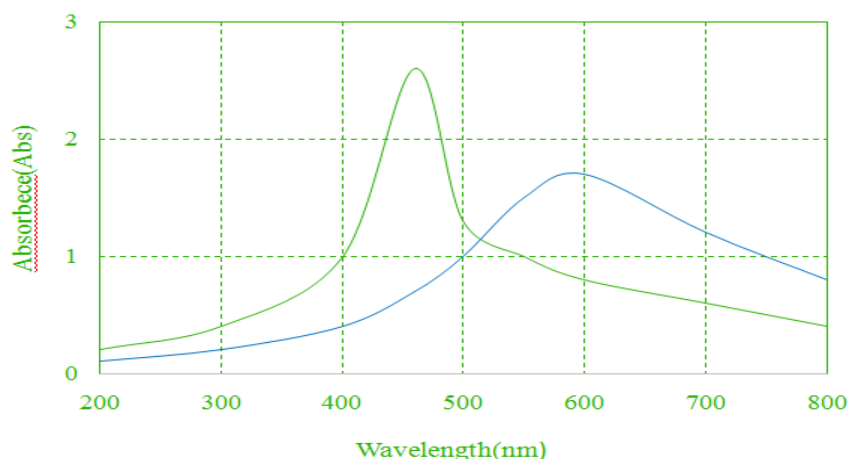
C-xrom (VI)ning konsentratsiyasi (mol/l);

l-yutuvchi qatlam qalinligi (sm);

A-kompleks birikmaning taqqoslash eritmasiga nisbatan o'lchangan optik zichlik qiymati.

Ishlab chiqilgan usulning Sendel bo'yicha sezgirlik ko'rsatkichi mkg/sm² 0.001 birlikda nur yutilishi quyidagi formula yordamida hisoblanadi:

$$S.B.S = \frac{Q \cdot l \cdot 0,001}{A \cdot 25} = \frac{50 \cdot 1,0 \cdot 0,001}{0,433 \cdot 25} = 0,0461 \text{ mkg/sm}^2$$

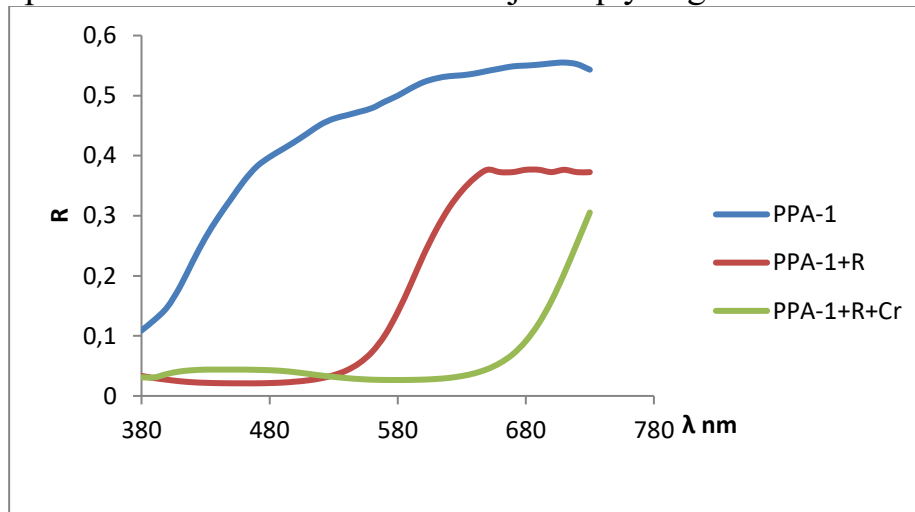


1-rasm. 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi reagent (HR) va uning Cr(VI) bilan kompleksining (MeR) spektri

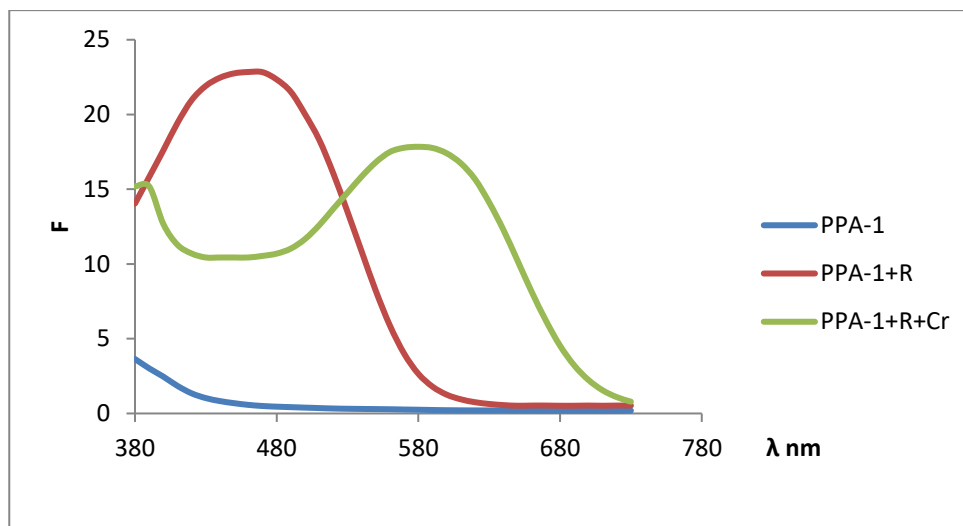
Sendel bo'yicha sezgirlik qiymatlari aniqlandi. Olingan tahlil natijalaridan shunday xulosaga kelish mumkinki, reaksiya birmuncha kontraslikga ($\lambda = 115 \text{ nm}$) va o'rtacha sezgirlikga (S.B.S. $0,0461 \text{ mkg/sm}^2$) ega ekan.

Eritmadagi 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzini va u bilan o'zaro hosil qilgan kompleksning optik zichliklari o'lchandi

PPA-1 tolasi va unga immobillangan 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi bilan xrom (VI) ni hosil qilgan kompleksini nur qaytarish spektrofotometrida o'lchandi natijalar quyidagi rasmda keltirilgan.



2-rasm. PPA-1 tolasi va unga immobillangan 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi hamda xrom (VI) ion bilan hosil qilgan kompleksning nur qaytarish spektrlari



3-rasm. PPA-1 tolasi va unga 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi hamda xrom (VI) ionini bilan hosil qilgan kompleksning nur qaytarish spektrlarini Kubelka-Munka funksiyasida ifodalanishi

Organik reagentni eritmadagi nur yutish va qattiq tolasimon sorbentga immobillanishidan keyin o'lgangan nur qaytarish spektrlari bir-biriga solishtirilganda natijalar bir xil ekanligi kuzatildi.

1-jadval

Xrom (VI) ionini hosil qilgan komplekslarning spektral tavsifi

Kompleks rangi	pH	λ , HR nm	λ , MeR	$\Delta\lambda$	$C_{Cr^{6+}}$ mkg	$C_{Cr^{6+}}$, Mol/l	\bar{A}	Sendel bo'yicha sezgirlik mkg/sm ³
To'q jigarrang	3	460	580	115	45	$2,62 \cdot 10^{-5}$	0,423	0,0461

Demak, tashuvchi sorbent sifatida tanlab olingan PPA-1 da organik reagentimiz (DNDK) yaxshi immobillanganligini va immobillangan reagent bilan xrom (VI) ionini barqaror kompleks hosil qilishi shuningdek ishlab chiqilgan usul yuqori sezgirlikka ega ekanligini ko'rishimiz mumkin.

Tashuvchi sorbent sifatida mahalliy xomashyo bo'lgan PPA-1 tanlab olindi va unga 4,5-digidroksi-2,7-naftalindisulfo kislotani ikki natriyli tuzi immobillanishining optimal sharoitlari topildi.

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**MILLIY MAHSULOTLARNING TASHQI BOZORGA CHIQISHIDA
TRANSPORT LOGISTIKASI XIZMATLARINI
RIVOJLANTIRISHNING MOHIYATI, IJTIMOY-IQTISODIY
AHAMIYATI**

Аннотация. Ushbu maqolada, Milliy mahsulotlarni mintaqaviy va xalqaro bozorlarga chiqishini ta'minlovchi transport yo'laklari infratuzilmalarini rivojlantirish hamda transport xizmatlari ko'rsatishni talablar darajasida yo'lga qo'yish bevosita transport logistikaga bog'liqligi keltirib o'tilgan.

Калит сўзлар. transport, logistika, omborxonalar, yuk, qadoqlash, terminallar, chakana do'konlar, mahsulot, zaxiralar, transport tarmoqlari, transport kompaniyalari, infratuzilma, iste'molchilar, yetkazib berish, yuk jo'natuvchilar, kooperatsiya, mahalliy, eksport-import va tranzit tovar.

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**THE ESSENCE, SOCIO-ECONOMIC SIGNIFICANCE OF THE
DEVELOPMENT OF TRANSPORT LOGISTICS SERVICES IN
EXPORTING NATIONAL PRODUCTS TO THE EXTERNAL MARKET**

Annotation. In this article, proposals and recommendations for the current analysis and development of transport corridors, transport and logistics infrastructure of the Republic of Uzbekistan were developed.

Key words. transportation, logistics, warehousing, freight, packaging, terminals, retail stores, products, stocks, transportation networks, transportation companies, infrastructure, consumers, delivery, shippers, co-op, local, Export-import and transit goods.

Kirish. Bugungi kunda yangi O'zbekistonni barpo etish jarayonida yurtimizda barcha mintaqalarida transport logistikasi xizmatlariga bo'lgan ehtiyoj oshib bormoqda. Transport logistikasi sohasida ham keng ko'lamli islohotlar amalga oshirilmoqda va mazkur sohani rivojlantirish bo'yicha bir qancha choratadbirlar rejasi ishlab chiqilmoqda.

“2022–2026 yillarga mo‘ljallangan yangi O‘zbekistonning Taraqqiyot Strategiyasining 93-maqsadida ko‘rsatilganidek² “Mamlakatning xalqaro hamjamiyatda teng huquqli sub’ekt sifatidagi rolini oshirish, hamkor mamlakatlar va xalqaro tashkilotlar bilan mintaqaviy va global masalalar bo‘yicha muvozanatli tarzda muloqot olib borish, ular bilan ikki va ko‘p tomonlama uchrashuvlar o‘tkazish, siyosiy, iqtisodiy hamda madaniy sohalarda turli darajadagi maslahatlashuvlarni tashkil etish, etakchi davlatlar bilan keng qamrovli hamkorlikni strategik darajaga olib chiqish hamda ular bilan kengaytirilgan sheriklik va hamkorlik to‘g‘risidagi bitimlarni kelishish” mamlakatimizning xalqaro transport magistrallariga ulanishi, transport mustaqilligini ta‘minlash va transport aloqalarini diversifikatsiya qilishga yo‘naltirilishida alohida o‘rin egallaydi.

Tadqiqot metodologiyasi. Tadqiqot jarayonida Respublikamizning eksport mahsuloti istiqbolli xalqaro bozorlarga chiqishini ta‘minlaydigan maksimal darajada samarali, muqobil tranzit yo‘laklarini shakllantirish, transport logistikasini rivojlantirish.

Adabiyotlar sharhi. Transport logistika xizmatlarining samarali mexanizmlarini takomillashtirish bo‘yicha xorijiy va mahalliy olimlarning tadqiqotlarini o‘rganish maqsadga muvofiq. “Ba’zi tadqiqotlarda³ logistika keng tushuncha ekanligi e‘tirof etilib, mutaxassislar unga turlicha yondashganlar. Qandayligidan qat’iy nazar, uni faqatgina transportda mahsulot tashish, ortish-tushirish, ombordagi kirim-chiqim hisoblarini yuritishdan iborat deb tushunmaslik lozim. Negaki, logistika deganda material oqimini birlamchi manbasidan to oxirgi iste‘molchisiga etkazib bergunga qadar tovar harakati to‘g‘risidagi ma‘lumotlarni shakllantirish asosida boshqarish tushuniladi. Shu bois M.Porter, D.Stok singari mutaxassislar logistika o‘z an’anaviy mohiyatidan allaqachon chiqib ketganini, korxonalarni strategik boshqarish va rejalashtirishda katta ahamiyatga egaligini ta’kidlaydilar”.

Natijalar qismi. Transport logistika xizmatlarining o‘ziga xos eksport-import yuklarini tashuvchi transport majmualar, omborlar, va oziq-ovqat mahsulotlarini sovutkichlarda saqlovchi terminallar ishlashini texnologik jihatdan takomillashtirish, mazkur sohaga xizmat ko‘rsatuvchi kichik biznes sub’yektlari sonini ko‘paytirish tarmoqning jadal rivojlanishiga xizmat qiladi. Shu o‘rinda transport salohiyatidan foydalanishni uslubiy jihatdan tadqiq etishda mamlakatimizda 2012-2018 yillarda transport umumfoydalanadigan transport turlari bo‘yicha yuk jo‘natish salmog‘ining o‘zgarishiga e‘tibor qaratish maqsadga muvofiq, chunki bir necha yo‘nalishlar bo‘yicha yuk tashish imkoniyatlarining tahlil qilinishi amaliy xulosalar va tavsiyalar berishga asos bo‘ladi (1-jadval).

² O‘zbekiston Respublikasi Prezidentining 2022 yil 28 yanvar, PF-60-son 2022 — 2026 yillarga mo‘ljallangan Yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida Farmoni. Qonunchilik ma‘lumotlari milliy bazasi, 29.01.2022 y., 06/22/60/0082-son).

³Kalonov M.Transport logistikaning iqtisodiy ahamiyati. T.: Biznes-ekspert. 2019. №9. -76.

Jadvalda O‘zbekiston Respublikasi bojxona chegaralaridan o‘tgan yuklar hajmining o‘zgarishi keltirilgan bo‘lib, Jami chiqib ketgan yuklar, ming tonna, shu jumladan transport turlari orqali hisobot yilida 20 327,7 ming tonnani tashkil qilib, bu 2019 yilga nisbatan 2592ko‘rsatkichga teng bo‘lgan. Jami kirib kelgan yuklar esa 2023 yilda 24 246,56 birlikni tashkil qilib, o‘tgan yillarga nisbatan 572,9 o‘sib borgan.

1-jadval

O‘zbekiston Respublikasi bojxona chegaralaridan o‘tgan yuklar hajmining o‘zgarish salmogii⁶

Ko‘rsatkichlar va o‘lchov birliklari	2019 y.	2020 y.	2021 y.	2022 y.	2023 y.	2023yilda 2019 yilga nisbatan o‘zgarish (+,-)
Jami chiqib ketgan yuklar, ming tonna, shu jumladan:	13 203,1	16 030,2	18 014,1	17 735,7	20 327,7	2592
temir yo‘l	3 861,4	3 589,7	3 571,2	3 365,0	4 629,5	1264,5
havo transporti	6,2	7,2	7,2	6,8	7,9	1,1
avtotransport	1 461,2	1 879,8	2 398,1	2 047,6	3 573,2	1525,6
quvur transporti	7, 873,2	10 552,4	12 004,3	11 764,8	14 697,8	2933
suv transporti	1,1	1,1	33,3	30,3	36,4	6,1
Jami kirib kelgan yuklar	13 309,1	21 052,0	23 054,9	23 673,6	24 246,5	572,9

Mamlakatimizda transport logistikasini rivojlantirish uchun quyidagi ishlarni amalga oshirish lozim:

- mintaqa davlatlari bilan transport sohasidagi hamkorlikni yanada kuchaytirish, normativ huquqiy bazani takomillashtirish va tranzit ta’riflari soddalashtirish;

- mahalliy, eksport-import va tranzit tovar aylanmasini rivojlantirishga ko‘maklashuvchi logistika markazlari tashkil etishni o‘z ichiga oluvchi mamlakat transport infratuzilmasini rivojlantirishga alohida e’tibor qaratish;

- shartnoma munosabatlari asosida transport vositalarining egalari bilan xizmat ko‘rsatiluvchi mijozlar kelishuvida ekologik xavfsizlik tamoyillarining bajarilishi monitoringini tashkil qilish;

Xulosa va takliflar. Bizning fikrimizcha, transport salohiyatidan foydalanishni rag‘batlantirish va tartibga solishda transport-logistik oqimlarning o‘zaro bog‘liqligi innovasion faoliyatni rivojlantirish mexanizmlarini

⁶ O‘zbekiston Respublikasi Prezidenti huzuridagi Davlat statistka agentligi ma’lumotlari asosida muallif tomonidan hisoblangan.

takomillashtirish bo'yicha alohida tadqiqotlar talab qiladi va ayniqsa bu borada hududlarda transport logistika xizmatlarining tashkil etilishi sohada oziq-ovqatlar, xom ashyo yetkazib beruvchi sub'yektlarni moliyaviy jihatdan qo'llab-quvvatlash, rag'batlantirish va investision loyihalarni moliyalashtirish o'ziga xos xususiyatlaridan kelib chiqqan holda raqobat muhitini ta'minlashga erishish lozim.

Foydalanilgan adabiyotlar:

1. O'zbekiston Respublikasi Prezidentining 2022 yil 28 yanvar, PF-60-son 2022 — 2026 yillarga mo'ljallangan Yangi O'zbekistonning taraqqiyot strategiyasi to'g'risida Farmoni. Qonunchilik ma'lumotlari milliy bazasi, 29.01.2022 y., 06/22/60/0082-son).
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O‘QUV JARAYONIDA O‘RGANISH VA FOYDALANISH UCHUN BULUTLI HISOBLASH TEXNOLOGIYALARI TAHLILI

Annotatsiya. Maqolada eng keng tarqalgan va hozirda ommabop bo‘lgan bulutli hisoblash texnologiyalariga asoslangan Google Drive, Dropbox, Microsoft One Drive va Yandex.Disk servis xizmatlarining qiyosiy tahlili keltirilgan. Shuningdek, Google Drive bilan MS Office paketi imkoniyatlari taqqoslangan. Google Drive servis xizmatining ijobiy va salbiy jihatlari ko‘rib chiqilgan. Tahlillar asosida zamonaviy axborot texnologiyalarini o‘rganishda va o‘quv jarayonida foydalanish uchun eng mos va dolzarb bo‘lgan Google Drive servis xizmati haqida xulosa berilgan. O‘zbekiston Davlat jahon tillari universitetining "Zamonaviy axborot texnologiyalari" kafedrası tomonidan o‘qitiladigan "Axborot texnologiyalari" fanining "Bulutli texnologiyalarni qo‘llash" moduli bo‘yicha Google Drive servis xizmatidan samarali foydalanishga oid o‘quv-didaktik materiallar ishlab chiqilib, o‘quv jarayoniga tatbiq etildi.

Kalit so‘zlar: bulutli hisoblashlar, bulut, bulutli hisoblash texnologiyasi; bulutli xizmatlar, axborot texnologiyalari, o‘quv jarayoni.

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ANALYSIS OF CLOUD COMPUTING TECHNOLOGIES FOR STUDY AND USE IN THE EDUCATIONAL PROCESS

Abstract. The article presents a comparative analysis of the most popular and currently most widespread services based on cloud computing technologies Google Drive, Dropbox, Microsoft One Drive and Yandex.Disk. A comparison was also made of the capabilities of Google Drive and the MS Office package. The advantages and disadvantages of the Google Drive service are considered. Based on the analysis, the conclusion is made about the most appropriate and relevant Google Drive service for use in the study of modern information technologies and the educational process. In the module “Application of Cloud Technologies” of the discipline “Information Technologies”, taught by the Department of “Modern Information Technologies” of the Uzbek State University of World Languages, educational and didactic materials on the effective use of

the Google Drive service were developed and introduced into the educational process.

Key words: cloud computing, cloud, cloud computing technology, cloud services, information technology, educational process.

So‘nggi paytlarda Internet tarmog‘iga kirish imkoniyati deyarli hamma joyda mavjud bo‘lib, mobil qurilmalardan keng ko‘lamda foydalanilishi natijasida ko‘plab vazifalar statsionar kompyuterlardan bulutli hisoblash texnologiyalari serverlariga o‘tkazilishi asosida bajarilmoqda. Bulutli hisoblash texnologiyalari biznesning turli sohalari, shuningdek, ta‘lim sohasi uchun yangi imkoniyatlarni ochmoqda, shu jumladan o‘qitishning individuallashtirilgan va interaktiv metodlarini taqdim etish uslubiyotini o‘zgartirmoqda.

Bulutli hisoblashlar g‘oyasi o‘tgan asrning 60-yillarida Jon Makkarti tomonidan ilgari surilgan. U hisoblashlar ham kommunal xizmatlardan oylik to‘lovlar asosida foydalanganimiz kabi alohida ijara haqi evaziga amalga oshirilishi mumkin, degan nazariyani ilgari surgan [1]. Bulutli hisoblashlar axborot texnologiyalarining yangi yo‘nalishi bo‘lib, bunda hisoblash jarayonlari mahalliy kompyuterlarda emas, balki bulutli provayderlar yoki uchinchi tomon hisoblash va saqlash provayderlari orqali amalga oshiriladi. Bulutli hisoblashlar orqali hisoblashlarni bajarish uchun shaxsiy kompyuterlarga mos dasturiy ta‘minotni o‘rnatib, uni ishga tushirish shart emas.

Bulutli hisoblashlar axborot texnologiyalarining eng tez rivojlanayotgan yo‘nalishlaridan biri bo‘lib, ularda infratuzilma, platforma yoki dasturiy ta‘minot bilan bog‘liq xizmatlar kabi resurslarga Internet orqali so‘rovlar asosida kirish, o‘z-o‘ziga xizmat ko‘rsatish amalga oshiriladi. Ushbu xizmatlar tezkorlik bilan xizmatlar ko‘rsatuvchi provayderlar bilan o‘zaro aloqadorlikda ta‘minlanishi, minimal tarzda boshqarilishi mumkin.

Bulutli hisoblashlar tushunchasiga berilgan rasmiy ta‘rif AQSh milliy standartlar va texnologiyalar instituti tomonidan taklif qilingan: "bulutli hisoblashlar - talab bo‘yicha istalgan joydan tarmoq orqali kirish qulay bo‘lgan, sozlanadigan va moslashtiriladigan hisoblash resurslarining (masalan, tarmoqlar, serverlar, saqlash tizimlari, ilovalar va xizmatlar) umumiy ravishda foydalanilinishini ta‘minlaydigan modeli bo‘lib, unda kerakli resurslarni tezkorlik bilan tayyorlash va minimal boshqaruv amallari yoki xizmat ko‘rsatuvchi provayderning minimal aralashuvi asosida taqdim etish mumkin" [2].

"Bulut" (cloud) atamasi ko‘chma ma‘noda kompyuter tarmog‘i sxemasidagi Internet tasviriga asoslanadi va barcha texnik tafsilotlarni mujassam qilgan murakkab infratuzilma sifatida ishlatiladi. Bulut - bu siz u yoki bu texnologiyadan foydalanishingiz zarur bo‘lganda murojaat qilinadigan va undan kerak bo‘lganda yetarlicha vaqt davomida foydalanishingiz mumkin bo‘lgan dasturiy ta‘minot va infratuzilmadir [3, 12 b.]. Ushbu holda "bulut" deganda Internet tarmog‘ida bir-biriga bog‘langan serverlar tushuniladiki,

foydalanuvchilar bunday serverlarning jismoniy joylashgan o‘rnini bilmasliklari ham mumkin.

Bulutli hisoblashlar - bu keng doiradagi foydalanuvchilarga Internet orqali keng ko‘lamli, virtuallashtirilgan apparat va/yoki dasturiy ta‘minot infratuzilmasiga taqsimlangan holda kirishni ta‘minlashga qaratilgan taqsimlangan hisoblash texnologiyalari [4].

Bulutli hisoblash texnologiyasi - bu ma‘lumotlarni qayta ishlashning shunday texnologiyasiki, unda kompyuter resurslari va imkoniyatlari foydalanuvchiga Internet-servis xizmatlari sifatida taqdim etiladi [5]. Ushbu texnologiya foydalanuvchilarga va tashkilotlarga infratuzilma boshqaruvining bir qismini yoki ko‘p qismini uchinchi tomon hosting provayderlariga yuklash orqali o‘z operatsiyalarini kengaytirish uchun moslashtirish imkoniyatlarini taqdim etadi.

Bulutli hisoblashlar aslida serverlar, ma‘lumotlarni saqlash ombori, ma‘lumotlar bazasi, tarmoq, dasturiy ta‘minot, tahlilni o‘z ichiga olgan hisoblash xizmatidir. Ushbu xizmatlar faqat Internet orqali taqdim etiladi, shuning uchun "bulut" atamasi xizmatlarga erkin ravishda (ochiq) kirish xususiyati bilan bog‘liq.

Bulutli hisoblash modelida hisoblash quvvati, dasturiy ta‘minot, ma‘lumotlarni saqlash xizmatlari va platformalar tashqi mijozlarning talablari bo‘yicha Internet orqali taqdim etiladi [6].

Ushbu texnologiya resurslar va xizmatlarga kirishni talabga qarab oshirishi yoki kamaytirishi mumkin. Bulutli hisoblash provayderlari odatda mijozlardan foydalanish uchun to‘lov tariflari bo‘yicha haq oladilar.

Ch. Bulla va boshqalar, 2016 yilda ta‘lim tizimida bulutli hisoblashlarni qo‘llash bo‘yicha tadqiqot o‘lib borganlar. Tadqiqotda ta‘lim muassasalari uchun yechim sifatida bulutli hisoblash texnologiyalarini qo‘llab-quvvatlovchi platformalardan foydalanish masalalari muhokama qilingan. Mualliflar bulutli hisoblashlarning yangi o‘quv va ta‘lim muhitiga sezilarli ta‘sirini tushuntirishga harakat qilganlar [7].

Hozirgi vaqtda ta‘lim muassasalarining o‘quv jarayoni doirasida zamonaviy bulutli hisoblash texnologiyalariga asoslangan servis xizmatlarni o‘rganish va ularni qo‘llash zarurati dolzarb bo‘lib qolmoqda. Buning sababi quyidagilar bilan bog‘liq:

- bir foydalanuvchining ishda yoki o‘qishda, uyda statsionar kompyuter yoki noutbuk yoki planshet yoki smartfon kabi bir necha turdagi kompyuterlardan foydalanishida ular orasida doimiy ravishda fayllarni uzatish, hujjatlarni ochish va tahrirlash, dasturiy ta‘minotning muvofiqligi masalalarini ijobiy hal qilish zarurati;
- kompyuterning qattiq disk yoki flesh-kartasining cheklangan hajmi;
- foydalaniladigan dasturiy ta‘minotning litsenzion kalitiga ega bo‘lish zarurati.

Bunday servis xizmatlar yordamida nafaqat hujjatlarni onlayn o‘qish, balki tahrirlash imkoniyatlari taqdim etiladi. Bular orasidan quyidagilarni ajratib o‘tish mumkin:

- Google Drive (Docs) (<https://drive.google.com/>);
- Microsoft OneDrive (<https://onedrive.com/>);
- Dropbox (<https://www.dropbox.com/>);
- Yandex.Disk (<https://disk.yandex.ru/>).

Ushbu turdagi servis xizmatlarning qaysi biri ustunlikka ega? Ular orasida Google Drive, deyarli eng rivojlangan va potensial ravishda eng ko‘p tarqalgan servis xizmatidir. Gmail akkauntiga ega bo‘lgan har bir kishi undan foydalanishi mumkin.

2012 yilda Google hozirgi ko‘rinishida servis xizmatlarni ishga tushirganini e‘lon qilgan [8]. Shu qisqa vaqt ichida yangi funksional imkoniyatyalarga ega bo‘lgan servis xizmatlar ko‘plab kuzatuvchilar va mutaxassislar tomonidan yuqori baholandi.

Dastlabki vaqtda Google Drive rasmiy ravishda Google Docs-ning, Gmail-ning bir qismi edi, endilikda barcha xizmatlar Google Drive-ga integratsiyalashgan yoki unga ochiq havola qilinadi. Foydalanuvchilar Gmail pochta xizmatidan foydalanishlarida Google Drive servisida ajratilgan xotira hajmining qanchasi bo‘shligini ko‘rishlari mumkin. Biroq, bulutli ma‘lumotlarni saqlash sifatida Google Drive bir nechta kuchli muqobil raqobatchilariga ega [10]. O‘rganilgan maqolalarning aksariyatida mualliflar ushbu xizmat, garchi kamchiliklardan holi bo‘lmasa ham, istiqbolli va hatto hozirgi holatida ham boshqa shu kabi servislar, shu jumladan Dropbox, Microsoft OneDrive va Yandex.Disk, iCloud bilan raqobatlasha olishini e‘tirof etganlar. Google Drive servis xizmati imkoniyatlarining uning raqobatchilari bilan solishtirma xususiyatlari 1-jadvalda keltirilgan.

1-jadval.

Google Drive servis xizmatining raqobatchilari bilan solishtirma xususiyatlari.

Xususiyatlar	Google Drive	Microsoft OneDrive	Dropbox	Yandex.Disk
Bepul xotira hajmi	15 Gb	5 Gb	2 Gb	10 Gb
Pullik obuna	100 Gb - oyiga \$1,99; 1 Tb - \$9,99; 10 Tb-\$99,99; 20 Tb - \$199,99.	50 Gb - oyiga \$1,99;	1Tb – oyiga €9.99	200 Gb -oyiga 108 ₺ 1 Tb - 191 ₺ 3 Tb - 475 ₺
Faylning maksimal hajmi	6 Gb	2 Gb	100 Mb	1 Gb
Statsionar dasturiy ta‘minot	Windows, Mac OS X Lion (10.7)	Windows, Mac OS	Windows, Mac OS, Linux	Windows, Mac OS, Linux

Mobil dasturiy ta'minot	iOS, Windows Phone, Android	IOS, Windows Phone, Android	iOS, Android, Windows Phone	iOS, Android va Windows Phone
O'ziga xos xususiyatlari	Dasturiy ta'minot ishlab chiqish vositalari mavjudligi; Google kengaytirilgan qidiruvi; Google+ va Google Docs bilan integratsiyasi; matni anglash	Foydalanuvchilar bevosita brauzerda Word, Excel, PowerPoint va OneNote hujjatlarini yaratishlari, ko'rishlari va tahrirlashlari mumkin; Bing qidiruv tizimi bilan integratsiyalangan	Turli qurilmalar o'rtasida ma'lumotlarni masofadan turib ko'rish, qayta ishlash va avtomatik sinxronlashtirish; boshqa foydalanuvchilar bilan fayllarni almashish imkoniyati.	Antivirus yordamida fayllarni tekshirish; Veb-versiyasida musiqa va videolarni ijro etish uchun o'rnatilgan html5 pleyer; Elektron pochta xabariga birlashtirilgan fayllarni qidirish.

Google Drive servis xizmatida boshqa raqobatchilarga nisbatan bulutli saqlash va ma'lumotlarni sinxronlashtirish, Google Docs tarkibiga kirmagan ilovalar yordamida yaratilgan dasturlardan foydalanish kabi noyob va asosiy ustunliklarga egaligi yaqqol namoyon bo'ladi. 2-jadvaldan ko'rinib turibdiki, bir qator jozibali xususiyatlar bo'yicha Google Drive hatto MS Office paketi dasturlaridan ustundir.

2-jadval.















MS Office paketi va Google Drive imkoniyatlari

	Microsoft Office	Google Drive
Narxi	Microsoft Office 2019 Professional - 7590000 so'm ⁴	Shaxsiy foydalanish uchun bepul
Matn protsessori	Mavjud	Mavjud
Jadval protsessori	Mavjud	Mavjud
Taqdimot muharriri	Mavjud	Mavjud
Ma'lumotlar bazasini boshqarish tizimi	Hamma versiyalarida ham emas	Mavjud emas
Anketa so'rovnomasi muharriri	Mavjud emas.	Mavjud.
Internetga ulanish	Talab etilmaydi.	Zarur.
Tarmoqda ma'lumotlarni bulutli saqlash ombori	Mavjud emas.	Shaxsiy foydalanish uchun 15 GB bepul.
Har qanday operatsion tizimdan kirish imkoniyati	Yo'q, faqat OS X va Windows operatsion tizimi uchun alohida sotiladi.	Ha, har qanday operatsion tizimdan brauzer orqali kirish mumkin.
O'rnatmasdan ishga tushirish imkoniyati	Yo'q.	Mavjud.

⁴ <https://pc.uz/category/32052-microsoft-office>

Hujjatlar bilan hamkorlikda (birgalikda) ishlash imkoniyati	Yo‘q.	Mavjud.
Internet tarmog‘i orqali ko‘rish uchun hujjatlarni qulay joylashtirish imkoniyati	Yo‘q.	Ha, mos tugmalarni bir necha marta bosish orqali.

Google Drive servisining barcha tarif rejalariga quyidagilar kiradi:

						
Google Docs (Hujjatlar)	Google Sheets (Jadvallar)	Google Slides (Taqdimot)	Google Forms (Shakllar)	Google Calendar (Taqvim)	Google Drawings (Rasmlar)	Google Disk (Disk)
						
Meet (Videotelefoniya va videokonferensaloqa)	Chat (Onlayn muloqot)	Keep (Kontentda hamkorlik)	Google Sites (Veb-sayt konstruktori)	Google Classroom (Onlayn o‘qish)	Google Blogger (Blog yaratish)	Search (Qidiruv)

Keep servisi qaydnomalar, ro‘yxatlar, fotosuratlar, audio fayllar va boshqa kontent ustida hamkorlik qilish uchun qulay vosita hisoblanadi. Ushbu servis yangi g‘oyalar ustida hamkorlik qilib, ularni saqlash va real vaqt oralig‘ida ijobiy natijalarga erishish imkonini beradi. Masalan, ushbu servis yordamida foydalanuvchining zarur bo‘lgan login va parol ma’lumotlarini qaydnoma ko‘rinishida saqlab qo‘yish mumkin.

Google Classroom servisi o‘quv jarayonini masofadan tashkil etish uchun mo‘ljallangan bo‘lib, unda Google xizmatlarining barcha foydali imkoniyatlari joriy etilgan. Servis yordamida o‘quvchilar uchun masofadan o‘qitishni tashkil etish mumkin. Google Classroom qisqa vaqt ichida butun dunyoda mashhur bo‘lishga ulgurgan servislardan biridir. Ushbu servis ko‘plab xususiyatlarga va qo‘shimcha ilovalarga ega: didaktik materiallar, vazifalarni saqlash, tarqatish uchun Google Drive xizmatidan foydalanish; yozma ish vazifalari va turli xil so‘rovnomalar, test topshiriqlarini yaratish uchun Google Docs va Google Forms, talabalar o‘zlashtirishlarini statistik tahlil qilish uchun Google Sheets, taqdimotlarni yaratish va namoyish etish uchun Google Slides; aloqa uchun Gmail va muayyan chora-tadbirlarni rejalashtirish uchun Google Calendar servislari bilan integratsiyalashgan. Google Classroom xizmatidan foydalanib o‘quv jarayonini oson boshqarish mumkin.

Biroq, kamchiliklar ham mavjud. Masalan, tajriba asosida shu holat aniqlandiki, avvaldan yaratilgan hujjatlarni Google Drivega yuklagandan ko‘ra, avvaliga Google Docs servisinde hujjatlarni yaratib olish afzalroq. Chunki Google Docs boshqa dasturda yaratilgan hujjatini o‘z formatiga o‘tkazishida chalkashliklar vujudga kelishi mumkin.

D.Olson ushbu holatga talaba nigohi bilan qarashga harakat qiladi. Uning fikricha, bir tomondan, bu talabalar uchun juda foydali va qulay, ammo boshqa tomondan o'qituvchilar Google Docs fayllarini qabul qilmaydilar. Chunki o'qituvchilar odatda faqat MS Office fayllarini (va ba'zan PDF yoki RTF formatlarini) qabul qiladilar. Demak, professoringiz hujjatlaringizni o'qishi uchun sizga Office kerak bo'ladi. Yoki Google Docs faylini qirqib, maktab kompyuteridagi Word fayliga joylashtirishingiz kerak bo'ladi. Ammo bu juda noqulay [10].

Bizning fikrimizcha, Google Drive servis xizmatidan foydalanish quyidagi talabalar uchun qulay:

- kompyuteri bo'lmagan va universitet kompyuter sinflaridagi kompyuterlardan foydalanuvchi talabalarga;
- faqat desktop turidagi shaxsiy kompyuteri bo'lgan va kompyuter sinfi kompyuterlarida ishlashni yaxshi ko'radigan talabalarga;
- noutbukga ega bo'lgan, lekin uni o'zi bilan universitetga olib borishni xohlamaydigan talabalarga.

Google Drive servis xizmatining afzalliklari quyidagi omillarni o'z ichiga oladi:

- hujjatlarning yo'qolishi bilan bog'liq muammolarni bartaraf etish;
- moddiy xarajatlarni kamaytirish;
- hamkorlikda ishlash, kommunikatsiya imkoniyatlari;
- vaqtni tejash;

Hujjatlarning yo'qolishi bilan bog'liq muammolarni bartaraf etish.

Kompyuterdagi tartibsizliklar, bir nechta flesh-disklar, disklar yoki boshqa axborot tashuvchi vositalarda kerakli hujjatlar yo'qolishi kuzatilsa, bulutda saqlanayotgan hujjat nusxasini har doim tarmoqqa kirish mumkin bo'lgan dunyoning istalgan joyidan qidirish vositalari orqali osongina topish mumkin.

Moddiy xarajatlarni kamaytirish. Google Drive kabi bulutli ma'lumotlarni saqlash xizmatlari foydalanuvchilarga CD/DVD diskleri, flesh-disklar kabi ma'lumotlarni saqlash vositalarini xarid qilmasdan, ma'lumotlar va hujjatlarni nafaqat tahrirlash, balki mavjud bo'lgan tarmoq disklarida saqlash imkonini beradilar. Ularda nafaqat o'quv, balki oshkor etilishi yoki o'g'irlanishi nuqtai-nazaridan ahamiyatga ega bo'lmagan shaxsiy fayllarni ham saqlash mumkin. Bundan tashqari, bulutli xizmatlar elektron hujjat aylanishini hech bo'lmaganda qisman joriy etish yoki qo'llashni kengaytirish imkonini beradi, qog'oz, qalam, printer siyoh kabi har xil turdagi sarflanadigan materiallar uchun xarajatlarni kamaytiradi. Umuman olganda barcha ma'lumotlar va hujjatlar ofislarda yoki arxivlarda joy egallamasdan bulutli serverlarda saqlanadi.

Hamkorlikda ishlash, kommunikatsiya imkoniyatlari. Google Drive va shunga o'xshash servis xizmatlar har qanday hujjatlar bilan maqsadli foydalanuvchilar guruhi birgalikda ishlash, jumladan ularni tahrirlash, muhokama qilish jarayonini qulay tarzda tashkil qilish imkonini beradi. Ushbu imkoniyatlar, ayniqsa, talabalar tomonidan umumiy topshiriqni bajarishlarida, kichik

guruhlarda birgalikda loyiha ustida ishlashlarida hamda o'qituvchi tomonidan muayyan talabning hujjatini ko'rish, hujjatning tuzilishini buzmaganda holda fayl sahifasida sharhlar qoldirishda, umuman o'qituvchi bilan talabalar o'rtasida axborot almashishda yaxshi samara beradi.

Vaqtni tejash. Raqamli hujjatni qog'ozdagi hujjatga qaraganda osonroq va qisqa vaqt ichida topish (shuningdek, undagi ma'lum bir fragmentni) mumkin. Chunki foydalanuvchi qidirishni ushbu hujjatning atributiv xususiyatlarini (nomi, yaratilgan yoki oxirgi tahrirlangan sanasi va boshqalarni) ko'rsatish yoki kalit so'zni kiritish orqali amalga oshirishi mumkin.

Albatta, har qanday yangi texnologiya, qanchalik yaxshi bo'lmasin, kamchiliklardan holi bo'lmaydi. va uni amaliyotda qo'llashda qiyinchiliklarga duch kelinadi. Google Drive servis xizmatidan foydalanish bilan bog'liq bunday kamchiliklar quyidagi muammolarni o'z ichiga olishi mumkin:

- ma'lumotlar xavfsizligi va ishonchliligini ta'minlash;
- texnik muammolar;
- Internetga qaramlik;
- ma'lumotlarga kirishning barqarorligini ta'minlash muammosi.

Ma'lumotlar xavfsizligi va ishonchliligi ta'minlash. Har qanday bulutli hisoblash texnologiyalariga asoslangan servis xizmatning va foydalanuvchining shaxsiy ma'lumotlarini saqlaydigan yoki saqlashga ruxsat beruvchi har qanday tarmoq servisining asosiy muammolaridan biri – ma'lumotlarning xavfsizligidir. Ushbu ma'lumotlarni o'g'rilanishidan himoya qilishning yagona vositasi - foydalanuvchi tomonidan ko'rsatilgan parol va bulutli servis xizmatini taqdim etuvchi kompaniya tomonidan qabul qilingan xavfsizlik siyosati choralari. Foydalanuvchi o'z paroli uchun samarali shifrlash usulini qo'llay olishi ma'lumotlari xavfsizligini ta'minlashi mumkin. Biroq, parolni ishonchli saqlash usuliga e'tibor bermasa, xavfsizlik buzilishi mumkin. Tadqiqotlar bulutli hisoblash texnologiyalariga asoslangan servis xizmatlar foydalanuvchilari tomonidan parollarni ishonchli saqlash nuqtai-nazaridan eng keng tarqalgan xavfli amaliyotlar quyidagilar kirishini ko'rsatadi:

- parollarni hamkasblar, oila a'zolari va do'stlar bilan bo'lishish.
- parolni stikerlarda (yopishqoq qog'ozlarda), qog'ozlarda yoki kundalik daftarlarga yozib qo'yish.
- parollarni faqat so'rov bo'yicha o'zgartirish yoki bir nechta saytlar uchun bir xil parollardan foydalanish [11].

Texnik muammolar. Bulutli texnologiyalarga asoslangan servis xizmatlardan foydalanishda, boshqa har qanday IT tizimi kabi, qayta ishga tushirish, tarmoqdagi nosozliklar va uzilishlar kabi texnik muammolar yuzaga kelishi mumkin. Bunday servis xizmatlar imkoniyatlaridan samarali foydalanish uchun foydalanuvchi o'z elektron qurilmasidan, xoh u planshet, noutbuk yoki ish stoli kompyuteri bo'ladimi, Internet tarmog'iga doimiy kirishi talab etiladi. Shunday qilib, Google Drive servis xizmatiga istalgan joydan murojaat qilishi uchun foydalanuvchi Internetga kirish imkoniyatiga ega bo'lishi kerak. Bundan

tashqari, agar joydagi foydalanuvchilar soni ko'p bo'lsa, Internet tarmog'iga kirishda va ma'lumotlar uzatish tezligi pasayishi kuzatilishi mumkin.

Internetga qaramlik. Bulutli hisoblash texnologiyalarining eng muhim kamchiliklaridan biri ularning Internetga bog'liqligidir. Ma'lumotlarga kirish uchun simli ulanishdan foydalanadigan an'anaviy hisoblashdan farqli o'laroq, bulutli hisoblashlar texnologiyalariga asoslangan servis xizmatlarda foydalanish uchun Internet tarmog'iga ulanishdagi zaifliklar tufayli aloqa kanallarida shovqinlar yuzaga kelishi mumkin. Ushbu holat foydalanuvchilar uchun jiddiy oqibatlariga olib keladigan, muhim ma'lumotlar va ilovalardan foydalanish mumkin bo'lmagan vaziyatlarni keltirib chiqarishi mumkin [12].

Ma'lumotlarga kirishning barqarorligini ta'minlash muammosi. Bir tomondan, agar bulutli texnologiyalarga asoslangan servis xizmatlar taqdim etuvchi kompaniya serverlari ishlamay qolsa, har qanday ma'lumotlar, qanchalik qimmatli bo'lishidan qat'iy nazar, ularni qayta tiklash imkoniyati yo'qqa chiqishi mumkin. Boshqa tomondan, agar ta'lim muassasasidagi mahalliy kompyuter tarmog'i yoki uning Internet tarmog'i bilan ulangan aloqa liniyasi shikastlangan bo'lsa, bulutli xizmatlar bilan ishlash imkonsiz yoki juda qiyin bo'ladi. Muammo bartaraf etilmaguncha, kirish noqulay (yoki hatto imkonsiz) bo'lgan boshqa joydan yoki sekin ishlaydigan, qimmat va oldindan tayyorgarlikni talab qiladigan mobil Internetdan foydalanishga to'g'ri keladi. Shunday qilib, ta'lim muassasasi kompyuterlarida ma'lumotlarning zaxira nusxasini saqlash imkoniyatidan voz kechish mumkin emas - bu juda qaltis vaziyatlarni keltirib chiqaradi.

Google Drive servis xizmati barcha kerakli formatlardagi fayllarni qo'llab-quvvatlaydi, ammo amalda hujjatlarni tahrirlashda u MS Office paketida yaratilgan yoki funksional imkoniyatlari jihatidan o'zidan ustun bo'lgan boshqa dasturda yaratilgan hujjatning mazmunini to'liq aks ettirmasligi mumkin. Bularidan tashqari, ayrim hollarda Google Drive servis xizmatida yaratilgan hujjatlar MS Office paketida formatlash elementlaridagi chalkashliklar tufayli buzilib ko'rsatiladi.

Xulosa qilib aytganda, o'quv jarayonida bulutli hisoblash texnologiyalaridan foydalanish xarajatlarni sezilarli darajada kamaytirish, vaqtni tejash, o'qituvchi-talaba, talaba-talaba hamkorlikdagi munosabatlar asosida axborot almashish, shuningdek, hisoblash resurslaridan foydalanish samaradorligini oshirish imkonini berishini ta'kidlash lozim.

Shunday qilib, vaziyatni tahlil qilish asosida, ta'lim muassasalarida zamonaviy bulutli texnologiyalarni o'rganish hozirgi vaqtda zarurligi va ayni paytda rivojlanayotgan va istalgan elektron qurilma orqali foydalanish qulay bo'lgan Google Drive servis xizmati ustunligi haqida xulosa chiqarishimiz mumkin.

Google Drive servis xizmatlaridan foydalanishni o'rganish bilan bog'liq metodik xususiyatlar. "Bulutli texnologiyalarni sohada qo'llash" moduli doirasida o'quv-didaktik materiallarni taqdim etish shaklini tanlashda Google Drive servis xizmatining asosiy xususiyatlaridan biri Internet tarmog'i bilan

ishlashga yo'naltirilganlik kabi asosiy xususiystini hisobga olish zarur. Google Drive servis xizmatining kompyuterga o'rnatiladigan va Internetga ulanmaganda foydalanish mumkin bo'lgan offlayn ilovasidan foydalanish mumkin bo'lsa-da, ko'pchilik foydalanuvchilar o'z kompyuterlarida MS Office paketi dasturlari yordamida hujjatlar bilan ishlaydilar. Talabalar fan bo'yicha amaliy, mustaqil ta'lim topshiriqlarini bajarish bo'yicha hisobotlarini o'qituvchiga taqdim etishlari Google Drive servis xizmatidan foydalanishlari katta ahamiyat kasb etadi. Negaki, topshiriq hisobotlarini taqdim etishning eng maqbul usuli Google Drive servis xizmatidan foydalanishdir. Shunday qilib, ularga Google Drive servis xizmati bilan ishlash, uning interfeysi, maqsadi va boshqa integratsiyalashgan servis xizmatlar imkoniyatlari bilan tanishish bo'yicha o'quv mashg'ulotlari olib borish zarur. Shu munosabat bilan modulni ishlab chiqishda elektron o'quv didaktik materiallari formatidan foydalanish maqsadga muvofiqdir, bunda ko'nikmalarni shakllantirish va ularni mustaqil ishda mustahkamlash uchun tegishli topshiriqlar yaratish va ularning bajarilishini nazorat qilish maqsadga muvofiq. Google Drive servis xizmati tomonidan taqdim etilgan funksional imkoniyatlarga asoslanib, amaliy mashg'ulotlarda o'rganiladigan bir qator imkoniyatlarni aniqlab oldik. Barcha tanlangan materiallar beshta bo'limga bo'lingan bo'lib, ularning har biri uchun nazariy bilim va amaliy topshiriqlar bo'yicha nazorat savollari ishlab chiqildi.

№	Mashg'ulot mavzusi	Soat hajmi
1	Google Drive servis xizmatidan foydalanish uchun ro'yxatdan o'tish (akkaunt yaratish). Google Drive interfeysi bilan tanishish.	1
2	Google Docs servis xizmatidan foydalanib, hujjatlar bilan ishlash.	1
3	Google Slides servis xizmatidan foydalanib, taqdimotlar bilan ishlash.	1
4	Google Sheets servis xizmatidan foydalanib, jadvallar bilan ishlash.	1
5	Google Forms servis xizmatidan foydalanib, so'rovnoma shakllari bilan ishlash. Anketa so'rovnomalini o'tkazish texnologiyasi.	2
	Jami:	6

Tadqiqotlar asosida bulutli hisoblash texnologiyalarini o'qitishda ushbu modul bo'yicha ishlab chiqilgan o'quv-didaktik materiallardan foydalanishning maqsadga muvofiqligi haqida xulosa chiqarish mumkin. O'zbekiston Davlat jahon tillari universiteti "Zamonaviy axborot texnologiyalari" kafedrasida "Axborot texnologiyalari" fanining "Bulutli texnologiyalarni sohada qo'llash" moduli doirasida Google Drive servis xizmatidan foydalanish bo'yicha mashg'ulotlarning o'quv-didaktik materiallari, ulardan foydalanishga doir metodik tavsiyalar ishlab chiqildi. Ushbu modul so'nggi yillarda o'quv jarayonining bir qismi sifatida talabalar tomonidan muvaffaqiyatli o'zlashtirildi.

Bulutli hisoblash texnologiyalari bilan ishlash qanday samara berishidan qat'iy nazar, ular ta'lim jarayoni sifatini o'zgartirishga olib keladilar.

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FEATURES OF THE DEVELOPMENT OF A CHILD WITH VISUAL IMPAIRMENT

Abstract. This article examines the features of education and upbringing of children with visual impairments in a preschool educational organization.

Key words: vision, learning, children, impairment, preschool education.

The diagnosis and research of visually impaired children are comprehensive studies by various experts: opticians, psychologists, teachers, etc. Visually impaired children are divided into visually impaired and sighted children. Autism is a type of mental illness caused by limited or no vision, and affects a person's entire structure and development. Visually impaired children have unique functional, visual, and cognitive developmental characteristics. Blindness A subset of visually impaired children who have mild visual impairment and residual vision, as well as children with progressive disease and narrow vision. Field of vision (up to 10-15 degrees) and visual acuity of 0.08.

According to the type of visual impairment, children are classified into children with complete loss of visual acuity due to complete (total) blindness in both eyes and children who are completely blind with photophobia or residual vision that allows them to see light and color., object silhouette (sharpness 0.01-0.04).

Visibility: A child has a visual impairment between 0.05 and 0.2 in the better eye that can be corrected with normal glasses. Children with strabismus and amblyopia (visual acuity less than 0.3). In addition to decreased vision, children with low vision may also have problems with other visual functions (color and light perception, peripheral and binocular vision). Visual impairment can be congenital or acquired. Birth defects are caused by diseases of the womb. It is the result of fetal development or the genetics of certain visual defects. Acquired diseases are the result of diseases of the visual organ, including diseases of the retina, cornea and central nervous system, problems after general diseases of the body, brain injuries and others. The cognitive development of blind people is similar to that of normal children, but the lack of visual perception affects the motor area, the content of social experience, the emotional area, internal, personal and sensory experiences. People with disabilities have the opportunity to use their vision to learn about shapes, objects, space and movement. Sight is still the best observer, but visual observation saves only a part and is not complete. There are three conditions to recognize because as your perception of surrounding reality increases, it becomes slower and more distorted. Children's developmental delays

are significant compared to visual development. Your awareness of the world around you has diminished. This can be seen in physical and mental development.

The development time of a child with a disability is not the same as that of a child without a disability. Until a blind child learns ways to overcome his visual impairment, the ideas he receives from the outside world will not be coherent and the pace of the child's development will slow down. How parents and teachers can help visually impaired children develop into healthy children. However, this does not mean that specific developmental disabilities and mental conditions do not deserve consideration.

Development is known to be delayed due to lack of awareness of the world around us, lack of motor skills, and limited means of exploring where we are. Exploring the world requires more time and effort. Special children often have to find their own way of knowing.

What else do we need to know about the psychological characteristics of children with disabilities? Visually impaired children are characterized by being childish, low self-esteem, hyperactivity, rejection, aggression, overconfidence and dependence on others. Children like this are often separated and misunderstood. They are afraid of everything new.

Knowing the problems mentioned above, it is important to create all the conditions for the good and successful development of children with visual impairments in preschools (kindergartens) and schools, even outside the centers. This helps prevent mental and emotional development problems.

We can hope to include children with disabilities in information and education only if education and training are carefully managed and the most effective methods are chosen that take into account the mental state of these students.

It depends a lot on the type of family education. In the absence of neglect or overprotection, the child becomes a highly skilled problem-solving and task-oriented individual.

Through a correct management of education and training, a wide participation in various activities, the construction of personal characteristics, motivation for work, attitudes, will be achieved the child will be very independent in human form. visual analysis.

Characteristics of attention. Due to lack of vision, attention (lack of knowledge and ideas) becomes weak. Decreased attention is caused by a violation of the emotional world and desire, which leads to inhibition.

There is lack of attention, randomness, that is, lack of direction, change from one type of activity to another, in another, inhibition, inertia, little attention in children. Attention shifts to secondary matters. Anxiety disorders in children are explained by increased activity due to prolonged exposure to auditory stimuli.

Therefore Children with visual impairments tend to get tired faster when they look at their peers. The attention of the blind and visually impaired has the

same rules as the sighted, and reaches the same level of development. Teaching and Development

The critical thinking that is done is not the same program as it is done in regular schools.

Remember. Taking into account the special characteristics of memory in the blind, it turns out that errors in the visual auditor, which violate the ratio of critical and inhibitory functions, negatively affect the speed of recall. The rapid forgetting of what has been learned is not due to little or no repetition, but to the lack of importance of the material and concepts that children with disabilities only know orally small amount.

Purposeful education Based on the existing features, it becomes extremely important to properly build education, which should take into account all significant nuances. Parents need to realize that blindness causes an extremely poor understanding of the child about objects and objects located both in the place of residence and beyond. The lack of visual experience often leads to the fact that without seeing either himself or others from the outside, such a baby often begins to make monotonous stereotypical movements that can become a habit. Blindness and visual impairment are also the causes of very difficult orientation in space, causing an uncertain, mincing gait, incorrect foot position, posture disorders, etc. In order to eliminate all these negative consequences of dysfunctions in the work of the visual organs, it is necessary to adhere to the correct strategy of special education, which can quite successfully correct all such deviations. It should include, first of all, active verbal interaction with the child with the constant use of tactile sensations. It is vital for a blind child to read aloud a lot, and from the moment of the appearance of a verbal response and talk about how the surrounding objects look (closet, sofa, crib, toys, trees, flower beds, sidewalks, etc.). If possible, everything that is advisable should be given to him to touch, having studied the surface and shape with his hands one thing or another. It is also worth mastering with a child various counting books and nursery rhymes, providing for active movements of the fingers. This will contribute to the development of fine motor skills, which is directly related to the improvement of intellectual activity. Gradually, you should master the basics of correct orientation in space, paying attention to the fact that the baby at the same time observes correct posture and moves confidently. All this, according to typhlopedagogues, is able to make the development of a blind child more intense and harmonious, competently redistributing accents in the rehabilitation process, helping him overcome difficulties in accessible ways. Timely adaptation of the cognitive component of education to the peculiarities of the baby allows him to form the foundations of full-fledged intellectual and mental activity, so that he can subsequently become a healthy, versatile and interesting person. Purposeful education Based on the existing features, it becomes extremely important to properly build education, which should take into account all significant nuances. Parents need to realize that blindness causes an extremely poor understanding of

the child about objects and objects located both in the place of residence and beyond. The lack of visual experience often leads to the fact that without seeing either himself or others from the outside, such a baby often begins to make monotonous stereotypical movements that can become a habit. Blindness and visual impairment are also the causes of very difficult orientation in space, causing an uncertain, mincing gait, incorrect foot position, posture disorders, etc. In order to eliminate all these negative consequences of dysfunctions in the work of the visual organs, it is necessary to adhere to the correct strategy of special education, which can quite successfully correct all such deviations. It should include, first of all, active verbal interaction with the child with the constant use of tactile sensations. It is vital for a blind child to read aloud a lot, and from the moment of the appearance of a verbal response, and talk about how the surrounding objects look (closet, sofa, crib, toys, trees, flower beds, sidewalks, etc.). If possible, everything that is advisable should be given to him to touch, having studied the surface and shape of a particular thing with a movement of his hands. It is also worth mastering with a child various counting books and nursery rhymes, providing for active movements of the fingers.

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BOSHQARILUVCHAN CHORRAHALARDA JAMOAT TRANSPORTI UCHUN USTUVORLIKNI TA'MINLOVCHI USLUBLARNING TAHLILI

Annotatsiya. Ayni paytda shaharlarda jamoat transporti xizmatlari barqarorligi kun sayin ortib bormoqda, bu muhim omil hisoblanadi. Poytaxtliklarning harakatchanligi, ish, tibbiyot muassasalari yoki dam olish joylariga o'z vaqtida yetib borishida jamoat transporti qatnovining barqarorligi muhim ahamiyatga ega. Jamoat transporti esa shaxsiy avtomobillar bilan bevosita raqobatlashadigan transport turidir. Yo'lovchi transportiga tez va sifatli xizmat ko'rsatishni ta'minlovchi muhim omillardan biri bu uning tezligidir. Harakat tezligining pastligi odamlarning jamoat transportidan foydalanishiga xalaqit beradigan asosiy sabablardan biridir.

Kalit so'zlar: yo'lovchi, yo'lovchi tashish, yo'nalish, mijoz, tizim, tarif, narx, yig'ish.

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ANALYSIS OF PRIORITY METHODS FOR PUBLIC TRANSPORTATION AT CONTROLLED INTERSECTIONS

Abstract. Meanwhile, the stability of public transport services in cities is increasing day by day, which is an important factor. The stability of public transport is important for the mobility of the capital's citizens, for getting to work, medical institutions or places of rest on time. Public transport is a type of transport that directly competes with private cars. One of the important factors ensuring fast and high-quality passenger transport service is its speed. Slow speed is one of the main reasons that prevent people from using public transport.

Keywords: passenger, passenger transport, route, customer, system, fare, price, collection.

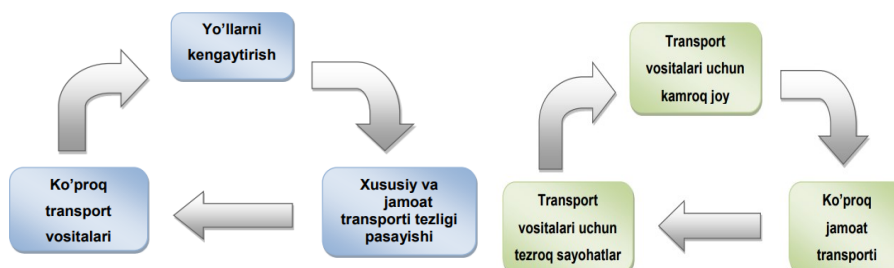
Dunyodagi birinchi avtobus yo'lagi 1940-yilda Chikagoda yaratilgan [3]. Yevropada birinchi avtobus yo'laklari 1963-yilda Germaniyaning Gamburg shahrida tashkil etilgan bo'lib, o'sha paytda tramvay tizimi yopilib, avvalgi ajratilgan tramvay yo'llari avtobus qatnovi uchun o'zgartirildi. Tez orada Germaniyaning boshqa yirik shaharlari paydo bo'ldi va 1970-yilda avtobus yo'laklarining o'rnatilishi Germaniya avtomobil yo'llarining kodeksida rasmiy ravishda tasdiqlandi. Boshqa mamlakatlardan kelgan ko'plab mutaxassislar (1-bo'lib Yaponiya) Germaniya misolini o'rganishdi va shunga o'xshash yechimlarni qo'llashdi. 1964-yil 15-yanvarda Fransiyadagi birinchi avtobus bo'lagi Parijdagi du Luvr bo'ylab belgilandi.

1968-yil 26-fevralda Londonning birinchi avtobus bo'lagi Voksxall ko'prigida foydalanishga topshirildi.



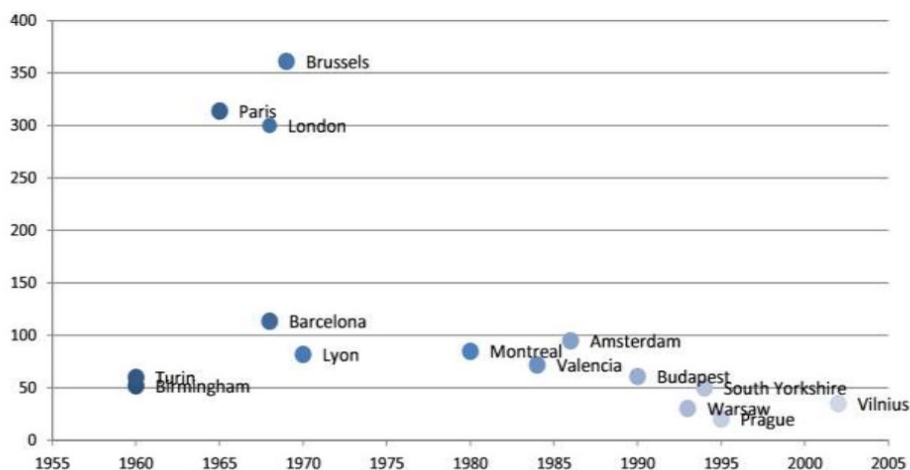
1-rasm. Voksxall ko'prigi

Ko'chalarni kengaytirib ularning quvvatini oshirsa ham muammo hal qilinmaydi. Sababi, hech bir shahar hech qachon ko'proq joy ajratib muammoni hal qilmagan.

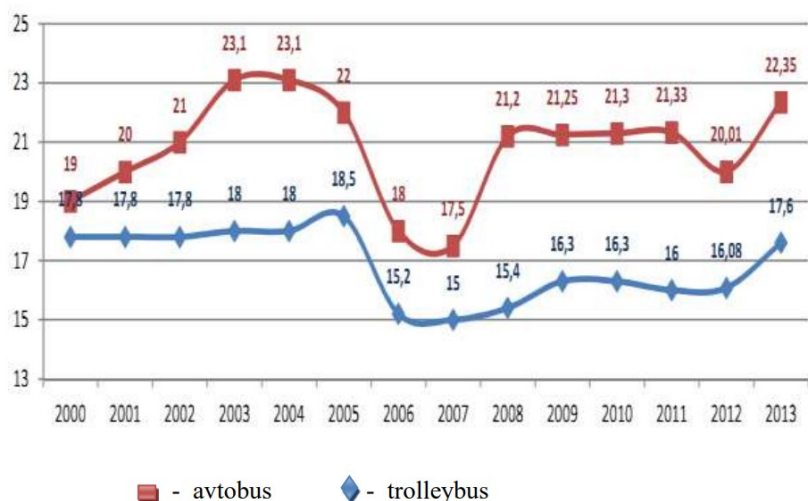


2-rasm. Samarasiz yechim. 3-rasm. Samarali yechim

Statistika shuni ko'rsatadiki, avtobus yo'laklari qurilishi Birmingem (Buyuk Britaniya) jamoat transportidan foydalanuvchilar sonini 30% ga oshirdi [4]



4-rasm. Yevropa shaharlariga jamoat transporti yo'laklarining kirib kelishi



5-rasm. Jamoat transporti ish tezligining dinamikasi (km/soat).

ITS - transport vositalarida va infratuzilmasida axborot-kommunikatsiya texnologiyalarini qo'llash, transportda samaradorlik, xavfsizlik va atrof-muhitga ta'sirini sezilarli darajada yaxshilaydigan vositalar to'plamini taqdim etish. So'nggi yillarda avtotransport signallari ustunligini amalga oshirish uchun turli xil ITS texnologiyalari qo'llanilmoqda. Avtobuslarning ustuvorligi uchun turli xil ITS texnologiyalaridan foydalanishning afzalliklari va kamchiliklarini o'rganamiz.

Avtobuslarning svetaforlardagi ustuvorligi, ustunlik oldindan belgilangan yoki dinamik tarzda berilishiga qarab odatda, passiv va faol tizimlarga bo'linadi. Passiv tizimlarda avtobusning ustuvorligi oldindan belgilanadi va o'rnatiladi, uni transport vositasining haqiqiy oqimiga qarab o'zgartirish mumkin emas. Faol tizimlarda ustuvorlik, chorrahaga yaqinlashayotgan avtobuslar yuborgan signallarga javoban beriladi. Svetaforlarda avtobuslarning ustuvorlik tizimlari quyidagi uchta toifaga bo'lingan [7]:

a) Avtobusning adaptiv bo'lmagan ustuvorligi: ustuvorlik passiv yo'l bilan, avtobus yo'llari va svetaforlar o'rtasida oldindan belgilangan yashil to'lqinlardan foydalanish orqali beriladi;

b) Detektorga asoslangan avtobus ustuvorligi: ustuvorlik detektorlarga asoslangan holda faol ravishda ta'minlanadi;

c) GPS asosidagi avtobus ustuvorligi: GPS texnologiyasidan foydalangan holda ustuvorlik faol tarzda beriladi.

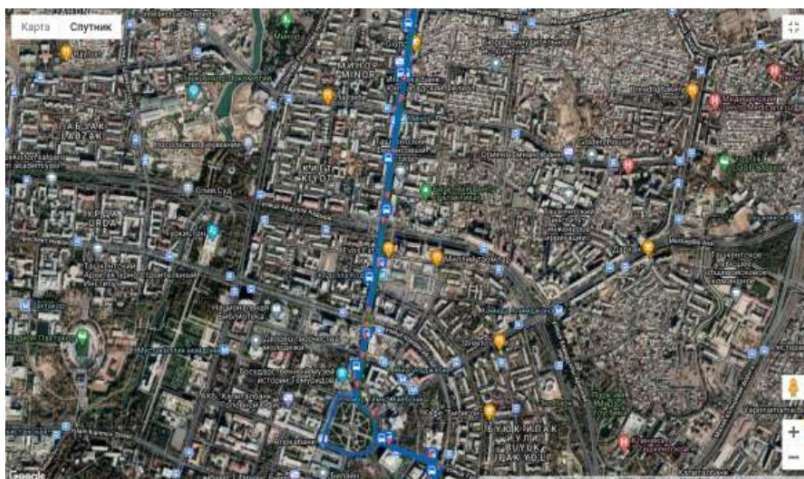
Adaptiv bo'lmagan avtobus ustuvorlik tizimlari. Avtobuslarning adaptiv bo'lmagan ustuvorligi tarmoqdagi ba'zi uchastkalarda, avtobuslarni birinchi o'ringa qo'yadigan passiv choralarni o'z ichiga oladi. Bu avtobus yo'laklari hisoblanadi. Bunda avtobuslarning boshqa transport vositalari bilan konfliktlari yuzaga kelmaydi, natijada tezligi va xavfsizligi yaxshilanadi.



6-rasm. PTV Vissim dasturida avtobuslar uchun ajratilgan yo'l.

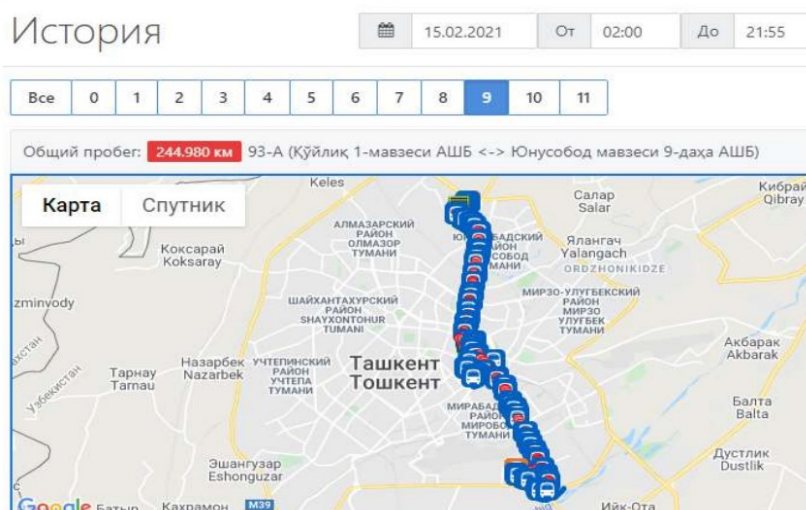
Avtobus yo'laklari doimiy yoki yarim kunlik bo'lishi mumkin. Odatda ertalabki pik vaqtlarida foydalaniladi, kunning qolgan qismida esa odatiy yo'l sifatida ishlatilishi ham mumkin.

Harakat yo'nalishining biror qismida avtobus yo'lini qo'llab, uni tahlil qilish maqsadida shahardagi avtobus yo'nalishlaridan birini tanlab olamiz. Bu tanlovni harakat oqimi yuqori, avtobuslar qatnovi ko'p bo'lishi kabi talablarga asoslanib amalga oshiramiz. Amir Temur ko'chasining Shahrizabz va Osiyo ko'chalari bilan keshishmasi oralig'ini tanlab oldik.



7-rasm. Amir Temur ko'chasining Shahrizabz va Osiyo ko'chalari bilan keshishmasi oralig'i.

Shu ko'chadan o'tadigan, ko'p yo'lovchilar foydalanadigan 93-sonli avtobus yo'nalishi tanlab olindi. Harakat ko'rsatkichlarini tahlil qilish uchun, 93A-yo'nalishining 15.02.2021 kunidagi GPS ma'lumotlari olindi.

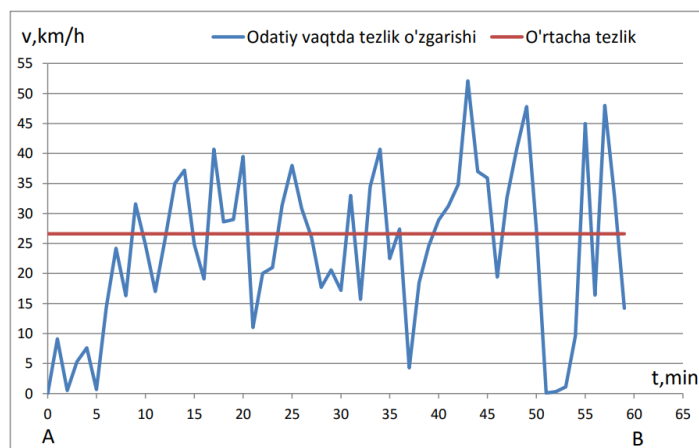


8-rasm. 93A-yo'nalishining GPS dagi ko'rinishi

Kechki tig'iz va odatiy vaqtdagi avtobus harakatining 2 ta reysini tahlil qilamiz. Yunusobod mavzesi 9-daha ASHB ni - A, Qo'ylig1- mavzesi 18 ASHB ni - B deb belgilaymiz. 93A-yo'nalishining A dan B ga harakatlanish vaqti 59 minut deb belgilangan ekan. Odatiy vaqtda avtobus A dan harakatni 5:54:17 da boshlab, B ga 6:52:43 da yetib kelgan. Masofani 0:58:26 da bosib o'tgan va belgilangan vaqtda kelgan.

Uning harakat davomidagi o'rtacha tezligi 26,6 km/soat ga teng bo'lgan.

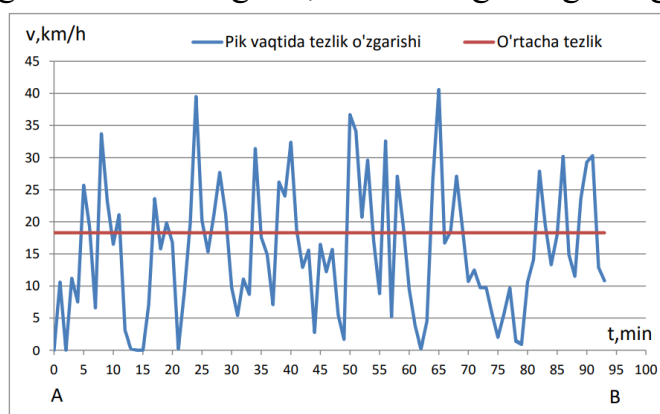
$$v_{or} = \frac{v_1 + v_2 + ..v_n}{n}$$



9-rasm. Odatiy vaqtda tezlikni vaqtga bog'liq o'zgarishi.

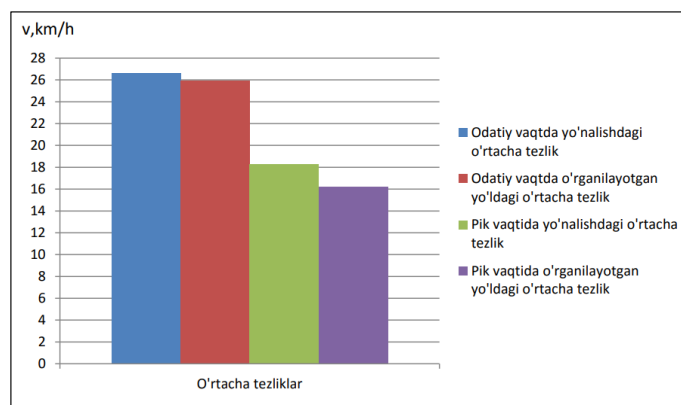
Harakat tig'iz bo'lgan vaqtda 93-Avtobus harakatni 17:45:00 da boshlab, oxirgi avtobus shoh bekatiga 19:17:08 da kelgan. Yo'nalishni bosib o'tish uchun 1:32:08 vaqt sarflagan va belgilangan vaqtdan yarim soat kechikkan.

Pik vaqtidagi o'rtacha tezligi 18,3 km/soat ga teng bo'lgan.



10-rasm. Harakat tig'iz vaqtda tezlikning vaqtga bog'liq o'zgarishi.

GPS ma'lumotlaridan foydalangan holda, harakat tig'iz bo'lgan va bo'lmagan holatlaridagi A.Temur ko'chasining Shahrizabz va Osiyo ko'chalari bilan keshishmasi oralig'idagi qismini ko'rib chiqamiz. Belgilangan uchastkaga avtobusning kirib kelish va chiqib ketishidagi vaqtlarini topib, shu vaqt oralig'idagi o'rtacha tezliklarini ikkala holat uchun ham topamiz. Avtobus o'rganilayotgan yo'lni odatiy vaqtda 25,9 km/h o'rtacha tezlik bilan, harakat oqimi ko'p bo'lgan vaqtda 16,2 km/h o'rtacha tezlik bilan o'tgan. Barcha o'rtacha tezliklarni bitta grafikda keltiramiz.



11-rasm. O'rtacha tezliklarni o'zgarishi.

Grafikdan xulosa qilsak, odatiy vaqtda o'rganilayotgan uchastkaning o'rtacha tezligi yo'nalishning o'rtacha tezligiga deyarli teng, harakat tig'iz vaqtda esa yo'nalishning ham o'rganilayotgan uchastkaning ham o'rtacha tezligi past. Shu sababdan avtobus yo'lagini faqat pik vaqtlarida qo'llash, qolgan vaqtlarda esa yo'lning umumiy foydalanishda bo'lishi to'g'ri bo'ladi.

Xulosa. Tahlillar asosida quyidagilarni xulosa qilish mumkin: - Shaharlarda AVL tizimlaridan foydalanish avtobuslarni samaradorlikka qarab moslashishiga, bu esa tirbandlik xavfini kamaytirishga yordam beradi. - Biror toifadagi arxitekturani tanlashimiz, tizimdan qanday hududda foydalanishimizga va yo'lning harakat oqimiga bog'liq, bunda aloqa talablari va tizim narxi ham muhimdir. - Avtobuslar va harakatning boshqa ishtirokchilari uchun ITS harakat xavfsizligini ta'minlashga imkon yaratadi va avtobuslarni faqat kerak bo'lganda birinchi o'ringa qo'yadi, bu esa uning samaradorligi va jozibadorligini oshiradi. - Avtobus yo'laklari avtobuslarning to'xtovsiz oqimini ta'minlaydi, xavfsizligini oshiradi. Lekin harakatning boshqa ishtirokchilariga salbiy ta'sirini hamda qaysi vaqtlarda qo'llanganda o'zini oqlashini ham hisobga olish kerak. - GPS ga asoslangan tizim yuqori moslashuvchanlikka ega bo'lishiga qaramasdan, ba'zi sun'iy yo'ldosh yomon qamrab olingan hududlarda joylashuv xatolarini keltirib chiqarishi mumkin, bu esa qo'shimcha vositalar bilan to'ldirilishni talab qiladi.

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LIMIT TUSHUNCHASINING BAYON QILISHNING BIR USULI

Annotatsiya. Ko'rib chiqiladigan usul talabalar uchun qiyin bo'lgan limit tushunchasini oson o'zlashtirish uchun mo'ljallangan. Bu usul nazariyani nafaqat texnika oliy o'quv yurtlarida, balki texnikum va o'rta maktabda ham joriy qilish uchun ishlatilishi mumkin.

Kalit so'zlar. Ketma-ketlik, monoton kamayuvchi, monoton o'suvchi, cheksiz kichik ketma-ketliklar, cheksiz katta ketma-ketliklar, limit.

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ONE WAY TO EXPLAIN THE CONCEPT OF LIMIT

Annotation. The considered method is intended for students to easily master the complex concept of limit. This method can be used to introduce theory not only in technical universities, but also in technical schools and secondary schools.

Keywords. Sequence, monotonically decreasing, monotonically increasing, infinitely small sequences, infinitely large sequences, limit.

Dastlab ketma-ketlikning oddiy holi uchun qaraymiz. Ketma-ketlikning limiti uchun avvalo cheksiz kichik tushunchasini kiritamiz, ana shu oxirgi tushunchaga to'xtalib o'tamiz. Odatda quyidagi

$$\forall \varepsilon > 0, \exists n \in \mathbb{N}, \forall n \geq N(|\alpha_n| < \varepsilon), \quad (1)$$

shartlar bajarilsa $\{\alpha_n\}$ ketma-ketlik cheksiz kichik deb ataladi.

Ya'ni, agar istalgan $\varepsilon > 0$ uchun shunday N natural son topilib shu nomerdan boshlab $|\alpha_n| < \varepsilon$ tengsizlik bajarilsa.

O'qituvchilariga yaxshi ma'lumki ushbu ta'rifda eng qiyin narsa, talabalar uchun ta'rifning oxirgi qismidir.

$$\forall n \geq N(|\alpha_n| < \varepsilon)$$

$|\alpha_n|$ ni ε dan kichikligini talaba nisbatan tez idrok etadi (agar bayon qilish misollar bilan keltirilsa), lekin barcha $n \geq N$ lar uchun $|\alpha_n| < \varepsilon$ tengsizlik uchun bir vaqtning o'zida anglab olish qiyinroq. Tushunchani anlashni osonlashtirish uchun birinchi navbatda (oddiyroq) cheksiz yaxshi monoton kamayuvchi bo'lgan

holatini ko'rib chiqish taklif etiladi. Cheksiz kichik ketma-ketlik tushunchasi quyidagi ketma-ketlikni kamayib nolga intilishini bildiradi.

Ta'rif. Monoton kamayuvchi (qat'iy bo'lishi shart emas) ketma-ketlik $\{\alpha_n\}$ manfiy bo'lmagan sonlar, agar ketma-ketlikning har hadi ε dan kichik bo'lsa, nolga kamayib intiluvchi ($\alpha_n \rightarrow 0$ belgisi) deyiladi.

Bu ta'rif bir vaqtda quyidagi uchta shartni bajarilishini bildiradi:

$$\alpha_n \geq 0 \quad (2)$$

$$\alpha_n \rightarrow \infty, \text{ monoton kamayuvchi} \quad (3)$$

$$\forall \varepsilon > 0, \exists N (\alpha_N < \varepsilon). \quad (4)$$

Ushbu ta'rif odatdagi cheksiz kichik ta'rifidan ancha sodda, chunki (4) shart (1) ga qaraganda ancha sodda va (2) va (3) shartlar talabalar uchun hech qanday qiyinchilik tug'dirmaydi (qisman monotonlik tushunchasi bilan talabalar tanish).

Ketma-ketliklarining xossalarini ko'rib chiqqach, odatdagi ta'rifga ekvivalent bo'lgan cheksiz kichik ketma-ketlikning quyidagi ta'rifi beriladi.

Ta'rif. Agar ketma-ketlik hadlarining absolyut qiymatlarinolga intiluvchi ketma-ketlikning mos keladigan hadlaridan katta bo'lmasa, u ketma-ketlik cheksiz kichik deb ataladi. Ya'ni $|u_n| \leq \alpha_n$.

Cheksiz kichik ketma-ketlikning (1) shartni qondirishi uning xossalaridan biri sifatida isbotlangan. Cheksiz kichik ketma-ketlikning bunday aniqlanishi, $\{U_n\}$ cheksiz katta ketma-ketlikni $|U_n| \geq A_n$ tengsizlikni qanoatlantirishini bildiradi,

bu yerda $A_n \rightarrow +\infty$ bu ta'rif quyidagi uchta shart bilan aniqlanadi:

$$A_n \geq 0; \quad (5)$$

$$A_n \rightarrow \infty; \quad (6)$$

$$\forall E > 0, \exists N (A_n > E). \quad (7)$$

“Ketma-ketliklar. Ketma-ketliklarning limitlari” bo'limlarini ham ba'zi izoxlar bilan keltiramiz.

1. Ketma-ketlik, monoton ketma-ketlik, chegaralangan ketma-ketliklar. Bu yerda, xususan, ketma-ketliklar orqali aniqlangan, ikkita monoton kamayuvchi (o'suvchi) ketma-ketliklarning yig'indisi monoton kamayuvchi (o'suvchi) ketma-ketlikdir. Monoton kamayuvchi ketma-ketlikni manfiy bo'lmagan songa ko'paytmasi yana monoton kamayuvchi ketma-ketlik bo'ladi.

2. Nolga kamayib yaqinlashuvchi ketma-ketliklar. Bu yerda ta'rifdan tashqari misollar ham ko'rib chiqilib, nolga tomon kamayib borayotgan ikkita ketma-ketlikning yig'indisi, kamayuvchi ketma-ketlikni manfiy bo'lmagan songa ko'paytmasi ham kamayuvchi ketma-ketlik ekani isbotlangan. E'tibor bering, talabalar maksimal 1-2 ta amaliy topshiriq va muammolarni yozishlari kerak (biz yechilishi mumkin bo'lgan va odatiy ta'rifli standart vazifalar haqida gapiramiz).

3. Cheksiz kichik ketma-ketliklar. Bu bandda dastlab, cheksiz kichik berilgan (nolga kamayib yaqinlashuvchi cheksiz kichik), cheksiz kichiklik alomati (1) xossa isbotlanadi, cheksiz kichikning chegaralanganligi cheksiz kichik va yagona cheksiz kichik o'zgarmas bu nol ketma-ketlikdir. Keyinchalik cheksiz kichiklar ustida amallarni ko'rib chiqamiz.

4. Ketma-ketlikni limiti. (1) -ta'rifdan keyin cheksiz kichikka doir misollar ko'rib chiqiladi, limitning yagonaligi va limitga ega bo'lgan ketma-ketlikning chegaralanganligi isbotlanadi. Keyinchalik limitga ega bo'lgan ketma-ketliklar ko'rib chiqiladi, keyin tengsizlikdagi limitga o'tish ko'rib chiqiladi va siqilgan o'zgaruvchi haqidagi teorema isbotlanadi.

Faraz qilaylik,

$n \rightarrow \infty, x_n \rightarrow a, y_n \rightarrow a, x_n \leq z_n \leq y_n$ bo'lsin, u holda $x_n - a$ cheksiz kichik uchun, $|x_n - a| \leq \alpha_n$, shunga o'xshash $|y_n - a| \leq \beta_n$ ga ega bo'lamiz.

$-\alpha_n \leq x_n - a \leq z_n - a \leq y_n - a \leq \beta_n, -\alpha_n \leq z_n - a \leq \beta_n$, demak, $\{z_n - a\}$ - cheksiz kichik ekanini olamiz, bu esa cheksiz kichiklik alomatidir ya'ni, $n \rightarrow \infty, z_n \rightarrow a$. Bandning oxirida monoton ketma-ketlikning limiti xaqidagi teoremani qaraymiz.

5. Cheksiz o'suvchi ketma-ketliklar. Bu yerda ta'riflar va misollardan tashqari, ketma-ketlikning nolga kamayib, 0 qiymatini olmaydigan teskarisi cheksizlik tomon ortib borishi haqida teorema berilgan.

6. Cheksiz katta ketma-ketliklar, cheksiz limitlar. Yuqorida keltirilgan ketma-ketliklarning limiti nazariyasi o'ziga xos mazmunga ega, agar biz funksiya limitining Geyne ta'rifini qarasaq, U holda ixtiyoriy $\lim_{n \rightarrow \infty} x_n = a$ uchun

$\lim_{n \rightarrow \infty} f(x_n) = b$ deb yozamiz.

Limit tushunchasining bunday bayon qilishning asosiy g'oyasi boshqacha usulda ham amalga oshirilishi mumkin. Masalan, ketma-ketlikning limiti tushunchasiz quyidagi ikkita bir tomonli limit orqali ifodalanishi mumkin.

Chap limit holi bilan chegaralanamiz $\lim_{x \rightarrow a-0} f(x) = b$, agar biror $c < a$ olsak, $c < x < a$ bo'lganda $|f(x) - b| \leq g(x)$ bajariladi, bunda $g(x)$ funksiya (c, a) oraliqda monoton kamayadi va $\forall \varepsilon > 0, \exists x_0 \in (c, a) (g(x_0) < \varepsilon)$.

Xulosa qilib shuni ta'kidlaylikki, bu erda ko'rib chiqilgan limitlar nazariyasining ushbu g'oyalari bayon etish usulining qat'iylik darajasi bilan bog'liq emas.

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STUDY OF FLOTATION FOR SULPHIDE GOLD-CONTAINING ORES

Abstract. In recent years, a lot of work has been done on the processing of sulfide ores with complex composition. Separation of gold from such ores is of great importance. In flotation beneficiation, many results have been achieved, which ensure the technical and economic efficiency of flotation, biooxidation technology, beneficiation process technology, and environmental protection have been improved, ensures high technical and economic indicators.

Key words: Flotation, technical economic efficiency, complex use, sulphide minerals, complex ore, cyanidation, flotation reagents, magnetic separation, dibenzene disulfate, sodium dithiophosphate.

INTRODUCTION

The practice of beneficiation shows that in recent decades, due to high capital investment, low extraction rate and complexity of the beneficiation process, there is a steady trend of developing mines that were previously considered unprofitable. But with the depletion of the world's reserves of rich, easily processed ores, as well as the ever-increasing global demand for precious metals, mineral processing companies are forced to process ore deposits of complex composition.

The beneficiation of this type of ore involves the use of not only traditional beneficiation methods such as gravity, flotation and incineration, but also biotechnology and hydrometallurgy. The use of all these methods in a certain sequence allows to achieve high enrichment rates and obtain significant economic benefits. The experience of world leaders in the field of gold mining proves the effectiveness and high profitability of such projects.

Gold occurs in various states in primary ores. According to this characteristic, cyanidation, gravity separation, magnetic separation, flotation and other methods can be selected to extract gold. Flotation is one of the important methods for treating gold-bearing ores. The flotation process includes material preparation, adjusting the pH value of the slurry, adding flotation reagents, flotation and other processes. When gold ore containing high sulphide minerals is processed by flotation, gold particles can be effectively enriched in the concentrate of sulphide ore, and a large amount of tailings can be thrown away,

which can reduce the cost of dressing and smelting. When polymetallic gold ores are treated by flotation, gold and other non-ferrous metal concentrates can be effectively separated, improving the comprehensive utilization of valuable minerals. If the gold ore is a refractory ore that cannot be treated by the mercury amalgamation process or the cyanide process, you can choose to use a combined beneficiation process including flotation process to increase the recovery rate of gold particles. There are four types sulphide gold-containing ores: gold-bearing pyrite, gold-bearing copper-lead-zinc sulphide ores, gold-bearing copper sulfide ores and gold-bearing copper-iron ores.

Gold-bearing pyrite: The separation of pyrite and arsenopyrite is great significance for the processing of gold-bearing arsenic sulphide ores. It is mainly based on the selective effect of lime, copper sulfate, inorganic oxidants, organic inhibitors and other chemicals on these two minerals. During flotation, you can first try to activate arsenopyrite with copper sulfate, and then preferentially float it out in the lime medium, while the pyrite remains in the flotation tank. To preferentially float out pyrite, enough ammonium chloride can be added to the lime medium during flotation to suppress arsenopyrite.

Gold-bearing copper-lead-zinc sulphide ore: Generally, a copper-lead partial mixed flotation process is used, and then the mixed concentrate is separated to obtain copper concentrate and lead concentrate. Gold is often enriched in the copper concentrate. Due to the similar floatability of copper and lead sulphide minerals and the complex symbiotic relationship, the mixed concentrate is difficult to flotation separate, and thus qualified gold-containing copper concentrate and lead concentrate cannot be obtained. In order to improve the gold recovery rate, the carbonation conversion-flotation method can be used to process the gold-containing copper-lead mixed concentrate to comprehensively recover gold, silver and precious metals while separating copper and lead.

Gold-bearing copper sulfide ore: Most of the natural gold in this ore exists in chalcopyrite and pyrite, and gold can be extracted by preferential flotation or mixed flotation. During flotation, lime can be added to the slurry to suppress pyrite, and copper sulfide will be preferentially floated to obtain qualified gold-containing copper and sulphide concentrates.

Gold-bearing copper-iron ore: The main minerals are chalcopyrite and magnetite, and natural gold exists in chalcopyrite as fine particles. When processing this kind of ore, a combined process of flotation and magnetic separation can be used to obtain gold-containing copper concentrate and iron concentrate. [1]

Collectors are important for a successful flotation process. Among the sulfhydryl-type collectors, the two most important and widely used industrial groups are distinguished: xanthate and dithiophosphate (aeroflot). In foreign practice, the most widely used phenolic dithiophosphates are: ethyl, a mixture of ethyl and secondary butyl, secondary butyl, isopropyl, isobutyl.

Dithiophosphates are widely used in the flotation of gold ores in a mixture with xanthates, as substitutes for xanthates and at the same time as foaming agents. Fine grains of minerals are better floated using farflots than xanthates.

For the flotation of gold ores, di-alkyl dithiophosphates were tested as a collector: ethyl - Hostafлот LET, isobutyl - Hostafлот LIB, secondary butyl - Hostafлот LSB, as well as their combinations with potassium butyl xanthate. The results obtained were analyzed using potassium butyl xanthate as a collector.

Hostafлот L brand reagents are fast-acting collectors for which a short conditioning time is sufficient. They are a colorless liquid and are anionic. These reagents can be mixed with water in any ratio, and can also be introduced into the pulp undiluted. When using Hostafлот L brand reagents in composition with potassium butyl xanthate, both collectors can be dosed from a joint solution.

LET Collector is the most selective reagent for any sulfide iron minerals such as pyrite, marcasite, pyrrhotite, arsenopyrite, etc. In this ore, sulfide minerals are represented mainly by pyrite (2.5%), marcasite (0.7%).

LIB Collector is superior to other aliphatic dithiophosphates in activity. Its advantage is the ability to collect larger classes as well.

We studied the ores of Karakutan mine. The Karakutan gold deposit is located within the Katyrmay sedimentary-metamorphic sequence, which composes the northwestern part of the Ziyaetdin mountains. The sedimentary metamorphic formation is conditionally subdivided into two subformations from bottom to top: calcareous-shale 200 m in thick and siltstone shales 1000 m in thick.

The ores of the Karakutan mine belong to the series of ore deposits that are difficult to enrich. The difficulty of their beneficiation is explained by the presence of rare metals with sulphide minerals in the form of fine particles and the combination of several minerals in one mine. An important aspect of processing technology for such ores is the need to develop special rational conditions for beneficiation. Comprehensive use of minerals makes it possible to make poor ores economically efficient, reduce the cost of production and increase the material resources of the state.

Currently, in world practice, the mining and metallurgical industry has developed a tendency to process industrial waste accumulated over many years. The reason is that at the moment, the reserves of mines with high initial grades of metal and easily processed ores are almost exhausted. This led to the need to reduce the volume of processing of conditioned ores and involve in the processing of industrial waste, hard-to-be-enriched ores and off-balance low-grade ores.

The ore of the Karakutan deposit is a complex ore, and primary separation from non-sulphide minerals is carried out by flotation, in which case sorption is used as the main operation for preparation for washing (cyanidation).

Table 1. (List of minerals in the oxidation zone of the Karakutan mine)

Main	Secondary	Rare
Fe hydroxides	Pettitsit	Covelin
Au	Ceruscite	Chalcosin
Mimethesis	Crocoit	Uranium mica
Pyrargyrite	Chrysocola	Mn oxides
Scorodite	Calcite	wulfenite
Anglesite	Gypsum	Malachite

The main objective of flotation of gold-bearing sulphide minerals is to increase the recovery of precious metals and reduce production costs by achieving maximum selectivity of the process. The possibilities of beneficiation of complex ores by the flotation method largely depend on the quality and assortment of the flotation reagents used. In recent years, more and more attention has been paid to the search for new types of selective reagents for extracting precious metals from technologically complex gold ores.

Table 2. (Chemical composition of gold and platinoids in ores and industrial products of their technological processing of the Karakutan deposit, in%)

Minerals	Au	Fe	Ag	Cu	As	Pt	S
Fe-Au	90,08	7,99	0,06	1,13			
As-Au	46,15				53,58		
Fe-Pt		8,35				91,65	
Pt-Ag		1,41	7,06			3,65	3,61

Creation and introduction of new effective flotation reagent regimes for beneficiation of ores with complex composition by flotation method is one of the main directions of development of raw material base of precious metals and its rational use.

Conclusion

Currently, a lot of research is being done to obtain high-quality gold. Our research has shown that sulphide gold ores are difficult to beneficiate due to their complex composition. We have studied the flotation process in beneficiation of sulphide gold ores of the Karakutan mine, and we have considered the options of reducing the time as a result of increasing the consumption of reagents and reducing the consumption of reagents by increasing the time.

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FORMS OF ORGANIZING EDUCATIONAL ACTIVITIES OUTSIDE THE CLASSROOM OF PRIMARY SCHOOL TEACHERS

Annotation. In addition to the educational activities conducted by the school with students, various educational activities are called extracurricular activities. Extracurricular activities are a component of the school education process and one of the forms of students' free time. The article talks about the forms of organizing educational activities of primary education teachers.

Keywords: extracurricular work, training, educational activities, independent work, club, creative evenings, event, competition.

Nowadays, when all the countries of the world are developing day by day, it is important for each country to pay a lot of attention to its education system. At the same time, our beloved country, Uzbekistan, is not exempt from this, that is, at the same time, the attention and views on education and training in our country are striving to be higher day by day. Taking into account the students' interest in the profession and aspirations for any field, all educational institutions, especially kindergartens, have undergone great changes.

Primary education is the most important part of continuing education. As stated in the Regulation "On general secondary education in the Republic of Uzbekistan": "Primary education includes reading, writing, counting, the basic skills and abilities of educational activities, creative thinking, learning self-control, culture of speech and behavior, personal hygiene and healthy lifestyle are encouraged to be acquired.

According to the content of the extracurricular study program, two main sections are distinguished at each stage of education:

At the 1st stage, students are instructed on the scope of reading, i.e. the books to be taught and the order in which they should be read.

In the 2nd stage, knowledge, skills and competencies are formed on the basis of these educational materials. According to the state standards and curriculum of general secondary education in the 1st grade, on the basis of the skills and competences formed in literacy lessons in extracurricular activities, children's Motherland, independence, national values their imaginations and concepts will be expanded and enriched.

The main essence and task of extracurricular activities is to form students as well-rounded individuals and create wide opportunities in preparing them for life. Extracurricular activities include a system of various activities that are conducted with students and are aimed at educating and educating them.

Such trainings are mainly organized by the pedagogical team, the head of the class, the leadership of youth organizations and children's self-management organizations outside of school hours. Students' palaces, young technicians, young naturalists, young tourists' club and other extracurricular institutions help students organize extracurricular activities.

The concept of "Educational activities outside the classroom and school" was approved by the Ministry of Public Education in 1993.

Organization of extracurricular activities in primary classes is the achievement of independence of the Republic of Uzbekistan and its independent political, economic and social path, young people growing up in various sectors of the national economy, including the public education system. It demands a revision of the process of existence with the education of the generation. Currently, based on the latest achievements of science and culture, it is extremely necessary to search for effective forms and methods of preparing the young generation, who are our future, for life.

According to the decree of the President of the Republic of Uzbekistan "On the further improvement and efficiency of the activity of the public center "Spirituality and Enlightenment", the development of high moral qualities in the society, the formation of national ideology, the youth of our rich cultural heritage, historical an Education in the spirit of respect for our mothers, universal human values, love for the Motherland, loyalty to the ideals of independence is the decisive factor of all the reforms implemented in our country.

The main forms of extracurricular activities are public activities, i.e. events in school clubs, various evenings, discussions and contests, organization of various quizzes and exhibitions, trips to nature, excursions to schools and museums, circle activities, independent activities in which students leave the classroom. it is possible to show that they are independently engaged in extracurricular studies, collection, technology, music, visual arts, drawing.

In the organization of these works, self-monitoring of students under the guiding influence of the teacher and independent activities conducted in science classrooms, in the library and at home on the basis of an individual plan are the leading forms. should be. In this, the material base of education in extracurricular work: additional and reference literature, laboratory equipment, demonstration manuals, didactic materials, and technical tools are used rationally in each lesson.

Extracurricular activities are divided into 2 types: educational and educational. The educational value is to provide students with additional knowledge, skills and abilities. The educational importance is to prepare the ground for students' creative activity, speech etiquette, and independent thinking.

Forms of extracurricular activities in elementary grades are divided into 3 groups. We will not be mistaken if we say that these serve to separate extracurricular activities to a certain extent, that is, we can distinguish the types of extracurricular activities according to the type of training used. Forms of extracurricular activities in elementary grades:

- ✓ Verbal work methods.
- ✓ Methods of practical work.
- ✓ Demonstration work methods.

Circles that fully cover extracurricular activities can be of several types:

- ✓ Scientific circles.
- ✓ Skilled hands.
- ✓ Carpentry.
- ✓ Sports competitions.
- ✓ Artistic hobby.

Educational work requires the pedagogue to use all his abilities, to search tirelessly. Because the future generation should be educated, organized, harmonious, and true citizens of our Motherland. Activities organized outside the classroom and school complement the educational activities in the life of students. It helps them to form their worldview and moral perfection. Creates the ground for the close connection of theoretical knowledge with practice and production. When these methods are started in small classes, they will not struggle when they move to larger groups, and it will help them learn and use their time effectively.

Pupils choose activities that interest them in classroom and extracurricular activities and participate in them on their own initiative. Determining the organizational work, content and purpose of schools and non-school institutions requires taking into account all aspects of our day. These educational activities outside the classroom and school are characterized by the fact that they are aimed at determining the stages of personal development. Educational activities organized outside the classroom and school complement the educational activities in the life of students. They form a conscious, world view.

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ENERGETIKADA ZAMONAVIY AVTOMATLASHTIRILGAN TIZIMLAR

Annotatsiya. Zamonaviy avtomatika qurilmalari odam ishtirokisiz nazorat va himoya qilishni, avtomatik boshqarishni hamda rostdashni amalgam oshiradi. Avtomatik qurilmalar quyidagi asosiy elementlardan tashkil topgan: datchiklar, kuchaytirgichlar, relelar.

Kalit so'zlar. Magnitli ishga tushirgich, Eruvchan saqlagichlar, Avtomatik uzgichlar, Datchiklar.

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MODERN AUTOMATED SYSTEMS IN ENERGY

Abstract. Modern automation devices implement monitoring and protection, automatic control and adjustment without human intervention. Automatic devices consist of the following main elements: sensors, amplifiers, relays.

Key words. Magnetic starter, fuses, circuit breakers, sensors.

Avtomatika-fan va texnikani texnologik jarayonlarni inson ishtirokisiz boshqarish asosoari va nazariyasini o'z ichiga olgan sohasidir. Avtomatlashtirish natijasida aqliy va jismoniy mehnat orasidagi farq bartaraf qilindi, mehnat unumdorligi ortgan holda mahsulot tan narhi kamayadi.. Avtomatlashtirilgan elektr yuritma deb boshqarish apparatlari bilan avtomatik ravishda ishga tushiriladigan, to'htatiladigan yoki ma'lum tezlikni o'zgartirmay saqlab turadigan yuritmaga aytiladi. Texnologik talablarga ko'ra tezligi majburiy ravishda o'zgartiriladigan yuritma rostlanadigan elektr yuritma deb ataladi. Avtomatlashtirilgan va rostlanadigan elektr yuritmalarda va yuqoridagi asosiy qismlar (elektrovdigatellar, uzatmalar, boshqarish vositalari) dan tashqari datchiklar ham bo'lishi mumkin.

Elektr yuritmani avtomatik boshqarish va himoyalash vositalari. Kontaktorlar va magnitli ishga tushirgichlar elektromagnit apparatlari hisoblanib, ular elektrovdigatellarni avtomatik boshqarish uchun ishlatiladi. Ular

elektrodvigatellarni kuchlanish yo`qolganda, 50...60% gacha pasayganda avtomatik ravishda tarmoqdan uzib qo`yadi.

Magnitli ishga tushirgichlar – maxsus konstruksiyali kontaktorlar hisoblanadi. Magnitli ishga tushirgichlar noverersiv va reversiv bo`ladi. Reversiv magnitli ishga tushirgichlar yordamida elektrodvogatellar ishga tushirilibgina qolmay balki eskari tomonga ham aylantiriladi.

Eruvchan saqlagichlar elektr qurilmalari va elektrodvigatellarni qisqa tutashuv tokidan hamda ortiqcha yuklanishdan saqlaydi. Saqlagichlarni uzuvchi qismi bo`lib uni eruvchan qo`ymasa (mis, qo`rg`oshin) hisoblanadi. Qisqa tutashuv yoki ortiqcha yuklama sodir bo`lganda eruvchan quyma erib ketadi, natijada tarmoq uziladi. Saqlagichlarni sxemalaridagi shartli belgisi:

Issiqlik relelari elektro qurilmalarni davomli ortiqcha yuklanishdan saqlaydi.

Issiqlik relesi umumiy ko`rinishda zanjirga ketma-ket ulangan qizitgich hamda bimetall plastinka (invar-latun) va kontaktlardan iborat. Ortiqcha yuklama sodir bo`lganda qizitgichdan ortiqcha tok o`tib undan chiqqan issiqlik bimetall plastinkani egilishiga sabab bo`ladi va u richaglar yordamida kontaktlarni uzib qo`yadi. Kontaktlar dastlabki holiga “qaytarish” tugmasini bosish orqali yoki bimetall plastinkani sovigandan so`ng o`z o`zidan qaytish mexanizmi yordamida avtomatik ravishda qaytadi. Hozirgi paytda elektro dvigatellar cho`lg`amlarni ortiqcha qizishdan himoyalash zamonaviy qurilmadir: UVTZ-1, UVTZ-4B kabi yarimo`ztkazgichli qurilmalar yordamida bajarilmoqda. Elektrodvigatelni magnitli ishga tushirgich orqali tarmoqqa ulanish sxemasi: PR-saqlagich; R- ulagich; RT1, RT2 issiqlik relelari; TYX, YURG to`htatish va yurg`azish tugmalari; K-g`altak va uni kontaktlari; VK-blok kontakti.

Avtomatik uzgichlar (AP50, AK63, A1000, AE2000) elektr qurilmalari qo`l bilan ulan ungani hamda ortiqcha yuklama va qisqa tutashuv sodir bo`lganda avtomatik ravishda uzib qo`yish uchun ishlatiladi. Avtomatik uzatgichdagi issiqlik ajratgichlari elektr qurilmalarini ortiqcha yuklamada ishlashdan saqlaydi, elektromagnit ajratgich esa qisqa tutashuv tokidan saqlaydi. Issiqlik ajratgichlari sozlanadi. Aralash ajratgichni sxemasi: 1-kontakt; 2-kalit; 3-cho`lg`am; 4-yakor; 5-bimetall plastinka; 6-qiziqticg; 7-prujina. Zanjirda qisqa tutashuv sodir bo`lganda yakor 4 cho`lg`amga tortilib richag ta`sirida kalitni ochib kontaktni uzib qo`yadi. Ortiqcha yujlama sodir bo`lganda esa bimetall plastinka egilib richag orqali kontaktni uzib qo`yadi.

Datchiklarni vazifasi fizik kattaliklarni o`lchanishi, masofaga uzatilishi, hamda boshqarilishi, nazorat qilinishi oson bo`lgan kattaliklarga aylantirish uchun xizmat qiladi. Avtomatik qurilmalarda bunday kattaliklar asosan elektr kattaliklar (tok, kuchlanish, EYUK, zaryad)ga aylantiriladi. Datchiklar ikki turga bo`linadi: parametrik va generatorli. Parametrik datchiklarda fizik miqdorlarni o`zgarishi elektr miqdorlarini o`zgarishi olib keladi. Generatorli datchiklarda esa fizik miqdorlarni o`zgarishi elektr zanjirda EYUK hosil bo`lishiga sabab bo`ladi. Masalan haroratni kuchaytirilishi termoEDS hosil bo`ladi. Parametrik

datchiklarni ishlashini ko`rib chiqamiz. Generatorli datchiklarda termopara va o`zgarimas tok mikromashinalari kiradi. Mashina tezligini o`zgarishi induksiyanadigan EYUK miqdorini o`zgarishiga olib keradi.

Avtomatlashtirilgan elektr yuritmani boshqarishda ko`rsatib o`tilganlardan tashqari kuchaytirgichlar, stabilizatorlar, relelar ham qo`llanishlari mumkin.

Kuchaytirgichlarni vazifasi datchikka kelayotgan kuchsiz signallarini kuchaytirib ijrochi qurilmaga uzatishdir. Kuchaytirgichlar lampali, yarimo`tkazgichli, magnitli, elektr mashinali turlarga bo`linadi. Kuchaytirgichlarni asosiy parametrlari uni kuchaytirish koeffitsientidir.

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QAYTA TIKLANADIGAN ENERGIYA MANBALARIGA ASOSLANGAN ENERGIYA

Annotatsiya. Energetika resursi deb – tabiiy yoki sun`iy faollashgan har qanday energiya manbaiga aytiladi. Tabiiy resurslarning tasniflaridan biri – bu turdagi resursning tugallanishi bo`lib, unga muvofiq energetika resurslarini tugallanadigan va tugallanmaydiganlarga bo`linadi.

Kalit so`zlar: Energiya resurslar, Suv energiyasi, termoelektr generatorlar, termoemission generatorlar.

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ENERGY BASED ON RENEWABLE ENERGY SOURCES

Abstract. Energy resource means any natural or artificially activated energy source. One of the classifications of natural resources is the completion of this type of resource, according to which energy resources are divided into renewable and non-renewable.

Key words: Energy resources, Water energy, thermoelectric generators, thermoemission generators.

O`z navbatida, tugallanadiganlar tiklanuvchi va tiklanmaydigan bo`lishi mumkin. Tiklanuvchilarga tabiat (yer, o`simliklar, hayvonlar va h.k.) tomonidan tiklanadigan resurslar kiradi, tiklanmaydiganlarga – tabiat tomonidan bir necha asrlar davomida to`plangan lekin, yangi geologik sharoitlarda hosil bo`lmaydigan resurslar (neft, ko`mir va boshqa yer osti zaxiralari) kiradi. Tugallanmaydiganlariga quyosh, shamol, kosmik, iqlimiy va suv resurslari kiradi.

Energiya resurslarining barcha turlaridan quyosh energiyasi muhim ahamiyatga ega. Energiya resurslarining barcha turlari quyosh energiyasini tabiiy o`zgartirish natijasidir. Ko`mir, neft, tabiiy gaz, torf, yonuvchi tog` jinslari va o`tinlar – bu o`simliklar tomonidan olingan va o`zgartirilgan quyoshning nurli energiyasi zaxiralari. Surat sintezi (fotosintez) reaksiyasi jarayonida atrof-muhitning noorganik elementlaridan, ya`ni, suv (H₂O) va karbonot angidrit gazi SO₂ lardan quyosh nuri ta`sirida o`simliklarda asosiy elementi uglerod (S) bo`lgan organik modda hosil bo`ladi.

Suv energiyasi ham suvni bug‘lantiradigan va bug‘ni atmosferaning yuqori qatlamlariga ko‘taradigan quyosh energiyasi hisobiga hosil bo‘ladi.

Shamol, quyosh tomonidan bizning sayyoramizni turli nuqtalarini turli harorat hisobiga isitish natijasida hosil bo‘ladi, ya‘ni issiq va sovuq havo qatlamining siqilishi evaziga sodir bo‘ladi. Bundan tashqari quyoshning yer sathiga to‘g‘ri keladigan bevosita nurlantirishi, katta energiya imkoniyatiga egadir.

Bizning iqlim sharoitimizda quyosh energiyasidan ko‘proq foydalanish maqsadga muvofiqdir. SHu maqsadda quyosh energiyasidan foydalanish bo‘yicha ilmiy tadqiqotlar olib borilmoqda. Muntazam takrorlanuvchi energiya manbalariga asosan ishlatilgan energiya o‘rnini tabiiy ravishda qayta (takroran) to‘ldirib boradigan energiya xosil bo‘lish jarayonini ta‘minlovchi tabiat resurslari kiradi. Masalan, suv, quyosh, shamol energiyalari va boshqalar. Suyultirilgan kompostdan ajralib chikuvchi gaz ham muntazam takrorlanuvchi energiya manbasi bo‘lishi mumkin. Go‘zaning poyasi ham muntazam takrorlanuvchi energiya resursi bo‘la oladi. Har yili yangi ekilgan o‘simlikdan poyani olish imkoni bor. Ammo bu energetik resursni xam oxirgi vaktlarda kurilish materiallari va kogoz tayyorlash uchun dalalardan yigib olinmokda.

Muntazam takrorlanuvchi energiya zaxiralarining afzalliklaridan biri va asosiysi ularning ekologiyaga zararli ta‘sirining kamligidir. Bu energetik resurslar qayta tiklanishi bilan tavsiflanadi.

Ko‘mir, neft va tabiiy gaz zaxiralari chegaralangan bo‘lib, sarflangan zaxiraning o‘rniqoplanmaydi. Chunkiyerostiyozaxiralarimillionlab yillar davomida o‘tgan evolyutsion jarayon ta‘sirida hosil bulgandir. Shuning uchun xam bu zaxiralarni tejab ishlatish zarur.

Muntazam takrorlanuvchi energiya manbalarini doimo tabiatning o‘zi hosil qilib turadi. Faqat ulardan samarali foydalanishni tashkil etish zarur.

Hozirgi vaqtda issiqlikni to‘g‘ridan-to‘g‘ri, harakatlanuvchi mexanik detallarni qo‘llamasdan, elektr energiyasiga aylantiruvchi qurilmalar tadqiq qilinmoqda.

Elektr energiyasi hosil qilishning quyidagi zamonaviy usullari mavjud:

- energiyani magnit gidrodinamikli o‘zgartgichlar (o‘zgarimas magnitlar orasidan zaryadli zarrachalarni katta tezlikda oqib o‘tishi natijasida elektr energiyasini hosil qilishga asoslangan);

- termoelektr generatorlar (1921 yilda kashf etilgan Zeebek samarasiga asoslanib, ya‘ni bir uchlarida issik kavsharlangan, ochiq qolgan uchlarida esa harorat ta‘sirida E.Yu.K. hosil qiladigan turli xil metallardan tayyorlangan juftlikka asoslangan);

- radioizotopli energiya manbalari (yadro yemirilishida zarrachalar va kvantlarning kinetik energiyasi ajralishi bilan kechadi va bu harorat muxitga yutiladi hamda bu muxitni qizdiradi. Mazkur qizishni termoelektrik yo‘l bilan elektr energiyasi hosil qilishda ishlatiladi);

- termoemission generatorlar (ushbu xodisaga 1883 yilda T.Edison asos solgan bo'lib, anod va katodlardagi harorat uzgarishi natijasida elektr energiyasi hosil qilishga asoslangan);

- elektrokimyoviy generatorlar (kimyoviy energiyani tugridan-tugri elektr energiyasiga aylantiruvchi kurilma);

- geotermal elektr stansiyalari (bu stansiyalar energiya manbai sifatida Yer qa'ridagi issiqlikni ishlatadi);

- muntazamtakrorlanuvchidengizzaxiralaridanfoydalanish. Dengiz zaxiralariuchgabo'linadi:1) vertikal termogradyentlar va okean shamollari; 2) dengizbiomassalari va geotermal suvlar; 3) yuzadagi to'lqinlar va oqimlar. Eng katta energiya vertikal termogradyentta'sirida, ya'ni suv satxidagi va tik o'q bo'yicha dengiz quvuridagi haroratlar farqi xisobiga suyuq ammiakni xarakatlantirib, turbinao'qiniaylantiribelectrenergiasiiishlabchiqarishga asoslangan;

- quyosh elektr stansiyalari;

- termoyadro reaksiyasi va reaktor-ko'paytirgichlarning energiyasidan foydalanish va boshqa usullar kiradi. Energoresurslar bu insonlar o'z manfaati uchun foydalanishi mumkin bo'lgan energiya manbalaridir.

Ayni damda resurslarni tejash va ulardan oqilona foydalanish kun tartibining dolzarb masalalaridan biri hisoblanadi. Shuning uchun muqobil energiyadan foydalanish to'g'ri qaror hisoblanadi. AQSH va yevropa davlatlarida quyosh energiyasidan foydalangan holda suv isitish texnologiyasi uzoq vaqtdan beri qo'llanilmoqda.

Yevropa Ittifoqi davlatlarida quyosh energiyasidan foydalanish hajmi sezilarli darajada jadallashdi. Ayniqsa, iqlimi birmuncha issiq bo'lgan mamlakatlarda, xususan, Germaniya, Belgiya, Gretsiya, Italiya, Ispaniyada bu sohada ma'lum darajada tajriba ham to'plangan. Shuningdek, Xitoy, Turkiya, Lyuksemburg va Daniya kabi davlatlarda ham bu masalaga alohida e'tibor qaratilyapdi. Isroilda esa quyosh energiyasidan oqilona foydalaniladi. Mamlakatning istalgan hududidagi uylar tomlarida o'rnatilgan suv isitgichlari bunga yaqqol misoldir. Bunday maishiy ehtiyojdagi qurilmalar 150 litr sig'imga ega bo'lib, quyosh batareyasidan energiya olib, suvni isitadi. Shu tarzda bunday qurilma sohibi yiliga taxminan 2000 kVt/soat elektr energiyasini tejash imkoniga ega bo'ladi.

Respublikamizdagi qayta tiklanadigan energiya manbasining imkoniyatlari 1.2-jadvalda ko'rsatilgan.

Ko'rsatkichlar	Jami (mln.t.n.e.)	Shu jumladan, energiya (mln.t.n.e.)			
		Gidro	Quyosh	Shamol	Biomassa
Yalpi ¹	50984,6	9,2	50973	2,2	–
Texnik ²	179	1,8	176,8	0,4	0,3
O'zlashtirilgan	0,6	0,6	–	–	–

1 –belgilangan hududga tushadigan yoki hosil qilinadigan nazariy energiya miqdori.
2– yalpi imkoniyatlarni amalga oshirib, foydalanish mumkin bo'lgan mavjud texnologiyaning bir qismi.

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STUDY OF THE STRUCTURAL STRUCTURE OF IMPURITY MICROINCLUSIONS IN N-SI< NI, CU > SAMPLES

Annotation. The paper presents the results of studies of the electrical properties of Si samples doped with Ni and Cu. It was revealed that a decrease in the mobility of charge carriers in the temperature range of 120÷320 K is of particular importance in increasing the resistivity of the samples.

Keywords: silicon, nickel, copper, impurity, Hall effect.

Currently, the study of semiconductor materials with multicomponent accumulations of impurity atoms that have unique structural properties is of particular importance. In this regard, special attention is paid to the development of new technologies for producing semiconductor materials with impurity micro- and nano-inclusions [1-7]. In this work, the temperature dependences of the concentration and mobility of charge carriers, as well as the resistivity of n-Si<Ni> and n-Si<Cu> samples were studied using the Hall effect method on an Ecopia HMS-7000 device.

Si of the KEF brand with a resistivity of 0.3 Ohm·cm, grown by the Czochralski method, was used as the initial sample. Ni diffusion and Cu in Si were carried out in the SUOL-4M furnace at a temperature of $T=1473$ K for $t=2$ hours. The diffusion temperature was controlled using a platinum-platinum-rhodium thermocouple. After diffusion annealing, the samples were cooled at a rate of $v_{cooling}=200$ K/s. The samples had the shape of a parallelepiped with corresponding dimensions of 5x5x2 mm. When measuring the electrical parameters of the prepared initial samples, as well as n-Si<Ni> and n-Si<Cu> samples, the temperature increased from 100 K to 320 K.

The graph of the temperature dependence of the resistivity of the original sample, as well as n-Si<Ni> and n-Si<Cu> samples shown in Fig. 1 shows that for the original sample and n-Si<Ni> samples these dependences have almost the same character. At a temperature of 100 K in the original sample the value of ρ is 0.135 Ohm·cm, and in n-Si<Ni> samples $\rho=0.139$ Ohm·cm. Then, with an increase in temperature to 120 K, these indicators decrease slightly (Fig.1, curves 1 and 3). With a further increase in temperature, they begin to gradually increase

and upon reaching $T=320$ K, the value of ρ in the original samples increases almost 3 times and amounts to $0.37 \text{ Ohm}\cdot\text{cm}$. In n-Si<Ni> samples at $T=320$ K, the value of ρ increases to $0.368 \text{ Ohm}\cdot\text{cm}$.

The temperature dependence of the resistivity of n-Si<Cu> samples, in contrast to n-Si<Ni> samples, in the temperature range $T=100\div 320$ K has a different form. At temperature $T=100$ K, the ρ value of these samples is $0.249 \text{ Ohm}\cdot\text{cm}$. With a subsequent increase in temperature to $T=120$ K, it sharply decreases and amounts to $0.157 \text{ Ohm}\cdot\text{cm}$. With a further increase in temperature, the value of ρ of n-Si<Cu> samples begins to gradually increase and at $T=320$ K it reaches $0.335 \text{ Ohm}\cdot\text{cm}$ (Fig.1, curve 2).

According to the results obtained, the concentration of charge carriers in the original samples at a temperature of 100 K is $n=6.27\cdot 10^{15} \text{ cm}^{-3}$. When the temperature rises to 140 K, it increases almost 2.5 times. With a subsequent increase in temperature to 320 K, it remains practically unchanged. A typical picture is also observed in n-Si<Ni> samples. The n value of these samples at a temperature of 100 K is $6.24\cdot 10^{15} \text{ cm}^{-3}$. When the temperature increases to 320 K, it reaches $1.7\cdot 10^{16} \text{ cm}^{-3}$. In n-Si<Cu> samples, the value of n at a temperature of 100 K is $1.18\cdot 10^{16} \text{ cm}^{-3}$. And when the temperature rises to 320 K, it increases almost 8 times.

The results of the temperature dependence of charge carrier mobility – μ in the original sample showed that at a temperature of 100 K it is $6228 \text{ cm}^2/\text{V}\cdot\text{s}$. at the same temperature for n-Si<Ni> samples the value of μ is $6890 \text{ cm}^2/\text{V}\cdot\text{s}$, and for n-Si<Cu> samples it is $2130 \text{ cm}^2/\text{V}\cdot\text{s}$. When the temperature increases to 120 K, the value of μ in the original sample increases and amounts to $6900 \text{ cm}^2/\text{V}\cdot\text{s}$, and in n-Si<Ni> samples it reaches $8100 \text{ cm}^2/\text{V}\cdot\text{s}$. And with a subsequent increase in temperature to 140 K, the value of μ in these samples decreases sharply, and at a temperature of 320 K it is $1030 \text{ cm}^2/\text{V}\cdot\text{s}$ and $1020 \text{ cm}^2/\text{V}\cdot\text{s}$, respectively. In contrast, for n-Si<Cu> samples at a temperature of 120 K, the value of μ increases sharply and amounts to $4660 \text{ cm}^2/\text{V}\cdot\text{s}$. A further increase in the temperature value to 320 K leads to a decrease in this value to $211 \text{ cm}^2/\text{V}\cdot\text{s}$.

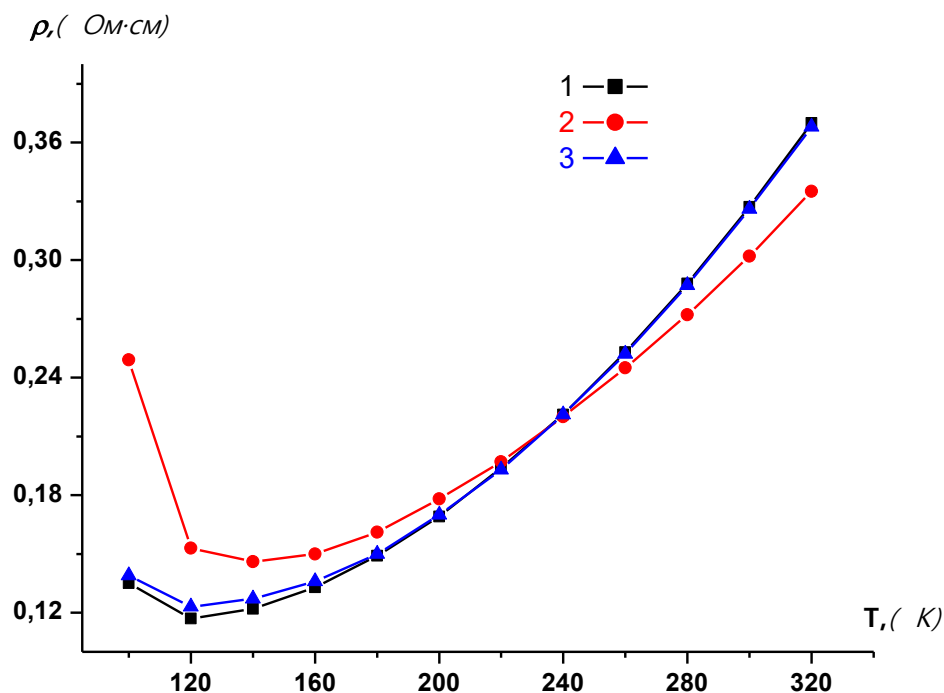


Fig.1. Temperature dependence of resistivity: 1 - initial sample; 2 - n-Si<Cu> samples; 3 - n-Si<Ni> samples.

Thus, it was revealed that the electrical properties of n-Si<Ni> samples in the considered temperature range compared to n-Si<Cu> samples have distinctive characters. The resistivity of n-Si<Cu> samples in the temperature range 120÷320 K increases by ~2 times, while this figure for n-Si<Ni> samples increases by more than 3 times. In this temperature range, the concentration of charge carriers in n-Si<Cu> samples increases almost 8 times, and in n-Si<Ni> samples this value increases almost 2.5 times. In this case, the mobility of charge carriers in n-Si<Ni> samples decreases by 7–8 times, and in n-Si<Cu> samples it decreases by more than an order of magnitude. Consequently, it turns out that the increase in the resistivity of n-Si<Cu> and n-Si<Ni> samples in the temperature range 120÷320 K mainly depends on the decrease in the mobility of charge carriers.

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INNOVATIVE MANAGEMENT IN A MODERN PRESCHOOL EDUCATIONAL ORGANIZATION

Annotation. This article presents the principles, rules and modern management of innovative management in preschool educational organizations of the Republic of Uzbekistan. The managerial competencies of directors of preschool education organizations and the requirements for them are also revealed.

Key words: preschool education, innovation, managerial competence, innovative management.

To successfully implement the process of modernization of the entire education system, Russia needs specialists who are proficient in modern methods of managing teaching staff, research and development, and who are able to work effectively in the innovation market. Introducing innovation is a difficult and painful process for any organization. But without innovation it is impossible to function and develop in modern society, which is characterized by competition among organizations, institutions, and firms.

Modern processes are quite complex and inevitable innovation. They take place in any area of management (improving planning, structure and functions of management bodies, personnel management systems, etc.).

Innovation management is a set of principles, methods and forms of management of innovation processes, innovation activities, organizational structures and their personnel engaged in these activities. Like any other area of management, it is characterized by the following: setting goals and choosing a strategy; planning, setting conditions and organizing, execution, management.

The organization of comprehensive support for the individual development of children in a preschool educational institution requires different approaches to the educational process, its planning and the development of software and methodological support for the activities of the kindergarten, and to the organization of the work of the labor protection service.

The changing demands of Russian society for the quality of preschool education should motivate preschool institutions to use modern educational comprehensive programs, technologies, and methods.

Innovative management in a modern preschool educational institution involves:

1. development of plans and programs for innovation activities;

2. monitoring the development of an innovative product and its implementation;
3. consideration of projects to create new products;
4. carrying out a unified innovation policy - coordinating the activities of all structural divisions;
5. financial and material support for innovation processes;
6. management of personnel implementing innovations;
7. creation of task groups for comprehensive solutions to innovative problems.

Examples of innovation management in preschool educational institutions can be:

1. Development of software and methodological support for innovative processes: Preschool development program, business plan, educational program, annual plan.

2. Development and implementation of innovative collective and individual pedagogical projects.

3. Introduction of new forms of differentiation of special education: temporary speech therapy group, speech center.

4. Creation of a network of additional free educational and health services for preschool children: clubs, studios, sections, etc.

5. Expanding the range of educational services for children who do not attend preschool educational institutions: paid educational services, short-term groups for young children (adaptation, correctional and developmental), pre-school preparation group for older preschoolers.

6. Creation of an advisory center for parents (legal representatives) and children with disabilities brought up in a family environment to ensure the unity and continuity of family and public education, providing psychological and pedagogical assistance to parents (legal representatives), supporting the comprehensive development of the personality of children, not visiting preschool educational institutions.

7. Introduction of innovative approaches to the physical culture and health work of preschool educational institutions (health-improving and gaming, dynamic "hour", "hour" of motor creativity).

8. Social technologies for harmonizing parent-child relationships.

9. Scientific and methodological products of innovative activity - publication of teaching aids and developments, posting materials from teachers on Internet sites; participation in virtual problem seminars, scientific and practical conferences, Internet communities, forums, teacher councils.

10. Work of creative and problem groups, holding master classes.

11. Informatization of the educational process: organizing the work of the preschool educational institution website, using the potential of media educational tools for presenting the products of design and research activities, compiling databases, working with Internet resources, developing diagnostic tools, etc.

12. Transition to financial independence of the institution, attraction of extra-budgetary funds, organization of paid educational services.

Thus, for effective and rational management of a modern preschool educational institution, an education manager - head, director, leader must master the basics of management, understand modern effective strategies and methods of managing a preschool educational institution, technologies for working with a team based on a positive constructive approach and the leadership functions of a manager.

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SHOIRA SHAMS LIRIKASI BADIYATI HAQIDA

Annotatsiya. Ushbu maqolada is’tedodli ijodkor Shaira Shamsning she’rlaridagi badiiy obrazlar mavzusiga alohida to‘xtalib o‘tdik.

Kalit so‘zlar: umid, armon, xayol, muhabbat, ishq, g‘aflat, baxt, o‘tinch, shamol.

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ABOUT THE ARTISTRY OF THE POET SHAMS LYRICS

Abstract. In this article, we specifically focused on the topic of artistic images in the poems of the talented poet Shaira Shams.

Key words: hope, dream, love, carelessness happiness.

Xorg‘in sokinlikning bag‘riga cho‘mib,
Xayollar ohista ketar qaygadir.
Shahid armonlarni umidga ko‘mib,
Orzu sohilini izlar qaydadir.[Javrikim jondan o‘tar 173-bet]

Ushbu bandda xayol obrazi ta’svirlanadi. Bilamizki xayol inson tafakkurining mahsuli sanaladi. Ushbu she’rda inson xayoloti horg‘in holatda sokinlikning bag‘riga g‘arq bo‘lishi mumkinligi anglashiladi. Ya’ni inson beixtiyor xayollar girdobiga beriladi. Xayol darbadar bo‘lib butun armonlari chipakka chiqilishi, shunday bo‘lishiga qaramasdan, bir umid bilan orzular ro‘yobi uchun orzu sohili tomon yo‘l olishi ta’svirlanadi. Bu she’rdan anglashiladiki, ijodkor o‘z ichki ruhiy kechinmalarini xayol obrazi vositasida ifodalagan.

Ulkan baxtni qidirib,
Qaddim bukchayib borar.
Armon toshi kattayib,
Baxtim kichrayib borar
Ba’zida to‘qib ko‘z yosh,
Tugaydi sabr-toqat.
So‘rayman:- Bormi o‘zi,

Qani men izlagan Baxt?[Javrikim jondin o‘tar 127-bet]

Ta’kidlash joizki, baxt inson hayotining eng go‘zal bir tuhfasidir desak adashmagan bo‘lamiz. Inson yashar ekan hamisha baxt uning hamrohi bo‘ladi. Shoir bunda bu hayotda yashar ekan baxt qidirib yo‘lga chiqadi. Baxtini shu qadar qidiradiki, xattoki qaddi bukchayib qoladi. Qalbidagi armon toshi borgan sari kattayib boradi. Baxti esa aksiga olib kichrayadi. Ko‘zlaridan yosh tinmaydi va tugamaydi. Ammo sabr-toqati qolmaydi. Qidirdim –qidirdim, ammo men izlagan baxtni topa olmadim deydi-shoir va o‘z-o‘ziga savol beradi. Mana shunday bayt vositasida ijodkor o‘z baxt obrazini yaratadi.

Ko‘zingda o‘ynaydi sirli hayajon,
Yuzingdan lolarang ibo oqadi.
Qarshingda vaslingga intizor bir jon
Ko‘zingdan ko‘zlarin uzmay boqadi.

Oy ham havas qilar bu juft yurakka,
Sukunat bag‘riga to‘kilar hasrat.
Ne ko‘yga solmaysan ahli odamni.

Muhabbat, muhabbat, muhabbat... [“Javrikim jondan o‘tar” 191-bet]

Ushu baytdamuhabbat obrazi tavsiflanadi. Muhabbat mavhum tushuncha bo‘lishiga qaramasdan butun bir insoniyatning tabiatida bir narsadir. Muhabbat shu qadar qudratli kuchga egaki, bu kuch butun insoniyatni o‘zgartira oladi. Shu sababli ham ijodkor muhabbat dardiga muhtalo bo‘ladi va shu muhabbat tufayli ko‘zlari hayajonga to‘ladi. Bu juftlikka oy ham havas qilishi aytiladi. Aytdilarki, muhabbat insonni har ko‘yga solishi mumkin. Hattoki gapirtirmas holatga ham solishi mumkin. Muhabbat obrazi mana shunday qudratga ega.

Shamol, qaydan kelding chamanmi, bog‘dan?

Iforingga boshim aylanib qoldi.

Ma‘yin e‘tibor –u, shirin ardog‘dan,

Irodam to‘kildi, xushim yo‘qoldi. [“Javrikim jondin o‘tar” 225-bet]

Ushbu baytda shamol obrazi vositasida inson umriga qiyos qilsak bo‘ladi. Ya‘niki inson umri ham xuddiki shamol misol bir esib o‘tadi. Keyin ortga qaytmaydi. Bu yerda esa shamolni qidiradi qayerdan qay makondan kelganligini so‘raydi. Ushbu ta‘svirlash jarayonida ijodkor badiiy ta‘svir vositalaridan ham mohirona foydalana oladi. Bu san‘atlar obrazning tasvir kuchini yanada go‘zallashtiradi. Bunda yor shamolni izlaydi.

Nelarni o‘yladim

Qalbimda qoldi.

Og‘riq iztirobim

Dardimda qoldi.

Za‘faronlar yog‘ib

Zardimda qoldi

Qolmading...

Orzular ko‘chdilar

Turnalar bilan.

Bedorman yurakda

Ignalar bilan.

Bahor qaytmas endi,

Ginalar biln...

Qaytmading[“Javrikin jondin o‘tar “ 197-bet]

Ushu baytda armon obrazi ta’svirlanadi. Baytdan ko‘rinadiki, yor ko‘p narsalarni o‘ylaydi va lekin bu o‘ylar faqat qalbida pinhona. Ichidagi og‘riq, iztiroblar dardlar qalbida qolgan. Faqatgina sen qolmading deya fig‘on chekadi.

Orzular o‘zgardi turnalar bilan birgalikda, lekin meni qalbim hali hanuz o‘sha-o‘sha. Yuragim bedor xuddiki ignalar qadalgandek. Bahor endi qaytmaydi ginalar bilan deydi. Lekin sen qaytmading deya istifoda qilinmoqda. Bu yerda bahor deganda fasl emas, balki insonning ushalmas yoki amalga oshmay qolgan orzu-istaklari armonga aylanganligini bildirmoqda. Bu yerda ham go‘zal tasviriy vositalardan foydalanilgan.

Gulday go‘zal, muzday sovuq dil,

Parvo qilmas ko‘z yoshlarimga.

Bir kun seni eritaman, bil,

Solib diydor otashlarimga.

Tosh qalbingdan bir gul undirib,

Qahring yulib, mehrim beraman.

Ketar chog‘im ortga qayrilib,

Intizor ko‘zlaring ko‘raman.

Ushbu baytda umid obrazi batafsil yoritiladi. Bunda umid shunday narsaki, biror narsadan voz kechgan taqdirda ham inson yana shu o‘tgan narsaga qaytib yana umid bilan ortga boqadi. Shu sababli ham she’rda tosh ko‘nglingni bir kuni eritaman deydi. Bir kuni tosh qalbing gul ochadi. Qahringni bir kuni mehrim ila to‘ldiraman va ketar chog‘imda baribir bir bora ortimga qayrilib boqaman demoqchi ijodkor.

Xulosa qilib aytadigan bo‘lsak, hassos va is’tedodli ijodkorlardan biri hisoblangan Shoira Shams o‘z ichki ruhiy kechinmalarini qog‘ozga to‘kadi va obrazlar vositasida ichki tug‘yonlarini ifodalaydi. Ijodkor she’rlarida har bir obraz muhim rol o‘ynagan va badiiy ta’sviriy vositalar ularga ko‘rk bag‘ishlagan.

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ESTABLISHING ACCOUNTING IN BANKS

Annotation. In the Republic of Uzbekistan, the accounting system and financial policy of banks operating within its territory are regulated in accordance with established procedures.

Keywords: Accounting, accounting system, financial policy, banking operations, accounting and supervision, financial statements, customers, document turnover in banks.

Abstract. In the banking system, the proper organization of accounting operations holds significant importance, as accurate accounting and supervision ensure the bank fulfills its duties correctly. For this purpose, accountants are required to possess specific knowledge, understanding the fundamental principles and methods of accounting and reporting. Establishing the accounting process is essential for ensuring the independent operation of the bank's business systems, efficient functioning of the accounting system, and overall service provision within the banking system. Accounting records play a crucial role in technical support for organizing bank systems, delineating tasks formulated by their leadership, as well as in shaping newly established accounting objects and providing detailed information on societal activities and business efficiency. Hence, there arises a necessity for skilled and experienced accountants and academic researchers to find solutions and support in shaping the detailed information related to the society's activities and business efficiency, contributing to the development of the banking system's technical infrastructure, properly defined tasks by their leadership, and newly established accounting objects.

The challenges of establishing effective accounting systems have been discussed in various scientific works in the Republic of Uzbekistan and other countries. Authors such V.A. Deriy, L.M. Kindratska, G.P. Golybnicha, and others are mentioned in this regard. However, contemporary literary analyses indicate the necessity for a more thorough and comprehensive examination of business relations during the period of establishing the accounting system, demanding increased and in-depth research inquiries.

The purpose of the article is to analyze the organization of information accounting in terms of the compliance of accounting policy in commercial banks and to make recommendations.

Analysis of Literature on the Subject Matter

Mario Draghi, an Italian economist, served as the President of the European Central Bank from 2011 to 2019. During his leadership, his actions to address the crisis in the Eurozone and to stabilize the European banking system are of significant importance. His experience and leadership during this period are considered invaluable, as they have been beneficial for banking systems worldwide. Additionally, his approach aligns with the ideas of Milton Friedman regarding the management of monetary policy, ensuring clear and transparent execution of accounting and financial policies at the regulatory level.

Analysis

While studying the topic, I examined the accounting policy strategy of the 'Xalq' Bank operating in the Republic of Uzbekistan. In this context, it can be seen that the bank's income in the form of dividends from issuing shares is clearly explained through accounting records and is recorded in the statistical table.

Action Types	2016		2017		2018		2019	2020	2021
	The money with origin-measure	percentile with origin-measures	The money with origin-measures	percentile with origin-measure	The money with origin-measures	percentile with origin-measures	Payables	Payables	Payables
Simple shares	13.65	1.37%	13.83	1.38%	4.92	0.49%			

Table 1

At the same time, monitoring banking activities from assets and passives that are circulating in its activities from the people's bank's balance sheet creates some relief for each information user and investors: everybody can get access to official web-sites of uzbek banking related to this topic that disclosure.

Based on the accounting entries reported to us, these bank capital is known to have increased by 8% compared to the previous annual report. However, there has been no significant increase in bank loan placements, we can see it in the table below:

Capital banks	Deposits of attracted population	Bank loan placements
5,647,073 million	2022 8278295.34 mln	2022 21184082.0 million
Grew by 8% compared to November 1, 2021	Increased by 14.5% compared to November 1, 2021	Increased by 2.5% compared to November 1, 2021

Table 2

Conclusions & Suggestions

One of the most effective ways to prevent an employee of a group of banks from dropping tasks in a large load is to benefit from the most advanced and relatively human-factor methods of automation of the accounting system. Bank Accounts: Bank accounts, certificates of deposit, or individual retirement accounts set up as a trust or made to an entity used by Jehovah's Witnesses in your country.

Suggestions:

1. Effective provision of increase of the Bank's credit placements in the next quarter

2. Automated system and qualified personnel work in maintaining accounting policy

it is necessary to ensure that its activities are carried out in an incompatible way.

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WAYS TO OPTIMIZE BANK EXPENSE

Annotation. The article discusses the composition of bank expenses and accounting for expenses, provides suggestions for improving expense accounting, and presents the results of conducted research in the conclusion.

Keywords: banks, expenses, salaries, interest and non-interest expenses, operational expenses, credit, leasing and storage costs, administrative expenses, business travel and transportation expenses, prepaid expenses.

Introduction. Generally, an expense is a decrease in financial resources or other assets during a reporting period that is not related to the repayment of capital owners' contributions, or an increase in obligations that leads to a decrease in economic benefits. The expenses of banks consist of interest and non-interest as well as operational expenses incurred in the process of conducting bank activities. All these expenses are accounted for in the "Expenses" accounts (50000 series) in the accounting plan.

Banks incur expenses to fully conduct their operations. The expenses of commercial banks can be divided into three groups:

- Interest Expenses;
- Non-interest Expenses;
- Operational Expenses;

Interest Expenses comprise the total amount of interest paid to customers and other banks on all liabilities. Commercial banks accept demand, savings, and term deposits to organize their credit resources. Banks pay interest on these deposits at certain rates. Another significant part of banks' interest expenses is related to commercial banks' credit operations. Commercial banks may obtain credits from the Central Bank, other commercial banks, extra-budgetary funds, and non-bank financial institutions. The interest paid on these credits falls under interest expenses. A considerable portion of bank expenses are non-interest expenses. Non-interest expenses of banks include salaries and additional payments to bank employees, travel expenses, costs of renting or purchasing equipment or buildings. Banks in Uzbekistan also make mandatory contributions to the Uzbekistan Pension Fund, the State Fund for Employment, and the Social Insurance Fund of Uzbekistan, including bonuses for bank employees and additional payments for long service.

Discussion and Results. According to statistical data, the total expenses of Uzbek banks have increased by approximately 135% compared to the year 2022 (Table 1). Naturally, the banks' response to these figures is to directly reduce

expenses. That is, achieving the planned value through the optimization of overall bank operational expenses and business process costs is achieved via the Cost/Income ratio indicator. In modern banks, this ratio averages 40-50%.

Table-1

Expenses in banking system

Expense type	11.01.2022	11.01.2023	Growth rate
Interest expenses	32 532	46 635	143,35%
Non-interest expenses	9 383	10 231	109,03%
Operational expenses	11 380	15 324	134,65%
Total	53 295	72 190	135,45%

Discussion and Results. Practical experience from banking operations shows that implementing optimization measures can save approximately 10-20% in non-operational expenses in the short term. For example, just a 0.5% reduction in expenses for the top 50 U.S. banks resulted in savings of \$250 million. However, long-term savings can lead to a reduction in assets and liabilities. Therefore, the expense optimization process must be well-thought-out and comprehensively reviewed. Direct costs in banking refer to administrative, economic expenses, and employee-related costs (payroll fund). This article examines reducing administrative and economic expenses to optimize banking costs, and the following measures can be applied:

- Creating a project team;
- Strategic analysis of the external environment and the bank's internal state;
- Analyzing the best practices in the banking sector regarding overall bank operations and business directions;
- Analyzing and classifying the administrative and economic expenses of the bank's structural divisions;
- Developing a set of measures to reduce the bank's administrative and economic expenses;
- Analyzing staffing costs and the bank's organizational structure.

In the first phase, a project group is formed to optimize the bank's direct expenses. As known from banking practice, the project group usually consists of two or three external consultants and one or two employees from the bank's financial and analytical services. Engaging external consultants is beneficial if:

1) the consultants have theoretical and practical experience, proven technologies, and models for optimizing bank expenses;

2) the consultants are independent of any of the bank's structural divisions.

This ensures that the bank divisions trust them and establish communication. The bank needs to appoint a project manager. The consultants will:

- Conduct surveys and interviews with heads of structural divisions;
- Develop an expense optimization model;
- Conduct a trial calculation of the expense optimization model and comment on the results.

The bank's financial and analytical service staff will:

1. Provide information about the bank's organizational structure and the tasks of its structural divisions;
2. Send classifications of bank products and reports on revenues;
3. Organize schedules for meetings between the divisions and consultants.

In the second phase, the project team conducts a strategic analysis of the external environment and the bank's internal state. Strategic analysis is a complex system of analyzing its components, involving labor-intensive analysis of the external environment, including macro and microenvironment analyses. Publications on strategic management offer the following methods for analyzing the external environment: macro-environment analysis, industry and competition analysis. The subjects of these analyses include: politics, economy, technology sectors; economic sectors; competitive forces in the market of goods and services. The analysis has three main objectives for the bank:

1. Assess the changes occurring in the region under review;
2. Identify potential threats to bank operations;
3. Identify potential opportunities for achieving strategic goals.

These objectives are achieved by consistently solving the following tasks:

- Considering the maximum possible number of factors relevant to the set goals and selecting the most important from the perspective of impact on the final goals;
- Assessing the current state of factors and their future development prospects;
- Determining the current and future state of factors as potential threats or opportunities for the bank.

The bank's internal analysis is conducted to identify its competitive strengths, the advantages that allow the bank's successful development, and the weaknesses hindering the bank's development. Particular attention is given to analyzing and adjusting the financial model according to forecast and actual indicators. Financial indicators represent the financial cycle from the inflow of funds to earning revenue from active operations.

In the third phase, an approach to planning bank operations within the framework of the expense optimization program is implemented, which involves a continuous process of assessing the level of products/services, methods of work, and identifying, learning, and assessing the best practices. Based on the results, benchmarking, i.e., comparison, is conducted. It is worth noting that for many banks, benchmarking is not new, as it is conducted as part of competitive analysis. The purpose of benchmarking is to reliably determine the likelihood of business success based on research. For this, it is necessary to compare the best practices in the banking sector in terms of overall bank operations and business directions using the Top 50 and Top 100 indicators of Uzbek commercial banks and implement these practices as standards and guidelines.

In the fourth stage, the project team develops a set of measures to reduce each category of administrative-economic expenses. In the next stage, the project team conducts an analysis of staffing costs and the bank's organizational structure. In a modern bank, employee costs account for 50-70% of the total bank's expenses. It is known from banking practice that banks seeking to reduce employee-related expenses achieve their goals through three methods:

1. Reducing employees by a uniform percentage;
2. Eliminating organizational inefficiencies;
3. Reducing departments.

The expected changes in technology and banking operations will significantly increase productivity and the efficiency of management systems, creating opportunities to release significant labor resources. In many cases, increasing productivity also allows for the optimization of the number of bank employees.

Conclusions and Recommendations. Some conclusions must be drawn: assessing the expenses of a commercial bank is a critical issue in banking operations, and its solution allows banks to have timely financial information about the state of their economic activities, overcome the high growth rates of administrative and economic expenses, and prevent misuse of funds.

To increase bank profitability, the following can be implemented:

- Modernization, i.e., simplified, parallel, and automated processes help organizations succeed.
- Reassessing risks.
- Developing electronic channels.
- Accounting for human capital.

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ACCOUNTING IN INSURANCE COMPANIES AND ITS ROLE IN THE ECONOMY OF UZBEKISTAN

Annotation. Insurance plays a significant role in the development of the economy by accumulating substantial investment capital and contributing to crucial sectors.

Keywords: insurance, insurance agency, insurance companies, premium insurance, insurance policy, electronic insurance policy, auto insurance.

Introduction. The insurance fund is considered an important and unique part of the national economic reserve, financially protecting the national economy from various contingencies. In developed countries, the insurance industry is highly advanced, with insurance premiums accounting for an average of 8—12% of the Gross Domestic Product (GDP).

Literature Review on the Topic. In the Republic of Uzbekistan, the regulations governing the insurance sector have been aligned with international standards. Legal relations related to insurance in the Republic are regulated by the new "Law on Insurance Activities" of the Republic of Uzbekistan (dated February 25, 2022). According to this law, we will consider the following definitions:

- Insurance: It is understood as the protection of the property interests of individuals and legal entities from a specific insurance event, funded by the insurance premiums they have paid.

- Insurance is divided into two sectors. The first is the general insurance sector. The second is the life insurance sector.

- Insurance Premium — is a part of the insurance premium paid by the insured to the insurer in accordance with the terms, amounts, and conditions stipulated in the insurance contract, either in national or foreign currency.

- Insurance Amount — a certain sum which the insurer undertakes to pay as insurance compensation (insurance payment) within the limits of this sum as specified in the insurance contract.

- Insurance Risk — the anticipated event that, if it occurs, will trigger the execution of the insurance payment.

Presidential Decree of the Republic of Uzbekistan (October 23, 2021) titled "Additional Measures on Digitalizing the Insurance Market and Developing the Life Insurance Sector" granted several privileges to insurance companies. Let's look at some of these:

- From January 1, 2022, to January 1, 2025, the profit tax rate for activities in the life insurance sector will be reduced by 50 percent.

- From January 1, 2022, to January 1, 2028, funds directed by employers to legal entities licensed to carry out insurance activities in the Republic of Uzbekistan, based on insurance contracts for accident insurance and health insurance for their employees, will not be considered as part of the total income of individuals.

- Additionally, several researchers in Uzbekistan have studied various types of insurance, processes, and calculation stages. PhD Associate Professor Shirinov from the Samarkand Economics and Services Institute has conducted scientific research on the topic "Features of Auditing in Insurance Companies." I.Ochilov and D.Sultonov have published books on "Insurance Accounting and Reporting," demonstrating how all reports in insurance companies (accounting balance, financial report, cash flow report, fixed assets report, etc.) are managed, proving and illustrating how various operations are conducted through specific accounts.

Research Methodology: We believe that a comprehensive analysis of the financial condition of insurance companies through interconnected accounting balance indicators remains significant for scientific research and practical analysis because the management, investment, and innovation development decisions related to any economic entity, including insurance companies, cannot be made without a precise and effective solution to the analysis issue.

Analysis and Results: Currently, as measures to fully digitize the country's economy are being considered, insurance companies are striving to make the registration of their services fast and convenient for customers. For example, the electronic insurance policy developed on October 11, 2016 (which is similar to a paper insurance policy, except it is issued to customer individuals with a digital signature) is creating many conveniences for customers. It was developed by the "ALSKOM" insurance company and is legally equivalent to the paper version of the insurance policy, in accordance with the Law of the Republic of Uzbekistan dated April 29, 2004, No. 611-II "On Electronic Document Turnover" and the Law dated December 11, 2003, No. 562-II "On Digital Signatures." The issuance of the insurance policy is carried out

Insurance contracts can be formed either by the insurance organization itself or through insurance agents and brokers. Like other organizations, insurance companies reflect transactions related to policyholders, insurance agents, and brokers in their accounting balance through specific accounts. For example, account 6040 for "Accounts Payable to Insurance Agents and Brokers" and account 4040 for "Accounts Receivable from Insurance Agents and Brokers."

The insurance reserves formed from the received insurance premiums for the obligations undertaken by the insurance organization are reflected in the following accounts:

- 8010 "Reserve for Unearned Premiums";
- 8020 "Reserve for Incurred but Not Reported Losses (IBNR)";
- 8030 "Reserve for Reported but Not Settled Losses";
- 8040 "Reserve for Preventive Measures";

- 8050 "Mismatch of Assets Reserve";
- 8060 "Catastrophe Reserve";
- 8070 "Volatility Reserve";
- 8090 "Life Insurance Reserve";

The compilation of information about insurance compensations calculated under direct insurance and reinsurance contracts is performed in the following accounts:

- 2210 "Insurance Compensations for Insurance Events Occurred During the Reporting Period Under Direct Insurance";
- 2220 "Insurance Compensations for Contracts Terminated Prematurely";
- 2230 "Insurance Compensations for Risks Accepted in Reinsurance";
- 9431 "Insurance Compensations for Insurance Events Occurred in Past Periods, Reported in Past Period Under Direct Insurance";
- 9432 "Insurance Compensations for Insurance Events Occurred in Past Periods, Reported in the Reporting Period Under Direct Insurance".

If the insurance organization has the right to recover damages from the person responsible for the occurrence of the insured event after paying out the insurance coverage, the related calculations are carried out in account 4860 "Accounts Receivable for Claims".

To ensure the financial stability of their situation, insurance companies may transfer their liabilities to other insurance organizations, i.e., reinsure. In this case, the insurance organization makes a certain amount of payment to the reinsuring insurance organization. The amounts of insurance premiums for risks transferred to reinsurance are accounted for in account 9040 "Paid Insurance Premiums for Risks Given to Reinsurance and Retrocession". The account for shares of losses obtained through reinsurance of insurance coverage is maintained in account 9070 "Income from Coverage of Loss Shares for Risks Given to Reinsurance and Retrocession".

Each insurance contract's unearned premium is calculated using the following formula as the product of the proportion of the remaining duration of the insurance contract (in days) to the total duration of the contract (in days), based on the basic insurance premium accepted for calculation as of the report date:

$$I_{mi} = B_{mi} \times \frac{T_i - M_i}{T_i}$$

where:

- I_{mi} — Unearned premium for the i -th contract;
- B_{mi} — Basic insurance premium for the i -th contract;
- T_i — Total duration of the i -th contract in days;
- M_i — Number of days from the start of the i -th contract to the report date.

By providing accurate accounting entries in the accounts mentioned below, we can obtain concise and accurate information about the financial condition of the insurance organization.

As of the end of the first half of 2023:

- Total charter capital of insurance companies — 2.1 trillion UZS (an increase of 119.1%);
- Total collected insurance premiums — 3.8 trillion UZS (an increase of 136.3%), of which 3.4 trillion UZS was voluntary insurance and 355.5 billion UZS was compulsory insurance;
- Total insurance payments made — 883.0 billion UZS (a decrease of 23.4% compared to the same period last year, due to life insurance), of which 121.2 billion UZS was voluntary insurance and 761.8 billion UZS was compulsory insurance;
- Total volume of investments — 5.2 trillion UZS (an increase of 128.3%); 4.3 million new insurance contracts were signed (an increase of 18.8%), and the total number of existing insurance contracts was 8.4 million (an increase of 120.1%);
- The share of insurance premiums in the Gross Domestic Product was 0.81% (an increase of 15.7%).

Conclusions and Recommendations: As we can conclude, the activities of insurance companies based on governmental regulatory documents and the legality of their revenues are of significant importance.

- Increase the number of reliable and large insurance organizations and strengthen consumer confidence in them;
- By digitizing insurance processes (and avoiding unnecessary paperwork), create more convenience for consumers and increase their numbers;
- Enhance the role of insurance in the country's GDP by increasing insurance services;
- Simplify the insurance reports prepared by insurance companies;
- When audits in insurance organizations are conducted based on international standards, higher results can be achieved in decision-making and efficient operation management.

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GANDBOLCHILARNI HUJUM VA HIMOYADAGI SHAXSIY TAKTIK HARAKATLARINI SAMARADORLIGINI OSHIRISH USULLARI

Annotatsiya: mazkur maqolada gandbolchilarni hujum va himoyadagi shaxsiy taktik harakatlarini samaradorligini oshirish usullari, yani, gandbolchilarning taktik tayyorgarligi bo'yicha guruhlarga (kuchli-kuchli, kuchli-o'rta, o'rtacha-kuchsiz) bo'linishi asosida mashg'ulot juftliklarini shakllantirish va ularning natijalari tugrisida malumotlar bayon yetilgan.

Kalit so'zlar: taktika, texnika, hujum, himoya, mashg'ulot, kuchli-kuchli, kuchli-o'rta, o'rtacha-kuchsiz.

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METHODS OF INCREASING THE EFFICIENCY OF PERSONAL TACTICAL ACTIONS IN ATTACK AND DEFENSE OF HANDBALL PLAYERS

Abstract. In this article, methods of increasing the efficiency of personal tactical actions in attack and defense of handball players, that is, formation of training pairs based on the division of handball players into groups (strong-strong, strong-medium, average-weak) according to their tactical preparation and information about their results is presented.

Key words: tactics, technique, attack, defense, training, strong-strong, strong-medium, average-weak.

Mavzuning dolzarbligi. Gandbol jamoaviy o'yin bo'lib, har-bir gandbolchining maqsad va vazifalari jamoa manfaatlarini xal qilishga qaratilgan bo'ladi. Murabbiy mashg'ulotlar va musobaqalar jarayonida bu vazifani ijobiy xal qilib borsagina, rejalashtirilgan maqsadga erishishi mumkin. Bugungi kunda barcha jamoalarning tayyorgarlik darajalari deyarli tenglashmoqda, ammo jamoaning musobaqalardagi g'alaba qozanishining asosi xujum va ximoyaning qay darajada tashkil etilishiga bog'liq bo'lib qolmoqda.

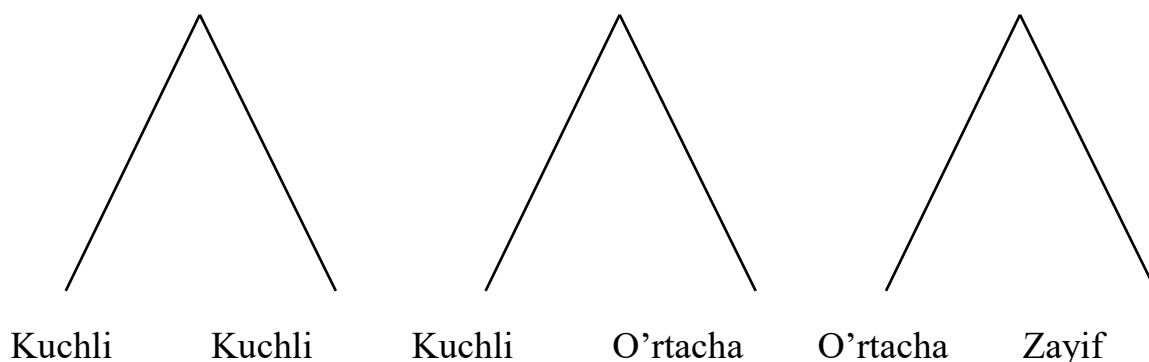
Jon Germaniskuning fikricha; - gandbolchining himoya joylashuvida yolg'iz o'zi yoki jamoadoshi xamda bir nechta jamoa o'yinchilari bilan birgalikda o'zini qanday tutishi(xujumni qaytarish) bu jamoa xujum taktikasini bir qismi xisoblanadi.

Murabbiylar o'yinchining har bir taktik harakatini, ma'lum mahoratini shakllantirishni standart predmet sifatida emas, balki keng ko'lamlı ijodiy yuksalish sifatida qarashlari juda muhimdir. Aynan shu yondashuv gandbolchining o'yin faoliyatiga chuqur ijodiy munosabatini shakllantirishga imkon beradi, yuqori darajada rivojlangan o'yin tafakkuri uchun ishonchli shart-sharoitlarni yaratadi. Mashqni bir necha marta takrorlash bilan birga uni bajarish shartlarini tez-tez o'zgartirish kerak, har safar gandbolchidan ushbu o'zgarishlarni hisobga olishni talab qilish lozim (ya'ni, sodir bo'layotgan voqealarga ongli ravishda munosabatda bo'lish). Gandbolchining xujum va ximoyadagi tayyorgarlik jarayoniga, taktik mahoratini oshirishga bunday munosabati uning tezroq va yaxshi o'sishiga xamda tavsiya etilgan mashqdan maksimal foydalana olishga yordam beradi.

Shaxsiy taktik harakatlarga o'rgatish xujum va ximoya usullarini o'rganishdan boshlanadi. Masalan, ximoyachiga tushuntirishda(xujumchi xarakat boshlagan paytda) hujumchiga nisbatan joy tanlashga aloxida e'tibor berishni o'rgatish lozim. Mashg'ulotlar har doim ma'lum topshiriqlar berilgan hujumchi bilan bitta to'qnashuvda o'tkazilishi kerak.

Tadqiqot natijalari taxlili. Tadqiqotning asosiy maqsadi gandbolchilarning taktik tayyorgarligini yanada takomillashtirishning yangi usullari va imkoniyatlarini izlab topish, amaliyotga tadbiq qilishdan iborat. Chunki, o'yinchilarni taktik jixatidan maydonda to'g'ri joylashtirish jamoaning raqib ustidan g'alaba qozanishining asosiy omilaridan biri ekanligini ilmiy-amaliy jixatdan aniqlash zaruriyati paydo bo'ldi.

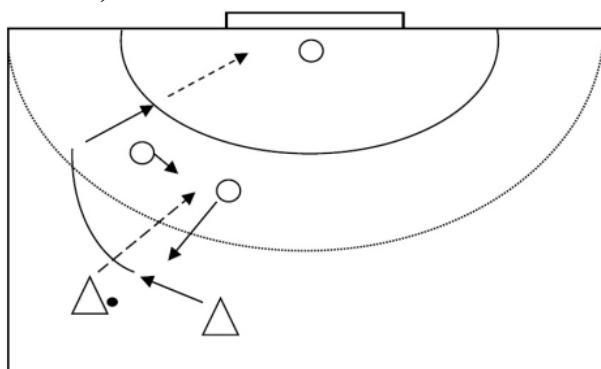
Ba'zi-bir mutaxassislarning fikricha gandbolchilarni taktik mahorati va psixologik xususiyatlari bo'yicha o'ta yuqori farq o'yinchilarga va ularning taktik tayyorgarlik jarayoniga salbiy ta'sir ko'rsatuvchi omil deb taxmin qilinmoqda. Soxa mutaxassislarini ko'pchiligi esa, bu parametrlar bo'yicha o'yinchilar o'rtasidagi farq unchalik yuqori bo'lmasligi, taktik mashg'ulotlar jarayonida o'yinchilarning kamol topib, ularning taktik mahoratini oshirishga yaxshi ta'sir ko'rsatadigan ijobiy omil deb hisoblashadi. Ushbu taxminlarni tasdiqlash yoki rad etish uchun bir nechta ko'rinishlarni tanlab olindi va ular asosida taktik mashg'ulotlar o'tkazildi. Tadqiqot boshlanishidan oldin tajriba oldiga qo'yilgan asosiy vazifa "zaif" o'yinchilar saviyasini "o'rtacha", "o'rtalarini"ni esa "kuchlilarga"ga yaqinlashtirish edi. Tadqiqot metodologiyasi va qo'yilgan vazifaga ko'ra, "kuchli-kuchli", "kuchli-o'rtacha" va "o'rtacha-zaif" tamoyili bo'yicha o'yinchilarning o'quv juftliklarini tuzdik (1-rasm).



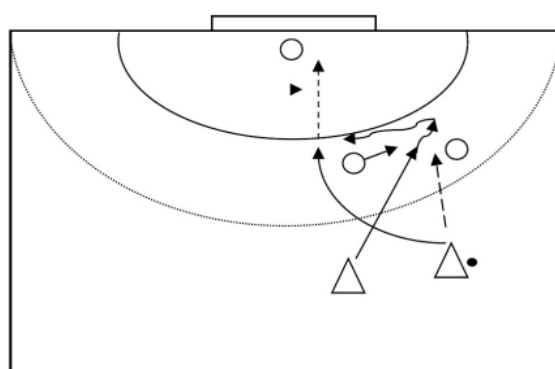
1-rasm - O'yinchilarning guruhlarga bo'linishi asosida mashg'ulot juftliklarini shakllantirish sxemasi

Shakllangan o'quv-mashg'ulot juftliklarida o'yinchilar bir yarim oy davomida taktik tayyorgarlik bo'yicha tayyorlangan taktik vazifalar ishlab chiqildi. Taktik vazifalar shunday tuzilganki, ularni hal qilish jarayonida o'yinchilar o'yin xolatiga imkon qadar yaqinroq bo'ladilar. Shu bilan birga, bu taktik vazifalarni faqat o'yin holatini baholashda izchillik, sheriklarning o'zaro tushunishi va bir-birining harakatlarini to'g'ri bashorat qilish asosida hal qilish mumkin bo'ladi.

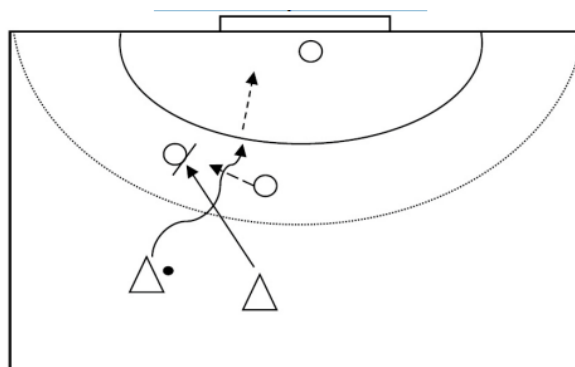
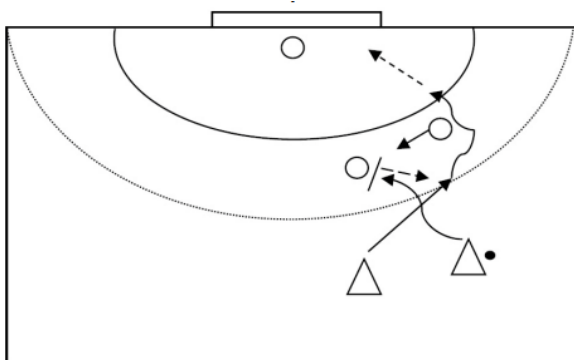
Birinchi taktik vazifa ikkita o'yinchining krest shaklini bajarishi bilan tashqi o'zaro ta'sir kombinatsiyani qo'llash asosida shakllantirildi. Tajribada ushbu kombinatsiyaning ikkita usulidan foydalanildi. Birinchi usul o'yinchi mashqni to'p bilan bajardi (2-rasm). Ikkinchi usulni gandbolchi to'psiz bajaradi (3-rasm).



2-rasm - Shakllangan juftlikdagi o'yinchilarning tashqi o'zaro ta'siri. To'pga ega bo'lgan o'yinchi kombinatsiyani boshlaydi



3-rasm - Shakllangan juftliklardagi o'yinchilarning tashqi o'zaro ta'siri. Kombinatsiyani to'psiz o'yinchi boshlaydi



4-rasm – tashqi to‘siq, ikki o‘yinchi tomonidan tuzilgan juftliklarda amalga oshiriladi. To‘pga ega bo‘lgan o‘yinchi kombinatsiyani boshlaydi

5-rasm – tashqi to‘siq, ikki o‘yinchi tomonidan tuzilgan juftliklarda amalga oshiriladi. Kombinatsiyani to‘psiz o‘yinchi boshlaydi

○ raqib o‘yinчилari; △ to‘psiz o‘yinchi; △• to‘pli o‘yinchi.

Ikkinchi taktik vazifa tashqi to‘siqlardan ehtiyotsiz foydalanish sharti bilan kombinatsiya sifatida shakllantirildi. Ushbu taktik kombinatsiyaning birinchi usulini gandbolchi to‘p bilan bajaradi (4-rasm).

Ushbu taktik kombinatsiyaning ikkinchi usulini gandbolchi to‘psiz amalga oshiradi (5-rasm).

Taktik mashqlar jarayonida taktik topshiriqlarni bajarayotgandandbolchilar mashg‘ulot juftliklarida o‘z rollarini o‘zgartirdilar xamda har-bir o‘yinchi to‘p bilan va to‘psiz mashqlarni bajaradi.

Dastlabki ma‘lumotlar sifatida tadqiqotning birinchi kunida gandbolchilar juftliklarini mashg‘ulot paytida olingan ma‘lumotlardan foydalanilgan (1-jadval).

1-jadval

Gandbolchilar juftlikda ishlaganda tajribaning birinchi kunida olingan dastlabki ma‘lumotlar

№	Juftliklar	Ko‘rsatkichlar					
		Vazifalar soni (takrorlash)	Xatolar soni	O‘zaro ta’sirlarning samaradorligi	Xato turlari (jami foiz)		
					1-tip	2-tip	3-tip
1	Kuchli-kuchli	8	2	0,75	50	50	0
2	Kuchli-o‘rtacha	8	2	0,75	50	0	50
3	Kuchli-o‘rtacha	8	3	0,63	66,67	0	33,33
4	Kuchli-o‘rtacha	8	3	0,63	33,33	33,33	33,34
5	Kuchli-o‘rtacha	8	3	0,63	66,67	0	33,33
6	Kuchli-o‘rtacha	8	3	0,63	66,67	33,33	0
7	Kuchli-o‘rtacha	8	4	0,5	50	25	25
8	Kuchli-o‘rtacha	8	4	0,5	50	50	0
9	Kuchli-o‘rtacha	8	4	0,5	75	0	25
10	Kuchli-o‘rtacha	8	5	0,38	60	20	20
11	O‘rtacha-zaif	8	4	0,5	50	25	25
12	O‘rtacha-zaif	8	5	0,38	40	0	60
13	O‘rtacha-zaif	8	6	0,25	50	16,67	33,33

14	O'rtacha-zaif	8	6	0,25	33,33	33,33	33,34
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Shakllangan o'quv juftliklarida bir yarim oylik mashg'ulotlardan so'ng quyidagi natijalarga erishildi (2-jadval).

2-jadval

Shakllangan o'quv juftliklarida bir yarim oylik mashg'ulotlardan so'ng olingan natijalar

№	Juftliklar	Ko'rsatkichlar					
		Vazifalar soni (takrorlash)	Xatolar soni	O'zaro ta'sirlarning samaradorligi	Xato turlari (jami foiz)		
					1-tip	2-tip	3-tip
1	Kuchli-kuchli	8	1	0,88	0	100	0
2	Kuchli-o'rtacha	8	1	0,88	100	0	0
3	Kuchli-o'rtacha	8	1	0,88	0	0	100
4	Kuchli-o'rtacha	8	1	0,88	100	0	0
5	Kuchli-o'rtacha	8	2	0,75	50	0	50
6	Kuchli-o'rtacha	8	2	0,75	50	50	0
7	Kuchli-o'rtacha	8	2	0,75	50	0	50
8	Kuchli-o'rtacha	8	2	0,75	50	50	0
9	Kuchli-o'rtacha	8	3	0,63	66,67	33,33	0
10	Kuchli-o'rtacha	8	3	0,63	66,67	33,33	0
11	O'rtacha-zaif	8	2	0,75	50	50	0
12	O'rtacha-zaif	8	3	0,63	33,33	33,33	33,34
13	O'rtacha-zaif	8	3	0,63	66,67	0	33,33
14	O'rtacha-zaif	8	4	0,5	25	25	50

Eng kam taktik xatolarga "kuchli-kuchli" va "kuchli-o'rta" juftligidagi gandbolchilar yo'l qo'yishdi. Gandbolchilar o'rtasidagi o'zaro ta'sir samaradorligi ushbu mashg'ulot juftliklarida "o'rtacha-kuchsiz" juftliklarga qaraganda yuqoriroq bo'ldi. "Kuchli-kuchli" mashg'ulot juftliklarida xatolar sonining 50 foizga kamayishi hisobiga o'yinchilarning o'zaro munosabatlari samaradorligini 0,75 dan 0,88 gacha oshirishda ijobiy tendentsiya kuzatildi. Xuddi shunday o'zgarish "kuchli-o'rta" juftliklarida ham kuzatildi, o'rtacha hisobda, xatolar sonining o'rtacha 45,16 foizga kamayishi hisobiga o'yinchilar o'rtasidagi o'zaro aloqalar samaradorligi 0,59 dan 0,77 gacha oshgan. O'zaro ta'sirning samaradorligi "o'rtacha-zaif" juftliklar edi. Ushbu o'yinlarda gandbolchilar taktik vazifalarni hal qilishda eng ko'p xatolarga yo'l qo'yishdi. Shu bilan birga, bu juftlikda o'yinchilar o'rtasidagi o'zaro munosabatlar samaradorligidagi o'zgarishlarning eng yuqori ijobiy dinamikasi yo'l qo'yilgan xatolar sonining o'rtacha 57,14% ga kamayishi hisobiga 0,35 dan 0,63 gacha kuzatildi. Gandbolchilarning juftlik mashg'ulotlaridagi o'zaro munosabatlari samaradorligidagi ijobiy o'zgarishlarning asosiy omillari quyidagilar bo'ldi: gandbolchilar o'rtasida jamoaviy ishning kuchayishi, o'yin holatini baholashda izchillikning kuchayishi, sheriklarning o'zaro tushunishini oshirish va bir-birining harakatlarini aniqroq bashorat qilish. Shuni ta'kidlash kerakki, barcha juftliklarda

gandbolchilarning o‘zaro ta’sirining samaradorligi ko‘rsatkichi 0,13 dan 0,28 gacha ijobiy tendentsiyaga ega edi.

Xulosa

Gandbolchilarni taktik tayyorgarligini rivojlantirish bo‘yicha o‘tkazilgan tadqiqotda quyidagi xolatlar aniqlandi: gandbolchilarning ikki tomonlama mashg‘ulotlari jarayonida ularning taktik mahorat darajasini birlashtirish imkonini berdi. Bundan tashqari, “zaif” o‘yinchilarning saviyasi “kuchli”lar darajasiga yaqinlashdi, chunki “zaif” o‘yinchilar kuchliroq sherik bilan juftlik mashg‘ulotlarini olib borishdi. Umuman olganda, tajribadan so‘ng gandbolchilar jamoasi taktik mahorat darajasini rivojlaganligi, taktik o‘zaro harakatlarning izchilligi va samaradorligini oshganligi, o‘yinchilar bir-birini yaxshi tushuna boshlaganligi, bu esa o‘yinchilarning o‘zaro munosabatlarida qilinayotgan xatolari soniyb kamaytirish imkonini berdi.

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QORAQALPOG'ISTON RESPUBLIKASI SHAHAR MANZILGOHLARINING GENETIK TIPOLOGIYASI

Annotatsiya. Qoraqalpog'iston Respublikasi shaharlarining shahar maqomini olish davrlari, kelip chiqishidagi asosiy omillar, ixtisoslik yo'nalishlari o'rganilgan. Shahar manzilgohlarining o'rganilayotgan hududda shakllanishi va rivojlanishi davrlarga bo'linib, jadval asosida aniq tizimga solingan. Bu jadvalda paydo bo'lgan shahar manzilgohlarining genetik-funksional tasnifini ko'rishingizga bo'ladi.

Kalit so'zlar: shahar, urbanizatsiya, shaharlar tipologiyasi, funksional tipologiya, genetik tipologiya, tipologizatsiya, geourbanizm, resurs shaharlar.

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GENETIC TYPOLOGY OF URBAN ADDRESSES OF THE REPUBLIC OF KARAKALPAGISTAN

Annotation. The periods of obtaining the city status of the cities of the Republic of Karakalpakstan, the main factors in their emergence, and the areas of specialization were studied. The formation and development of urban settlements in the studied area is divided into periods and put into a precise system based on the table. You can see the genetic-functional classification of urban settlements that appeared in this table.

Key words: city, urbanization, typology of cities, functional typology, genetic typology, typology, geourbanism, resource cities.

Kirish. Har qanday yangi ilimiy tadqiqodni olib borishda avvalo ilimiy tadqiqod mavzusining obyektini tanlanar ekan, uning kelip chiqish asoslari va qonuniyatlarini o'rganish asosiy masalalardan biri bo'lib hisoblanadi. O'rganilayotgan obyektning asosiy xususiyatlarini aniqlashga asoslangan murakkab o'rganish usuli – tipologiya deb ataladi. [1]. Ilimiy izlanishlarning har qaysisida tipologizatsiya jarayoni muhim hisoblanib, bundan mavzuning natijalari yaqqol ko'rinadi va aniq tasavvur uyg'otadi.

Umumiy etip olganda tipologiya – bu turli xil o'rganish obyektlarini

ularning umumiy yoki o'xshash jixatlari va belgilarini aniqlash, ushbu yaqinlik birligini hisobga olish orqali o'rganish usuli bo'lib, olingan natijalarni ba'zi sinflarga (guruhlarga, turlarga) guruhlashdir. Shahar aholi punktlarini tipologiyalashtirganda - belgilangan tadqiqot vazifalari asosida amalga oshirilishi kerak. Bu vazifalar bir-biriga yaqin va o'zaro bog'liq, ammo bir xil emas va barchasi ham aholi punktlarini tadqiq qilishda muhim o'rinni egallaydi.

Geografiyada shahar aholi punktlarini tasniflashning quyidagi yo'nalishlari qo'llaniladi:

- 1) kattaligi bo'yicha (aholi soni);
- 2) funktsiyalari (shahar manzilgohlarining vazifalari) bo'yicha;
- 3) hududiy mehnat taqsimotida ishtirok etish darajasi;
- 4) kelib chiqishi (genetik tasnifi);
- 5) shahar manzilgohlarining iqtisodiy geografik joylashuv (IGJ)xususiyatlari. [2]

Ushbu maqolada biz yuqoridagi iliniy kriteriyalarni inobatga olgan holda, Qoraqalpog'iston Respublikasi shahar manzilgohlarining tarixiy kelib chiqish ya'niy genetik tipologiyasi bo'yicha tasniflashni mavzumizning asosiy **maqsadi** etib oldik.

O'rganilish darajasi: Shaharlarni tipologiya usuli yordamida tadqiq etish dastlab 1891-yil –**F.Ratsel**, 1910-yil **Semyonov –Tyanshanskiy**, keyinchalik **C.Garris, V.Konstantinov, B.Xorev** va boshqalar tomonidan amalga oshirilgan. Ilk tipologiyalar sodda va shaharlar mexanik tarzda aholi soni bo'yicha ajratib tasniflangan. 1960-yillarda matematik modellashtirish, ayniqsa, kompyuterlarning paydo bo'lishi bilan ko'plab belgilarni (60 ga yaqin) qamrab oluvchi guruhlashtirish keng rivojlandi.

Buyuk urbanolog olim **G.Lappo** tasniflashni tipologiyaning boshlanishi deb hisoblaydi [3, 40 bet]. Agar tasniflash biror miqdoriy ko'rsatkichga asoslansa (E.Alayev bo'yicha), tipologiya bir qancha sifat ko'rsatkichlarini o'z ichiga oladi. Tipologiya shaharlar haqidagi bilimlarni ham umumlashtiradi ham chuqurlashtiradi. [4., 39-bet]

Taniqli rus olimi **N. N. Baranskiy** (1956-yilda) “Shaharlar tipologiyasi shaharlarni o'rganishda yuzaga keladigan ikkita asosiy umumiy masalalardan biridir”, - deb hisoblagan. **N. N. Baranskiy** genetik tipologiyaning ahamiyatini yuqori baholaydi va “... ammo u shaharlarning kelib chiqish davrini bildiradi, kelgusi rivojlanish yo'nalishlarini ko'rsatmaydi” – deydi. [5., 452-bet]

Aholi yashash punktining o'ziga xos xususiyatlarini aniqlash uchun shahar aholi punktlarining tipologiyasi zarur. Bu ularning har birida rivojlanishning umumiy qonuniyatlari tomonidan yaratilgan eng muhimini topishga imkon beradi.

Genetik yondashuv bilan shaharlar paydo bo'lish vaqti va sabablari, shuningdek, turli tarixiy xususiyatlarning zamonaviy joylashuvi va tashqi ko'rinishida saqlanib qolish darajasi bo'yicha bo'linadi. **E. N. Pertsik** yozganidek, shaharning genetik turi sintetik tushunchadir. U rivojlanish

jarayonida sifat jihatidan ma'lum bir shahar turini shakllantirishni belgilaydigan xususiyatlar to'plamini o'z ichiga oladi. Genetik xususiyatlarni tanlash tasniflash amalga oshiriladigan vazifaga bo'ysunadi [6, 246-247-betlar]. Ushbu yondashuv tarixiy usulga eng yaqin bo'lib, uni tadqiqot yo'nalishiga muvofiq rivojlantirish uchun asos sifatida olish mumkin.

Shunday qilib, **genetik tipologiya**, hatto nisbatan qisqa vaqt ichida ham, mintaqadagi urbogenezning dinamikasi va o'ziga xos xususiyatlarini ochib beradi. Biroq, uni shaharning asosiy xususiyatlari va shakllantirish funktsiyalari bilan birgalikda ko'rib chiqilishi kerak.

Material va metodlar. Har qanday mintaqada shaharlarning tashkil topishi siyosiy, ijtimoiy, iqtisodiy va tarixiy jarayonlar natijasi bo'lsa, ularning rivojlanishi ishlab chiqarish kuchlarining taraqqiy etishida o'z ifodasini topadi. Mintaqa shaharlar to'ri va tizimini shakllanish nuqfai nazaridan qaralganda, u 1989-yilga nisbatan deyarli o'zgarmagan. Mustaqillik yillarida faqatgina shaharchalar sonida o'zgarishlar kuzatildi (11 tadan 26 taga ko'paygan).

2023-yil oxiri ma'lumotiga ko'ra Qoraqalpog'iston Respublikasida 12 ta shahar va 26 ta shaharchalar mavjud bo'lib, umumiy urbanizatsiya darajasi 49,0 foizni tashkil etadi (1-jadval). Ulardan faqatgina Nukus shahrigina O'zbekistonning 18 katta shaharlari qatoriga kiradi (aholisi 334,6 ming kishi. 2023). Aholi soni nisbatan boshqa shaharlardan ko'proq bo'lgan Beruniy, To'rtko'l, Xo'jayli, Taxiatosh, Chimboy shaharlari Qoraqalpog'iston Respublikasi shahar aholisi ulushining 32,8 foizini tashkil etadi.

Tahlillar shahar aholisining son jihatdan ortib borishini, birinchidan, Respublikaning ma'muriy-hududiy tizimidagi o'zgarishlar, ya'ni yangi tashkil etilgan tuman markazlariga shahar maqomining berilishi, ikkinchidan, Respublikaga chetdan kelayotgan migrantlarning asosan shaharlarda to'planishini ko'rsatmoqda. Umuman olganda, Qoraqalpog'iston Respublikasining urbanizatsiya darajasi O'zbekiston Respublikasining o'rtacha ko'rsatkichidan pastligi yaqqol ko'rinadi va ko'rsatkichlar saqlanip kelmoqda.

2009-yilda urbanistik o'zgarishlar tufayli viloyatning 11 ta qishloq aholi punktlariga shaharcha maqomi berilgan. Natijada, umumiy urbanizatsiya darajasi 2005-yildagi 48,7 foizga teng bo'lgani holda, u birdaniga 50,1 foizga ortdi. Yangi shaharchalar, ayniqsa To'rtko'l, Amudaryo, tumanlarida ko'p. To'rtko'l da bunday maqomga 5 ta, Amudaryoda 3, Beruniyda, Taxiatosh, Chimboy tumanlarida 1 tadan bunyod etildi.

Qoraqalpog'iston Respublikasi shahar manzilgohlar soni va urbanizatsiya darajasi 2010-jilgacha bo'lgan davrda muntazam ortib borib, so'ng hozirgi kunga kelib sekin pasayib borishi kuzatilmoqda. Chunonchi, 1970-yilda Qoraqalpog'iston Respublikasining atigi 11 ta shahar joylarida 33,5 foiz shahar aholisi yashagan bo'lsa, 1989-yilga kelib jami 23 ta shahar manzilgohlarida 48,1 foizga yoki 583,7 ming kishiga ortdi. 2010-yilda 26 ta shahar joylarida 50,1 foiz shahar aholisi yashagan bo'lsa, 2023-yilga kelib jami shu shahar manzilgohlarida 49,0 foizga yoki **967,3** ming kishiga yetti. (1-jadval).

Qoraqalpog'iston Respublikasi shahar manzilgohlari va urbanizatsiya darajasining dinamikasi

Qoraqalpog'iston Respublikasi	Yillar								
	1939	1959	1970	1979	1989	2005	2009	2015	2023
Urbanizatsiya darajasi (%da)	12,2	27,2	33,5	41,9	48,1	48,7	51,7	49,5	49,0
Shaharlar	3	4	7	9	12	12	12	12	12
Shaharchalar	-	1	4	7	11	13	26	26	26
Jami:	3	5	11	16	23	25	38	38	38

Jadval: Qoraqalpog'iston Respublikasi Statistika boshqarmasi ma'lumotlari asosida tuzilgan

Shaharlarning shakllanishi qadimgi davrlarda savdo-sotiq va hunarmandchilik asosida vujudga kelgan. Keyinroq bunga eng ko'p sanoat va transportning rivojlanishi sababchi bo'lgan. Qazilma boylik konlari o'zlastirish asosida shakllangan shaharlarni ilmiy adabiyotlarga «resurs shaharlar» deb yuritiladi. Bunday shaharlar, odatda, o'z atrofida qishloq joylar bilan kam aloqada bo'ladi.

Shaharlar kelib chiqishiga qarab «yangi» va «eski» shaharlar bo'lishi mumkin. Lekin bu tushunchalar nisbiy aytiladigan tushunchalardir. Sababi, biz yaqiniga qadar sobiq uyushma davrida vujudga kelgan shaharlarning barchasini «yangi shaharlar» guruhiga kiritadigan edik. Hozir esa yangi shaharlarni «mustaqillik davri» bilan belgilash to'g'ridir.

Shaharlarning kelib chiqishi, ularning genetik xususiyatlarini o'rganish tarixiy yondoshuvni talab qiladi. Mana shunday tarixiy tahlil asosida ularning o'tmishi va hozirgi ahvoli baholanadi. Bu o'z navbatida, shaharlarning kelajagini bashorat qilish (prognozlash) uchun ilmiy asos bo'lib xizmat qiladi.

1-jadval

Qoraqalpog'iston Respublikasida shaharlarining genetik tipologiyasi.

№	Qoraqalpog'iston Respublikasida Shahar manzilgohlarining rivojlanishining tariyxiy bosqichlari	Shahar manzilgohlarining shakllanishidagi asosiy ixtisoslik tarmog'i	Shahar nomlari va shahar maqomini olgan yili	Shaharlar soni	Umumiy shahar manzilgohlarining ulushi(%)da
1.	1-davr. 1926-yildan 1939- yilgacha davr	Qoraqalpog'iston Respublikasining poytaxti iqtisodiy siyosiy markaz	No'kis (1932)	3	25%
		Tuman markazlari	Xo'jeli (1926), Shimbay (1926)		
2.	2- davr. 1939- yildan 1959- yilgacha bo'lgan davr	IES (energetika)	Taqiyatas (1953)	1	8,3%
3.	3- davr. 1959-1990-yillar oralig'idagi davr	Yirik hududiy ishlab chiqarish kompleksi	Beruniy (1962), Moynaq (1963), Qo'niyat (1969)	8	66,7%
		Tuman markazlari	Ma'ngit (1973), Xalqabad (1986), Tórtkúl (1973), Shomanay (1983), Bostan (1983)		
Jami:				12	100%

Keste: Avtor tarafidan tuzilgan.

1- davr ya'ni 1926-yildan 1939-yilgacha Qoraqalpog'iston hududida ilk shahar maqomini olgan shahar manzilgohlari vujudga keldi, ya'ni **Xo'jeli (1926-yil)**, **Shimbay (1926- yil)** va **Nókis (1932- yil)** shaharlariga berildi. Asosan shaharlar Respublika iqtisodiy rivojida asosiy va ahamiyatli o'rinni egallab, tuman markazlari va poytaxt shahar sifatida yuzaga keldi.

Ushbu davr oralig'ida Qoraqalpog'iston Respublikasining shahar aholisi qishloq aholisiga nisbatan juda tez o'sganligini ta'kidlashimiz kerak. 1926-yilda respublikaning shahar manzilgohlarida 17,0 ming kishi bo'lib, shahar aholisining umumiy aholisidan ulushi atigi 5,1 foizni tashkil etgan.

Qoraqalpog'istonning qishloq xo'jaligi tarmoqlariga ixtisoslashganligi sababli unda yashovchi aholining ko'pchiligini qishloq aholisi tashkil etip kelgan. 1926-yilgi aholini ro'yxatga olish bo'yicha Qoraqalpog'istonning qishloq aholisi 94%ni, ya'ni 314 ming kishini tashkil etgan. 1926-yildan 1939-yilgacha qishloq aholisi 103,9 ming kishiga ko'paygan. Bu davrda qishloq aholisining salmog'i 87,8% foizga kamaygan, o'rtacha yillik o'sish 2,2% foizga teng bo'lgan.

1932-yil 20-martda Qoraqalpoqiston avtonom viloyati Qoraqalpoqiston avtonom Respublikasiga aylantirildi va 1936-yildan boshlab O'zbekiston tarkibiga kiritildi. Joriy yilning 1-apreldan boshlab Nukis shahri Qoraqalpog'iston Respublikasining poytaxti etib belgilandi.

2-davr. 1939-yildan 1959-yillar oralig'ini qamrab oladi. Asosan bu davr II-jahon urishi davriga tog'ri keladi. Bunday siyosiy og'ir ahvolda hududimizda shahar maqomini olgan birgina **Taqiyatas (1953-yili) shahri** bo'lib, bu shaharning yuzaga kelishida Taxyatash IESining o'rni kattadir.

Ushbu davrning 1939-yiliga kelip Qoraqalpog'istonning shahar aholisi 57,8 mingga ko'payib, 1926-yilga nisbatan uch barobarga ortdi. Bu davrda shahar aholisining o'rtacha yillik o'sishi 9,9 % ni tashkil etdi, bu Qoraqalpog'istonning demografik tarixidagi eng yuqori o'sish davri edi⁵.(7)

1939-1959 yillar oralig'ida Qoraqalpog'iston aholisi 80,9 ming kishiga yetdi, shahar aholisining ulushi esa 27,2 foizni tashkil etdi. Biz ko'rib chiqqan davrda shahar aholisi 2,3 barobarga ko'paydi va uning o'rtacha yillik o'sishi 4,5 foizni tashkil etdi.

Industrializatsiya jarayonining rivojlanishi bilan bog'liq shahar va qishloq aholisining salmog'i orasida sezilarli darajada o'zgarishlar yuz berdi. 1939-1959 yillar oralig'ida qishloq aholisi 46,5 ming kishiga kamayib, yillik o'rtacha minus ko'rsatkichni (-0,6%) ko'rsatti. Bu ayniqsa hozirgi kungacha sezilarli ta'sir ko'rsatadi.

1939 yilda Qoraqalpog'istonning shaharlar tarmog'i jami 4 ta shahar va bitta shaharchadan iborat edi. **Nokis shahri** - Qoraqalpog'iston avtonom viloyatining poytaxti sifatida paydo bo'lgan bo'lsa, sobiq poytaxt- **To'rtko'l shahri**, sobiq **Petro-Aleksandrovs** edi. Shahar bo'linmalarini tartibga solish bilan bog'liq bo'lgan **Qo'ng'iro**t shaharchasi qishloq posyolkasiga aylantirildi.

Shahar tarmoqlarining va shahar aholisining sezilarli darajada o'sishi urush yillari va urushdan keyingi davrga xos bo'lib, Qoraqalpog'istonning ishlab chiqarish kuchlarining ko'payishi ham o'sgan industriyalangan davrga to'g'ri keladi.

3-davr. 1959-1990-yillar oralig'ini o'z ichiga olib, Respublikamizda urushdan keyingi yillarda yuz bergan qulay demografik vaziyat aholi sonining ko'payishiga imkon yaratdi. 1959-1970-yillarda Qoraqalpoqistonning qishloq aholisining o'rtacha yillik o'sishi 1,8% ni tashkil etdi. Keyinchalik qishloq

⁵ Ходжаева Г.А., Нуранов М.З., Алланазаров К.Ж., Особенности современной урбанизации Каракалпакстана Ўзбекистон География Жамияти 22 жилд Тошкент, 2002

aholisining o'sishi yil sayin oshdi, ammo bu ko'rsatkich so'nggi yillarda va hozirgi davrda biroz pasayib yiliga 0,7-0,8% ga teng bo'ldi.

Shahar aholisi 1959-yildan 1970-yilgacha 110,9 ming kishiga yetib, jami aholi ulushidan 35,5 foizni tashkil etdi. Bu davrda yillik o'rtacha ko'rsatkichi 5,5 foizga oshdi.

1979-yilgacha bo'lgan aholini ro'yxatga olish ma'lumotlariga ko'ra, Qoraqalpog'iston Respublikasi shaharlarida 378,5 ming shahar aholisi bo'lgan. Bu 1970-yilga nisbatan 128,9 ming kishiga ko'p ekanligini anglatadi. Shahar aholisi jami aholining 41,9% ni egallagan. Shahar aholisining yillik o'rtacha o'sishi 4,7% ga teng edi. 1979-yildan so'ng bu ko'rsatkich pasayishni boshlagan.

So'nggi hisob-kitoblarga ko'ra, 1979-1989-yillar oralig'ida shahar aholisi 205,2 ming kishiga ko'payib, jami 583,7 ming kishini ashkiletti. Shahar aholisining ulushi jami aholining 48,1 foizini tashkil etdi.

1959-yilda Qoraqalpoqistonda 5 ta shahar va 4 ta shaharcha ro'yhatga olinib, ularda 138,7 ming kishi istiqomat qilgan.

Keyingi yigirma yil ichida (1959 - 1979) Qoraqalpoqiston shaharlari soni ikki baravar ko'paydi va 9 ta shahar, 10 ta shaharchadan iborat 19 ta shahar manzilgohlarini tashkil etdi. Bu davrda respublikadagi shaharlar soni eng faol o'sgan davr bo'ldi. Yangi shaharlardan yirik hududiy ishlab chiqarish komplekslari asosida - Beruniy (1962), Moynaq (1963), Qo'niyat (1969), tuman markazlari sifatida - Ma'ngit (1973), Xalqabad (1986), Tórtkúl (1973), Shomanay (1983), Bostan (1983) shaharlari paydo bo'ldi [1,35].

Shahar manzilgohlari rivojlanishning bu bosqichida shahar manzilgohlarining yangi kategoriyasi – shaharchalar (shahar tipidagi posyolkalar) paydo bo'lib, keyinchalik shahar nomiga ega bo'ldi.

Qishloq aholisi shaharlarga ko'chib o'tishi natijasida, yirik qishloqlar shahar va shaharchalarga aylantirildi. Ularda sanoat, qurilish, transport va ular bilan bog'liq xizmat ko'rsatuvchi korxonalar ochilib, ishchi kuchi sifatida jalb qilindi.

Sobiq ittifoq davrida Qoraqalpoqistonning shaharlar tarmog'i tez rivojlandi, bu davrda uning yangi shaharlari soni 10 taga, shaharchalar soni 16 taga yetdi. Shaharlar soni 6 barobar ko'paydi.

Xulosa. O'rganilayotgan hududda aholi yashash manzilgohlari qadim-qadimdan paydo bo'lib rivojlanib kelgan bo'lsa shahar tipidagi manzilgohlar ham har bir davrda o'ziga xos rivojlanib kelgan. Birinchi davrda jami shaharlarning 25%i (3ta shahar) paydo bo'lgan bo'lsa, 2-davr ya'ni, 1939- yildan 1959- yilgacha bo'lgan vaqtda 8,3% (1ta shahar), 3- davr ya'ni 1959-1990-yillar oralig'idagi davrda 66,7% (8 ta shahar) paydo bo'lgan va rivojlangan. Shaharlarning genetik kelip chiqishi va genetik funksional tasnifi bo'yicha unchalik ko'p turlarga bo'linmaydi. Shaharlar asosan tuman markazlari, yirik hududiy ishlab chiqarish komplekslari asosida tashkil etilgan va rivojlanmoqda.

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ANALYSIS OF WORKS WITH ARTISTIC INTERPRETATION OF JURISPRUDENCE AND COURT PROCEEDINGS IN WORLD LITERATURE

Abstract. The given article is dedicated to Analysis of works with artistic interpretation of jurisprudence and court proceedings in world literature the following tasks are planned to achieve the above mentioned aim: to investigate about classification of jurisprudence, to collect information and data concerning about court proceedings with some examples.

Key words: processes, defendant, investigators, judges, thanatological, soteriological and eschatological.

INTRODUCTION

In world literature, there are many works describing legal proceedings and problems of jurisprudence. Including Leo Tolstoy's "Resurrection", Franz Kafka's "Process", "Penal Colony", "The Stranger" by Albert Camus, "The Count of Monte Cristo" by Alexandre Dumas, "Crime" by Fyodor Dostoyevsky. and "Punishment", "The Brothers Karamazov", "To Kill a Mockingbird" by Harper Lee, "An American Tragedy" by Theodore Dreiser, "The Story of an Open Murder" by Gabriel García Márquez, "O" by Agatha Christie "No negro boy" Chingiz Aitmatov's works "Doomsday" and "The White Cloud of Chingiz Khan" created images of the court, investigative processes, defendant, investigator and judges.

The development of events in the novel "Resurrection" is based on the trial. At the moment, the author discusses the various problems that exist in society, social injustice, the moral and spiritual image of court participants, the factors that motivate the social forces that are forming in the nation, as well as the fact that it is never too late to listen to the command of conscience and go on the path of purification. is artistically perceived.

MATERIALS AND METHODS

Franz Kafka's novel "Process" depicts the life, experiences and tragic death of Joseph K., who was dragged into a long trial without any reason. The complex nature of the mysterious process is reflected on the basis of the acquaintance with the court clerk's office, the meeting with the lawyer Guld, the interview with the wife of the court adviser and the student, the argument with the manufacturer, the artist, the rejection of the lawyer, and the execution of the death sentence.

Nobel laureate Albert Camus's novel "The Stranger" describes the life of Meursault, whom the author described as "the only Jesus we deserve", and the

nature of the criminal case opened against him. The fact that Meursault was found guilty for reasons other than his own crime, the content of his views on the death penalty prompts deep observations about the functioning of judicial and penal authorities.

The hero of "Crime and Punishment" Raskolnikov's murder of an old woman, his attempt to justify the reason for his crime in his mind, thinking about the possibility of sacrificing people for the sake of higher goals, the validity of his claims is based on historical. The author skillfully described the fact that he wanted to prove with events, that the investigator asked questions at a high level and with high insight, that the mental and psychological punishment that a person gives to himself is heavier than the punishments that are given in court.

In Genghis Aitmatov's story "The White Cloud of Genghis Khan", former KGB investigator Tansikbayev successfully tries to expose Abutalib Kuttiboyev, who was arrested for slander and various pretexts in pursuit of fame. The terrible consequences of Stalin's repression in the early 50s are reflected in the work. The story about Genghis Khan's white cloud, which is of particular importance in the story, draws attention to various issues directly related to the fate of society. Leo Tolstoy's novel "Resurrection" has a special place among the works in world literature that reflect the legal proceedings and problems of jurisprudence. The novel was completed in 1899. The socio-economic situation in the Russian society at the end of the 19th century, the complex relations between the judiciary and the people are skillfully described in the work.

RESULTS AND DISCUSSION

The novel "Resurrection" has been extensively researched in various aspects in world literary studies. Russian literary critic Oksana Vinogradova studied the characteristics of thanatological, soteriological and eschatological motives in the work in her thesis ⁶"Mythological motifs and system of mythical images in Tolstoy's novel Resurrection". Chapter 1 of the thesis deals with the study of judicial motives. While expressing his scientific conclusions about this motive, the literary critic pays special attention to the religious and moral aspects of the issue. He also emphasizes that judgment is an important practice of Christian doctrine, and notes that it is classified as God's judgment and human judgment.

The abolition of serfdom in 1861 was not enough to establish social justice in Tsarist Russia. From the 80s of the 19th century, the social movements led by Plekhanov, aimed at fighting for the rights of workers, created a sense of hope among advanced intellectuals who aimed to change the current situation in a positive direction. At the same time, the practice of persecuting the workers' movement and imprisoning their members was introduced. The great writer and intellectual Leo Tolstoy could not look at this process indifferently. This situation is reflected in the cells filled with prisoners in the novel, characters like Vera

⁶Vinogradova O. Sistema mifologicheskikh motivov i mifobrazov romana L.N. Tolstogo "Voskresenie" : Diss. sugar Philol. science - Moscow, 2021.

Yefremovna and Shustova. At the same time, the great writer is interested in the scientific-theoretical and logical foundations of the legal system.

Tolstoy draws attention to the fact that most of the sentences handed down by judges are illogical and unfair, and that punishment cannot be a solution to problems. Law enforcement officers sometimes directly, sometimes indirectly admit that this opinion is correct.

"- The reason is that I consider any kind of court not only useless, but also immoral.

"Hm," said the prosecutor, still smiling imperceptibly as before. With this smile, he wanted to say something funny, I know such things ⁷. "

When literary critics think about the history of the writing of the novel "Resurrection", they note that before creating the work, Tolstoy read and studied more than fifty books in which scientific-theoretical ideas about the work of the judicial system were stated in order to have complete and general conclusions about the field. they emphasize. In addition, in his last novel, the great writer, who reached full creative maturity, used the most positive experiences of the ideas of Western philosophers such as Hegel, Kant, Spencer, Schopenhauer, and Voltaire. As the epigraph of the work, the verses of the Bible about pardon and forgiveness were chosen to show that it is never too late to cleanse the heart and soul, when the heart of a person who is in ignorance wakes up and "resurrects" like Nekhlyudov, he shows mercy and humanity and gives mercy to the weak. hints that it can stretch.

CONCLUSION

At the end of the play, the Englishman who came to the prison distributes the Bible to the prisoners, and Nekhludov's reading of the holy book shows that the path of purification is ahead not only for them, but also for others, and God bless those who want to be on this path., serves to mean that he will receive his blessing. For this purpose, Nekhlyudov, while reading this book and trying to understand its content, (due to the fact that the book has not been preserved in its original form, changes have been made to its text) draws attention to some inconsistencies and logical defects in it. In this process, Tolstoy's critical views on the philosophy of the Christian religion are revealed. In the world literature, there are not so many works with such a deep logical interpretation and analysis of the holy book and the philosophy of religion.

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PARAMETRLI KVADRAT TENGLAMALARNI YECHISHNING GRAFIK USULI

Annotatsiya. Ushbu maqolada parametrli kvadrat tenglamalar va ularni yechish algoritmi keltirilgan hamda misollar yordamida tushintirilgan bo'lib, ularni o'rganish orqali umumta'lim maktabi bitiruvchilarida parametrli kvadrat tenglamalarni mustaqil yechish ko'nikmalarini shakllantirish, shuningdek parametrli masalalarni yechish jarayonida qo'llaniladigan turli usullar bilan tanishtirish maqsad qilingan.

Kalit so'zlar: o'zgaruvchi, parametr, kvadrat tenglama, yechim, algoritm, funksiya, grafik, koordinatalar sistemasi, qiymatlar.

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GRAPHICAL METHOD FOR SOLVING QUADRATIC EQUATIONS WITH PARAMETERS

Abstract. This article presents and explains with examples parametric quadratic equations and an algorithm for solving them. By studying them, students of secondary schools can master the skills of independently solving parametric quadratic equations, as well as various methods are intended for familiarization, used in the process of solving parametric problems.

Key words: variable, parameter, quadratic equation, solution, algorithm, function, graph, coordinate system, values.

Ma'lumki $ax^2 + bx + c = 0$ ko'rinishdagi tenglama x -ga nisbatan kvadrat tenglama deb ataladi., bu yerda x -no'malum, a, b, c -lar faqat parametrga bog'liq ifodalar, va $a \neq 0$,

Parametrli kvadrat tenglamani yechish algoritmini quyidagicha ifodalash mumkin:

1. Tenglamani shunday soddalashtirish kerakki u $ax^2 + bx + c = 0$ ko'rinishga ega bo'lsin.

2. Tenglamada x^2 -oldidagi koeffisient parametrga bog'liq bo'lsa uning nolga tengligini tekshirish ($a = 0, a \neq 0$).

3. Parametrning har bir tayin qiymatida tenglama ko'rinishi va ildizlarini tekshirish.

-agar $a = 0$ bo'lsa, u holda tenglama chiziqli va uning ildizlarini topish.

-agar $a \neq 0$ bo'lsa, u holda tenglama kvadrat tenglama, $D > 0, D = 0, D < 0$ shartlarda parametrning har bir tayin qiymatida ildizlar mavjudligini tekshirish va ularni topish;

4. Parametrning tayin qiymatlarini hisobga olib javobni yozish;

Bir parametrli va bir noma'lumli kvadrat tenglamalarni yechishga oid misollar yechilishini ko'rib chiqamiz.

Misol.1. a -parametrning qiymatiga bog'liq holda $x^2 + 4x - 2|x - a| + 2 - a = 0$ tenglama ildizlarini sonini toping.

Yechish. Tenglamada $|x - a|$ modul qatnashganligi uchun unda $x - a < 0$ va $x - a > 0$ holatlarni qarab chiqamiz. Agar $x - a < 0$ bo'lsa, berilgan tenglamada $x^2 + 4x + 2(x - a) + 2 - a = 0$ bo'lib, $a = \frac{1}{3}(x^2 + 6x + 2)$, agar $x - a > 0$ bo'lsa, berilgan tenglamada $x^2 + 4x - 2(x - a) + 2 - a = 0$ bo'lib, $a = -(x + 1)^2 - 1$ ko'rinishga keladi.

Masalani grafik usulda yechamiz. Buning uchun xOa koordinatalar tekisligida $x - a = 0$ tenglama bilan berilgan to'g'ri chiziq hamda $a = \frac{1}{3}(x^2 + 6x + 2)$

va $a = -(x + 1)^2 - 1$ funksiyalar grafiklarini chizamiz. (1-rasm). Yuqoridagi funksiyalar grafiklari $x = a$ to'g'ri chiziq bilan $A(-1; 1)$ va $B(-2; -2)$ nuqtalarda

kesishadi. $a = \frac{1}{3}(x^2 + 6x + 2)$ funksiya $x = -3$ bo'lganda $a = -\frac{7}{3}$ minimal qiymatga erishadi. Chizmaga qarab $a = c$ to'g'ri chiziqning berilgan funksiyalar grafiklari bilan kesishish holatlariga qarab, mavjud barcha variantlarni hisoblab, javobni yozamiz, bunda $c \in R$.

Javob: agar $a \in (-\infty; -\frac{7}{3})$ va $a \in (2; +\infty)$

bo'lsa tenglama ikkita ildizga ega; agar $a = -\frac{7}{3}$,

$a = -2$ bo'lsa tenglama uchta ildizga ega; agar

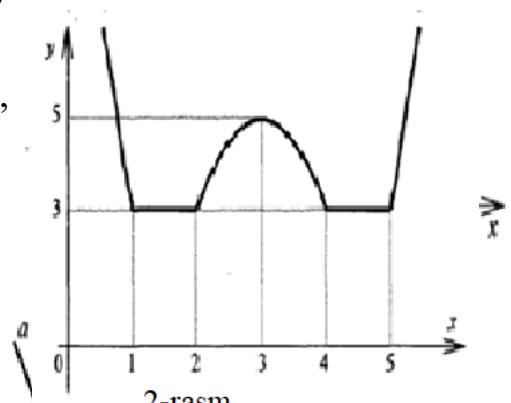
$a \in (-\frac{7}{3}; -2)$ bo'lsa tenglama to'rtta ildizga

ega;

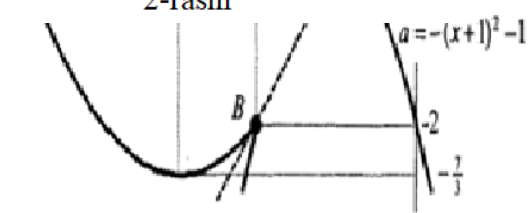
Misol 2. a - parametrning qanday qiymatlarida $|x^2 - 6x + 8| + |x^2 - 6x + 5| = a$ tenglama uchtdan ko'p ildizga ega?

Yechish. Ma'lumki, $y = x^2 - 6x + 8$ va

$y = x^2 - 6x + 5$ kvadrat uchhadlar mos ravishda $x_1 = 4, x_2 = 2$ va $x_1 = 5, x_2 = 1$ ildizlarga ega.



2-rasm



1-rasm

Endi $y = |x^2 - 6x + 8| + |x^2 - 6x + 5|$ tenglik bilan berilgan funktsiyani qaraymiz. Modullarni ochib, quyidagilarga ega bo'lamiz.

Agar, $x < 1$ bo'lsa, u holda $y = 2x^2 - 12x + 13$.

Agar, $1 \leq x < 2$ bo'lsa, u holda $y = 3$.

Agar, $2 \leq x < 4$ bo'lsa, u holda $y = -2x^2 + 12x - 13$. Agar, $4 \leq x < 5$ bo'lsa, u holda $y = 3$. Nihoyat, $x > 5$ bo'lsa, u holda $y = 2x^2 - 12x + 13$.

Endi bu ma'lumotlar asosida funktsiyaning grafigini yasaymiz (2-rasm).

Grafikdan ko'rinib turibdiki, $y = a$ to'g'ri chiziq $y = |x^2 - 6x + 8| + |x^2 - 6x + 5|$ funktsiya grafigi bilan $3 \leq a < 5$ oraliqda uch martadan ko'p kesishadi. Shuning uchun $3 \leq a < 5$ da berilgan tenglama uchtdan ortiq ildizga ega.

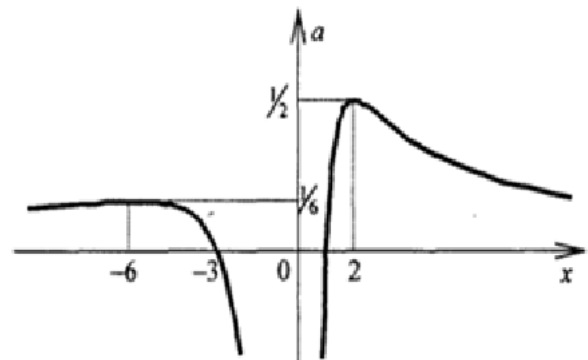
Misol 3. a - parametrlarning qanday qiymatlarida $|2x + 2| = ax^2 + 4$ tenglama faqat ildizga ega?

Yechish. Bu masalani xuddi yuqoridagi masala ko'rilganidek, grafik usulda osongina yechish mumkin. Berilgan tenglama quyidagi ikkita tenglamalar

$$\begin{cases} ax^2 - 2x + 2 = 0 \\ x \geq -1 \\ ax^2 + 2x + 6 = 0 \\ x < -1 \end{cases}$$

sistemasiga teng kuchli:

$x = 0$ berilgan tenglamaning ildizi emasligini hisobga olgan holda, shunday xulosa qilishimiz mumkin. Agar berilgan tenglama aniq ikkita x_1 va x_2 ildizlarga ega bo'lsa, ular albatta nolga farq qilishi kerak. Buni hisobga olib, a -parametrlarning x - orqali ifodasini topamiz.



3-rasm

$$a(x) = \begin{cases} \frac{2x-2}{x^2}, & \text{agar } x \geq -1 \\ -\frac{2x+6}{x^2}, & \text{agar } x < -1 \end{cases}$$

buni grafik ko'rinishda tasvirlaymiz.

(3-rasm). Rasmdan ko'rinib turibdiki, $a(x)$ - funktsiya $x_1 = -6$ va $x_2 = 2$

nuqtalarda $a(-6) = \frac{1}{6}$ va $a(2) = \frac{1}{2}$ maksimum qiymatlarga ega, hamda, $a \in (-\infty; 0) \cup (\frac{1}{6}; \frac{1}{2})$ oraliqda $a(x)$ - funktsiya o'z qiymatlarini ikki marotabadan qabul qiladi. Shuning uchun berilgan tenglama shu oraliqlarda ikkita ildizga ega bo'ladi.

Xulosa. Ushbu turdagi masalalarni o'rganish o'quvchi (talabalardan) matematik masalalarni mustaqil ravishda muhokama qilish imkoniyatini

beradigan bilim, ko'nikma va malakalarga ega bo'lishini talab qiladi[1-15]. Bundan tashqari o'rganilgan usullar o'quvchilarning kelgusida parametrlil tenglamalar qatnashgan mavzu va maqolalarni tahlil qilishlari va o'rganishlariga yordam beradi.

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GEOGRAFIYA DARSLARINI TASHKIL ETISHDA FINLANDIYA TA’LIM TIZIMINI QO‘LLASH

Annotatsiya. Mazkur maqolada geografiya darslarini tashkil etishda Finlandiya ta’lim tizimini qo‘llashning ahamiyati va uning pedagogik tahlili yuzasidan fikr va mulohazalar keltirilgan.

Kalit so‘zlar: pedagogik-psixologik metodlar, tadqiqot metodlari, taqqoslash metodlari, statistik tahlil, nostandart topshiriqlar, maxsus savollar, diskussiya.

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APPLICATION OF THE FINLAND EDUCATIONAL SYSTEM IN ORGANIZING GEOGRAPHY LESSONS

Abstract. In this article, the importance of using the Finnish educational system in the organization of geography classes and its pedagogical analysis are presented.

Key words: pedagogical-psychological methods, research methods, comparison methods, statistical analysis, non-standard tasks, special questions, discussion.

Ta’lim jarayonini tashkil etishda zamonaviy pedagogik texnologiyalar bilan bir qatorda Yevropa davlatlarining ta’lim uslublari va metodlaridan foydalanish ham muhim ahamiyatga ega hisoblanadi. Ilg‘or xorijiy tajribalarni o‘rganish asosida ta’lim jarayonida zamonaviy ta’lim dasturlari va texnologiyalarini joriy etish bugungi kundagi dolzarb vazifalardan biri biridir [2].

Dunyoning rivojlangan mamlakatlardagi ta’lim tizimini yetarlicha tahlil qilish, yurtimizda xalq ta’limini jahon standartlari darajasiga olib chiqishda cheksiz imkoniyatlar yaratadi. Finlandiya davlati ta’lim tizimini O‘zbekiston maktablarida qo‘llash metodikasi afzalliklarini o‘rganish mamlakatimizning ta’lim tizimi dunyo ta’lim tizimida yetakchi o‘rinlarni olishida samara beradi [3]. Xususan, geografiya darslarini tashkil etishda Finlandiya ta’lim tizimi uslublariidan foydalanish o‘quvchi va talabalarning intellektual-ijodiy tafakkurini, erkin fikrlash doirasini rivojlantiradi hamda ta’limning samaradorligini oshiradi.

O'zbekiston Respublika Prezidentining Ta'lim-tarbiya tizimini yanada takomillashtirishga oid qo'shimcha chora-tadbirlar to'g'risidagi qarorda, 2021-yil 1-yanvarga qadar Finlyandiyaning ta'lim sohasidagi tajribasini, shu jumladan o'quv dasturlari, darsliklari, o'qitish metodikalari va pedagog kadrlarni tayyorlash, qayta tayyorlash va malakasini oshirish tizimini xorijga xizmat safarini tashkil etgan holda o'rganib chiqish hamda ularning yutuqlari va afzalliklarini milliy o'qitish tizimiga asos tariqasida joriy etish vazifa sifatida belgilab berilgan [1].

Finlandiyalik maktab o'quvchilari tabiiy fanlar bo'yicha – dunyoda ikkinchi, matematika bo'yicha esa beshinchi o'rinda ekanligini ko'rishimiz mumkin. Fin o'quvchilarning kishini hayratga soluvchi tomoni shundaki, dunyo miqyosida yuqori ko'rsatkichlarni qayd etishlariga qaramay, o'quvchilar darslarga u qadar ko'p vaqt ajratishmaydi.

Finlandiyada o'rtacha majburiy umumta'lim tizimi ikki bosqichli maktabni o'z ichiga oladi. Finlandiya maktablarida dars soatlar kam ammo o'zlashtirish yuqori darajada. Fin maktablariga bolalarni 7 yoshdan qabul qilishadi. Ularning fikriga ko'ra bu qaror eng samarali va to'g'ri hisoblanadi. Finlandiya maktablarida ta'lim 2 bosqichda ya'ni quyi va yuqori bosqichlarda olib boriladi. Quyi bosqich - boshlang'ich ta'lim 1-6 sinfgacha bo'lgan sinflarni, yuqori bosqich – yuqori sinf o'quvchilarini 1-9 sinf o'quvchilarini o'z ichiga oladi. Maktablarni bunday tizimda tashkil qilish o'quvchilarni haqiqiy hayotga tayyorlashga qaratilgan. Finlandiya maktablarining o'ziga xos xususiyati shundaki ular taqqoslashlar mavjud emas. Ular raqobat emas, hamkorlik muvaffaqiyat kalitidir deb ta'kidlashadi.

Finlandiya ta'lim tizimida o'quvchilar bilan ko'proq psixologlar ham ishlaydi. Shu boisdan geografiya ta'limi tadqiqotlari psixologlar ishtirokisiz deyarli amalga oshirilmaydi.

Geografiya darslarni turli xildagi ko'rgazmali qurollar, o'yinlar, imitatsiya keng qo'llaniladi. Ushbu tizimda o'quvchi o'zini biror kompaniya rahbari sifatida fikrlaydi, ish yuritadi, biron muammoni hal qiladi, o'zi xulosa chiqaradi. Aynan shu ta'limning asosiy maqsadi o'quvchilarni kelgusi hayotga ya'ni ishbilarmonlikka tayyorlashdan iborat [4].

7-sinfgacha bo'lgan quyi sinf o'quvchilarini yoshi kichikligiga nisbatan qo'llanmalarida deyarli xaritalar tasvirlanmagan, ularning o'rnini esa xarita sxemalari egallaydi. Matnda raqamlar, joy nomlari deyarli uchramaydi, mavjudlari ham taqqoslash xarakteriga ega bo'lib, ular eng past, eng yuqori, eng kichik, eng katta, eng uzun va eng baland tarzda beriladi.

Darsliklarda berilgan savollar yoki topshiriqlar mavzu mazmunini aks ettirmasligi ham mumkin. Beriladigan savollarning ko'p qismi muammoli topshiriqlar, diskussiya savollari, amaliy o'yinlar tarzida berilgan. O'quvchilar uchun geografiya darsliklarda kompyuterlar bilan ishlash uchun maxsus savollar, qiziqarli topshiriqlar, turli o'yinlar, test tarzida geografik bilimlarni egallashga

keng o‘rin berilgan. Ushbu topshiriqlarni bajarishda o‘quvchilar tadqiqotchi rolini bajaradilar [2,6].

Finlandiyaning ta’lim tizimida geografiyani o‘qitish ta’lim samaradorligini oshirish bilan bir qatorda mavzuning ba’zi muammolari kelajakda rivojlanishiga tahdid solib turgan ayrim jihatlari ko‘rib chiqiladi. Finlandiya ta’lim tizimining yana bir qiziqarli tomoni shundaki tabiiy fanlar bir biriga bog‘liq holda bitta fan sifatida o‘qitiladi.

Finlandiyada o‘rta maktablarda geografiya darsliklari

- “Yer-insonning uy sayyorasi”;
- “Yevropa”;
- “Dunyo va Finlandiya”;
- “Umumiy muhit” kabi mavzular yuzasidan umumlashtirib olingan.

Ushbu mavzular ro‘yxatdagi muammolar bilan izohlandi. “Nima?” va “qanday?” o‘quvchilar o‘rganishi va hal qilishi mumkin bo‘lgan savol namoyish etiladi. Bu turdagi olib boriladigan darslarning ijobiy jihatlari: “idrok etish”, “tan olish”, “tasvirlash”, “muayyan masalalarni tasvirlash”, “solishtirish”, “tahlil qilish va tushuntirish”, “geografik bilimlarni qo‘llash” va “kichik tadqiqotlarni rejalashtirish va o‘tkazish”. O‘quvchilarni o‘z bilim tajribalari va bilim ko‘nikmalaridan kelib chiqqan holda bajarishadi.

O‘zbekiston maktablarida ijtimoiy-iqtisodiy geografiyani o‘rganish bosqichida o‘quvchilar faqat darslikda keltirilgan nazariy bilim olishlari bilan chegaralanib qolishmoqda [5].

Hozirgi kunda bizning davlatda geografiya darslarini rivojlantirish orqali davlatni ijtimoiy-iqtisodiy ahvolini rivojlantirish jahon talablariga javob bera oladigan darajaga olib chiqish bilan bir qatorda iqtisodiy sohalarimizdagi muammo va yechimini kutayotgan masalalarni o‘quvchilar e’tiboriga havola qilish, ularni erkin fikrlashga o‘rgatish, har bir masala yuzasidan raqobat va munozarali jarayonlarni tashkillashtirish bilan darslarni olib borish, o‘quvchilarni kelajakda ishbilarmon yetuk shaxs sifatida shakllanishlari uchun sog‘lom muhit yaratish maqsadga muvofiqdir. Darslarda asosan o‘quvchilarni psixologik nuqtayi nazardan baholab borish, ularni geografik muhitni shakllantirish maqsadida turli xil metodlarni qo‘llash ta’lim tizimini o‘zgartirish orqali dars jarayonida faol bo‘lishlarini ta’minlash lozim.

Mamlakatimizda geografiya darslarini tashkillashtirishning maqsad va vazifalari

T/r	Qo‘yilgan maqsadlar	Bajariladigan ishlar (vazifalar)
1	Dunyo xaritasi va mintaqalari	xaritaning asosiy tushunchalarini tahlil qilish
		turli dala xaritalari va tematik xaritalarni o‘rganish
		dunyoni bir butun sifatida idrok etish
		joy nomlarini o‘rganish
2	Hozirgi o‘zgaruvchan dunyo	so‘nggi yangiliklarni kuzatib borish va ularni xaritada aniqlash
4	Landshaftlar va yashash muhitining o‘zgarishi	landshaftlarining o‘ziga xos xususiyatlarini kuzatish
		mahalliy sharoitda dala tadqiqotlarini o‘tkazish

		xilma -xillikni saqlash, qulaylik va xavfsizlikni rejalashtirish va yaxshilash
		dunyoning turli hududlarining tabiiy va madaniy landshaftlarini o'rganish
5	Barqaror turmush tarzi va tabiiy resurslardan oqilona foydalanish	inson huquqlari va yaxshi hayot uchun zarur shart - sharoitlarni muhokama qilish
		shaxsiy iste'molchi tanlovi va faolligini mas'uliyatli fuqaro sifatida ko'rib chiqish
		globalashuv ta'siri va mintaqaviy rivojlanish masalalarini tahlil qilish

Ushbu keltirilgan mavzular va tushunchalarni yana ko'plab keltirish mumkin. Ya'ni bu mavzular asosan o'quvchilarni psixologik fikrlashlari, dunyoqarashlarini kengayishi, mamlakatimiz iqtisodiyotini o'rganish bilan bir qatorda dunyo mamlakatlariga nisbatan taqqoslash ishlarini olib borish, har xil munozarali o'yinlar tashkil qilish, keltirilgan biror bir muammoni hal qilishlari va yechim topishlariga zamin yaratadi va o'zlariga bo'lgan ishonchni ortishi bilan keyingi darsga qiziqishlarini yuqori darajaga olib chiqishlari mumkin. Bu esa o'z navbatida dars sifatini oshirib o'quvchilar o'zlarini kelajakdagi o'rinlarini topishda qanday sohada ish olib borishlari to'g'risida to'g'ri tushunchaga ega bo'lishga undaydi.

Geografiya darslariga qo'yilayotgan talab va vazifalar o'quvchilarni erkin fikrlashga, darslarga qiziqishlarini ortishiga asos bo'ladigan darajada olib kelish uchun Finlandiya ta'lim texnologiyalari asosida ta'lim tizimini olib borish va tashkillashtirish foydali bo'ladi.

O'quvchilarimizni ko'proq imtihonlarga, test sinovlariga tayyorlashdan ko'ra sog'lom hayotga tayyorlash, bolalar kimdandir yoki nimadandir qo'rqanidan emas, balki o'zlari qiziqqanidan fanlarni o'zlashtirishi, dars davomida shakllangan yangi g'oya va fikrlarini erkin tatbiq etishlari va qo'llab quvvatlashlariga zamin yaratishimiz lozim.

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O‘ZBEKISTONDA AHOLINING TABIIY HARAKATINI IFODALOVCHI KO‘RSATKICHLARNING STATISTIK TAHLILI

Annotasiya. Ushbu maqolada O‘zbekiston Respublikasi aholisining tabiiy harakati ko‘rsatkichlaridagi dinamik o‘zgarishlar, xalqaro mezonlar bo‘yicha tabiiy harakat ko‘rsatkichlarining guruhlanishi, hududlarda tabiiy harakati ko‘rsatkichlarining holati, netto koeffitsiyent va yosh guruhlari bo‘yicha o‘lganlar sonini tahlillarda yoritib berilgan.

Kalit so‘zlar: aholining tabiiy harakati, tug‘ilganlar soni, o‘lganlar soni, tug‘ilish koeffitsiyenti, o‘lim koeffitsiyenti, xalqaro mezon, past, o‘rtacha, o‘rtachadan yuqori, yuqori, juda yuqori, tahlil, guruhlar, netto koeffitsiyent.

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STATISTICAL ANALYSIS OF THE NATURAL MOVEMENT INDICATORS OF THE POPULATION IN UZBEKISTAN

Abstract. In this article, the dynamic changes in natural movement indicators of the population of the Republic of Uzbekistan, the grouping of natural movement indicators according to international criteria, the state of natural movement indicators, net coefficient in the regions and the number of deaths by age groups are highlighted in the analysis.

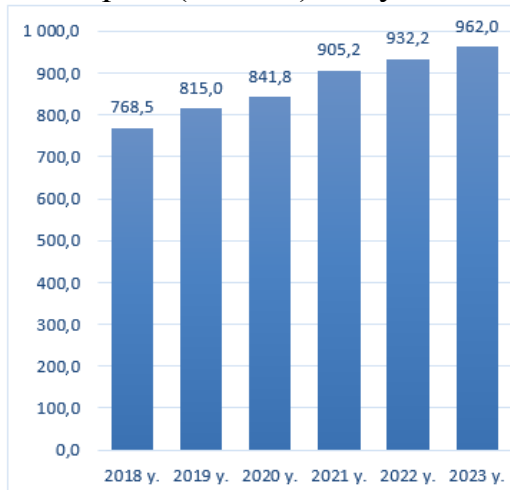
Keywords. natural population movement, number of births, number of deaths, birth rate, death rate, international standard, low, average, above average, high, very high, analysis, groups, net coefficient.

Aholi sonining o‘zgarishida aholining tabiiy harakati ya’ni tug‘ilganlar va o‘lganlar sonining o‘rni muhim hisoblanadi. O‘zbekistonda aholi sonining o‘sib borishiga tug‘ilgan sonining yuqoriligi bevosita ta’sir ko‘rsatmoqda.

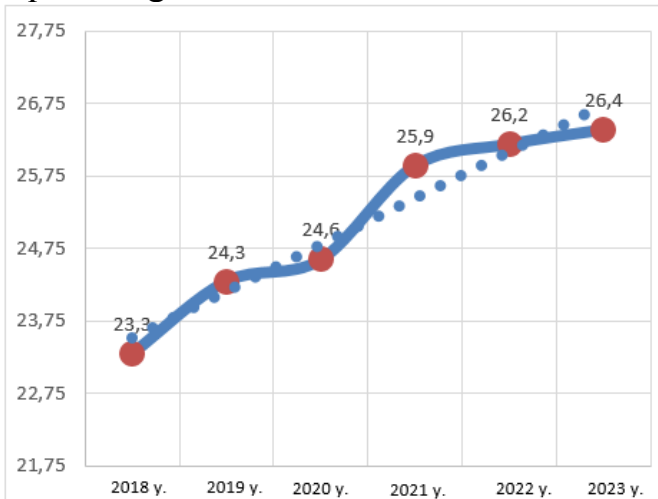
“Aholining tabiiy harakati – aholi sonining tabiiy o‘zgarishini ifodalovchi tug‘ilish va o‘lim holatlarining majmui bo‘lib, unga nikohlar va nikohdan ajralish holatlari ham kiritiladi”.

Statistik ma’lumotlarga qaraganda, 2022-yil O‘zbekistonda tug‘ilganlar mutlaq sonining eng yuqori ko‘rsatkichi qayd etilgan (2.5-rasm).

1-2-rasmlardan ko‘rinib turganidek, 2018–2023-yillarda tug‘ilganlar mutlaq soni ortgan. Olib borilgan tahlillarga ko‘ra, 2018–2023-yillar mobaynida har 1000 kishiga to‘g‘ri keladigan tug‘ilganlar soni 23,3 nafardan 26,4 nafarga ko‘paygan. Hududlar kesimida olib qaraganda tug‘ilish darajasi Surxondaryo (30,9 %), Qashqadaryo (28,9 %), Namangan (27,9 %), Jizzax (27,4 %), va Samarqand (27,4 %) viloyatlarida yuqori bo‘lgan.



1-rasm. O‘zbekiston Respublikasida tug‘ilganlar soni, ming kishi



2-rasm. O‘zbekiston Respublikasida tug‘ilish koeffitsiyenti, promille

Xalqaro mezonlar bo‘yicha, “tug‘ilishning umumiy koeffitsiyenti qiymati 16,0 %gacha bo‘lsa – tug‘ilish darajasi “past”, 16,0 – 24,9 % – “o‘rtacha”, 25,0 – 29,9 % – “o‘rtachadan yuqori”, 30,0 – 39,9 % – “yuqori”, 40,0 % va undan yuqori – “juda yuqori” hisoblanadi”. Mazkur mezon bo‘yicha O‘zbekiston tug‘ilish darajasi “o‘rtachadan yuqori” bo‘lgan mamlakatlar qatoriga kiradi. Tug‘ilishning umumiy koeffitsiyentini baholash mezoni asosida O‘zbekiston Respublikasi hududlari guruhlariga ajratildi.

1-jadvaldan ko‘rinib turibdiki, 2000-yil tug‘ilish darajasi Toshkent shahrida – “past”, Qashqadaryo va Surxondaryo viloyatlarida “o‘rtachadan yuqori”, qolgan hududlarda esa “o‘rtacha” bo‘lgan. 2010-yilda respublikaning barcha hududlarida “o‘rtacha”, 2022-yilda esa faqat Qoraqalpog‘iston Respublikasi, Buxoro, Toshkent va Xorazm viloyatlarida tug‘ilish darajasi “o‘rtacha”, Surxondaryo viloyatida “yuqori” qolgan hududlar “o‘rtachadan yuqori” toifaga o‘tgan.

**1-jadval. O‘zbekiston Respublikasi hududlarini tug‘ilishning umumiy
koeffitsiyenti bo‘yicha tasnifi**

Tug‘ilish darajasi, ‰	Yillar		
	2000	2010	2023
past (16,0 gacha)	Toshkent shahri	Mazkur daraja bo‘yicha hududlarda kuzatilmadi	Mazkur daraja bo‘yicha hududlarda kuzatilmadi
O‘rtacha (16,0 – 24,9)	Qoraqalpog‘iston Respublikasi, Andijon, Buxoro, Jizzax, Navoiy, Namangan, Samarqand, Sirdaryo, Farg‘ona, Toshkent va Xorazm viloyatlari	Qoraqalpog‘iston Respublikasi, 12 ta viloyat va Toshkent shahri	Qoraqalpog‘iston Respublikasi, Buxoro, Toshkent va Xorazm viloyatlari
O‘rtachadan yuqori (25,0 – 29,9)	Qashqadaryo va Surxondaryo viloyatlari	Mazkur daraja bo‘yicha hududlarda kuzatilmadi	Andijon, Jizzax, Qashqadaryo, Navoiy, Namangan, Samarqand, Sirdaryo, Farg‘ona viloyatlari va Toshkent shahri
Yuqori (30,0 – 39,9)	Mazkur daraja bo‘yicha hududlarda kuzatilmadi	Mazkur daraja bo‘yicha hududlarda kuzatilmadi	Surxondaryo viloyati
Juda yuqori (40,0 va undan yuqori)	Mazkur daraja bo‘yicha hududlarda kuzatilmadi	Mazkur daraja bo‘yicha hududlarda kuzatilmadi	Mazkur daraja bo‘yicha hududlarda kuzatilmadi

Qishloq joylarida tug‘ilish darajasi shahar joylariga qaraganda bir muncha yuqori. Tahlillarga ko‘ra, 2023-yil Surxondaryo (32,6 ‰) viloyati qishloq joylarida tug‘ilish darajasi “yuqori” mezon bo‘yicha baholandi.

Aholi statistikasida tug‘ilish darajasini aniq statistik baholash maqsadida tug‘ilishning yig‘indi koeffitsiyentidan (bir ayolga to‘g‘ri keladigan bolalar soni) keng foydalaniladi. Mazkur koeffitsiyentning qiymati respublikada – 3,45, shahar joylarida – 3,39, qishloq joylarida esa 3,51 nafarni tashkil etadi.

Bugungi kunda oilada tug‘ilishlar sonining ko‘payishiga quyidagi omillarni keltirish mumkin: 1980–1990-yillarda mamlakatda tug‘ilishlar soni yuqori darajada qayd etilgan mazkur davrda tug‘ilgan ayollarning tug‘ilish yoshiga yetganligi, ya’ni reproduktiv salohiyatning yuqoriligi. Mamlakatimiz oilalarida tug‘ilayotgan chaqaloqlarning 86,2 foizi 20-34 yosh guruhidagi ayollarga to‘g‘ri keladi; nikoh yoshida (20-30 yosh) erkak va ayollar nisbatining tengligi; nikohning yuqori darajasi (yiliga o‘rtacha 300 mingdan ortiq nikoh qayd etiladi);

nikohni barqarorligi (har 10 ta tuzilgan nikohga 1 ta ajrim to‘g‘ri keladi); mamlakatdagi ijtimoiy-siyosiy barqarorlik, odamlar moddiy ahvolidagi yaxshilanishi; tibbiyotning rivojlanganligi va h.k.

Avlodlar almashinuvining brutto-koeffitsiyenti shartli gipotetik avlodning reproduktiv davrdagi (15-49 yosh) har bir ayol nechi nafar qiz farzandni dunyoga keltirishini bildiradi.

Tahlillarga ko‘ra, avlodlar almashinuvining brutto-koeffitsiyenti tug‘ilish darajasi yuqori bo‘lgan 1969–1990-yillarda 2,5 – 2,7 ni tashkil etgan. Demak, mamlakatimizda bundan qirq yil oldin har bir reproduktiv yoshdagi ayollar o‘zlarining o‘rniga 2-3 nafardan qizlarni (ya‘ni onani) qoldirgan (shaharda bu ko‘rsatkich 1,8 nafarni, qishloq joylarida esa 3,57 nafarni tashkil etgan). Avlodlar almashuvi kengaygan tur (o‘limga qaraganda tug‘ilishning, keksalarga qaraganda bolalarning ko‘pligi) darajasida sodir bo‘ladi.

Bugungi kunda O‘zbekistonda aholi takror barpo bo‘lishining brutto-koeffitsiyenti 1,4-1,5 ni (shahar joylarida 1,3-1,4 ni, qishloq joylarida esa 1,5-1,6 ni) tashkil etdi (2-jadval).

Avlodlar almashinuvining netto-koeffitsiyenti tug‘ilib onasining yoshiga yetib borgan qizlarning o‘rtacha sonini ifodalaydi. O‘zbekistonda ham avlodlar almashinuvining netto koeffitsiyenti dinamikasida o‘ziga xos o‘zarishlar kuzatiladi.

2-jadval. O‘zbekistonda avlodlar almashinuvining brutto va netto koeffitsiyentlari, kishi

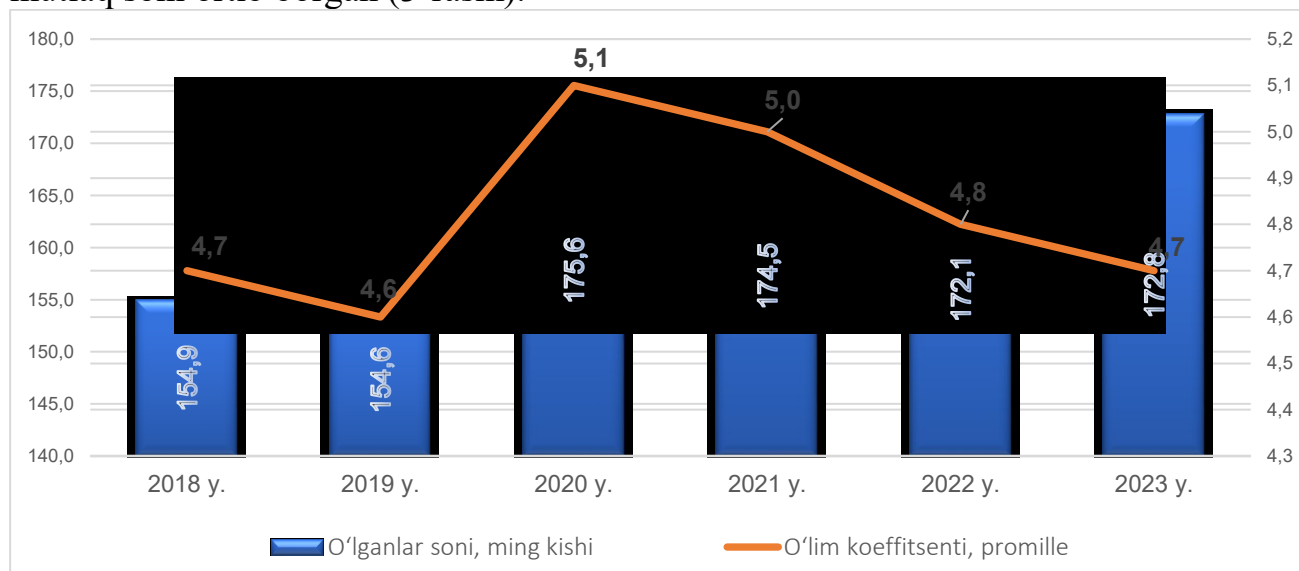
Yillar	Jami		Shu jumladan:			
			shahar		qishloq	
	brutto	netto	brutto	netto	brutto	netto
2018	1,271	1,234	1,176	1,141	1,363	1,325
2019	1,358	1,321	1,265	1,230	1,450	1,412
2020	1,417	1,217	1,321	1,078	1,514	1,318
2021	1,548	1,511	1,438	1,403	1,661	1,623
2022	1,614	1,580	1,610	1,573	1,618	1,586

1991–2000-yillarda O‘zbekistonda tug‘ilishning kamayishi (tug‘ilishning yig‘indi koeffitsiyenti ushbu davrda respublika bo‘yicha 4,2 dan 2,5 gacha, shahar joylarida 2,1 dan 2,12 ga, qishloqlarda 4,9 dan 2,7 gacha) kuzatilishi natijasida avlodlar almashinuvining netto koeffitsiyenti ham kamaydi. Ayniqsa netto-koeffitsiyenti shahar aholisida 2000–2005-yillar $R_0 < 1$ bo‘lib, avlodlar almashinuvi qisqargan rejimga o‘tgan. Lekin 2005-yillardan boshlab respublikada

tugʻilishning bir muncha koʻtarilishi shaharlarda qayd etilgan demografik inqirozga barham berdi.

Hozirgi davrga kelib Oʻzbekiston avlodlar almashinuvining netto koeffitsiyenti koʻrsatkichlari boʻyicha, yani $R_0 > 1$ dan, avlodlar almashinuvining kengaygan rejimining eng pastki chegarasida turibdi.

Statistik maʼlumotlarga koʻra, soʻnggi yillarda respublikada oʻlganlar mutlaq soni ortib borgan (3-rasm).



3-rasm. Oʻzbekiston Respublikasida oʻlim koʻrsatkichlari dinamikasi

3-rasmdan koʻrinadiki, 2018 yilda respublika boʻyicha vafot etganlar soni 154,9 ming nafarni tashkil etgan boʻlsa 2023 yilga kelib 172,1 ming nafarga yoki 11,6 foizga ortgan. Aytish joizki, birlamchi maʼlumotlar boʻyicha demografik vaziyatga toʻgʻri baho berib boʻlmaydi. Shundan kelib chiqib, maqolada har 1000 kishiga toʻgʻri keladigan oʻlganlar soni tahlil qilindi. Unga koʻra, 2018-yilda oʻlim koeffitsiyenti 4,7 promilleni tashkil etgan boʻlsa, 2019 yilda 4,6 promillega tushgan 2020 yilda 5,1 promilleni tashkil etib koʻtarilgan va 2021, 2022 yillarda tushish kuzatilib 2023-yilga kelib bu koʻrsatkich 4,7 promilleni tashkil qilgan. Demak, Oʻzbekistonda aholiga nisbatan hisoblaganda oʻlganlar soni kamayib bormoqda.

Dunyo amaliyoti boʻyicha, “oʻlimning umumiy koeffitsiyenti qiymati 10 %ogacha boʻlsa, oʻlim darajasi “past”, 10,0-14,9 % boʻlsa – “oʻrtacha”, 15,0-24,9 % boʻlsa – “yuqori”, 25,0-34,9 % boʻlsa – “juda yuqori”, 35,0 % va undan yuqori boʻlsa “favqulodda yuqori” hisoblanadi. Respublikada bu qiymat 4,7 promilleni tashkil etadi. Demak, Oʻzbekiston oʻlim darajasi past boʻlgan mamlakatlar qatoriga kiradi.

Hududlar kesimida tahlil qilganda, oʻlim darajasi Toshkent shahri (5,2 %), Qoraqalpogʻiston Respublikasi (5,1 %), Toshkent viloyati (5,1 %), Sirdaryo viloyati (5,1 %), Surxondaryo viloyati (4,8 %) viloyatlarida respublikaning oʻrtacha koʻrsatkichidan baland.

Tahlillarga ko‘ra, shahar joylarida aholining o‘lim holatlari qishloqlarga nisbatan ko‘proq qayd etilgan. 2023-yil shahar joylarida o‘limning umumiy koeffitsiyenti 5,0 promilleni, qishloq joylarida esa 4,4 promilleni tashkil etgan. Ayniqsa, Sirdaryo viloyati (8,0 %), Qoraqalpog‘iston Respublikasi (6,6 %), Buxoro (5,4 %), Xorazm (5,4 %), Jizzax (5,3 %), Navoiy (5,2 %) viloyatlarining shahar joylarida o‘limning yuqori ko‘rsatkichlari qayd qilingan.

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**DETERMINATION OF MORPHOGENETIC INDICATORS OF THE
INITIAL SOURCES OF VARIETIES OF PEA PLANTS IN
UZBEKISTAN AND ABROAD**

Annotation. Increasing soil fertility is one of the pressing problems today. To do this, it is possible to maintain and increase soil fertility by growing legumes. Because the subsequent introduction of a 1:1 alternating planting system instead of an alternating planting system led to a decrease in the amount of humus in the soil by 40-50. In increasing the amount of humus in the soil, legumes especially alfalfa, mosh, chickpeas and soy plants improve the physical, chemical and technological properties of the soil with a sharp increase in the amount of humus in the soil.

Keywords: soil fertility humus, recurrent crop, peas, legumes, yield, crop rotation, crop rotation, phosphorus potassium, protein, vitamins.

Enter. In our country, the cultivation of ecologically clean products in the fields where agricultural crops are grown is the first issue, and to the same extent, improving soil fertility is one of the most important tasks. To increase soil fertility, the organization of rotation system, use of biological methods instead of chemical methods, planting of repeated crops, especially planting of leguminous crops, are among the above tasks.

As a result of scientific research carried out for many years, it was found that the amount of humus in the soil has decreased by 40-50% in the area where grain has been planted chronically (over the last 10 years). On the contrary, it is noted that the amount of humus in the arable layer of the grain fields, which are planted alternately with leguminous crops (alfalfa, peas, chickpeas), is kept at 1.1-1.2 percent and a tendency to recovery is observed.

The hot summer, cold winter and salinity of cultivated fields are characteristic of the soil and climatic conditions of our Republic. With global climate change, the warming of the atmosphere, water shortage and the increase in the salinity of cultivated areas have a negative effect on the productivity of agricultural crops and remain one of the urgent issues of today. This issue was adopted by our government in the "Action Program of the Cabinet of Ministers of the Republic of Uzbekistan for the near term and long term" focusing on further strengthening of food security, development of selection and seed production, salinity and drought it has been shown that the creation of resistant varieties is one of the priority tasks [1,2, 3].

The fact that our government paid attention to this issue is due to the fact that, firstly, 50% of cultivated areas in our Republic are saline, and secondly, it is

impossible to get a high yield from agricultural crops without water. For this reason, great importance is attached to the creation of varieties resistant to salt and drought.

Reasonable use of irrigated cropland in agriculture, improvement of soil fertility, increasing grain production, including peas, play an important role in the social and economic development of the population.

Peas are a valuable food and fodder crop, and their grain is rich in protein. Among the cultivated legumes, it ranks third in terms of cultivated area and first in terms of nutritional value.

Growing peas helps solve the problem of protein, increase grain production, maintain and increase soil fertility, and provides environmentally friendly products. Pea accumulates a large amount of organic matter in the soil, planting pea crops after peas increases the yield per hectare by 40-60%, and on average accumulates about 50 ha/kg of biological nitrogen in the soil, which and it has been proven in experiments that it is equal to applying 6-8 ha/t of rotted manure. It also improves the nitrogen balance in agriculture, converts hard-to-dissolve phosphates into plant-absorbable forms, and provides additional protein production on the ground.

Amino acids contained in peas are unique and distinguished by their ability to eliminate various harmful and pathological factors in the human body. Peas contain a lot of phosphorus, potassium, magnesium elements, lecithin, riboflavin (vitamin B2), nicotinic and pantoic acid, choline, and vitamin C. Being rich in amino acids asparagine and glutamine, pea grain replaces meat in the human consumption fund. For this reason, two-thirds of the peas grown in the world are consumed as food.

It is known that sufficient protein plays an important role in the food products consumed by humans. P.P. Vavilov, G.S. According to the Posypanovs, protein should make up 12% of a person's daily calorie intake. Currently, the amount of protein consumed by the world's population per day is 60 grams, of which 30 percent is animal protein. In developed countries, this figure corresponds to 90-95 g, and in developing countries to 20-25 g. These numbers indicate that protein is produced 4 times less than the demand in the world [10].

Pea protein is of high quality, with 20.7 g/kg of lysine, 5.2 g/kg of methionine, 4.8 g/kg of cysteine, 11.3 g/kg of phenylalanine and 10.5 g/kg of protein. kg of threonine [11].

Grain contains 25-30% protein, 4-7% fat, 47-60% nitrogen-free extractables, 2.4-12.8% cellulose, 4.0% ash, and salts with vitamin V1. If its grain is added to mixed fodder, their digestion becomes easier. The stems and leaves are rich in malic and malic acids. Straw can not be fed to cattle, it is good feed for sheep. Malic and malic acids are obtained from peas in India.

Peas were cultivated in the arid regions of Central and Asia Minor before Christ. It is assumed that the homeland of peas is the mountainous regions of Tajikistan and Uzbekistan [9].

Peas occupy the third place among leguminous crops in terms of cultivated area. It is cultivated in about 30 countries of the world, it is widely cultivated in India, Pakistan, Spain, USA, Brazil, Turkey, Iran, Tajikistan, Tatarstan, Turkmenistan, North African countries.

Cultivated area is 12 million ha, 8.9 million ha. the field corresponds to India and Pakistan. Also 1.4 million/ha in Iran and Turkey. planted in the ground. In the following years, Australia and Canada paid attention to this crop. Productivity is 0.6-0.8 t/ha.

In Uzbekistan, peas are planted on an area of 4-5 thousand ha in dry and wet lands. 20-25 tons per hectare is grown on irrigated lands, 8-10 tons per hectare on dry land.

In the following years, peas are planted in autumn and spring in different soil and climate conditions of our republic, and the technologies of its wintering and cultivation are being studied. At the same time, among the hundreds of varieties provided by the International Center for Scientific Research on Agriculture in Arid Regions (IKARDA, Syria) under irrigated conditions, new high-yielding varieties with biological autumn and biological spring forms were selected and these varieties passed the State variety testing control and were recommended for dryland and irrigated fields of our Republic. With this in mind, creating new modern varieties of chickpeas that ensure a higher and better quality harvest and organizing seed production is one of the urgent issues of today.

Taking this into account, we conducted field experiments to cross-breed IKARDA CW-134, Cw-110, Cw-129 and Cw-201 hybrids to locally grown Zumrad and Polvon varieties in Andijan region under light gray soils. Experiment 6 option 4 - was taken on the way back

When we analyzed the morphogenetic parameters of the cultivated varieties and hybrids, the average weight of 1 grain of local Zumrad and Polvon varieties was equal to 0.408 to 0.380 grams, and the weight of 1000 grains was equal to 39.1 to 36.9 grams. ldi. Among the hybrids of IKARDA, among these indicators, CW-201 and CW-129 hybrids have a high indicator, i.e. the weight of 1000 grains is 36.9 grams in CW-201 and 39 in CW-129 hybrids. It was equal to 7 grams.

In the experiment, we also analyzed the productivity of the crops. In this, the local Zumrad and Polvon varieties yielded 19-22 s/ha, while hybrids yielded 17-23 s/ha.

So, it is clear from this that it is possible to get a high yield not only from local varieties, but also from hybrids imported from abroad, adapting them to our soil and climate conditions.

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METHODS FOR ACCOUNTING FOR WEEDS IN AGRICULTURE AND DETERMINING THE DEGREE OF SOIL CONTAMINATION

Annotation. The Acorn is one of the main plants cultivated in the world. In most Acorns, 19-21 million are grown annually. tons of fiber are collected. The Andijan region consists in determining the optimal norms of the new Samara and UzDEF defoliant used in the medium-fiber Andijan-35 Acorn variety, which is being cared for in the conditions of light-colored oxalic soils of the Oltinkol agrocluster, and studying the effect on the cotton crop. Due to the growing population in the world, most of the signs of crop fields in agriculture are high, and the quality of fiber is one of the urgent tasks to obtain a cotton dressing that meets the requirements of World templates.

Keywords: Acorn, defoliant UzDEF-K, Avguron ekstra, application norm, duration, growth, development, productivity, economic efficiency.

Enter. Cotton plant is one of the main plants cultivated in the world. In most cotton-growing countries, 19-21 mln. Tons of fibers are collected. Due to the increase in the world's population, most of the characteristics of arable land in agriculture are high, and obtaining a cotton crop that meets the requirements of world standards is one of the urgent tasks.

It is impossible to provide the country's population with food products without the production of high-quality products from agricultural crops. Indiscriminate use of chemical plant protection agents and mineral fertilizers causes environmental pollution. In order to prevent such a risk, it is necessary not only to radically change the provision of agriculture with the necessary mineral fertilizers and chemical plant protection agents, but also to increase the demand for strict compliance with agrochemical rules. A lot of research is being carried out by world scientists, including researchers from Australia, China, India, the USA and several other countries, to obtain a high and high-quality harvest from cotton.

Cotton seeds of the medium-fiber Andijan-35 cotton variety on April 10, 2022 in the 90x10-1 scheme, taking into account the equal use of light, water and nutrients by the plant depending on the irrigation method planted The experimental variants were 15 m long and 6 m wide. The total area of the plots was 90 m². The effect of defoliant on the opening of cotton bolls If cotton defoliation is carried out on time and in good quality based on scientific recommendations, after 10-12 days, more than 85-90 percent of the leaves are shed. the pores open up to 90 percent. Then the cotton harvest will be organized, the weight of the first crop will increase, and the main part of the crop will be

transferred to high varieties. As a result, the economic interest of farms increases. In order to determine the opening level of bolls in cotton fields, a 10 m² area was determined by envelope method from 5 places along the diagonal of each field. The actual thickness of seedlings in this area, the total number of pods in each bush and the number of opened pods are determined, and the average degree of pod opening is calculated. Depending on the obtained result, the type of defoliant, duration and rate were determined for this contour. It also depends on the optimal standards of defoliants used. Under the influence of defoliants, cotton leaves fell in 12-15 days and the flow of nutrients went to the bolls. As a result, the bolls ripened and opened in 20-25 days. According to the results of phenological observation and analysis, 30-40% of the cotton bolls in the experimental area were opened during the opening period, after 14 days in the control option without defoliation. It was noted that the number of opened cysts was 67.3%, half-opened ones were 1.8%, and the opening rate of cysts was 32.5%. Liquid XMD 7.0 l/ha was used 2- in the variant, the number of open cysts after 14 days was 79.9%, half-opened cysts were equal to 1.5%, the opening rate of cysts was 43.2%, and the opening rate was 10.7% compared to the control was high. In the 3rd option, which used 6.0 l/ha, after 14 days, the number of blisters opened was 78.8%, half-opened ones were 1.1%, and the rate of blister opening It was 43.6%, and the rate of opening was 11.1% higher than the control. In option 4, which used 7.0 l/s, the number of blisters opened after 14 days was 82.1%, half-opened ones were equal to 2.2%, the opening rate of the pods was 46.5%, and the opening rate was 14.0% higher than the control. UzDEF 6.0 l/ha was applied to - in the variant, the number of open cysts after 14 days was 84.6%, half-opened cysts were equal to 1.7%, the opening rate of the cysts was 49.2%, and the opening rate was 16.7% compared to the control was higher. In option 6, where UzDEF 7.0 l/h was used, after 14 days, the number of open blisters was 85.8%, and the number of half-opened blisters was 1.4%. rate was 50.0%, the opening rate was 17.5% higher than the control.

That is, it can be concluded from the results of the experiment that the increase in productivity is obtained when UzDEF is applied to 7.0 l/h in the defoliation of cotton plants, the shedding of leaves is 92.4%, the opening of pods is 85 was 8%. Also, special attention should be paid to the biological characteristics of cotton varieties during defoliation. Because the defoliant has different effects on cotton varieties. In particular, mid-season cotton varieties, that is, the leaf blade is large, thick, less sensitive to defoliants when the leaf blade is large, and fast cotton varieties with a small and thin leaf blade. and its effectiveness will be high. If the daily air temperature during the defoliation period is below 17 degrees, this norm should be increased by 15-20%. As a result of the gentle action of the defoliant, the physiological and biological processes in the plant continue continuously, the young pods mature, their opening process accelerates, and as a result, the cotton yield increases by 1.5-2 centners. in the researches, it was noted that in the period of 30-40% opening of the bolls of the

cotton variety, in the version of UzDEF defoliant applied at the rate of 7.0 l/ha, the leaves were shed at a high level. Therefore, in studying the effect of defoliants on the opening period of cotton bolls, it is important to use them in acceptable standards.

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XIZMAT KO'RSATISH SOHASNI RIVOJLANTIRSHDA DAVLAT TOMONIDAN QO'LLAB QUVVATLASH MEXANIZMNI TAKOMILLASHTRISH

Annotatsiya. Ushbu maqolada bugungi kunda davlat tomonidan iqtisodiyot soha va tarmoqlarida berilyotgan yordam natijalari, ularning korxonalar faoliyatidagi o'rni va ahamiyati yoritib berilgan. Ayniqsa, xizmat ko'rsatish sohasni rivojlantirshda davlat tomonidan qo'llab quvvatlash mexanizmini takomillashtirish bo'yicha muallif tomonidan xulosa va takliflar ishlab chiqilgan.

Kalit so'zlar: xizmat ko'rsatish, iqtisodiyot, biznes, mexanizmlar, subsidiyalar.

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IMPROVING THE GOVERNMENT SUPPORT MECHANISM FOR THE DEVELOPMENT OF THE SERVICE SECTOR

Abstract. In this article, the results of the assistance provided by the state in economic sectors and sectors, their role and importance in the activities of enterprises are highlighted. In particular, the author has developed conclusions and suggestions on improving the mechanism of state support in the development of the service sector.

Key words: service, economy, business, mechanisms, subsidies.

Bugungi kunda aholining farovon va qulay sharoitda hayot kechirishlari uchun xizmatlar sohasida bir qator qulayliklar ta'minlab berilmoqda. Natijada mamlakatimizning qishloq joylarida servis infratuzilmasining rivojlanishi evaziga qishloq aholisining yashash tarzi shahar aholisining yashash tarziga yaqinlashmoqda.

Bugungi kun zamon talablaridan kelib chiqib, sohani rivojlantirish maqsadida, O'zbekiston Respublikasi Prezidentining 2021 yil 11 maydagi

“Xizmatlar sohasini jadal rivojlantirish chora-tadbirlari to‘g‘risida”gi PQ-5113-sonli Qarori qabul qilindi. Ushbu qarorga ko‘ra xizmatlar sohasining mamlakatimiz iqtisodiyotidagi ulushini ko‘paytirish, joylarda xizmatlar sohasidagi mavjud imkoniyatlarni to‘liq ishga solish, xizmatlar turlarini kengaytirish va sifatini oshirish bo‘yicha o‘z yechimini kutayotgan muammoli masalalarni hal qilish, mazkur yo‘nalishda tadbirkorlik subyektlarini yanada qo‘llab-quvvatlash, ularning g‘oya va tashabbuslarini rag‘batlantirish masalari dolzarblikni belgilab beradi.

Xizmatlar ko‘rsatish va servis sohasini rivojlantirish maqsadida amalga oshirilayotgan dasturlar va chora-tadbirlar natijasida sohaning YAIMdagi ulushi sezilarli darajada o‘ydi. Ushbu ko‘rsatkich 2011 yilda 50,5 % ni tashkil etgan bo‘lsa bugungi kunda 54,5% ni tashkil etishi kutilmoqda. Sohada band bo‘lganlar bugungi kunda jami band aholining 50% dan ortig‘ini tashkil qiladi.

Bugungi kunda faoliyat yuritayotgan kichik biznes subyektlarining 80,4 mingtasini yoki 81%i aynan xizmat ko‘rsatish sohasida faoliyat yuritmoqda. Respublika bo‘yicha sohada faoliyat yuritayotgan 2 mingdan ortiq korxonalar dastur doirasida begilangan imtiyozlardan foydalanmoqda.

Dasturlarni amalga oshirish hisobiga jami xizmatlar xajmi 1,7 barobar, aholi jon boshiga xizmatlar esa 1,6 barobarga oshgan. Sohada rivojlanishning asosiy yuqori suratlari moliya, qurilish, sog‘liqni saqlash, aloqa va axborotlashtirish, kompyuterda dasturlash, qishloq xo‘jaligi texnikalariga texnik xizmat ko‘rsatish va ta‘mirlash hamda maishiy xizmatlarida kuzatiladi.

Alohida shuni ta‘kidlab o‘tish lozim, soha o‘sishiga ta‘sir ko‘rsatayotgan asosiy omillardan biri bu kichik biznes sohasiga yaratib berilayotgan qulayliklar, imkoniyatlar, qulay investitsion iqlim hamda tijorat banklari tomonidan ajratilayotgan kredit mablag‘lari hisoblanadi.

Jahon tajribasidan ma‘lumki, xizmat ko‘rsatish sohasida kam xarajat bilan tez muddatda biznesni yo‘lga qo‘yish, daromadlarining real o‘sishini ta‘minlash hamda yangi ish o‘rinlarini boshqa tarmoqlarga nisbatan ko‘proq tashkil etish mumkin.

Yangi O‘zbekistonning iqtisodiy rivojlanish bosqichida xizmatlar sohasini jadal rivojlantirishga alohida e‘tibor qaratilmoqda. Jumladan, 2022-yilda qabul qilingan “Xizmatlar sohasini qo‘llab-quvvatlashga oid qo‘shimcha chora-tadbirlar to‘g‘risida” gi Prezident qarori sohada kichik korxonalar va mikrofirmalarni imtiyozli kreditlash, imtiyozli soliq stavkalarini joriy etish, yangicha xizmat turlarini tashkil etish yuzasidan infrastrukturallarni yaxshilash hamda tadbirkorlarni moliyaviy qo‘llab-quvvatlash orqali xizmatlar xajmini yanada kengaytirish uchun rag‘bat bo‘lmoqda. Olib borilgan chora-tadbirlar natijasida yalpi ichki mahsulot hajmi joriy yilning I yilligida **469,6 trln.** so‘mni tashkil etib, o‘tgan yilning mos davriga nisbatan **5,6 foizga** o‘ydi.

2023-yilning yanvar-iyun oylari yakunlariga ko‘ra, YAIM tarkibida katta bo‘lmagan o‘zgarishlar kuzatilgan bo‘lsada, YAIM (YAQQ) tarkibida xizmatlar sohasining ulushi 44,1 % dan 47,1 % ga oshganini ko‘rishimiz mumkin.

YAIMning boshqa tarmoqariga nazar tashlaydigan bo'lsak, jumladan, qishloq, o'rmon va baliqchilik xo'jaligining ulushi 20,9 % dan 20,1 % ga, sanoatning ulushi 28,0 % dan 26,3 % ga, qurilish tarmog'ining ulushi 7,0 % dan 6,5 % ga kamaydi.

Ushbu YAIMda tarmoqlarning yalpi qo'shilgan qiymatlarining hajmi **444,4 trln so'm** bo'lib, tarmoqlar kesimida quyidagicha ulushni tashkil etadi. Yuqoridagi raqamlarga asosan, iqtisodiy faoliyat turlari bo'yicha YAIMda eng yuqori ulush xizmatlar sohasida o'z ifodasini topmoqda. Joriy yilning o'tgan 8 oyida tarmoqlar kesimidagi o'sish ko'rsatkichlari 2022-yilning mos davriga nisbatan o'zgarishlari quyidagicha aks etgan:

- *xizmat ko'rsatish sohasi + 58,7 trln so'mga;*
- *qishloq, o'rmon va baliqchilik xo'jaligi + 12,9 trln so'mga;*
- *sanoat sohasi + 12,6 trln so'mga;*
- *qurilish sohasi + 3,3 trln so'mga oshgan.*

Iqtisodiy tarmoqlarda xizmatlar sohasining o'sish sur'ati yuqori bo'lganligi sababli, ushbu sohadagi o'zgarishlar hamda rivojlanishlar kelgusida ham yanada o'sishi prognoz qilinmoqda.

Xizmatlar sohasi o'sish tendensiyasi-davlat tomonidan yaratilayotgan imkoniyat va sharoitlardan oqilona foydalanish bilan birgalikda, sohaga keng qamrovda tadbirkorlarni jalb qilish va bu orqali aholi bandligini ta'minlash kabi muhim ahamiyat kasb etuvchi omillar yotadi.

Xulosa qilib aytganda, xizmatlar hajmining o'tgan yillarga nisbatan jadal o'sib borishi aholi jon boshiga ko'rsatilgan xizmatlar xajmining yuqori o'sishiga hamda aholi daromadlarining ko'payishiga sabab bo'lmoqda.

O'zbekiston Respublikasi Prezidenti tomonidan belgilab berilgan vazifa va topshiriqlarning ijrosini ma'sullar tomonidan o'z vaqtida samarali bajarilishi orqali maqsadli parametr ko'rsatkichlariga erishish natijasida aholi bandligini ta'minlash bilan bir qatorda, yangi xizmat turlarini joriy qilish, shuningdek aholi jon boshiga ko'rsatiladigan xizmatlar hajmini hamda tadbirkorlik subyektlarining sonini oshishiga sabab bo'lmoqda.

Bu orqali jamiyatimizning yashash tarzi yaxshilanib, ularning turmush darajasiga ijobiy ta'sir ko'rsatish imkoniyatlar yaratilmoqda.

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PUL OQIMLARI HISOBOTI AUDITI

Annotatsiya. Ushbu maqolada xalqaro audit standartlariga asoslangan pul oqimi to'g'risidagi hisobot nuqtai nazaridan moliyaviy hisobot auditini o'tkazish metodologiyasi, pul oqimlari hisoboti auditini o'tkazish yo'nalishlari muallif tomonidan keltirilgan. Buxgalteriya registrlari yordamida pul oqimi to'g'risidagi hisobotni tuzishga bevosita ta'sir qiluvchi xo'jalik operatsiyalari tahlil qilingan.

Kalit so'zlar: audit, pul oqimi to'g'risidagi hisobot, hisobot, pul oqimlari.

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AUDIT OF CASH FLOW STATEMENT

Abstract. In this article, the author presents the methodology of financial statement audit from the point of view of the cash flow statement based on international auditing standards, the directions for the audit of the cash flow statement. With the help of accounting registers, economic transactions that directly affect the preparation of the cash flow statement were analyzed.

Keywords: audit, cash flow statement, report, cash flows.

Har qanday jamiyatni rivojlanishi uni boshqarishni taqozo etadi. Boshqarish, o'z navbatida, jamiyatning turli tarmoq va sohalarida yuz bergan va berayotgan jarayonlar, xo'jalik faoliyatini olib borayotgan subyektlarning mablag_lari, ularni tashkil etish manbalari, erishayotgan natijalari va boshqa jihatlari to'g'risidagi axborotlarni mavjudligiga bog'liq bo'ladi. Bunday axborotlarni o'zida mujassamlashtiruvchi vosita bo'lib xo'jalik hisobi hisoblanadi.

Pul mablag'larining harakati to'g'risidagi hisobot davridagi pul mablag'lari va ularning ekvivalentlarining kirib kelishi va chiqishini aks ettiruvchi hujjatdir. Pul oqimi to'g'risidagi hisobotni tayyorlash va taqdim etish

bir xil nom bilan tartibga solinadi. Ushbu hisobot barcha korxonalar tomonidan taqdim etilishi kerak.

Naqd pulga to'g'ridan-to'g'ri naqd pul va talab qilingan bank depozitlari kiradi. Naqd pul ekvivalentlari qisqa muddatli, yuqori likvidli investitsiyalar bo'lib, ular qiymatining o'zgarishi xavfi kam bo'lib, osonlik bilan ma'lum miqdordagi naqd pulga aylantirilishi mumkin.

Pul oqimi to'g'risidagi hisobot shakli uchta yo'nalishda tuziladi: tashkilotning joriy, investitsiya va moliyaviy faoliyati. Shuning uchun auditor ushbu faoliyat turlari bo'yicha taqdim etilgan ma'lumotlarning to'liqligi va to'g'riligini tekshirishi kerak.

Pul mablag'larining harakati to'g'risidagi hisobot sug'urta tashkilotining bank hisobvaraqlarida va naqd pulda saqlanadigan naqd pul va valyuta mablag'larining harakati to'g'risidagi ma'lumotlarni ochib beradi. Hisobotda naqd pul va valyuta mablag'larini hisobga olish bo'yicha hisobvaraqlardagi yozuvlardan kelib chiqadigan ma'lumotlar aks ettiriladi.

Shu bilan birga, auditor shuni yodda tutishi kerakki, agar valyuta hisobvaraqlari mavjud bo'lsa, birinchi navbatda har bir valyuta turi bo'yicha valyuta mablag'lari harakatining hisob-kitobi amalga oshiriladi, so'ngra hisob-kitob ma'lumotlari valyuta kursi bo'yicha so'mga aylantiriladi.

Hisobot ko'rsatkichlari kassa va valyuta hisobvaraqlari uchun sintetik va analitik registrlardan olingan ma'lumotlarni hisobga olgan holda tekshiriladi. Iqtisodiy va moliyaviy operatsiyalarning mazmunini aks ettiruvchi birlamchi hujjatlar ham qo'llaniladi. Ushbu hisobotlarning to'g'riligini tasdiqlash uchun auditor muqobil hisob-kitoblarni amalga oshirishi va arifmetik hisob-kitoblarni amalga oshirishi mumkin.

Pul oqimlari to'g'risidagi hisobotdagi pul oqimlari faoliyatning uch turiga bo'linadi:

1. operatsiya xonasi, ya'ni. daromad keltiruvchi asosiy faoliyat va boshqa faoliyat (investitsiya va moliyaviy faoliyatdan tashqari);

2. investitsiyalar, ya'ni. uzoq muddatli aktivlarni va boshqa investitsiyalarni (pul ekvivalentlaridan tashqari) sotib olish va tasarruf etishga qaratilgan faoliyat;

3. moliyaviy, ya'ni. kapital va qarz mablag'lari tarkibi va miqdorining o'zgarishiga olib keladigan faoliyat.

Operatsion faoliyatdan olingan pul oqimlari quyidagilar bilan ifodalanishi mumkin:

to'g'ridan-to'g'ri usul (naqd pul tushumlari va naqd to'lovlarning asosiy turlari aniqlangan);

bilvosita usul (foyda naqd pulsiz operatsiyalar bo'yicha tuzatiladi (masalan, amortizatsiya, baholash uchun ajratmalar va boshqalar), natijada operatsion faoliyatdan sof pul oqimi aniqlanadi). Ushbu usul yordamida tuzilgan hisobotda naqd pul tushumlarining turlari va naqd pul to'lovlari to'g'risidagi ma'lumotlar oshkor etilmaydi.

Biroq, to'g'ridan-to'g'ri usuldan foydalangan holda pul oqimlari to'g'risidagi hisobotni tuzish qiyin bo'lgan buxgalteriya holatini tasavvur qilish oson emas. Bilvosita usuldan foydalangan holda pul oqimi to'g'risidagi hisobotni tuzish maqsadga muvofiqligini chetga surib, shuni ta'kidlash kerakki, bilvosita usul sizga nima uchun foyda borligini, lekin pul yo'qligini (va aksincha) aniq ko'rish imkonini beradi.

Pul oqimi to'g'risidagi hisobotga eslatmalarda quyidagilar ko'rsatilgan:

pul mablag'lari va ularning ekvivalentlari tarkibi;

pul mablag'lari va ularning ekvivalentlarining muhim qoldiqlari, shu jumladan guruh tomonidan foydalanish uchun mavjud bo'lmaganlar (foydalanishning mumkin emasligi sabablarini ko'rsatgan holda);

ishlab chiqarish quvvatlarini saqlashga qaratilgan mablag'lardan alohida ishlab chiqarish quvvatlarini oshirishga yo'naltirilgan pul oqimlari miqdori;

hisobot segmentlari bo'yicha pul oqimlari to'g'risidagi ma'lumotlar;

boshqa tegishli ma'lumotlar.

Ushbu hisobotning ahamiyati axborotdan foydalanuvchilar uchun katta. Masalan, amalda zarar ko'rgan tashkilotlar investitsiya dasturini amalga oshirishga qodir bo'lgan vaziyatlar yuzaga keladi va aksincha, hisobotda foyda ko'rsatgan tashkilot yetkazib beruvchilar va boshqa kreditorlardan hisob-kitoblarni to'lashda qiyinchiliklarga duch keladi. Bu paradoks kreditorlik qarzlarni to'lash va asosiy va aylanma mablag'larni sotib olish uchun, birinchi navbatda, mablag'lar kerakligi bilan bog'liq. Ammo foyda va pul bir xil narsa emas.

Moliyaviy qarorlarni qabul qilish uchun nafaqat pul qoldiqlari, balki ularning oqimlari haqida ham ma'lumot kerak. Balans va daromadlar to'g'risidagi hisobotda bunday ma'lumotlar mavjud emas. Pul oqimi to'g'risidagi hisobot balans va daromadlar to'g'risidagi hisobotni tashkilotning naqd pulni to'plash va ishlatish qobiliyati to'g'risidagi muhim ma'lumotlar bilan to'ldiradi.

Yuqoridagi ma'lumotlarga asoslanib, quyidagi xulosalar chiqarish mumkin:

✓ joriy faoliyat mijozlar va yetkazib beruvchilar bilan operatsiyalarni, shuningdek, soliqlar va yig'imlarni, boshqa tushumlar va to'lovlarni o'z ichiga olgan xodimlarga to'lash bilan bog'liq operatsiyalarni o'z ichiga oladi.

✓ investitsion operatsiyalar bo'yicha pul oqimlari faqat uchinchi shaxsga ilgari berilgan kredit summasini o'z ichiga oladi.

✓ moliyaviy operatsiyalar bo'yicha pul oqimlari kreditlar va qarzlarni olish va qaytarish bilan bog'liq bo'lgan xo'jalik operatsiyalarini o'z ichiga oladi.

✓ agar pul oqimi to'g'risidagi hisobotda aks ettirilgan summalar hisoblangan summalarga to'g'ri kelsa, u holda biz tashkilotning pul oqimlari to'g'risidagi hisoboti to'g'ri tuzilgan degan xulosaga kelishimiz mumkin.

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MTTDA SAHNALASHTIRISH FAOLIYATINI TASHKIL ETISHNINGNING AXLOQIY-ESTETIK SIFATLARI

Annotatsiya. Ushbu maqolada maktabgacha ta'lim tashkilotlarida maktabgacha yoshdagi bolalarning ijodiy faoliyatini shakllantirishning axloqiy-estetik sifatlarini tashkil etish masalalari yoritilgan.

Tayanch iboralar: ijodiy tarbiya, ijodiy faoliyat, axloqiy-estetik sifatlar, sahnalashtirilgan o'yinlar, badiiy asarlar, tasavvur, sahnaviy asarlar.

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ETHICAL AND AESTHETIC QUALITIES OF THE ORGANIZATION OF STAGE ACTIVITIES MTT

Annotation. This article examines the issues of organizing the moral and aesthetic qualities of creative activity of preschool children in preschool educational organizations.

Key words: creative education, creative activity, moral and aesthetic qualities, staged games, works of art, imagination, stage works.

Bugungi kunda soha mutaxassislari tarbiyachi pedagoglarning ilmiy pedagogik va psixologik tayyorgarliklari, yangi innovatsion faoliyat yurita olishlari juda katta ehtimoliy zaruriyatga aylanib bormoqda. Shunday ekan, maktabgacha ta'lim tizimi tarbiyachi – pedagoglarning zamonaviy kadrlarni ijtimoiy jamiyatga mos ravishda yetkazib berishda oliy ta'lim muassasalarining pedagogik ma'suliyati har qachongidan ham murakkablashib boraveradi.

Bo'lajak pedagoglar yosh avlodni chin dildan mehr-muhabbat bilan seva olishi, uning kelajagiga ishonch bilan qaray olishi, eng avvalo, birinchi navbatdagi vazifadir. Undagi professionallik va vatanparvarlik tuyg'ulari kasbiy-shaxsiy faoliyatlarida tarkib toptirilishi zarur. Pedagog-tarbiyachilar doimo intellektual jihatidan tarbiyalanuvchilarning talab va qiziqishlariga o'z vaqtida javob beradigan, ularning psixologik va fiziologik jarayonlarini iqtidori bilan aniq tahlil qila oladigan, muayyan tashxislaydigan mutaxassis darajasiga ega bo'lmog'i lozim. Ayniqsa, bolalarning ijodiy dunyoqarashini anglaydigan, bilim va mustaqil faoliyatida o'zining intuitsiyasi, yuksak optimal darajasi bilan hal eta olishi dardor.

Maktabgacha ta'lim tashkilotlarida sahnalashtirish faoliyatining ahamiyati katta. Sahnalashtirish faoliyati jarayonida bolaga ijodiy tarbiya, ijodiy faoliyat va bu faoliyatlarni o'yin jarayonida tashkil etish shakllantiriladi. Ijodiy malakalarni

shakllantiruvchi omillar, ish jarayonini loyihalash, innovatsion texnologiya usullaridan foydalanish, ijodiy natijalarini namoyish etish va baholash bolalarni ijodiy faoliyatga o'rgatuvchi ish turlari o'z o'ziga xizmat, maishiy xo'jalik ishlari, tabiatda ishlash, qo'l ijodiyoti, o'quv ijodiyoti kabi masalalarni qamrab oladi.

Maktabgacha katta yoshdagi bolalarni axloqiy-estetik tarbiyalashda sahnalashtirish faoliyatidan samarali foydalanish – bolalarning iqtidori, ob'ektiv borliq haqidagi tasavvuri, dunyoqarashini yanada rivojlantirish uchun qulay shart-sharoitni yaratishi bilan yanada ahamiyatlidir.

Axloqiy-estetik sifatlar bolalarda go'zallik haqidagi bilimlar, hayot voqeligi, buyumlar, ularning rang-barangligi, turlarini, o'zini tuta bilishni, muloqotga kirishuvchanlik, yaxshi-yomonni farqlash, o'z-o'ziga baho berish kabilarni tarbiyalash masalasini o'z ichiga oladi

Sahnalashtirish o'yinlari, bu bolalarning mustaqil ijodiy o'yin turi bo'lib, unda badiiy asar va hikoyalar bolalar tomonidan rollarga bo'lib ijro etiladi. Bu o'yinlar bolalarda iroda, intizom va o'z xatti-harakatlarini boshqara olish, boshqalarning harakatlari bilan hisoblashish kabi ijobiy ma'naviy xislatlarni shakllantiradi.

Sahnalashtirish o'yinlarida bolalar o'yin jarayoniga kirib boradilar, voqea va ertak qahramonlarining ichki hayotiga bevosita aloqador bo'lgan qahramonlik, jasurlik, mehribonlik, jonbozlik, jonkuyarlik kabi ijobiy fazilatlarni o'zlarida yaqqol namoyon qiladilar. Bu jarayonda bolalarning nutq faolligi, lug'at boyligi, dunyoqarashi kengayib boradi.

Sahnalashtirish uchun badiiy asar, ertaklar tanlash katta yoshdagilardan bolalarning yosh xususiyatlari, qiziqishlari, istaklarini hisobga olishni talab etadi.

Adabiy asarlarni tanlashda quyidagi talablar qo'yiladi:

- a) Mazmunining g'oyaviy-ma'naviy barkamolligi.
- b) Badiiy jihatdan mazmundorligi.
- c) Asardagi qatnashchi va rollarning soni (qancha ko'p bo'lsa, asar shuncha ahamiyatlidir).
- g) Mazmuni yaxshi bo'lishi bilan birga, unda harakat turlarining ham ko'p bo'lishi.
- d) Ifodali o'qishga mos bo'lishi.
- e) Mazmuni qiziqarli, hayot bilan bog'langan bo'lmo g'i zarur.

Bolalar xalq ertaklarini sahnalashtirishni yaxshi ko'radilar. Masalan, «Sholg'om», «Zumrad va Qimmat», «Bo'g'irsoq» va boshqalar. Bolalar boshqa xalq ertaklarini ham turli usullarda (qo'g'irchoq, soya, stol teatri orqali) sahnalashtirishga ehtiyoj sezadilar. Badiiy asarni eslab qolishlari uchun uni qayta o'qib berish, sahnada ko'rsatish, rasmlar namoyish etish, didaktik o'yinlardan foydalaniladi.

Sahnalashtirish o'yinlari qiziqarli o'tishi va uzoq vaqt davom etishi uchun kerakli jihozlar tayyorlanishi va unga to'g'ri rahbarlik qilinishi lozim. Kattalar o'yin rejissyori rolini amalga oshira borib, bolalarning xatti-harakatlari, qobiliyatlari, intilishlarini hisobga olib boradilar. O'yinda faol ishtirok etgan

bolalarni alohida ragʻbatlantirilib, kelgusida qaysi asarlarni sahnalashtirish kerakligini aniqlaydilar. Nashriyotlarda bolalarbop badiiy asarlarni, sahnalashtirish uchun xalq ertaklariga siluetlar, teatr-kitoblar, panorama-kitoblar kabi turli koʻrinishdagi koʻrgazmali qoʻllanmalarni chop ettirishda katta ahamiyat berilmoqda.

Sahnalashtirilgan oʻyinlar ijodiy oʻyinlar sarasiga kiradi. Unga ijodiy oʻyinning quyidagi asosiy: niyatning mavjudligi, roli va mavjud harakatlar, hayol qilingan vaziyatning va boshqa elementlarning uygʻunligi, bolalarning mustaqillik va oʻz-oʻzini uyushtira olish jihatlari xos. Sahnalashtirilgan oʻyin badiiy asar asosida koʻriladi: oʻyin syujeti, rollar, qahramonlarning xatti-harakatlari, ularning nutqi asar matniga koʻra belgilanadi.

Sahnalashtirilgan oʻyin bolalarning eshitgan asar yoki ertagidan olgan tasavvurlarini mustaqil ifodalash hamda mashq qilish imkonini beradi. Bu oʻyinlar bolalarda iroda, intizom, oʻz harakatlarini boshqalarning harakatiga muvofiq amalga oshirish kabi sifatlarni tarbiyalashda samarali vosita hisoblanadi. Sahnalashtirish bolalarni qayta soʻzlashga oʻrgatish usullaridan biridir. Baʼzi bir bolalarda badiiy asardan olingan parchani qayta soʻzlab berishga xohish ham qiziqish ham boʻlmaydi, ammo unga oʻyin usuli kiritilishi bilan bola asardagi rolga kirib, oʻsha asar mazmunini juda yaxshi aytib berishga harakat qiladi.

Bolalar biror ertak yoki hikoya syujeti asosida maʼlum bir rolni bajarishiga, oʻyin jarayonidagi personajlarning aytadigan soʻzlarining yod olinishiga asoslangan boʻlib, bolalarda iroda, intizom, oʻz harakatlarini boshqalarning harakatiga muvofiq amalga oshirish kabi sifatlarni tarbiyalashda samarali vosita sanaladi. Ertak va hikoyalarni bolalar koʻpincha oʻzlarining ijodiy rolli oʻyinlarida sahnalashtiradilar, bu oʻyinlarda tulki, sichqon, xoʻroz, quyon kabi personajlarni oʻyinlarda aks ettiradilar. Yozuvchilarning badiiy asarlarini ham bolalar sevib sahnalashtiradilar. Bolalar bilan suhbatlasha turib, tarbiyachi hikoya yoki ertak qahramonlarining oʻziga xos xususiyatlarini aniqlashga harakat qiladi. Har xil sheʼr, ertak qahramonlarining oʻziga xos xususiyatlari mana shunday oʻrganiladi.

Guruhda shu yoshli bolalarga xos boʻlgan ertaklar, hikoyalar ularga tanish boʻlib qolgandan keyingina sahnalashtirish boshlanadi. “Oltin tarvuz”, “Boʻgʻirsoq”, “Zumrad va Qimmat” kabi ertaklar sahnalashtiriladi. Tayyorlov guruhida bu ish davom ettiriladi. Sahnalashtirish uchun ertaklargina olinmasdan, badiiy asarlar, xususan, sheʼrlar ham olinadi. Masalan, tarbiyachi oʻrta guruh uchun asosan harakatni aks ettiruvchi asarlar tanlaydi, katta guruh bolalari uchun esa asar qahramonlarining ancha murakkab munosabatlari, ularning kechinmalari, qaygʻulari aks ettirilgan asarlar tanlanadi. Tarbiyachi bajarilgan ishning hisobini olib boradi. Bolalarga qaysi asar yoqqanini, ular koʻproq qanday asarni sahnalashtirishni yoqtirishlarini, qaysi bola topshirilgan rolni yaxshi ijro eta olganini, rollarni ijro etishda bolalarda qanday qiyinchiliklar vujudga kelganini yozib boradi. Mana shu asosda boʻlgʻusi sahnalashtiriladigan oʻyinlar jonlantiriladi.

Xulosa qilib shuni aytish mumkinki maktabgacha ta'lim tashkilotlarida bolalarni yosh xususiyatlarini hisobga olgan holda sahnaga tayyorlash, oddiydan murakkabga qarab yo'naltirib, ularning axloqiy-estetik tarbiyalash asosiy maqsad qilib qo'yilgan.

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MATEMATIKANING IQTISODIYOTDA QO‘LLANILISHI

Annotatsiya. Iqtisodiyotda matematik modellar ko‘proq matematikaning funksional analiz, matematik analiz, differensial tenglamalar, chiziqli tenglamalar, va statistika bo‘limlariga bo‘ysungan holda ishlab chiqiladi. Shunday qilib, iqtisodiy-matematik tadqiqotlar sohasi rang-barang va keng bo‘lib, matematikaning turli bo‘limlari, tizimli tahlil va natijalaridan faol foydalanishni talab qiladi.

Kalit so‘zlar: modellashtirish, bozor iqtisodiyoti, iqtisodiy modellar, tadqiqot, makroiqtisodiy modellar.

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APPLICATION OF MATHEMATICS IN ECONOMY

Abstract. Mathematical models in economics are mostly developed subject to functional analysis, mathematical analysis, differential equations, linear equations, and statistics sections of mathematics. Thus, the field of economic-mathematical research is diverse and wide, and requires the active use of various branches of mathematics, systematic analysis and results.

Keywords: modeling, market economy, economic models, research, macroeconomic models.

Model — bu shunday moddiy yoki xayolan tasavvur qilinadigan obyekt, qaysiki tadqiqot jarayonida haqiqiy obyektning o‘rnini shunday bosadiki, uni bevosita o‘rganish haqiqiy obyekt haqida yangi bilimlar beradi.

Bir tomondan, modellar oson o‘rganiladigan bo‘lishi kerak, shuning uchun ular juda murakkab bo‘lmasligi kerak — binobarin, ular albatta faqat soddalashtirilgan nusxalar bo‘ladi. Biroq, ikkinchi tomondan, modellarni o‘rganishdan olingan xulosalarni haqiqiy obyektlarga ham qo‘llash lozim, demak, model o‘rganilayotgan haqiqiy obyektning muhim tomonlarini aks ettirishi kerak.

Modellashtirish deganda, modellarni qurish, o‘rganish va qo‘llash jarayoni tushuniladi. Modellashtirish jarayoni quyidagi uch elementni o‘z ichiga oladi:

- 1) subyekt (tadqiqotchi);
- 2) tadqiqot obyekti;
- 3) o‘rganuvchi subyekt bilan o‘rganilayotgan obyektning munosabatlarini vositalovchi model.

Turli iqtisodiy hodisalarni o'rganish uchun ularning *iqtisodiy modellar* deb ataluvchi soddalashtirilgan formal tasvirlaridan foydalaniladi. Iste'mol tanlovi modellari, firma modellari, iqtisodiy o'sish modellari, tovar va moliya bozorlaridagi muvozanat modellari va boshqa ko'p modellar iqtisodiy modellarga misol bo'ladi.

Iqtisodiyotda matematik model — bu iqtisodiy obyektlar yoki jarayonlarni tahlil qilish yoki boshqarish maqsadida ularning matematik tasvirlanishi, ya'ni iqtisodiy masalaning matematik yozuvi. Iqtisodiy obyektning matematik modeli — bu uning funksiyalar, tenglamalar, tengsizliklar, mantiqiy munosabatlar, grafiklar majmuasi ko'rinishidagi aks ettirilishi. Bunday aks ettirish o'rganilayotgan obyekt elementlarining munosabatlari to'plamini model elementlarining shunga o'xshash munosabatlariga birlashtiradi.

Zamonaviy iqtisodiy nazariya mikro va makromiqyosda zarur elementlardan biri bo'lgan matematik modellar va usullarni o'z ichiga oladi. Matematikaning iqtisodiyotda ishlatilishi, *birinchidan*, iqtisodiyotdagi o'zgaruvchilar va obyektlar orasidagi bog'lanishlarni ajratib olish va formal ravishda tasvirlashga imkon beradi; *ikkinchidan*, aniq ifodalangan dastlabki ma'lumotlar va munosabatlar orqali o'rganilavotgan obyektga aynan o'xshash xulosalarni olish mumkin. *Uchinchidan*, matematika va statistika usullari obyekt haqida yangi bilimlar olishga, obyektning mavjud kuzatishlarga mos keluvchi o'zgaruvchilari orasidagi bog'lanish parametrlarini baholashga imkon beradi; *to'rtinchidan*, matematika tilining ishlatilishi iqtisodiy nazariya qoida, tushuncha va xulosalarini aniq va ixcham bayon qilishga imkon beradi. Iqtisodiyotda matematikaning qo'llanilishi deganda oddiy iqtisodiy hisob-kitoblar emas, balki iqtisodiy qonuniyatlarni o'rganishda, yangi nazariy xulosalar chiqarishda, eng yaxshi iqtisodiy yechimlar hosil qilishda matematikaning qo'llanilishi tushuniladi.

Matematik modelni qurish. Bu bosqich iqtisodiy muammoni formallashtirish, uni tayinli matematik bog'lanishlar va munosabatlar (funksiyalar, tenglamalar, tengsizliklar va h.k.) ko'rinishida ifodalash bosqichidir. Odatda avval matematik modelning asosiy qurilmasi (turi) aniqlanadi, so'ngra bu qurilmaning tarkibiy qismlari (o'zgaruvchilar va parametrlarning aniq ro'yxati, bog'lanishlar shakli) aniqlashtiriladi.

Modelni matematik tahlil qilish. Bu bosqichning maqsadi modelning umumiy xossalarini aniqlashdan iborat. Bu yerda tadqiqotning sof matematik usullari qo'llaniladi. Modelning analitik tadqiqotida yechimning mavjudligi, yagonaligi, yechimga qaysi o'zgaruvchilar (noma'lumlar) kirishi mumkinligi, ular orasidagi munosabatlar, bu o'zgaruvchilar qaysi doirada va qanday dastlabki shartlarga bog'liq ravishda o'zgarishi, ularning o'zgarish yo'nalishlari va shu kabi masalalar oydinlashtiriladi.

Shunga qaramay, murakkab iqtisodiy obyektlarning modellari juda katta qiyinchilik bilan analitik tadqiqotlarga keltiriladi. Analitik usullar bilan modelning umumiy xossalarini aniqlashning ilojisi bo'lmaydigan hamda modelni

soddalashtirish maqsadga muvofiq bo‘lmagan natijalarga olib keladigan hollarda tadqiqotning sonli usullariga o‘tiladi.

Bu bosqichdagi qiyinchiliklar, birinchi navbatda, iqtisodiy masalalarning katta hajmi, juda katta axborot massivlarini qayta ishlash zaruriyatidan kelib chiqadi.

Sonli usullar bilan o‘tkaziladigan tadqiqot analitik tadqiqot natijalarini jiddiy to‘ldirishi mumkin, ko‘pgina modellar uchun esa u amalga oshiriladigan birdan-bir tadqiqot bo‘ladi. Sonli usullar bilan yechish mumkin bo‘lgan iqtisodiy masalalar sinfi analitik tadqiqot qilish mumkin bo‘lgan masalalar sinfidan ancha kengroq.

Tekshirishning matematik usullari modellarning noto‘g‘ri tuzilishini aniqlaydi va shu bilan to‘g‘ri bo‘lishi mumkin bo‘lgan modellar sinfini toraytiradi. Model vositasida olinadigan nazariy xulosalar va sonli natijalarning formal bo‘lmagan tahlili, ularni mavjud bilimlar va haqiqatdagi faktlar bilan solishtirish iqtisodiy masala qo‘yilishining, qurilgan matematik modelning, uni axborot bilan va matematik ta‘minotining kamchiliklarini payqashga imkon beradi.

Iqtisodiy modelga quyidagi misollarni keltirish mumkin:

1-masala. Bir yildan keyin \$12000 olish uchun bankka berilgan stavkada (20% yillik) qancha so‘m qo‘yish kerak?

Yechish: Bu masalaning modelini tuzish uchun quyidagi belgilanishlarni kiritamiz: M_0 - orqali boshlang‘ich summani, M_1 - orqali oxirgi summani, R - orqali foiz stavkasini belgilaymiz

U holda oxirgi summaning ko‘rinishi:

$$M_1 = M_0 \left[1 + \frac{R}{100} \right]$$
$$M_0 = \frac{M_1}{1 + \frac{R}{100}} = \frac{12000}{1.2} = \$10000$$

bo‘ladi. Dastlabki summa esa dan iborat bo‘ladi.

2-masala. Suv xo‘jaligi korxonasi texnika bilan qayta qurollanishi mehnat unumdorligini o‘rtacha 20 % ga oshirildi. Korxonaning dastlabki ishlab chiqarish hajmi qancha bo‘lganda u 12000 birlik mahsulot ishlab chiqara oladi? Iqtisodiy masalaning modeli tuzilsin. Korxonaning dastlabki ishlab chiqarish hajmini - Q_0 , keyingi ishlab chiqarish hajmini — Q_1 o‘sish unumdorligini, % R deb belgilaymiz. O‘rtacha mehnat unumdorligi Q/L ni hisobga olsak (bu yerda L ishchi kuchi), boshlang‘ich ishlab chiqarish hajmi

$$Q_1 = Q_0 \frac{L_1}{L_0} = Q_0 \left[1 + \frac{(L_1 - L_0)}{L_0} \right] = Q_0 \left(1 + \frac{R}{100} \right),$$

$$Q_0 = \frac{Q_1}{1 + \frac{R}{100}} = \frac{12000}{1.2} = 10000$$

bundan dastlabki ishlab chiqarish hajmi:
hosil bo'ladi. Hosil qilingan modellarni solishtirib ko'rilsa, bu modellarning matematik ifodasining umumiy ko'rinishi

$$X_1 = X_0 \left[1 + \frac{R}{100} \right]$$

bo'lishini ko'rish qiyin emas. Shunday qilib, bir turdagi matematik model turli xildagi iqtisodiy masalalarni yechish uchun ishlatilishi mumkin ekan.

Bozor munosabatlari sharoitida iqtisodiy jarayonlar ham mikro darajada ham makro darajada o'zaro bir-biri bilan uzviy bog'lanishda bo'lganligi sababli, ularning bog'lanishlari iqtisodiy jarayonlarni aks ettiruvchi ko'rsatkichlarning bog'lanishlari yordamida tahlil etiladi. Bog'lanishlarning tahlili esa jarayonlarni aks ettiruvchi u yoki bu ekonometrik modellar yordamida amalga oshiriladi. Buning uchun yuqorida aytib o'tilgan modellashtirishning barcha bosqichlari amalga oshiriladi va ekonometrik model tuziladi.

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**THE ROLE OF NATURAL CONDITIONS IN THE RESEARCH OF
PASTURE LANDS (ON THE EXAMPLE OF THE REPUBLIC OF
KARAKALPAKSTAN)**

Abstract. This thesis endeavors to elucidate the multifaceted role of natural conditions in the study of pasture lands. By thoroughly examining the intricate network of ecological interactions and human interventions, this study aims to shed light on the intricate relationships that influence the current and future courses of these crucial landscapes. Through the synthesis of theoretical frameworks and practical concepts, the primary objective of this study is to provide an academic examination of the key factors and influences that underlie the intricate dynamics of pasture land ecosystems. Additionally, it seeks to examine in-depth the significant impact of natural conditions on pasture lands.

Introduction. On Earth, pasture lands are crucial ecosystems that provide support for a variety of ecological functions and human activities. These extensive grasslands not only serve as crucial habitats for wildlife, but also play a paramount role in supporting global livestock production. Nevertheless, today, the intricate relationship between natural conditions and pastures continues to be a topic of profound scientific research and practical significance.

Understanding the dynamics of pasturelands necessitates a thorough investigation into the interplay between environmental factors and ecological processes. From soil composition and topography to climate and biodiversity, the natural conditions of a given region have a profound impact on the productivity, resilience, and sustainability of pastureland ecosystems. Recognizing these complexities is of paramount importance in informing effective land management strategies amidst the growing environmental challenges and evolving socio-economic demands.

From this perspective, it is of utmost importance to thoroughly examine the natural conditions of these areas and derive the requisite conclusions in order to establish the optimal utilization of pasturelands. It is crucial to examine the accessible sources of soil and vegetation types, precipitation quantities, seasonally recorded air temperatures, and water availability levels in the pastureland regions.

Main part. If we consider the geographical positioning of the territory of the Republic of Karakalpakstan, we observe that this region is situated in the northwestern region of the Kyzylkum desert, the southeastern region of the Ustyurt plateau, the southern part of the Aral Sea, and the Amudarya delta. The

northwestern region of the Kyzylkum area comprises expansive flat plains that gradually slope downwards, leading to the Aral Sea [4].

The territory of the Republic of Karakalpakstan is situated in a region characterized by a relatively straightforward surface topography. The western portion of Karakalpakstan comprises the Ustyurt plateau, while the remaining expanse is composed of the Turan plain.

The pasture lands within the territory of the Republic of Karakalpakstan predominantly comprise flat terrains and are subject to a rigorous continental climate marked by arid summers, relatively frigid winters, and minimal precipitation in the form of snow. According to the data, the average temperature in January is -4.9°C in the southern region, -7.6°C in the northern region. In July, the average temperature is 28.2°C in the south and 26°C in the north. The annual precipitation amounts to 110 mm, with the majority occurring during the winter and spring seasons. In this regard, the impact of drought in the region is strongly evident, with evaporation rates being 9-10 times higher than average. The duration of the vegetation period spans from 194 to 214 days.

The irrigated lands in this region are located around the Amudarya basin. Existing literature has explicitly mentioned that due to extensive irrigation activities in the middle and upper reaches, the flow of river water towards the Aral Sea has been significantly diminished [3]. This situation leads to the expansion of desert areas and negative consequences of natural factors. It is important to highlight that, despite the vast land area of the Republic of Karakalpakstan, the potential for the expansion of irrigated agriculture remains relatively constrained.

The soil types observed in the Republic of Karakalpakstan vary according to the geographical regions in which they are situated. For example: "In the Amudarya delta, one can observe characteristic saline alluvial meadows, alluvial meadow groves, desiccated lakes, and marshes. The Kyzylkum region is renowned for its infertile soils. Within the Ustyurt plateau, gray-brown and infertile soils predominate. Sandy desert soils are scattered in the dry part of the Aral Sea" [4]. Depending on these types of soil, there are also different types of vegetation in the regions. This, in turn, serves to determine the types of livestock raised in the regions.

The productivity of the agricultural lands of the region is relatively low, and the average score is 42 points. The salinity of cultivated areas is high, with an average salinity of 35 percent. The high level of salinity leads to a decrease in the productivity of agricultural fields. Amudarya and Turtkul districts in the Republic of Karakalpakstan take the lead in terms of soil quality assessment with a score of 48 points. According to the data of the State Scientific Design Institute "Uzdavyerloyiha" on the assessment of soil fertility in the districts, it is presented as follows (Fig.1).

The main water source of Karakalpakstan is Amudarya. The largest lake of Karakalpakstan is the Aral Sea, as well as the Sudoche lake system connected

with the Khujakul-Kara-Jar lake system, as well as artificial reservoirs created in the dry part of the Aral Sea.

Due to the fact that the territory of Karakalpakstan is located in the non-tropical desert zone, the vegetation cover varies by zone (Fig. 2).

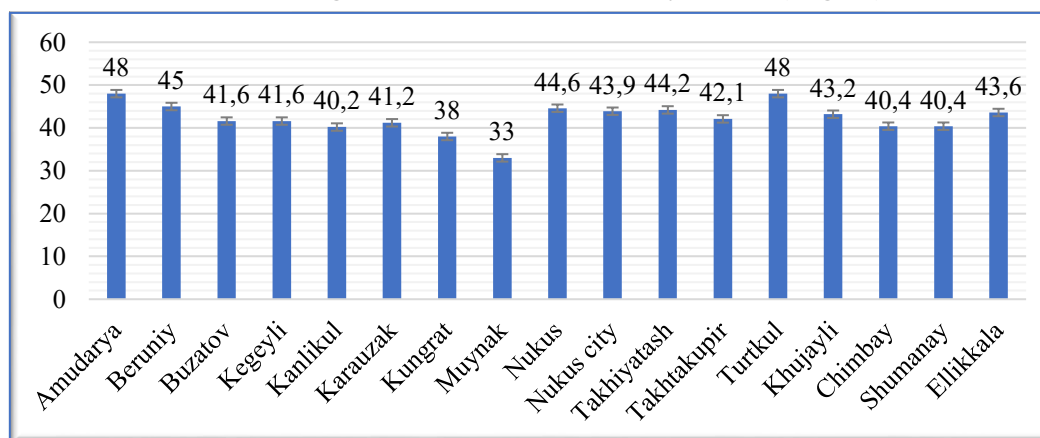


Figure 1. Average level of soil fertility (districts)

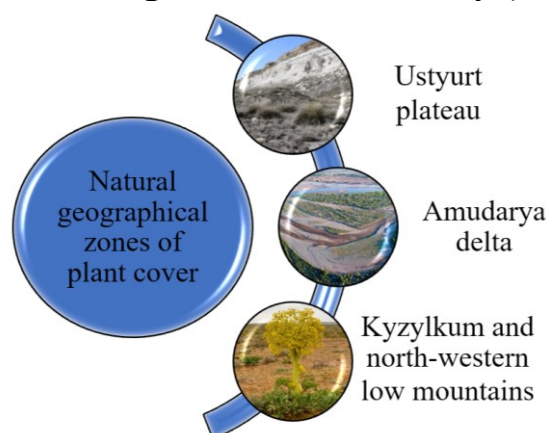


Figure 2. Natural geographical zones of plant cover

Today, a total of 979 types of plants are found in Karakalpakstan [4].

Currently, it is one of the natural plants of Karakalpakstan it is used as fodder, forest raw materials, medicines, and for the purpose of grazing livestock in pastures.

In the agro-economic system of the Republic of Karakalpakstan, the production of mainly cotton, rice, meat and wool products is relatively developed. The specialization of the region's agriculture in such areas is mainly related to its agro-climatic conditions [3]. The ratio of agricultural and livestock products varies from year to year depending on weather conditions.

Analyzes. Karakalpakstan has a large land area, but the level of utilization of this natural opportunity is low due to water scarcity. According to the data of the State Cadastre Chamber of the Cadastre Agency of the Republic of Uzbekistan as of January 1, 2022, only 34.2 percent of the total land area of the Republic of Karakalpakstan is used for agriculture. In turn, irrigated land is only 8.3% of the total agricultural land. At the district scale, there are more irrigated lands in

Amudarya, Chimbay, Kungirat districts [6]. The least amount or share of them corresponds to Takhyatash, Muynak and Khujayli districts (Fig. 3).

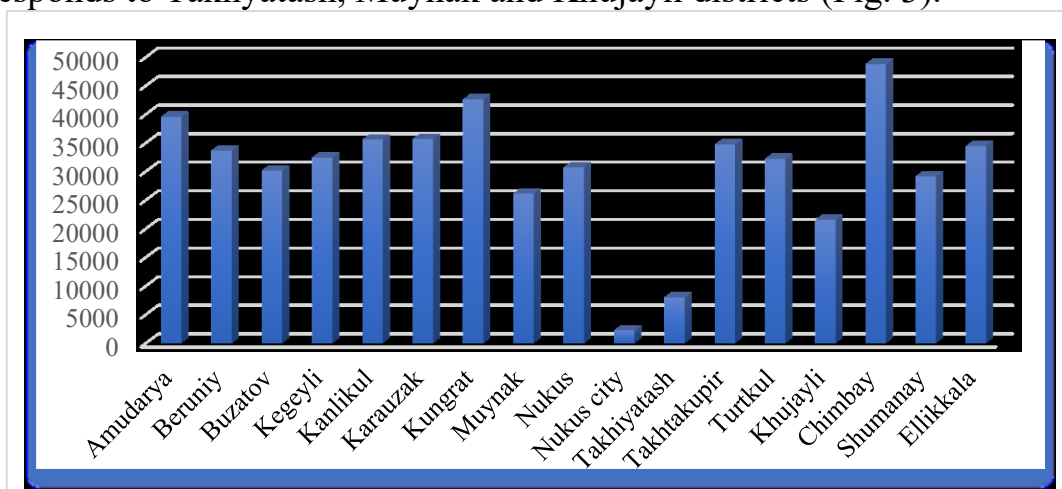


Figure 3. Irrigated land areas (in districts)

Beruniy, Turtkul, Amudarya, and Ellikkala districts are leading in terms of livestock breeding. According to the number of sheep and goats, Karauzak, Kungirat, Takhtakupir, Turtkul, Ellikkala districts stand out [3]. In Karakalpakstan, pasture cattle breeding is developed, mainly alfalfa is grown from fodder crops.

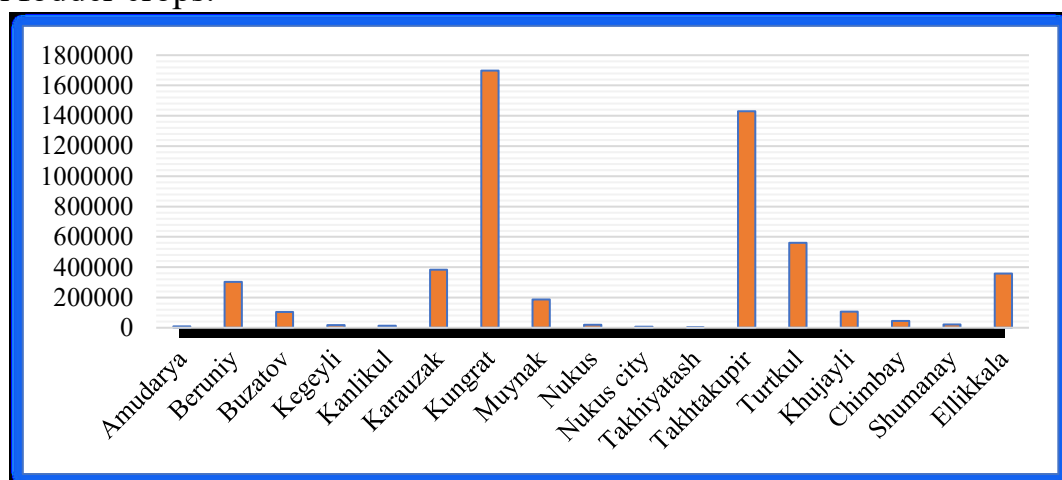


Figure 4. Total hay and pasture land of the Republic of Karakalpakstan (in hectares)

The land of pastures and hayfields is 5265.9 thousand hectares, of which 35.8 thousand hectares are irrigated pastures and hayfields [5].

With 15616 hectares of irrigated hayfields and pastures, the region with the largest area in the Republic of Karakalpakstan is Muynak district. Buzatov district, with an area of 14,638 hectares, takes the second place after Muynak district (Fig. 5).

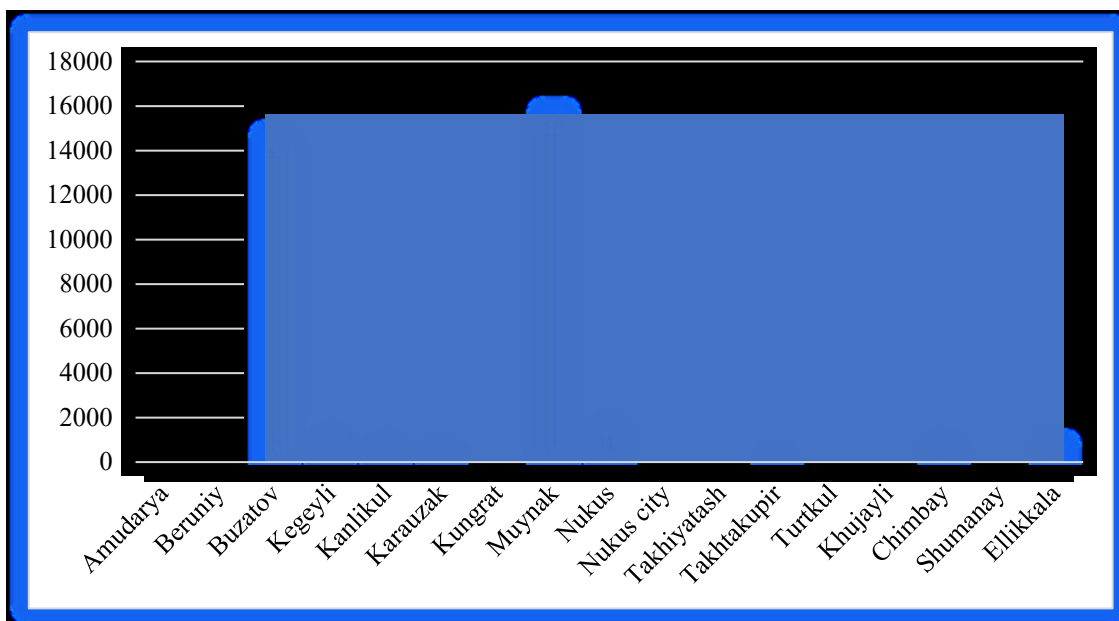


Figure 5. Total irrigated hay and pasture land in the Republic of Karakalpakstan (in hectares)

Considering the natural conditions of the Republic of Karakalpakstan, it is advisable to select livestock species in accordance with the principles governing soil and plant distribution.

Given that the majority of this region consists of desert areas, it is advisable to opt for livestock species that exhibit resistance to desert conditions and require minimal water consumption. Moreover, the selection of these species for breeding should be based on their capacity to efficiently utilize desert pastures.

Conclusions. Today, not only global climate change processes, but also negative effects of natural climate conditions are being observed in the region as a result of the drying up of the Aral Sea. This, in turn, can lead to an increase in pasture land degradation and a decrease in productive hayfields. This, in turn, naturally raises concerns about food security as the population continues to grow. From this point of view, it is necessary to constantly monitor these pasture lands, to know in advance the natural processes observed in the area and to implement the necessary measures while improving the use of modern technologies.

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TA'LIM XIZMAT KO'RSATISH SOHASIDA BIZNES JARAYONLARNI BARQAROR RIVOJLANISH DARAJASIGA TA'SIR ETUVCHI OMILLAR TAHLILI

Annotatsiya. Ushbu maqolada ta'lim xizmat ko'rsatish sohasidagi biznes jarayonlarning barqaror rivojlanish darajasiga ta'sir etuvchi omillar tahlil qilinadi. Barqaror rivojlanishning iqtisodiy, ijtimoiy, texnologik, ekologik, siyosiy va madaniy o'lchovlari o'rganiladi. Mazkur maqola oliy ta'lim muassasalarining uzoq muddatli barqarorligini ta'minlash, operatsion va akademik ko'rsatkichlarini oshirish uchun zarur strategiyalarni tahlil etadi. Muallif barqaror ta'lim madaniyatini shakllantirish, ekologik barqarorlikni qo'llab-quvvatlash, texnologik innovatsiyalarni tatbiq etish va jamiyat ishtirokini oshirish orqali ta'lim muassasalarining barqaror rivojlanishiga erishish yo'llarini ko'rib chiqadi.

Kalit so'zlar: Ta'limning barqaror rivojlanishi, barqaror rivojlanish, barqaror ta'lim, oliy ta'lim muassasasi, barqaror rivojlanish maqsadlari, ekologik ta'lim.

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ANALYSIS OF FACTORS AFFECTING THE LEVEL OF SUSTAINABLE DEVELOPMENT OF BUSINESS PROCESSES IN THE FIELD OF EDUCATIONAL SERVICES

Abstract. This article analyzes the factors affecting the level of sustainable development of business processes in the field of educational services. Economic, social, technological, ecological, political and cultural dimensions of sustainable development are studied. This article analyzes the necessary strategies to ensure the long-term stability of higher education institutions, to increase their operational and academic performance. The author considers ways to achieve sustainable development of educational institutions by creating a sustainable educational culture, supporting environmental sustainability, implementing technological innovations and increasing community participation.

Keywords: Sustainable development of education, sustainable development, sustainable education, higher education institution, sustainable development goals, environmental education.

Kirish

Ta'lim xizmatlarining jadal rivojlanayotgan manzarasida barqaror rivojlanishga intilish butun dunyo bo'ylab muassasalar uchun muhim maqsad sifatida paydo bo'ldi. Ushbu kontekstda barqaror rivojlanish ta'lim tashkilotlarining uzoq muddatli istiqbolda operatsion, moliyaviy va akademik ko'rsatkichlarini saqlab qolish va oshirish, shu bilan birga jamiyat va atrof-muhit maqsadlariga ijobiy hissa qo'shish qobiliyatini anglatadi. Yuqori sifatli ta'limga bo'lgan talab ortib borayotganligi sababli, manfaatdor tomonlarning barqarorlik amaliyotiga nisbatan ko'proq tekshiruv bilan birgalikda, ta'lim muassasalari raqobatbardosh bozorda ularning hayotiyli va dolzarbligini ta'minlaydigan keng qamrovli strategiyalarni qabul qilishga majbur.

Ta'lim xizmatlarida barqaror rivojlanishning ahamiyatini ortiqcha baholab bo'lmaydi. U iqtisodiy barqarorlik va texnologik innovatsiyalardan tortib, ijtimoiy tenglik va atrof-muhitni boshqarishgacha bo'lgan keng ko'lami omillarni o'z ichiga oladi.

Bundan tashqari, ta'lim muassasalari jamiyat qadriyatlarini shakllantirish va barqarorlik madaniyatini yuksaltirishda hal qiluvchi rol o'ynaydi. Barqaror amaliyotlarni o'z faoliyati va o'quv dasturlariga kiritib, ular nafaqat ekologik izlarini kamaytiradi, balki kelajak avlodlarni barqaror rivojlanish uchun himoya qilishga o'rgatadi va ilhomlantiradi. Ushbu yaxlit yondashuv barqarorlik nafaqat muvofiqlik talabi, balki muassasaning missiyasi va qarashlarini boshqaradigan asosiy tamoyil ekanligini ta'minlaydi.

Ushbu maqolada ta'lim sohasidagi biznes jarayonlarning barqaror rivojlanish darajasiga ta'sir qiluvchi ko'p qirrali omillar ko'rib chiqiladi. U iqtisodiy, ijtimoiy, texnologik, ekologik, siyosiy va madaniy o'lchovlarni o'rganadi, bu elementlarning barqarorlik sa'y-harakatlarini qo'llab-quvvatlash yoki to'sqinlik qilish uchun qanday o'zaro ta'siri haqida tushuncha beradi. Muhokama misollar va amaliy misollar orqali barqaror o'sishga erishish uchun yetakchi ta'lim muassasalari tomonidan qabul qilingan ilg'or tajriba va innovatsion strategiyalarni yoritib beradi. Ushbu dinamikani tushunish orqali manfaatdor tomonlar ta'limdagi barqarorlikning murakkabliklarini yaxshiroq yo'lga qo'yishlari va yanada mustahkam va kelajakka yo'naltirilgan ta'lim ekotizimiga hissa qo'shishlari mumkin.

Adabiyotlar tahlili

Barqarorlik sub'ektlarini oliy ta'limda (BTM) taniqli o'zlashtirishni ta'minlash va kelajak avlodlar o'rtasida fikrlarni tarqatish va rag'batlantirish uchun barqarorlik bo'yicha akademik miqyosda samarali o'quv dasturini yaratish juda muhimdir. [1]

1972 yilda BMTning inson muhiti bo'yicha konferentsiyasidan beri oliy ta'lim muassasalari (OTM) barqaror rivojlanishga (SD) hissa qo'shish uchun tobora faol choralar ko'rmoqda [2]

Barqaror rivojlanish uchun ta'limga urg'u berishini hisobga olsak, bu yondashuv kelajakda o'qituvchilar ta'limi va tadqiqotlarida qo'shimcha ko'rib chiqilishi mumkin. [3]

Taraqqiyot tushuncha sifatida turli olimlarning turli ma'nolari, talqinlari va nazariyalari bilan bog'langan. Rivojlanish "insonning yangi tuzilmalarni boshlash, muammolarni engish, doimiy o'zgarishlarga moslashish va yangi maqsadlarga erishish uchun maqsadli va ijodiy intilish nuqtai nazaridan o'sib borayotgan evolyutsion jarayon" deb ta'riflanadi[4]

Tadqiqot metodologiyasi

Ushbu maqolada resurslarni boshqarish, jamoatchilik ishtiroki va texnologik innovatsiyalar kabi omillar barqaror rivojlanish bilan qanday kesishishi, natijada ta'lim xizmatlarining samaradorligi va uzoq umr ko'rishiga ta'sir qilishini o'rganadi. Ta'lim xizmatlari sohasida barqaror rivojlanishni ta'minlovchi asosiy omillarni yoritib, ushbu maqola chuqur munozaralarni qo'zg'atishga va sohada faol choralar ko'rishga undaydi. Ta'lim xizmatlaridagi biznes jarayonlarning barqarorligini shakllantiradigan murakkab ta'sirlar tarmog'ida harakat qilayotganimizda, bu sayohatda bizga qo'shiling va natijada yorqinroq va barqaror kelajakka yo'l ochib beradi.

Tahlil va natijalar muhokamasi

Iqtisodiy barqarorlik ta'lim muassasalarining uzoq muddatli rivojlanishida muhim rol o'ynaydi. Moliya resurslari, hukumat, xususiy sektor va talabalarning o'qish haqidagi keladigan daromadlar orqali yetarli darajada ta'minlanishi kerak. Moliya boshqaruvi samarali bo'lishi zarur, chunki bu resurslarning maqsadli va oqilona sarflanishini ta'minlaydi. Bozor talabi ham muhimdir, chunki bu ta'lim xizmatlariga bo'lgan ehtiyojni aniqlash va moliyaviy salomatlikni oshirishga yordam beradi.

Ta'lim muassasalari rivojlanishiga ta'sir qiluvchi ijtimoiy omillar orasida demografik tendensiyalar, jamoat ishtiroki va ta'lim sifatini saqlash muhim o'rin tutadi. Aholi sonining o'sishi, yosh taqsimoti va ijtimoiy-iqtisodiy holat kabi omillar talabalar soniga ta'sir qiladi. Mahalliy jamoat va bitiruvchilarning muassasa bilan faol hamkorligi ham muhimdir. Ta'lim sifatini yuqori darajada saqlash esa talabalarni jalb qilish va saqlab qolishda asosiy omillardandir.

Raqamli infratuzilma va innovatsion o'qitish usullari ta'lim xizmatlarining samaradorligini oshiradi. Onlayn ta'lim, gibrid modellardan foydalanish va sun'iy intellektni qo'llash muhimdir. Ma'lumotlar tahlili orqali qaror qabul qilish jarayonini yaxshilash va ta'limni shaxsiylashtirish mumkin. Texnologik innovatsiyalar o'qitish va boshqaruv jarayonlarini samarali qilishga yordam beradi.

Ekologik barqarorlik ta'lim muassasalari uchun ham muhimdir. Kampus faoliyatida ekologik barqaror amaliyotlarni qo'llash va yashil binolar hamda energiya tejaydigan texnologiyalarga sarmoya kiritish zarur. Talabalar va xodimlarni ekologik barqarorlik haqida xabardor qilish va ularni bu borada

o'qitish muhimdir. Bu nafaqat muassasaning ekologik izini kamaytiradi, balki jamiyatda barqaror rivojlanishga hissa qo'shadi.

Ta'lim muassasalari mahalliy, milliy va xalqaro ta'lim standartlari va qoidalarga amal qilishlari kerak. Davlat siyosati va grantlari ta'lim sohasida barqaror rivojlanishni qo'llab-quvvatlashi mumkin. Intellektual mulk huquqlarini himoya qilish va boshqarish ham muhim ahamiyatga ega, chunki bu muassasaning ilmiy va innovatsion salohiyatini saqlashga yordam beradi.

Ta'lim muassasalarining ichki madaniyati barqarorlikni va doimiy yaxshilanishni qo'llab-quvvatlashi kerak. Turli xil fikrlar va g'oyalarni rivojlantirish uchun xilma-xillik va inklyuziyani ta'minlash muhimdir. Globallashuv jarayoniga moslashish va xalqaro talabalarni jalb qilish ta'lim muassasalarining raqobatbardoshligini oshiradi.

Operatsion omillar -Ma'muriy va operatsion jarayonlarni optimallashtirish ta'lim muassasalarining samaradorligini oshiradi. Xavflarni aniqlash va boshqarish, ta'lim sifati va standartlarini doimiy monitoring qilish va yaxshilashga qaratilgan chora-tadbirlar muhimdir.

Institutsional majburiyat va yetakchilik

Ta'lim xizmatlarining barqaror rivojlanish darajasiga ta'sir qiluvchi muhim omil institutsional majburiyatdir. Muassasa rahbariyati barqarorlik kun tartibini belgilash, professor-o'qituvchilar, xodimlar va talabalarni ilhomlantirish va barqaror amaliyotlar uchun qulay muhit yaratishda hal qiluvchi rol o'ynaydi. Rahbarlik majburiyati ko'pincha barqarorlik siyosatini ishlab chiqish va amalga oshirish, resurslarni taqsimlash va barqarorlik qo'mitalari yoki ishchi guruhlarni tashkil etish orqali namoyon bo'ladi. Ayrim ta'lim muassasalari tashkilot ichidagi barqaror tashabbuslarni nazorat qilish va boshqarish uchun "Barqaror rivojlanish bo'yicha bosh direktor"ni tayinlash amaliyotini qo'llagan.

O'quv dasturlari integratsiyasi

Barqarorlik tamoyillarini o'quv dasturiga integratsiyalash barqaror rivojlanishni rag'batlantirishning kuchli strategiyasidir. Bu nafaqat talabalarni barqarorlik muammolarini hal qilish uchun zarur bo'lgan bilim va ko'nikmalar bilan jihozlaydi, balki muassasada barqarorlik madaniyatini rivojlantiradi. Barqarorlikni turli akademik fanlarga kiritish barqaror rivojlanishni rag'batlantirishda o'yinni o'zgartirishi mumkin. Ko'pgina universitetlar hozirda barqarorlik mavzusiga oid dasturlar yoki kurslarni taklif qilmoqdalar va ba'zilar barqarorlikni barcha akademik fanlarga integratsiyalash orqali bir qadam oldinga borishdi va shu bilan barqarorlikni tizimli tushunishni rivojlantirdilar.

Yashil infratuzilma va operatsiyalar

Ta'lim muassasalarining jismoniy infratuzilmasi va faoliyati ularning barqaror rivojlanish darajasiga sezilarli ta'sir ko'rsatishi mumkin. Bunga energiya samaradorligi, chiqindilarni boshqarish, suvni tejash, yashil qurilish amaliyoti va transport kabi jihatlar kiradi. Talabalar shaharchasini ko'kalamzorlashtirish nafaqat muassasaning ekologik izini kamaytiradi, balki talabalar uchun barqarorlik haqida bevosita o'rganishlari uchun tirik laboratoriya bo'lib xizmat

qiladi. Ko‘plab muassasalar quyosh panellarini o‘rnatish, chiqindisiz siyosatni amalga oshirish va jamoat transporti yoki velosipeddan foydalanishni rag‘batlantirish kabi yashil tashabbuslarni amalga oshirdi.

Jamiyat ishtiroki va hamkorlik

Mahalliy hamjamiyatni jalb qilish va boshqa tashkilotlar bilan hamkorlikni yo‘lga qo‘yish barqaror rivojlanish sa'y-harakatlarini sezilarli darajada oshirishi mumkin. Bu xizmatlarni o‘rganish, jamoatchilik bilan aloqa qilish dasturlari va mahalliy biznes yoki notijorat tashkilotlar bilan hamkorlikni o‘z ichiga olishi mumkin. Bunday tashabbuslar talabalar va xodimlar o‘rtasida ijtimoiy mas’uliyat hissini uyg‘otishi va jamiyat darajasida barqaror rivojlanishga hissa qo‘shishi mumkin. Bir qator maktablar va universitetlar mahalliy tashkilotlar bilan bog‘dorchilik, qayta ishlash dasturlari va barqaror rivojlanish bo‘yicha seminarlar kabi loyihalar uchun hamkorlik o‘rnatdilar.

Tadqiqot va innovatsiyalar

Barqarorlik sohasidagi tadqiqotlar va innovatsiyalar ta’lim xizmatlarining barqaror rivojlanishida muvaffaqiyatga olib kelishi mumkin. Bu qayta tiklanadigan energiya, barqaror qishloq xo‘jaligi va iqlim o‘zgarishiga moslashish kabi sohalarda tadqiqotlar, shuningdek barqarorlik muammolariga innovatsion yechimlarni ishlab chiqishni o‘z ichiga olishi mumkin. Barqarorlik sohasidagi tadqiqotlar va innovatsiyalarni rag‘batlantirish orqali ta’lim muassasalari barqaror rivojlanishni yanada kengroq miqyosda rivojlantirishga yordam beradigan yangi bilim va texnologiyalarni yaratishga hissa qo‘shishi mumkin. Ko‘pgina universitetlar barqarorlik ilmi va innovatsiyalariga bag‘ishlangan ko‘plab tadqiqot markazlari va institutlari bilan barqarorlikni tadqiq qilishda birinchi o‘rinda turadi.

Xulosa va takliflar

Ta’lim xizmatlarining barqaror rivojlanishiga ko‘plab omillar ta'sir ko‘rsatadi. Ushbu omillarni umumiy tarzda ichki va tashqi omillarga bo‘lish mumkin. Ichki omillarga muassasa boshqaruvi, moliyaviy boshqaruv, xizmatlar sifati va texnologiyalardan foydalanish kiradi. Tashqi omillarga ijtimoiy-iqtisodiy muhit, me'yoriy-huquqiy baza va ota-onalar, o‘quvchilar va jamiyat kabi manfaatdor tomonlarning yordami darajasi kiradi.

Tahlillarga asoslanib, ta’lim xizmatlari sohasida barqaror biznes jarayonlarni rivojlantirish bo‘yicha ba’zi takliflar:

Texnologiyani qabul qiling: Ta’lim muassasalari biznes jarayonlarini soddalashtirish uchun texnologiyadan foydalanishlari kerak. Bunga o‘qitish va o‘qitish, ma'muriy vazifalar va manfaatdor tomonlar o‘rtasidagi muloqot uchun raqamli platformalardan foydalanish kiradi.

Uzluksiz trening va rivojlanish: Xodimlar ta’lim sohasidagi so‘nggi tendentsiyalar va amaliyotlar bilan yangilanib turishlari uchun muntazam ravishda o‘qitish va rivojlanish imkoniyatlari bilan ta'minlanishi kerak. Bu ularning malakasini oshiradi va xizmat ko‘rsatish sifatini oshiradi.

Barqarorlik amaliyotlari: Institutlar o'z faoliyatlarida barqaror amaliyotlarni qo'llashlari kerak. Bu isrofgarchilikni kamaytirish, energiyani tejash va talabalar va xodimlar o'rtasida barqarorlik madaniyatini oshirishni o'z ichiga oladi.

Hamkorlik: Ta'lim muassasalari boshqa muassasalar, korxonalar va jamoat tashkilotlari bilan hamkorlikni yo'lga qo'yishi mumkin. Bu umumiy resurslar, bilim almashish va xizmatlarni yaxshilashga olib kelishi mumkin.

Talabalarga yo'naltirilgan yondashuv: Institutlar o'z faoliyatida talabalarga yo'naltirilgan yondashuvni qo'llashlari kerak. Bu talabalarning ehtiyojlari va tajribalariga e'tibor qaratish, ularni qaror qabul qilish jarayonlariga jalb qilishni anglatadi.

Innovatsiyalar: o'qitish usullari va ma'muriy jarayonlarda innovatsiyalarni rag'batlantirish. Bu samaradorlikni oshirishga olib kelishi mumkin.

Moliyaviy barqarorlik: Institutlar o'z faoliyatini qo'llab-quvvatlash uchun mustahkam moliyaviy bazaga ega bo'lishini ta'minlashi kerak. Bunga samarali moliyaviy boshqaruv, daromad manbalarini diversifikatsiya qilish va moliyalashtirish imkoniyatlarini izlash orqali erishish mumkin.

Sifatni ta'minlash: mustahkam sifatni ta'minlash tizimini joriy qilish o'qitish va o'qitishda yuqori standartlarni saqlashga yordam beradi va muassasa xizmatlari talabalar va boshqa manfaatdor tomonlarning ehtiyojlarini qondirishini ta'minlaydi.

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PROCEDURE FOR USING BASALT FIBERS IN UZBEKISTAN

Annotation. In this article, the history of the origin of basalt fibers, which are widely used in construction in the conditions of Uzbekistan today, their place and advantages in production, is explained in detail with the help of giving detailed examples.

Keywords: basalt fiber, production, carbon fiber and glass fiber, concrete, reinforcement.

First of all, what is basalt itself? Its features, procedure and where can we use it? it would be appropriate to answer such questions.

Basalt is an igneous volcanic rock from the basalt family with a basic composition of the normal alkalinity series. The name probably comes from another Greek language. Betakos - "basic" or, according to another version, Ethiopian basalt (bselt, bsalt) - "boil", "stone containing iron", because the manuscripts of Pliny the Elder say that the first basalts came from Ethiopia. The plutonic analogue of basalts is gabbro, and the hypabyssal analogue is dolerite. Traps are a type of basalt. They predominate among other cainotype (weakly altered) volcanic rocks.

In seismology, "basaltic" refers to the lower layer of the earth's crust, characterized by an increase in the speed of longitudinal seismic waves ($v_P = 6.5-7.2 \text{ km / s}$), characteristic of basalts. The thickness of the basalt layer on the continents reaches 20-35 km, in the oceans it does not exceed 5-6 km. To determine the nature of the "basalt" layer, the Kola ultra-deep well was drilled.

Due to its low weight, resistance to the negative effects of acids, salt solutions and alkalis, basalt fiber becomes a more convenient material for use in various fields of production. Unlike expensive carbon and less strong fiberglass, the basalt counterpart is highly resistant to abrasion, structural mechanical stress, high temperature and ultraviolet radiation, excellent strength and electromagnetic inertness.

The appearance of basalt fiber is as follows, that is, basalt is a solidified volcanic magma by nature, its properties have changed due to the influence of the atmosphere. This petrified breed became the basis for many tools of ancient man. (Fig. 1)



Rice. 1. Appearance of basalt fiber.

The production of small amounts of fiber from it started only in the 20s of the 20th century. But during the height of the Cold War between the USSR and the USA, scientists actively developed the material, carefully studying its useful properties and the possibilities of its use for militaristic purposes. The industrial method of producing fiber from basalt was used in the early 80s. The center of its development was located in Kiev.

Over time, it was abandoned in favor of more expensive carbon fiber and fiberglass. The reason for this was the imperfection of basalt processing technologies. Today, technology has developed and the situation has changed radically.

The main stages of production of basalt fiber are as follows:

- Fine fibers are obtained by melting fine basalt at an extremely high temperature of +1500 degrees Celsius and passing the resulting mass through spinners - funnel-shaped small holes.
- Raw materials are blown with compressed air or sprayed using centrifugal devices.
- Melt filaments are drawn and wound into spools. No chemical additives are used in the process.

Fiberglass is also produced in this way, but it contains several components at the same time.

The use of basalt fiber in composite materials is carried out in the following order, that is, the composite consists of a binding material (matrix) and a filler. The latter can be in the form of rovings, cords and continuous fiber fabrics. By properly combining these materials, you can get completely different products with unique properties and characteristics. Basalt thermoplastic composites are highly crack resistant and can be easily processed at high temperatures. In heat-

resistant basalt composites used in the rocket industry, metal and ceramics are used for the binder.

Construction is one of the main industries where basalt products are widespread. Here, many structures are based on unusually strong concrete, reinforced with special basalt fiber, which tolerates any temperature and high humidity. Reinforcement from the same fiber makes the construction object strong.

With the help of basalt wool, you can increase the sound and heat insulation of the room. The goal of the work of many scientists is to create ideal containers for storing various chemicals. They are expected to be cylinders made of basalt fiber.

The main task is the protection of nature and the environment, which will require the following:

- Basalt composites are easily recycled for later return to production.
- Waste from their production is used to create a large amount of useful products. Processing does not require large financial costs.

Due to its low weight, non-flammability and corrosion resistance, composites are actively used in shipbuilding, in the production of eco-yachts and boats. The automotive industry is no exception. He is interested in extending the life of cars and reducing fuel consumption by reducing the weight of cars. For this, new materials are being developed for modern electric cars that increase the range and do not emit harmful emissions into the atmosphere. Heat insulation for exhaust pipes is made of basalt fiber. In addition, well-known global car manufacturers such as Tesla and Infiniti use composites to create innovative tuning kits for prestigious and expensive cars.

Basalt raw materials are widely used in industries where it is necessary to start a recycling process with the reuse of waste during the production process.

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IMPORTANT ASPECTS OF THE WORK OF SOUND DESIGNERS IN THE CREATION OF SOUND AND VISUAL IMAGE

Abstract. In this article the author reflects important aspects of the work of sound designers in the creation of sound and visual image. This article deals with the role and importance of music in screen art, the functions of illustrated music in screen art, the functions of counterpoint music in screen art. The author also pays special attention to the stages of human perception of music as the basis for the creation of a sound-visual image. This paper reflects important aspects of the basics of creating a music video as a genre of screen art.

Keywords: sound visual image, sound engineer, music, art, sound, sound, sound recording, screen art, music video.

INTRODUCTION

The emergence of sound in silent movies served to form a new art form responsible for the audiovisual image of an audiovisual work. The emergence of sound as an important component of screen art served the development and peculiarities of the field of sound engineering. The sound engineer today is responsible for the concept of sound design of film, television and radio. He or she creates sound scores that span artistic and technical fields of science. The knowledge of a sound designer sometimes requires unfathomable fields of knowledge. One component is the ever-evolving sound engineering equipment.

The sound engineer refers to the expressive means of the phonogram when creating a sound score. Skillful management and synthesis of all components (music, noises, speech) when creating a sound phonogram, create and cause the highest emotional and psychological state. This state is the final result of the correct use of sound components.

METHODS

Multimedia products involve the creation of quality sound material with the help of a sound score, which cannot be imagined without the use of computer technology. Therefore, this course reveals the theoretical and practical processes of creating a sound score and its types, the use of sound engineering equipment, creative thinking of the components of the sound work, the functions and application of music, noises, processing systems, the creation and recording of artificial and natural noises, recording of musical ensembles and more.

RESULTS AND DISCUSSION

Professional creation and techniques of realization of the sound score, help to fully realize the intention of the sound engineer and cause the listener emotional

delight and pleasant leisure. Sound score today is not only a document of documentary, feature, fiction films, but also creates professional scientific, pedagogical and methodical audiovisual pictures.

Music is the main component of a sound score. Its study and understanding of the basics of creating and perceiving sound information, helps in creating a sound designer a full-fledged sound image.

In screen art music, as a rule, complements the image, it helps to better convey to the viewer the inner meaning of the work. Today it is impossible to imagine the role of music and noises in the modern practice of screen art. These components are often underestimated and omitted in the overall structure of the work. Often music is given the role of a background component or an additional (auxiliary) element to fill the frame, semantic failure and emotional emptiness. Quite often music is used rudely, annoyingly, openly, obviously, which creates a careless and undignified attitude to it. Among the mass screen arts for television programs, unlike the film industry, the selection of music is given very little time and attention than in the creation of visuals. Accordingly, the quality of TV product suffers from this and gives it a domestic coloring, and even unprofessionalism. All this gives us the right to argue about the skew to the creation of a professional visual image, that the sophisticated music lover and the common man will reject the product. For professional creation of a screen product it is necessary to remember about the sound-visual image.

Music, first of all, is the atmosphere of a person's or character's mood. Therefore, in the structure of on-air works, music should be assigned the role of the main or internal monologue. This understanding enriches the sound image of the movie, its dramaturgy. The laws of musical construction, musical form, musical language influence all components of the structure of an ethereal work: "The aesthetic regularity of the process of interaction between music and screen forms is conditioned by their dynamics, development in time, and the principle of multi-element structures".

Thus in her book "Music of Uzbek Cinema" N.S. Yanov-Yanovskaya writes: "Music found its real place in cinema only with the arrival of sound.

Only now, when the polyphonic ringing life burst onto the screen in all the richness of its timbral colors, when sound became an organic part of the film, music becomes an integral and internally necessary element of the film work"

Music as an art form is applied in many spheres of culture and art. Music of ethereal works, as a component of the sound-visual image, obeys other rules of expressiveness than music of concert application. Hence the term "screen music", which indicates the presence of special, specific features of music. Specific aesthetic categories of the musical series of the screen called a special emotionality of music, its concentration, laconism of expression, as noted by some famous cinematographers, defines the framework of the narrative. The content of screen music is often considered in dependence on the visual and literary series. Thus, it is not difficult to imagine a large body of musical works by Uzbek and

world composers who wrote music for movies. They became a symbol of certain events. The works of D. Shostakovich, I. Dunayevsky, M. Leviev, M. Burkhanov, F. Yanov-Yanovsky, A. Ergashev, D. Zakirov and others can serve as an example.

A more profound definition of sound in screen art is the statement of sound director M. Venderov: "Sound, in combination with light, color, depth of the frame, its texture, timbre, the nature of camera movement, can shade and contrast, make sharper or smooth many sides of the screen action, affect the temporal and spatial perception of it".

The music of the screen is not only specific opportunities for perception, but depending on its use in the background context can change the whole meaning of the image on the screen. The use of serious music in a concert hall, acquires an atmosphere of seriousness and spiritual understanding of a person. The use of the same music in the context of a murderer or a homeless man acquires a comedic character.

The development of screen art, as noted in N. Efimova's book *Sound on the Air*: "...has led to the emergence of "recoding" of a musical fragment - its exclusion from the code of the original musical work and its inclusion in the code of synthetic screen art of cinema and television. Music in this case fulfills a different compositional role and carries a different semantic load"⁴.

With the development and perfection of visual art, under the influence of modern technical means, music is constantly synthesized, acts as a means of expanding the scope of our understanding of the screen action. This serves to expand and diversify sound forms, leading to an active formation of sound space. For example, the possibility of creating artificial acoustic atmospheres (quadrophony, Surround Sound and other types of surround sound) with the help of sound technical reproduction equipment.

The screen art itself in the combination of visual and sound series is identical in the perception of music of cinematography and television screen. In both types of art, the perception of music is an emotional state and influence on the psychological state of a person. This is one of the main tasks of the sound engineer in creating a sound image. For this realization, the perception of music goes through three stages:

- first there is an attitude through music to the hero or action;
- then the emotional impact on the viewer himself;
- then the psychological state of the viewer and his accumulated baggage of life experiences.

To achieve the right psychological state in the viewer, in screen art sound and visual image is created through genre diversity in music and the combination of color drama. For example, color drama in black and white is perceived as the past, and pure colors are perceived as joy, nostalgia, mixed colors - the transition of tension, anticipation.

For a long time from the emergence of screen art and its subsequent development, distinguish such a concept as illustrated music. It was the next stage after the first silent movies.

Musicians performed or improvised while watching a movie, thus creating a sound-visual image, connecting the image with music. The next stage was counterpoint music, which meant as a mismatch between the emotional state of the music and the image. The main purpose of music in this case was to enhance the potential expressiveness of the content of the screen work. "This term is used in a narrower sense, when dealing not with movie music in general, but with its particular kind - music contrasted with the image". Then came story music, where the phonogram was the main element in the construction of the sound-image, and elements of editing and filming were adjusted to the music. This gave rise to the modern genre, the music video.

Music video is a television genre, where a large amount of emotionally colored information is compressed. The basis of this genre is a phonogram, where the visual art acquires a partial character. In some cases, a music video is a kind of mini-movie. Often music video dictates its own rhythm of switching images, piling unrelated pictures, montage and type of filming, combining different layers of time and "technology".

Modern television clip is a collage musical genre that uses symbols, allegories, illusions, associations. As a cultural phenomenon, it is closely connected with youth subculture, its moral aesthetic attitudes, musical tastes.

CONCLUSION

In history, the complex combination of image and sound - an effective element of artistic imagery of modern audiovisual television art, requires from the creators of television programs serious, deep study of the role of music in the structure of artistic works.

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IN RECREATION GEOGRAPHY, THEORETICAL BASIS OF STUDYING THE CONCEPT OF REGIONAL RECREATION SYSTEMS

Abstract. In this article, information is given about the seasonal and regional structure of recreation systems and their types, and at the same time, information is given about scientists who studied regional recreation systems and their scientific works.

Key words: Regional recreation systems, Recreational resources, "Recreational systems", Tourism-recreational systems, Group of service providers, Transport system, Recreational infrastructure.

When talking about regional recreation systems, first of all, it is necessary to understand the meaning of this term. HRT (Regional recreation systems) is a complex economic system, that is, health and treatment facilities (various sanatoriums, recreation organizations, motels, camping sites, camps), sports facilities, excursion facilities, and consists of road and transport networks.

In the field of recreation geography, the first interest in the concept of territorial recreation systems (HRT) was from the 60s of the last century by scientists of the former Soviet Union. V.A. Kvartalnov, I.V. Started by Zorin, these scientists called this term not HRT, but recreation system and defined it as follows. They defined the recreation system as a complex socially controlled (partially self-controlled) system.

To date, various definitions of HRT have been given by many Russian scientists. Including:

V.S. Preobrazhensky - Territorial recreation systems is a socio-geographical system, defined as a territorial complex consisting of natural and cultural complexes, engineering structures, service personnel and vacationers.

T.V. Nikolayenko defines that the regional recreation system is a form of organization of recreational activities in a certain area, and within it is the interdependence of various systems involved in the implementation of the recreational function of a certain area.

M.A. Sarancha defined that the regional recreation system is a complex and multifaceted social phenomenon, the purpose of which is to meet the touristic and recreational needs of people, respecting the interests of all parties involved in this process.

Many concepts and terms appear in science and go through several stages and change before reaching this day. Therefore, the study and development of the concept of regional recreation systems is divided into several stages. This concept

is mainly studied by Russian scientists, and Russian scientists are also involved in its division into stages.

The history of the study of regional recreation systems (HRT) in recreation geography is divided into 3 stages.

The first stage - including the 60s of the 20th century, the concept of "Recreational systems" was used in the scientific literature of this period. At this stage, Russian scientists I.V. Zorin and V.A. Kwartalnov conducted research on HRT, and scientists defined that "HRT is a complex socially controlled system, the central system of which is tourism entities, whose main task is to fully satisfy the needs of vacationers." they give.

The second stage includes the 70s and 80s of the 20th century. In the 70s, the object of study of recreation geography changed to "tourist-recreational systems" (TRT). During this period, a team of experts from the Institute of Geography of the Russian Academy of Sciences (V.S. Preobrazhensky, Y.A. Vedenin, I.V. Zorin, V.N. Lekhonov, L.I. Mukhina, L.S. Filippovich, etc.) published a collective monograph "Theoretical Foundations of Recreational Geography" and at the same time, HRT the scientific concept was changed as follows. "HRT refers to the interaction of a group of vacationers, natural and cultural complexes, technical facilities, service personnel and management bodies."

The scientist Y.A. Vedenin, who conducted research during this period, developed 2 main types of HRT.

1. The lens is centered. in its center are recreational areas. Recreational resources, service providers and infrastructure are located there, there are recreational service systems;

2. Subjectively centered. Here, the main object of study is a group of people who satisfy certain recreational needs and have a demand for them.

The third stage - including the 90s of the 20th century, during this period significant research on HRT was carried out by T.V. Nikolaenko, in his research, the scientist defines HRT as a form of organization of recreational activities in a certain area, explaining that it is the interaction of various systems involved in the implementation of recreational tasks of this area.

From the above information, we can understand that the scientist who first used the concept of territorial recreation systems in recreation geography V.S. Being Preobrazhensky, the scientist defines the object of recreation geography as researching territorial issues of the formation and development of regional recreation systems.

As a science, recreation geography belongs to the family of social geographical sciences. Because the main function of regional recreation systems is social. based on this, 4 main types of regional recreation systems are distinguished. 1. Treatment, 2. Health, 3. Sports, 4. Knowledge.

Based on the above information, we can define regional recreation systems as follows.

Regional recreation systems are the interaction of service systems, recreational infrastructures, recreation resources, service providers and other components gathered in the area where there are certain natural and historical-cultural recreational resources in order to meet the recreational needs of the population. it is said.

Within the scope of recreation geography, we can see regional recreation systems and their formation and development in the research of many Russian scientists. Among them: N.M. Sajneva, one of the first within the framework of HRT, considered the features of creation and development of recreation systems of the seaside oasis type. N.M. Sajneva assessed the recreational potential of the steppe areas of the southwestern part of the former Soviet Union and subsequently identified the limiting factors.

L.A. Galachiyeva studied the characteristics of the formation and development of the territorial recreation complex (HRK) of the Republic of Kabardino-Balkaria

N.N. Staroverkina, in his work, comprehensively assessed the tourism and recreational potential of the Republic of Kalmykia. He considered in detail the regional natural conditions for the development of tourism and recreation.

M.S.Oborin dealt with issues of systematic study of HRT. He used a systematic methodology to create an ecological-social-economic system structure on the example of the Ust-Kachkin resort-recreation area.

A. E. Vasiliyeva analyzed the territorial organization of the recreation economy of the Republic of Bashkortostan. Recreational economy means accommodation of recreationists, transportation, means of communication and advertising, public catering, recreation and treatment facilities, organizations providing recreational services, as well as secondary and higher vocational training and retraining. understands the vocational education system.

Y.I. Smolyakova reviewed the structure, resources and development features of tourist and recreational complexes in the Republic of Adygea. This researcher identified the main problems of the development of touristic and recreational activities in the region. For the formation of a regional recreation system (HRT) in a certain area, the components of the HRT must exist and interact with each other.

The components of regional recreation systems are as follows.

- Recreational resources,
- Group of vacationers,
- Group of service providers,
- Transport system,
- Composed of recreational infrastructure and others.

Recreational resources are the first component in the creation of a regional recreation system. Recreational resources are natural and historical-cultural objects that satisfy the recreational needs of the population. The main

characteristics of recreational resources are: attractiveness, climatic conditions, importance of excursion, landscape component, uniqueness, etc.

Recreational resources are a set of natural-technical, natural, socio-economic complexes and their elements that contribute to the recovery and development of a person's spiritual and physical strength, his working capacity. With a modern and forward-looking structure of recreational needs and technical and economic opportunities, they are used for direct and indirect consumption and for the provision of spa and tourism services. Recreational resources are divided into two main groups: natural and historical-cultural.

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OLIV TA'LIM VA UMUMTA'LIM MAKTABDA MATEMATIKA FANINING UZVIYLIGINI TA'MINLASH

Annotatsiya. Oliy ta'lim va umumiy o'rta maktabda matematika fanining o'zaro bog'liqligi haqida bu tahlil maktab va universitet darajasida matematik ta'limning qanday qilib bir-birini to'ldirishini ko'rsatadi. Maktabda o'quvchilar asosiy matematik tushunchalar va amaliy ko'nikmalarni o'zlashtiradilar, bu esa oliy ta'limda yanada murakkab va chuqur bilimlarni o'rganishga asos bo'ladi. Maktab matematikasi nazariy bilimlar va oddiy muammolarni hal qilishga qaratilgan bo'lsa, universitetda talabalar chuqur tahlil, nazariy bilimlarni amaliy qo'llash va ilmiy tadqiqotlar o'tkazish ko'nikmalarini rivojlantiradilar.

Kalit so'zlar: oliy ta'lim, umumiy o'rta maktab, matematika, ta'lim bog'liqligi, nazariy bilimlar, amaliy ko'nikmalar, muammolarni hal qilish, o'qitish metodlar, mantiqiy fikrlash, kritik fikrlash, ilmiy tadqiqot, matematik tushunchalar, ta'lim jarayoni, talabalar rivojlanishi.

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ENSURING THE INTEGRATION OF MATHEMATICS IN HIGHER EDUCATION AND SCHOOLS

Annotation. This analysis of the relationship between higher education and general secondary school mathematics shows how mathematics education at school and university level complements each other. At school, students acquire basic mathematical concepts and practical skills, which become the basis for learning more complex and in-depth knowledge in higher education. While school mathematics focuses on theoretical knowledge and solving simple problems, at university students develop skills for in-depth analysis, practical application of theoretical knowledge and scientific research.

Keywords: higher education, general secondary school, mathematics, educational relevance, theoretical knowledge, practical skills, problem solving,

teaching methods, logical thinking, critical thinking, scientific research, mathematical concepts, ta learning process, student development.

Oliy ta'lim va umumiy o'rta maktabda matematika fanining o'zaro bog'liqligi katta ahamiyatga ega, chunki matematikaning asosiy tushunchalari va ko'nikmalari maktabda o'zlashtirilgan bilimlarga tayanadi va oliy ta'limda bu bilimlar yanada chuqurlashtiriladi. Ushbu o'zaro bog'liqlikni quyidagi jihatlarda ko'rish mumkin:

Asosiy nazariy bilimlar

- Maktab matematikasi: O'rta maktabda talabalar asosiy matematik tushunchalar, algebra, geometriya, trigonometriya, va boshlang'ich analiz bilan tanishadilar. Bu bosqichda ko'proq nazariy bilimlar berilib, matematik tushunchalarni shakllantirishga urg'u beriladi.

- Oliy ta'lim matematikasi: Universitet darajasida bu nazariy bilimlar kengaytiriladi va chuqurlashtiriladi. Misol uchun, maktabda o'rganilgan algebra va geometriya kontseptsiyalari yanada murakkabroq shaklda, masalan, chiziqli algebra, analitik geometriya, va differentsial tenglamalar kabi kurslarda rivojlantiriladi.

Amaliy ko'nikmalar

- Maktab matematikasi: maktabda talabalar asosiy matematik operatsiyalarni bajarish va oddiy masalalarni yechish ko'nikmalarini rivojlantiradilar. Misollar va masalalar ko'pincha hayotiy misollar bilan bog'liq bo'lib, talabalarga matematikani kundalik hayotda qo'llashni o'rgatadi.

- Oliy ta'lim matematikasi: Universitetda talabalardan matematik nazariyalarni qo'llashda yuqori darajadagi amaliy ko'nikmalar talab qilinadi. Masalan, muhandislik, fizika yoki iqtisodiyot kabi sohalarda matematik modellashtirish, statistik tahlil va kompyuter yordamida matematik hisob-kitoblar bajarish o'rgatiladi.

Muammolarni hal qilish

- Maktab matematikasi: O'rta maktabda o'quvchilar oddiy va o'rtacha murakkablikdagi muammolarni yechish ko'nikmalarini o'rganadilar. Bu jarayon orqali muammolarni aniqlash, formulalarni qo'llash va qadam-baqadam yechimlar topish ko'nikmalari rivojlantiriladi.

-Oliy ta'lim matematikasi: Universitetda talabalar murakkab muammolarni hal qilishni o'rganadilar. Bu muammolar ko'pincha ko'p bosqichli va nazariy bilimlarning chuqur tushunilishini talab qiladi. Talabalar tahliliy va kritik fikrlash ko'nikmalarini rivojlantirib, ilmiy tadqiqotlar o'tkazish va yangi nazariyalarni kashf etish imkoniyatiga ega bo'ladilar.

O'qitish metodlari

- Maktab matematikasi: Maktabda matematikani o'qitishda ko'proq vizual va amaliy metodlarga e'tibor qaratiladi. Darsliklar, interaktiv o'quv dasturlari va laboratoriya mashg'ulotlari orqali o'quvchilarni qiziqtirishga harakat qilinadi.

- Oliy ta'lim matematikasi: Universitetda darslar ko'proq nazariy ma'ruzalarga, mustaqil o'rganish va tadqiqotlarga asoslanadi. Talabalar murakkab

matematik tushunchalarni mustaqil o'rganish va ularga tadqiqot olib borish yo'li bilan yondashadilar.

Yakuniy natija

Maktabda olingan matematik bilimlar oliy ta'lim uchun poydevor yaratadi. Universitetda esa bu bilimlar yanada chuqurlashadi va kengayadi, talabalar yuqori darajadagi matematik tahlil va muammolarni hal qilish ko'nikmalarini rivojlantiradilar. Shu tariqa, maktab va oliy ta'lim o'rtasidagi matematik fanining o'zaro bog'liqligi talabalarning mantiqiy fikrlash, tahlil qilish va ijodiy yondashish qobiliyatlarini rivojlantirishda muhim rol o'ynaydi.

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MUHANDISLIK KOMUNIKATSIYA YO'NALISHI TALABALARINING MATEMATIK QOBILIYATINI RIVOJLANTIRISH

Annotatsiya. Ushbu maqolada muhandislik kommunikatsiya yo'nalishidagi talabalarning matematik qobiliyatlarini rivojlantirishning ahamiyati tahlil qilinadi. Matematik qobiliyatlar texnik muammolarni hal qilish, innovatsion fikrlash, loyihalash va modellashtirish jarayonlarida muhim rol o'ynaydi. Muhandislik ta'limida matematik qobiliyatlarni rivojlantirish uchun interfaol o'qitish usullari, matematik laboratoriyalar, individual yondashuv va kollaborativ o'qitish usullarining samaradorligi ko'rsatiladi.

Kalit so'zlar: Muhandislik ta'limi, matematik qobiliyatlar, texnik muammolar, innovatsion fikrlash, loyihalash va modellashtirish, interfaol o'qitish, matematik laboratoriyalar, individual yondashuv, kollaborativ o'qitish.

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DEVELOPMENT OF MATHEMATICAL ABILITY OF ENGINEERING COMMUNICATION STUDENTS

Annotation. This article analyzes the importance of developing mathematical skills of engineering communication students. Mathematical skills play an important role in technical problem solving, innovative thinking, design and modeling processes. The effectiveness of interactive teaching methods, mathematical laboratories, individual approach and collaborative teaching methods for developing mathematical skills in engineering education is demonstrated.

Keywords: Engineering education, math skills, technical problems, innovative thinking, design and modeling, interactive learning, math labs, individual approach, collaborative learning.

Muhandislik, ilmiy izlanish va innovatsiyalarning asosi sifatida matematika muhim rol o'ynaydi. Muhandislik kommunikatsiya yo'nalishida tahsil olayotgan talabalar uchun matematik qobiliyatlarni rivojlantirish nafaqat akademik muvaffaqiyatga erishishda, balki kelajakda samarali va innovatsion muhandis bo'lishda ham zarurdir. Ushbu maqolada matematik qobiliyatlarning muhandislik ta'limidagi ahamiyati va ularni rivojlantirish usullari tahlil qilinadi.

Matematik qobiliyatlarning muhandislikdagi o'rni.

Matematika muhandislikning barcha yo'nalishlarida muhim ahamiyatga ega. Hisoblash va analiz, algebra, geometriya va statistika kabi matematik sohalar muhandislikning asosiy tushunchalari va uslublarini tushunishda va amalda qo'llashda muhim rol o'ynaydi. Masalan, signal va tizimlar nazariyasida Fourier tahlili, konstruktsiyalarda stress va strain hisobi, axborot uzatishda kriptografiya va kodlash nazariyasi kabi masalalar bevosita matematik bilimlarni talab qiladi.

Muhandislik kommunikatsiyada matematik qobiliyatlarning ahamiyati.

Muhandislik kommunikatsiya yo'nalishida tahsil olayotgan talabalar uchun matematik qobiliyatlar bir nechta sabablar tufayli zarur:

1. **Texnik muammolarni hal qilish:** Texnik muhandislik masalalari ko'pincha murakkab matematik muammolarni yechishni talab qiladi. Talabalarning matematik qobiliyatlari ularning muammolarni aniqlash, tahlil qilish va yechish qobiliyatlarini oshiradi.

2. **Innovatsion fikrlash:** Matematik tushunchalar va usullar yangi texnologiyalar va innovatsiyalarni ishlab chiqishda asosiy omil hisoblanadi. Talabalar matematikani chuqur o'rganganda, ular yangi g'oyalarni yaratish va rivojlantirishda samarali bo'lishadi.

3. **Loyihalash va modellashtirish:** Muhandislikda loyihalash va modellashtirish jarayonlari matematik modellarga tayanadi. Talabalar matematik qobiliyatlari yordamida real dunyo muammolarini matematik modellar orqali tushunish va optimallashtirishlari mumkin.

Matematik qobiliyatlarni rivojlantirish usullari.

Talabalarning matematik qobiliyatlarini rivojlantirish uchun bir nechta usullar mavjud:

Interfaol o'qitish usullari: Matematikani o'qitishda interfaol va muammoli o'qitish usullarini qo'llash talabalar matematik tushunchalarni chuqurroq tushunishiga yordam beradi. Masalan, loyihalarga asoslangan o'qitish, amaliyotga asoslangan o'qitish va dasturiy ta'minotlardan foydalanish.

1. **Matematik laboratoriyalar:** Matematik laboratoriyalar talabalarning matematik qobiliyatlarini amaliy mashqlar va laboratoriya ishlari orqali rivojlantirishga yordam beradi. Bu ularga nazariy bilimlarni amaliyotda qo'llash imkonini beradi.

2. **Individual yondashuv:** Har bir talabani individual qobiliyat va ehtiyojlariga ko'ra yondashish orqali ularning matematik qobiliyatlarini rivojlantirish mumkin. Bu, masalan, qo'shimcha darslar, repetitorlik xizmatlari va onlayn resurslardan foydalanishni o'z ichiga oladi.

3. **Kollaborativ o'qitish:** Talabalarni guruhlarda ishlashga jalb qilish, ular orasida hamkorlik va fikr almashish orqali matematik muammolarni birgalikda hal qilish qobiliyatlarini rivojlantiradi.

Xulosa. Muhandislik kommunikatsiya yo'nalishidagi talabalarning matematik qobiliyatlarini rivojlantirish nafaqat ularning akademik muvaffaqiyatiga, balki kelajakdagi muhandislik faoliyatidagi muvaffaqiyatiga ham xizmat qiladi. Matematik qobiliyatlarni rivojlantirish orqali talabalar texnik muammolarni hal qilishda, innovatsiyalar yaratishda va loyihalash va modellashtirish jarayonlarida samarali bo'lishadi. Ushbu qobiliyatlarni rivojlantirish uchun interfaol o'qitish usullari, matematik laboratoriyalar, individual yondashuv va kollaborativ o'qitish usullari samarali vositalar bo'lishi mumkin.

Foydalanilgan adabiyotlar:

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БОҒЛИҚЛИГИНИНГ ПЕДАГОГИК АСОСЛАРИ." *Eurasian Journal of Mathematical Theory and Computer Sciences* 3.2 (2023): 39-46.

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TRANSPORT MASALASINING OPTIMAL YECHIMINI TOPISHDA POTENSIALLAR USULI

Annotatsiya: ushbu maqolada matematika sohasidagi "transport masalasi" ning yechilishi haqida malumotga ega bo'lasiz. Shuningdek, bu masalani iqtisodiyotga bog'liqligini va iqtisodiy masalalarni yechishda foydalanilishi haqida ham bilib olasiz.

Kalit so'zlar: transport masalasi, optimallik, minimum qiymat, maximum qiymat, punkt, yuk, fuksiya, summa.

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METHOD OF POTENTIAL IN FINDING THE OPTIMAL SOLUTION OF THE TRANSPORTATION PROBLEM

Abstract. In this article you will get information about the solution of the "transportation problem" in the field of mathematics. You will also learn how this issue is related to economics and how it is used to solve economic problems.

Key words: transport problem, optimality, minimum value, maximum value, point, load, function, sum.

Yuk zaxiralari a_1, a_2, \dots, a_m bo'lgan m ta jo'natish punkti, yukka bo'lgan talab b_1, b_2, \dots, b_n bo'lgan n ta qabul punktlari berilgan bo'lib, jo'natish punktlaridan qabul punktlariga birlik yukni tashish harajatlari c_{ij} , $i = 1 \dots m$; $j =$

$1, \dots, n$ bo'lsin. Bu yerda i - jo'natish punkti nomeri, j - qabul punkti nomerini bildiradi. Umumiy yuk tashish xarajatlari quyidagi formula orqali beriladi:

$$Z = \sum_{i=1}^m \sum_{j=1}^n c_{ij} x_{ij}$$

Bu yerda x_{ij} nomerli jo'natish punktidan j nomerli qabul punktiga tashiladigan yuk hajmi. Yuk tashish harajatlarini iloji boricha kamaytirish uchun z funktsiyaning minimumini hisoblaymiz:

$$z = \sum_{i=1}^m \sum_{j=1}^n c_{ij} x_{ij} = MIN (1)$$

Yuqoridagi masala jadval ko'rinishida quyidagicha ifodalanadi:

Qabul punktlari	1	2	...	n	Yuk zaxiralari
Jo'natish punktlari	1	2	...	n	
1	x_{11}	x_{12}	...	x_{1n}	a_1
2	x_{21}	x_{22}	...	x_{2n}	a_2
...
m	x_{m1}	x_{m2}	...	x_{mn}	a_m
Yukka bo'lgan talab	b_1	b_2	...	b_n	

Yuk tashishni shunday tashkil etish kerakki, jo'natish punktlaridagi barcha yuk olib chiqib ketilishi va qabul punktlaridagi yukka bo'lgan talab to'liq qondirilishi kerak. Bu talabni quyidagi ko'rinishda ifodalaymiz:

$$\begin{aligned} x_{11} + x_{12} + \dots + x_{1n} &= a_1 \\ x_{21} + x_{22} + \dots + x_{2n} &= a_2 \\ &\dots \dots \dots \dots \dots \dots \dots \\ x_{m1} + x_{m2} + \dots + x_{mn} &= a_m \end{aligned} \quad (2)$$

$$\begin{aligned} x_{11} + x_{21} + \dots + x_{m1} &= b_1 \\ x_{12} + x_{22} + \dots + x_{m2} &= b_2 \\ &\dots \dots \dots \dots \dots \dots \dots \\ x_{1n} + x_{2n} + \dots + x_{mn} &= b_n \end{aligned}$$

$$(3) \quad \sum_{i=1}^m a_i = \sum_{j=1}^n b_j \quad (4)$$

(4) munosabat bajarilsa, transport masalasi yopiq masala deyiladi va masalani yechishga kirishish mumkin. Agar (4) shart bajarilmasa, masala ochiq deyiladi. Ochiq masalani yechish uchun u yopiq masalaga keltiriladi. Masalan,

$$\sum_{i=1}^m a_i > \sum_{j=1}^n b_j$$

bo'lsin. Ushbu masalani yopiq masalaga keltirish uchun yukka bo'lgan talabi $b_{n+1} = \sum_{i=1}^m a_i - \sum_{j=1}^n b_j$ bo'lgan qo'shimcha qabul punkti tuziladi. Ushbu punkt uchun birlik yukni tashish xarajatlarini 0 ga teng deb olamiz: $c_{1,n+1} = c_{2,n+1} = \dots = c_{m,n+1} = 0$. Natijada quyidagi yopiq masalani hosil qilamiz.

Qabul punktlari Jo'natish punktlari	1	2	...	n	n+1	Yuk zaxiralari
1	x_{11}	x_{12}	...	x_{1n}	$x_{1,n+1}$	a_1
2	x_{21}	x_{22}	...	x_{2n}	$x_{2,n+1}$	a_2
...
m	x_{m1}	x_{m2}	...	x_{mn}	$x_{m,n+1}$	a_m
Yukka bo'lgan talab	b_1	b_2	...	b_n	b_{n+1}	

Agar $\sum_{i=1}^m a_i < \sum_{j=1}^n b_j$ bo'lsa, yuk zaxiralari $a_{m+1} = \sum_{j=1}^n b_j - \sum_{i=1}^m a_i$ bo'lgan qo'shimcha jo'natish punkti tuziladi va yuqoridagi kabi yopiq masalaga keltiriladi.

Birinchi Transport masalasini yechish ikki bosqichda olib boriladi: 1) bosqichda (2)-(3) shartlarni qanoatlantiruvchi boshlang'ich $x_{ij}, i = 1, 2, \dots, m; j = 1, 2, \dots, n$ yechim topiladi. Boshlang'ich rejani topishning bir necha usullari bo'lib, ularga shimoliy-g'arb usuli, minimal element usuli va boshqalar kiradi. Shimoliy-g'arb usulida (1,1) katak tanlab olinib, $x_{11} = \min(a_1, b_1)$ deb olinadi. Agar $\min a_1, b_1 = a_1$ bo'lsa, bu 1-jo'natish punktidagi barcha yuk 1-qabul punktiga yuborilishini, 1-jo'natish punktidan qolgan qabul punktlariga yuk yuborilmasligini bildiradi. Shuning uchun a_1 joylashgan satrdagi boshqa kataklarga minus qo'yiladi. 1-qabul punktidagi yukka bo'lgan talab $b_1^1 = a_1 - b_1$ bo'lib qoladi. Agar $\min a_1, b_1 = b_1$ bo'lsa, 1-qabul punktidagi yukka bo'lgan talab to'liq qondirilganligini, 1-jo'natish punktida esa $a_1^1 = (a_1 - b_1)$ miqdor yuk qolganligini bildiradi. 1-qabul punktiga boshqa jo'natish punktlaridan yuk keltirilmaydi

Qabul punktlari Jo'natish punktlari	1	2	...	n	Yuk zaxiralari	
1	c_{11} x_{11}	c_{12} x_{12}	...	c_{1n} x_{1n}	a_1	0
2	c_{21} x_{21}	c_{22} x_{22}	...	c_{2n} x_{2n}	a_2	
...	
m	c_{m1} x_{m1}	c_{m2} x_{m2}	...	c_{mn} x_{mn}	a_m	
Yukka bo'lgan talab	b_1	b_2	...	b_n		
	b_1^1					

Qabul punktleri Jo'natish punktleri	1	2	...	n	Yuk zaxiralari	
1	x_{11}	x_{12}	...	x_{1n}	a_1	b_1^1
2	x_{21}	x_{22}	...	x_{2n}	a_2	
...	
m	x_{m1}	x_{m2}	...	x_{mn}	a_m	
Yukka bo'lgan talab	b_1	b_2	...	b_n		
	0					

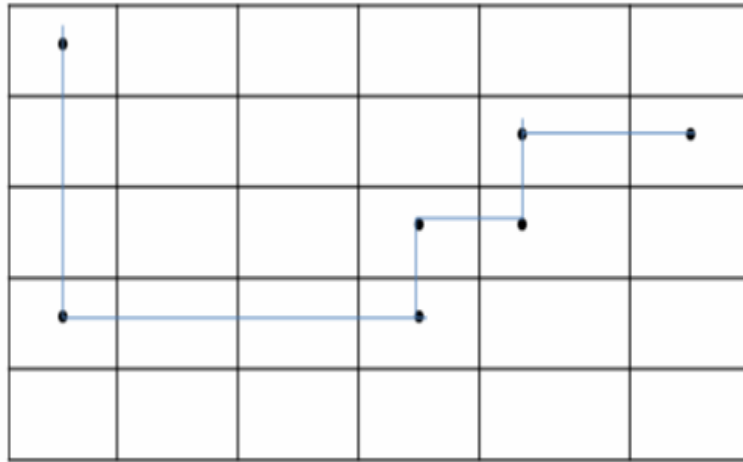
Xisoblashlarni 1-jadval bo'yicha davom ettirib, (2,1) katakka o'tamiz. $x_{21} = \min(a_1, b_1^1) = b_1^1$ bo'lsin. Jadvalni yuqoridagi usul bilan to'ldirib, quyidagini hosil qilamiz.

Qabul punktlari Jo'natish punktlari	1	2	...	n	Yuk zaxiralari	
1	c_{11} x_{11}	c_{12} x_{12}	...	c_{1n} x_{1n}	a_1	0
2	c_{21} x_{21}	c_{22} x_{22}	...	c_{2n} x_{2n}	a_2	a_2^1
...	
m	c_{m1} x_{m1}	c_{m2} x_{m2}	...	c_{mn} x_{mn}	a_m	
Yukka bo'lgan talab	b_1	b_2	...	b_n		
	b_1^1					

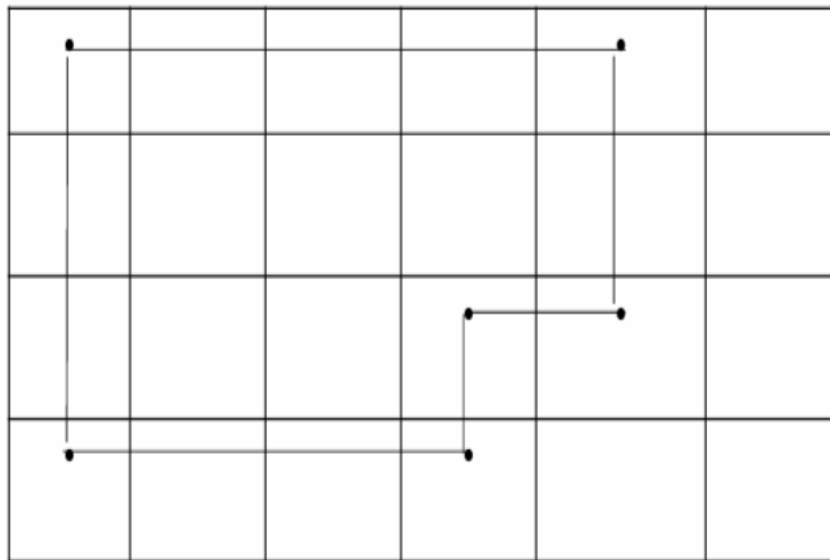
Shu tariqa hisoblashlarni jadvalning quyi o'ng bo'rchagigacha davom ettirib, jadvadagi barcha $x_{ij}, i = 1, 2, \dots, m; j = 1, 2, \dots, n$ larni aniqlaymiz. Bunda (2)-(3) shartlar bajarilishi kerak. Masalaning ikkinchi bosqichida boshlang'ich reja asosida (1) shartni qanoatlantiruvchi optimal yechim topiladi. Optimal yechimni topishning potentsiallar, taqsimot kabi bir necha usullari mavjud bo'lib, biz potentsiallar usulini qarab chiqamiz. Ushbu usulni qarashdan oldin hisoblash jarayonida tushunchalar bilan ishlatiladigan tanishamiz. ayrim Jadvaldagi ixtiyoriy nuqtalar to'plami nabor deyiladi.

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Naborni tashkil qiluvchi nuqtalar har bir qatorda ikkitadan oshib ketmasa, bunday nabor zanjir deyiladi.



Agar zanjir yopiq bo'lsa, u sikl deyiladi.



Agar jadvaldagi ta nuqtalar to'plami sikl tashkil qilmasa, ularga bitta nuqta qo'shish orqali sikl hosil qilsak, bunday ta nuqtalar to'plami atsiklik rejani tashkil qiladi deyiladi.

Agar transport masalasida $X_{IJ} > 0$ bo'lsa, (i,j) katak belgilangan katak deyiladi. Agar transport masalasida barcha kataklar uchun $v_j - u_i \leq c_{ij}$ (5) shartni, belgilangan kataklar uchun esa $v_j - u_i = c_{ij}$ shartni qanoatlantiruvchi $v_j, j = 1, 2, \dots, n; u_i, i = 1, 2, \dots, m$ sonlari mavjud bo'lsa, $x_{ij}, i = 1, 2, \dots, m; j = 1, 2, \dots, n$ reja optimal bo'ladi $v_j, j = 1, 2, \dots, n; u_i, i = 1, 2, \dots, m$ sonlari esa potentsiallar deyiladi.

Transport masalasini potentsiallar usulida yechish quyidagi tartibda bajariladi: 1) Belgilangan kataklar uchun $v_j - u_i = c_{ij}, v_j, j = 1, 2, \dots, n; u_i, i = 1, 2, \dots, m$ shartni qanoatlantiruvchi tenglamalar sistemasi tuziladi. Bunda tenglamalar soni o'zgaruvchilar sonidan bitta kam bo'lgani uchun

sistema cheksiz ko'p yechimga ega bo'ladi. Sistemaning bitta xususiy yechimini topib, potentsiallarning qiymatini aniqlaymiz;

2) Belgilanmagan kataklar uchun $v_j - u_i \leq c_{ij}$ shartni tekshiramiz. Agar ushbu shart barcha kataklar uchun bajarilsa, optimal yechim topilgan hisoblanadi va $\sum_{i=1}^m \sum_{j=1}^n c_{ij} x_{ij}$ funktsiya qiymati hisoblanadi; 3) Agar $v_j - u_i \leq c_{ij}$ shart bir nechta kataklar uchun bajarilmasa, Ushbu kataklar uchun $\delta_i = v_i - u_i - c_{ij}$ ayirma hisoblanadi va $\delta_{i_0 j_0} = \max \delta_{ij}$ topiladi;

4) $(i_0 j_0)$ katak belgilangan kataklar qatoriga qo'shiladi va belgilangan kataklardan sikl tuziladi; 5) $(i_0 j_0)$ katakdan boshlab siklni tashkil qiluvchi kataklarga "-" va "+" ishoralari navbat bilan qo'yilib chiqiladi; ni 6) "-" ishorali kataklar uchun $\theta = \min(x_{ij})$ aniqlaymiz; 7) "-" ishorali kataklardan θ ni ayirib, "+" ishorali kataklarga θ ni qo'shamiz; 8) θ joylashgan katakni belgilangan kataklar qatoridan chiqazamiz. Natijada yangi planni hosil qilamiz va bu plan uchun (1)-(7) amallarni takrorlaymiz. Yuqoridagi hisoblashlar barcha kataklar uchun $v_j - u_i \leq c_{ij}$ shart bajarilib, optimal plan topilguncha davom ettiriladi. Quyidagi misolni qaraymiz: Transport masalasi quyidagi jadval ko'rinishida berilgan bo'lib, uni potentsiallar usuli bilan yechamiz.

Qabul punktlari	v_j	1	2	3	4	Yuk Zaxiralari
	ui	v_1	v_2	v_3	v_4	
jo'natish punktlari						
1	u_1	2	4	6	10	90
2	u_2	1	3	7	4	100
3	u_3	4	8	13	7	140
Yukka bo'lgan talab		110	100	80	40	330

Boshlang'ich planni tuzish uchun shimoli-g'arb usulidan foydalanamiz. (1,1) katakka mos zaxira va talabning kichigini $x_{11}=100$ deb olamiz.

Qabul punktlari	v_j	1	2	3	4	Yuk Zaxiralari
	ui	v_1	v_2	v_3	v_4	
jo'natish punktlari						
1	u_1	2 90	4	6	10	90
2	u_2	1	3	7	4	100
3	u_3	4	8	13	7	140

Yukka bo'lgan talab		110	100	80	40	330
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Yuqoridagi jadvalga ko'ra 1-jo'natish punktidan 1-qabul punktiga 90 birlik yuk yuboriladi, 1-jo'natish punktida boshqa yuk qolmaydi, shuning uchun 1-jo'natish punktidan boshqa qabul punktlariga yuk tashilmaydi, 1- qabul punktiga yana 30 birlik yuk keltirish kerak. (2,1) katakka o'tib, shu katakka mos talab va zaxiralarning kichigini $x_{21}=20$ deb olamiz.

Qabul punktlari jo'natish punktlari	v_j	1	2	3	4	Yuk Zaxiralari
	u_i	v_1	v_2	v_3	v_4	
1	u_1	2 90	4	6	10	90
2	u_2	1	3	7	4	100
3	u_3	4	8	13	7	140
Yukka bo'lgan talab		110	100	80	40	330

0
80

20

(2,3) katakka o'tib, yuqoridagi qoida bo'yicha $x_{21}=80$ ni aniqlaymiz.

Qabul punktlari jo'natish punktlari	v_j	1	2	3	4	Yuk Zaxiralari
	u_i	v_1	v_2	v_3	v_4	
1	u_1	2 90	4	6	10	90
2	u_2	1	3	7	4	100
3	u_3	4	8	13	7	140
Yukka bo'lgan talab		110	100	80	40	330

0

80	0
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20	20
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Hisoblashlarni shu tariqa davom ettiramiz va oxirigi jadval quyidagi ko'rinishga keladi:

Qabul punktlari	v_j	1	2	3	4	Yuk Zaxiralari		
	u_i	v_1	v_2	v_3	v_4			
1	u_1	2 90	4	6	10	90	0	
2	u_2	1	3	7	4	100	80	0
3	u_3	4	8	13	7	140	12	0
Yukka bo'lgan talab		110	100	80	40	330		
		20	20					
		0	0					

Qabul punktlari jo'natish punktlari	v_j	1	2	3	4	Yuk Zaxiralari			
	u_i	v_1	v_2	v_3	v_4				
1	u_1	2 90	4 -	6 -	10 -	90	0		
2	u_2	1 20	3 80	7 -	4 -	100	80	0	
3	u_3	4	8 20	13 80	7 40	140	120	40	0
Yukka bo'lgan talab		110	100	80	40	330			

0	0	0	0
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Shu tariqa boshlang'ich planni hosil qildik: $x_{11} = 90$ $x_{21} = 20$ $x_{22} = 80$ $x_{32} = 20$ $x_{33} = 80$ $x_{34} = 40$ $x_{12} = x_{13} = x_{14} = x_{23} = x_{24} = x_{31} = 0$, $z = 90 \cdot 2 + 20 \cdot 1 + 80 \cdot 3 + 20 \cdot 8 + 80 \cdot 13 + 40 \cdot 7 = 180 + 20 + 240 + 160 + 1040 + 280 = 1920$. Masalaning optimal yechimini topish uchun oxirgi jadvalni quyidagi ko'rinishda ifodalaymiz:

Qabul punktlari jo'natish punktlari	v_j	1	2	3	4	Yuk Zaxiralari
	u_i	v_1	v_2	v_3	v_4	
1	u_1	2 90	4 -	6 -	10 -	90
2	u_2	1 20	3 80	7 -	4 -	100
3	u_3	4	8 20	13 80	7 40	140
Yukka bo'lgan talab		110	100	80	40	330

Belgilangan kataklar uchun $v_j - u_i = c_{ij}$, $v_j, j = 1, 2, 3, 4$; $u_i, i = 1, 2, 3$ shart bo'yicha tenglamalar sistemasini tuzamiz: $v_1 - u_1 = 2$; $v_1 - u_2 = 1$; $v_2 - u_2 = 3$; $v_2 - u_3 = 8$; $v_3 - u_3 = 13$; $v_4 - u_3 = 7$; Tenglamalar sistemasidagi noma'lumlar 7 ta, tenglamalar esa 6 ta bo'lgani uchun sistema cheksiz ko'p yechimga ega. Xususi yechimni topish uchun o'zgaruvchilardan biriga ixtiyoriy qiymat beramiz, masalan $u_1 = 0$ bo'lsin. U holda $v_1 = 2$, $u_2 = 1$, $v_2 = 4$, $u_3 = -4$, $v_3 = 9$, $v_4 = 3$ kelib chiqadi. Potentsiallarning qiymatlarini jadvalga qo'yamiz:

Qabul punktlari	v_j	1	2	3	4	Yuk Zaxiralari
jo'natish punktlari	u_i	v_1	v_2	v_3	v_4	
1	u_1	2 90	4	6	10	90
2	u_2	1 20	3 80	7	4	100
3	u_3	4	8 20	13 80	7 40	140
Yukka bo'lgan talab		110	100	80	40	330

Belgilanmagan kataklar uchun $v_j - u_i \leq c_{ij}$ shartni tekshiramiz:

$$v_2 - u_1 = 4 - 0 = 4 = c_{12}; v_3 - u_1 = 9 - 0 = 9 > 6 = c_{13}$$

$$v_4 - u_1 = 3 - 0 = 3 < 10 = c_{14}; v_3 - u_2 = 9 - 1 = 8 > 7 = c_{12}$$

$$v_4 - u_2 = 3 - 1 = 2 < 4 = c_{24}; v_1 - u_3 = 2 - -4 = 6 > 4 = c_{31}$$

Uchta (1,3), (2,3), (3,1) kataklar uchun $v_j - u_i \leq c_{ij}$ shart bajarilmaydi.

Ushbu kataklar uchun $\delta_{ij} = v_j - u_i - c_{ij}$ larni hisoblaymiz:

$$\delta_{13} = v_3 - u_1 - c_{13} = 9 - 6 = 3;$$

$$\delta_{23} = v_3 - u_2 - c_{23} = 8 - 7 = 1;$$

$$\delta_{31} = v_1 - u_3 - c_{31} = 6 - 4 = 2;$$

δ larning eng kattasini topamiz. Bu $\delta_{13} = 3$ bo'lib, unga mos katakni belgilangan kataklar qatoriga qo'shib, belgilangan kataklar yordamida sikl tuzamiz. Siklni tashkil etuvchi kataklarga (1,3) katakdan boshlab '+' va '-' ishoralarini navbat bilan qo'yib chiqamiz:

Qabul punktlari	v_j	1	2	3	4	Yuk Zaxiralari
jo'natish punktlari	u_i	v_1	v_2	v_3	v_4	
1	u_1	2 90	4	6	10	90
2	u_2	1 20	3 80	7	4	100
3	u_3	4	8 20	13 80	7 40	140
Yukka bo'lgan talab		110	100	80	40	330

‘-‘ ishorali kataklar uchun $\theta = \min x_{ij} = \min 90, 80, 80$ ni topamiz. Ushbu shartni qanoatlantiruvchi kataklar ikkita (2,2) va (3,3) kataklari bo'lib, ulardan birini, masalan (3,3) katakni tanlaymiz. ‘-‘ ishorali kataklar uchun $\theta = \min x_{ij} = \min 90, 80, 80$ ni topamiz. Ushbu shartni qanoatlantiruvchi kataklar ikkita (2,2) va (3,3) kataklari bo'lib, ulardan birini, masalan (3,3) katakni tanlaymiz. θ ni $\square + \square$ ishorali kataklarga qo'shib, ‘-‘ ishorali kataklardan ayiramiz va θ joylashgan (3,3) katakni belgilangan kataklar qatoridan chiqarib tashlaymiz. Natijada quyidagi jadvalni hosil qilamiz.

Qabul punktlari	v_j	1	2	3	4	Yuk Zaxiralari
jo'natish punktlari	u_i	v_1	v_2	v_3	v_4	
1	u_1	2 90	4	6	10	90
2	u_2	1 20	3 80	7	4	100
3	u_3	4	8 20	13 80	7 40	140
Yukka bo'lgan talab		110	100	80	40	330

Hosil bo'lgan yangi planda belgilangan kataklar uchun $v_i - u_i = c_{ij}$ shart orqali yuqoridagi usul bilan tenglamalar sistemasi tuzib $u_1 = 0$ dep olib, qolgan patensiallarni aniqlaymiz. $v_1 - u_1 = 2$, $v_3 - u_1 = 6$, $v_1 - u_2 = 1$, $v_2 - u_3 = 8$, $v_4 - u_3 = 7$.

$v_j \backslash u_i$	V1=2	V2=4	V3=6	V4=3	Zaxira
U1=0	2 10	4	6 80	10	90
U2=1	1 100	3 0	7	4	100
U3=4	4	8 100	13	7 40	140
talab	110	100	80	40	

Belgilangan kataklar uchun $v_j - u_i \leq c_{ij}$ optimallik shartini tekshiramiz. Bu shart (3 1) katakda o'zini qanotlantirmagani uchun shu katakni belgilangan kataklar qatoriga qo'shib yuqoridagi usul bilan sikl hosil qilamiz. Siklni ishoralab '-' ishorali kataklar uchun θ ni anqilaymiz '+' ishorali kataklarda bir xil 100 bo'lganligi uchun ulardan birini masalan (3,2) katakni tanlaymiz. Natijada quyidagi katakni hosil qilamiz.

$v_j \backslash u_i$	2	4	6	3	Zaxir
U1=0	2 10	4	6 80	10	90
U2=1	1 100	3 0 +	7	4	100
U3=4	+4	- 8 100	13	7 40	140
talab	110	100	80	40	

θ ni '-' ishoralali kataklardan ayirib '+' ishorali kataklarga qo'shamiz. (3,2) katakni belgilangan kataklar qatoridan chiqarib tashlab, yangi reja uchun patentsiallarni yuqoridagi usul bilan aniqlaymiz. Natijada quyidagi jadval hosil bo'ladi.

$v_j \backslash u_i$	V1=2	V2=4	V3=6	V4=3	Zaxira
U1=0	2 10	4	6 80	10	90
U2=1	1 0	3 100	7	4	100
U3=4	4 100	8	13	7 40	140
talab	110	100	80	40	

Yuqoridagi jadvaldagi rejada barcha kataklar uchun $v_j - u_i \leq c_{ij}$ patentsiallik sharti bajariladi. Demak, demak masalaning optimal yechimi topildi va u quyidagicha bo'ladi: $x_{11} = 10, x_{13} = 80, x_{22} = 100, x_{31} = 100, x_{34} = 40, x_{12} = x_{14} = x_{21} = x_{23} = x_{24} = x_{33} = 0, z = 10 \cdot 2 + 80 \cdot 6 + 100 \cdot 3 + 100 \cdot 4 + 40 \cdot 7 = 20 + 480 + 300 + 400 + 280 = 1480$. Shuning bilan transport masalasini yechish jarayoni yakunlanadi.

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AKADEMIK LITSEYLARDA NEMIS TILI O'RGANISHDAGI TIL KOMPETENSIYALARI

Annotatsiya. Ushbu maqolada akademik litseylarda nemis tilini o'rganish jarayoni va ushbu jarayonda til kompetensiyalarining orni haqida so'z boradi. Hozirgi rivojlanib borayotgan davrda har bir shaxs kamida ikkita chet tilini o'rganishi va bilishi zarur. Chunki hozirgi innovatsiyalashayotgan davrda chet tilini bilmay hech narsaga erishib bo'lmazligi haqida maqolada bayon qilingan.

Kalit so'zlar. Nemis tili, xorijiy til, filolog, taraqqiyot, ta'lim, rivojlanish, gapirish, tinglab tushunish, texnologiya.

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LANGUAGE COMPETENCES IN GERMAN LEARNING IN ACADEMIC LYCEUMS

Abstract. This article talks about the process of learning German in academic lyceums and the role of language competence in this process. In today's developing era, it is necessary for every person to learn and know at least two foreign languages. Because it is stated in the article that nothing can be achieved without knowing a foreign language in the modern era of innovation.

Key words. German language, foreign language, philologist, development, education, development, speaking, listening comprehension, technology.

Kirish. Hozirgi kunda mamlakatimizda oliy ta'lim mazmunining sifat kategoriyasini yuqori bosqichga olib chiqish "amalda bo'lajak yuqori malakali mutaxasislarni tayyorlash tizimini yo'lga qo'yishda barcha oliy ta'lim yo'nalishlari qatorida filologik oliy ta'lim muxitida talabalarga zamonaviy axborot kommunikasiya, pedagogik texnologiyalar, turli yondashuvlar, metodlarni nazariy va amaliy tadqiqotlar natijalariga tayangan holda tadbiq etish dolzarb ahamiyatga ega" ekanligini ko'rsatmoqda. Yurtimiz mustaqilikka erishgandan

so'ng, demokratik -huquqiy davlat va fuqarolik jamiyati qurish yo'lida bormoqda. Bu yo'lda qat'iy turish uchun ko'p chora tadbirlar ishlab chiqilmoqda. Mamlakatimiz taraqqiyotining muhim shartlaridan biri esa kadrlar tayyorlash tizimining mukammal bo'lishi va shaxsning har tomonlama rivojlanishidir. Ta'lim sohasida bo'layotgan har bir o'zgarish jamiyatimiz ravnaqiga ijobiy ta'sir qilishiga shubha yo'q. Mamlakatning intellektual salohiyatini oshirish, davlat ta'lim standarti talablariga javob bera oladigan, yetuk, raqobatbardosh kadrlar tayyorlashda muhim omil hisoblanadi.

Yosh avlod ta'lim tarbiyasi eng ustuvor vazifalardan biri sifatida katta e'tibor qaratib kelingan masalalardan biridir. Kelajak avlod har tomonlama barkamol tarbiyalanishi, har sohada yetuk mutaxassis bo'lishi uchun chet tillarini mukammal o'rgatishimiz, dunyoqarashini kengaytirishimiz lozim. Akademik litseylarda orijiy tillarni o'qitish jarayonida zamonaviy texnologiyalardan foydalanish o'quvchining nutqiy faoliyati kommunikativ kompetensiyani har tomonlama rivojlantirishga asos bo'la oladi. Ma'lumki, kommunikativ kompetensiya — ijtimoiy vaziyatlarda ona tilida hamda birorta xorijiy tilda o'zaro muloqotga kirisha olishni, muloqotda muomala madaniyatiga amal qilishni, ijtimoiy moslashuvchanlikni, hamkorlikda jamoada samarali ishlay olish layoqatlarini shakllantirishni nazarda tutadi. Hech kimga sir emaski, mamlakatimiz o'quvchilarining ko'pchiligida chet tillari orasida ingliz tilini o'rganishga bo'lgan e'tibor kuchli. Amaliyot shuni ko'rsatadiki, nemis tilini o'rganayotgan to'rt kishidan uchasi ingliz tilini birinchi xorijiy til sifatida o'rgangan va olingan tajriba, bilim, ko'nikmadan foydalangan holda ikkinchi chet tiliga o'tilishi va uni o'rganishni osonlashtirishi mumkin.

Akademik litseylarda chet tillarni o'qitish metodikasida o'quvchilarning ta'lim jarayoniga qiziqishi, "ularning turli tadbirlarda real ishtirok etishi" masalasi tobora keskinlashib bormoqda. Buning sababi, chet tilini o'rganishning asosiy vazifasi - ona tilida so'zlashuvchilar bilan muloqot qilish qobiliyati - maktabda ko'pincha erishilmaydi.

Hozirgi Nemis tili fonologik tizimida monoftong va diftonglar 45 foizni tashkil etadi (16 unli fonema va 3 diftong); undoshlar tizimi 18 undosh fonema va 2 qorishiq tovushdan iborat. Barcha fonemalar hosil bo'lish o'rni, usuli va talaffuzi jihatidan o'zaro farqdanadi, muayyan o'ziga xosliklarga ega. Gramatik qurilishi analitiksintetik xususiyat bilan ajralib turadi. Mas, otlarda jins va kelishik shakllari, asosan, analitik tarzda, son kategoriyasi esa sintetik tarzda ifodalanadi. Adabiy Nemis tilining Avstriya va Shveysariyadagi variantlari Germaniyadagi variantidan adabiy tildan turlicha foydalanish va uning lahjalar hamda so'zlashuv tiliga munosabati nuqtai nazaridan o'zaro farqdanadi.

"Chet tili darslarida o'yinlardan foydalanish" avvallari mening uslubiy mavzuim bo'lib, u bilan bir necha yillardan buyon shug'ullanaman. Mening ishimning doimiy maqsadi: yordam bilan talabalarning kognitiv, motivatsion faoliyatini faollashtirish didaktik o'yinlar... Albatta, men har kuni o'yinlardan foydalanmayman, Erst die Arbeit, dann das Spiel deydi. Shuning uchun men

ularni ko'pincha darsning boshida vestibulyar apparatni isitish uchun yoki dars oxirida ishlataman. Men sizning e'tiboringizga havola etayotgan o'yinlarni men "Maktabda xorijiy tillar" eski jurnallaridan, Internetdan, shuningdek, o'z tajribamdan olingan. Umid qilamanki, hamkasblarim ularni o'z ishlarida foydali deb topishadi. Nemis tilini o'rganishga bo'lgan qiziqishni shakllantirish va keyin uni saqlab qolish qanchalik qiyinligi hammaga ma'lum o'tgan yillar raqobat -bu ingliz tili, uning talabi shubhasizdir.

Umuman olganda, ingliz tilini ma'lum darajada o'zlashtirgan o'quvchilar nemis tilini o'rganishni boshlashganda bu ikki til orasidagi quyidagi o'xshashliklarni sezishadi:

- 1) har ikki til ham lotin harflaridan foydalanadi;
- 2) lug'at va so'zlarning ishlatilish sohasi;
- 3) oddiy jumalarning tuzilishidagi o'xshashlik (bog'lovchi fe'lining mavjudligi).

Deutsch: Mein Name ist Miller.

English: My name is Miller.

Deutsch: Sie ist krank.

English: She is ill.

Deutsch: Er spricht Deutsch.

English: He speaks German.

- 4) Zamon shakllarini o'rganishda (fe'ning uchta asosiy shaklidan va yordamchi fe'ldan foydalanish haben = to have);

Deutsch: Kommen – kam – gekommen

English: come – came – come

Deutsch: Bringen – brachte-gebracht

English: bring – brought – brought

Deutsch: Sprechen – sprach – gesprochen

English: speak – spoke – spoken

Ammo shuni bilish muhimki, har bir yangi chet tilini o'rganish jarayonida, masalan, ingliz tili orqali nemis tilini o'rganish paytida o'quvchilar quyidagi ba'zi qiyinchiliklarga duch kelishlari mumkin: - talaffuz qilganda; - o'qish qoidalarida; - intonatsiyada; - ingliz va nemis tillaridagi ba'zi so'zlar bir-biriga o'xshash talaffuz qilinadi, ammo har xil ma'noga ega bo'lib, "tarjimonning yolg'onchi do'stlari" deb ataladi; - so'z tartibida; - fe'llarning birlashtirilishida; - murakkab grammatik qurilishlarda va boshqalar.

Har bir tilni o'rganishda 4 muhim ko'nikma bo'lganidek nemis tilida ham mavjud: O'qib tushunish, Eshitib tushunish, Yozish va Gapirish muhim rol o'ynaydi. Bu ko'nikmalar shakllanishi uchun esa o'rganuvchidan Grammatik baza talab qilinadi.

Albatta chet tilini bilgan holda O'zbekistonimizni ham chet davlatlarga tanitamiz. Chet tilini bilish orqali sayohat qilish, o'rganish, muloqot qilish, kasalliklardan saqlanish, muammolarni hal qilish ko'nikmalari, miya tuzilishini o'zgartirish va diqqatni nazorat qilish kabi imkoniyatlarga ega bo'lasiz. Ta'lim

shunday jarayonki, uning natijasi 1-2 yilda emas, balki bir necha yillarda, 10-12 yilda ko'rinadi. Otabobolarimizning "Til bilgan – el biladi", "Yoshlikda olgan bilim-toshga o'yilgan naqsh" degan gaplari bejizga emas.

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BARQAROR TURIZM RIVOJLANISHINING ZAMONAVIY TENDENSIYALARI VA USTUVORLIKLARI

Annotatsiya. Maqolada turizmning zamonaviy iqtisodiyotdagi o‘rni va roli barqaror rivojlanish konsepsiyasini hisobga olgan holda ko‘rib chiqiladi. Barqaror turizmni rivojlantirishning xususiyatlari va asosiy tendentsiyalariga alohida e‘tibor qaratilmoqda. Koviddan keyingi davrda turizmni rivojlantirish tahlili o‘tkazildi, barqaror turizmni rivojlantirishning tendentsiyalari va ustuvor yo‘nalishlari aniqlandi.

Kalit so‘zlar: barqaror turizm, ekologiya, ekotizim, atrof-muhitni muhofaza qilish, innovatsiyalar, pandemiy.

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CURRENT TRENDS AND PRIORITIES FOR THE DEVELOPMENT OF SUSTAINABLE TOURISM

Abstract. The article examines the place and role of tourism in the modern economy, taking into account the concept of sustainable development. Particular attention is paid to the features and main trends in the development of sustainable tourism. An analysis of the development of tourism in the post-Covid period was carried out, trends and priority areas for the development of sustainable tourism were identified.

Keywords: sustainable tourism, ecology, eco-system, environmental protection, innovation, pandemic.

Kirish. «O‘zbekiston — 2030» strategiyasida barqaror iqtisodiy o‘shish orqali aholi uchun qulay ekologik sharoitlarni yaratish va mamlakatning xavfsizligini kafolatli ta‘minlash, ekologik vaziyatni barqarorlashtirishga qaratilgan «Yashil makon» umummilliy loyihasini kengaytirish, xorijiy turistlar sonini 15 millionga, ichki sayyohlar sonini 25 millionga, ziyorat turizmi bo‘yicha keladigan turistlar sonini 3 million nafarga oshirish. g‘oyalari aks ettirilgan [1].

Turizm xar bir mamlakatning ijtimoiy-iqtisodiy rivojlanishiga va dunyoning ko'plab mintaqalari farovonligiga sezilarli ta'sir ko'rsatadigan muhim global va milliy sanoatdir. Ro'y berayotgan to'siqlarga (tabiiy va texnogen ofatlar, terrorchilik xurujlari, iqtisodiy inqirozlar va boshqalar) qaramay, hozirgi vaqtda turizm faol rivojlanishda davom etmoqda.

Sayohatni tashkil etishning shakl va usullari o'zgarib, turizmning yangi turlari paydo bo'lmoqda. Turizmni rivojlantirishning so'nggi jahon tendensiyalari orasida turizmni barqaror rivojlantirish konsepsiyasi alohida o'rin tutadi. Turizmni rivojlantirishga ixtisoslashgan ko'plab mamlakatlarda turizmni barqaror rivojlantirishga jiddiy e'tibor qaratilayotgani bejiz emas.

Barqaror turizm - turizmning bir turi bo'lib, u quyidagilarni ta'minlaydi: birinchidan, iqtisodiy, ekologik, ijtimoiy va madaniy rivojlanish maqsadlarini amalga oshirishda muvozanatni ta'minlaydi; ikkinchidan, ekologik resurslardan oqilona foydalanishga, bunda turizmni rivojlantirishdan olingan mablag'larning bir qismi turizm resurslarini tiklash va turizm xizmatlarini ishlab chiqarish texnologiyalarini takomillashtirishga yo'naltiriladi; uchinchidan, barqaror rivojlanish kontsepsiyasi atrof-muhit yomonlashuvi sharoitida turistlarning o'sib borayotgan ehtiyojlarini qondirish va tabiiy, ijtimoiy va iqtisodiy resurslarning cheklangan miqdori o'rtasidagi o'sib borayotgan qarama-qarshilikni hal qilish imkonini beradi.

Bunday sharoitda turizmning barqaror rivojlanishini ta'minlash bugungi kunda turizmni boshqarishning jahon amaliyotida asosiy muammolardan biriga aylanib bormoqda.

Tadqiqot usullari: taqqoslash usuli; iqtisodiy monitoring; statistik usullar; ekspert usullari.

Tadqiqot natijalari.

2023-yilda turizm tarmog'i global yalpi ichki mahsulotning 9,1 foizini, ya'ni 9,9 trillion dollardan sal ko'proq tashkil etgan. Travel & Tourism moliyaviy izi 2019-yilda sayohatning oltin yilidan buyon eng katta ko'rsatkich bo'lib, o'zining eng yuqori cho'qqisini atigi 4 foizga ortda qoldirdi.

2034 yilga kelib, bu sektor butun iqtisodiy landshaftning 11,4 foizini tashkil etuvchi va 16 trillion dollar miqdorida global iqtisodiyotda o'rin olishi mumkin. Rivojlanayotgan ushbu turizm sanoati, shuningdek, butun dunyo bo'ylab 449 million kishini ish bilan ta'minlab, yangi ish o'rinlari yaratuvchi muhim omil bo'ladi va bu sayohat va turizmning global bandlikdagi muhim rolini namoyish etadi [2].

2023 yildan so'ng xalqaro turizm 2024 yilda pandemiyadan oldingi darajaga qaytish yo'lida. Birlashgan Millatlar Tashkilotining Jahon sayyohlik tashkiloti (UNWTO) ma'lumotlariga ko'ra 2023 yilda global turizm faolligi pandemiyadan oldingi darajaning 88 foiziga yetdi. O'tgan yili 1,3 milliard kishi xorijga sayohat qilgan.

So'nggi ma'lumotlarga ko'ra turizmning tiklanishining ijobiy iqtisodiy ta'sirini ko'rsmoqda. Dastlabki hisob-kitoblarga ko'ra, xalqaro turizm daromadlari

2023-yilda 1,4 trillion AQSH dollarga yetdi, bu 2019-yildagi 1,5 trillion AQSH dollarning qariyb 93 foiziga ko'pdir. Turizm eksportidan tushgan daromad 2023 - yilda 1,6 trillion AQSH dollarni tashkil etadi, bu 2019 - yildagi 1,7 trillion AQSH dollarning qariyb 95 foiziga tengdir [3]. Iqtisodiyot uchun bu bandlikni oshirishni anglatadi [4]. Shu bilan birga, turizm sanoat sifatida atrof-muhitga qo'shimcha bosim o'tkazadi. Umuman olganda, turizm barcha 17 Barqaror rivojlanish maqsadlariga erishishga bevosita yoki bilvosita ta'sir ko'rsatadi [5].

Xalqaro sayyohlar kelishining global o'sishi davom etmoqda, ammo butun dunyo bo'ylab xalqaro sayyohlar kelishi 1995-2010 yillardagi o'rtacha 3,9 foizga nisbatan 2010-2030 yillarda yiliga o'rtacha 3,3 foizga o'sishi prognoz qilinmoqda.

Vaqt o'tishi bilan o'sish sur'ati asta-sekin sekinlashish kuzatilishi mumkin: 2011 yildagi 3,8 foizdan 2030 yilda 2,5 foizgacha. Bu to'rt omilning kombinatsiyasi natijasidir:

- asosiy hajmlar yuqoriroq, shuning uchun kichikroq o'sishlar hali ham sezilarli raqamlarni keltirib chiqaradi;
- iqtisod yetuklashgan sari YaIM o'sish sur'atlarining pasayishi;
- YaIMga nisbatan sayohatning past egiluvchanligi;
- transport xarajatlarini kamaytirishdan ularni oshirishga o'tish.

2000 yilda taniqli turoperatorlar UNEP (BMT Atrof-muhit dasturi), BMTning Ta'lim, fan va madaniyat komissiyasi (UNESCO) va Jahon sayyohlik tashkiloti (UNWTO) bilan birgalikda "Turoperatorlar tashabbusi" ixtiyoriy notijorat hamkorlikni yaratdilar (TOI) [6].

Ushbu hamkorlik ishtirokchilari barqarorlikni biznes faoliyatining asosi sifatida belgilaydilar va barqaror rivojlanishga mos keladigan amaliyot va usullarini ilgari surish uchun birgalikda ishlaydilar.

Ular atrof-muhit ifloslanishining oldini olishga intilishadi; o'simliklar, hayvonlar, ekologik tizimlar, biologik xilma-xillikni saqlash; landshaftni, madaniy va tabiiy merosni himoya qilish va saqlash, mahalliy madaniyatlarning yaxlitligini hurmat qilish.

Turistik xizmatlar ishlab chiqarish tizimining asosiy qismini tashkil etuvchi turizmning texnologik zanjiri asosiy turistik maqsadlarga erishish uchun transport, joylashtirish va ovqatlanish ob'ektlari hamda xizmatlarning o'zidan iborat. Ushbu bosqichlarning har biri o'ziga xos manbalardan foydalanadi, har biri o'ziga xos foyda keltiradi va atrof-muhitga o'ziga xos ta'sir ko'rsatadi.

Cheklangan resurslar sharoitida barqaror rivojlanish muammosi tobora dolzarb bo'lib bormoqda, chunki u ijtimoiy, iqtisodiy va ekologik rivojlanishni muvozanatlashga qaratilgan. A.Ursul ta'kidlaganidek, "barqaror (muvozanatli) rivojlanish strategiyasi nafaqat iqtisodiy va ekologik xususiyatlarni, balki ijtimoiy-tabiiy tizimning barcha boshqa parametrlari va tendentsiyalarini tizimli optimallashtirishni, odamlar va jamiyat va tabiat o'rtasidagi uyg'unlikka erishishni talab qiladi.

Uning fikriga ko'ra, iqtisodiy o'sish va ijtimoiy rivojlanish barqarorligiga tabiatning asossiz degradatsiyasiz, birinchi navbatda sayyoramiz biosferasini saqlab qolish orqali erishish kerak [7].

K.Aall barqaror turizm masalalarini tadqiq etish jarayonida atrof-muhit va turizm o'rtasidagi munosabatlarni o'rganishda "atrof-muhit"ga ikki qarama-qarshi yondashuvni ajratib ko'rsatadi. "Environment-sensitive" turizm turizmning atrof-muhitga ta'sirini kamaytirishga qaratilgan bo'lsa, "environment-dependent" turizm atrof-muhitni turizm uchun resurs bazasi sifatida ishlatadi [8].

Turizmning barqaror rivojlanishi deganda, E.Qiyaqbayeva uning uzoq muddatli rivojlanishini hozirgi va kelajak avlodlar uchun ijtimoiy, iqtisodiy, ekologik va madaniy maqsadlarni uyg'unlashtirish asosida tushunadi [9].

K.Arbusova turizmning barqaror rivojlanishini iqtisodiy, ekologik, ijtimoiy va madaniy rivojlanish maqsadlarini amalga oshirishda muvozanatga erishiladigan uzoq muddatli istiqbolga yo'naltirilgan rivojlanish deb hisoblaydi [10].

E. Grechishkina turizm sanoatida barqarorlikning to'rt turini aniqlaydilar: juda zaif (turizm imperativining stsenariysi); zaif (turistik mahsulot stsenariysi); kuchli (ekologik turizm stsenariysi); juda kuchli (neotenik turizm stsenariysi). Neotenik turizm stsenariysi tabiatni mutlaq asrash va qayta tiklanadigan va qayta tiklanmaydigan resurslarni muhofaza qilish bilan tavsiflanadi [11].

Ijtimoiy-iqtisodiy rivojlanish darajasi etarli darajada yuqori bo'lmasa, turizm sanoati asosiy daromad manbai bo'lib, barqarorlikning birinchi va ikkinchi turlari ko'pincha kuzatiladi. Barqarorlikning uchinchi turi atrof-muhitni rivojlantirish va atrof-muhitni muhofaza qilishga e'tibor qaratish bilan bog'liq. Barqarorlikning to'rtinchi turi ekologik jihatdan zaif hududlarga xos bo'lishi mumkin.

Keyingi yillarda turizmning barqaror rivojlanishiga o'tish tamoyillarini belgilab beruvchi xalqaro hujjatlar va standartlar tizimi shakllantirildi.

"Making Tourism More Sustainable - A Guide for Policy Makers" hisobotida "barqaror turizm" ta'rifi joriy va kelajakdagi iqtisodiy, ijtimoiy va atrof-muhitga ta'sirlarni hisobga oladigan va sayyohlar, sanoat, turistlar ehtiyojlariga e'tibor berishni talab qiladigan turizm ta'rifini taklif qilindi [12].

2001-yil 21-dekabrda qabul qilingan BMT Bosh Assambleyasining A/RES/58/212 "Turizmning global axloq kodeksi" rezolyutsiyasining "Turizm – barqaror rivojlanish omili" 3-moddasida quyidagilar qayd etilgan:

turizm jarayonining barcha ishtirokchilari bugungi va ertangi avlodlarning ehtiyojlari va intilishlarini adolatli qondirish uchun sog'lom, progressiv va barqaror iqtisodiy o'sishni ta'minlash maqsadida tabiiy muhit va resurslarni muhofaza qilishga majburdirlar;

markaziy, hududiy va mahalliy davlat hokimiyati organlari noyob va qimmatli tabiiy resurslarni, ayniqsa, suv va energiyani tejaydigan, shuningdek, maksimal darajada chiqindilar hosil bo'lishiga yo'l qo'ymaydigan turizmni

rivojlantirishning barcha shakllariga ustuvor ahamiyat qaratishi va ularni moliyaviy rag'batlantirishi;

Xulosalar:

Turizm faoliyatining atrof-muhitga ta'sirini kamaytirish va uning turizm sanoati va mahalliy iqtisodiyotga foydali ta'sirini oshirish uchun, ayniqsa, pullik ta'tillar va maktab ta'tillari bilan bog'liq bo'lgan sayyohlar va tashrif buyuruvchilar oqimini vaqt va makon bo'yicha bir tekis taqsimlash, rag'batlantirish, shuningdek, mavsumiylikni yumshatishga qaratilgan chora-tadbirlar muhim hisoblanadi.

Turistik infratuzilma va turistik faoliyat ekotizimlar va biologik xilma-xillikdan iborat tabiiy merosni muhofaza qilishni, shuningdek yo'qolib borayotgan yovvoyi fauna va flora turlarini muhofaza qilishni ta'minlaydigan tarzda rejalashtirilishi amalga oshirish barqaror turizm rivojlanishining muhim omili hisoblanadi.

Turizm jarayoni ishtirokchilari, ayniqsa, turizm sohasi mutaxassislari, ayniqsa, himoyasiz joylarda – cho'l zonalari, qutbli va baland tog'li hududlar, qirg'oqbo'yi zonalari, tropik o'rmonlar va nam zonalarda amalga oshiradigan faoliyatiga ma'lum cheklovlar va cheklovlar o'rnatishga rozi bo'lishi kerak. tabiiy bog'lar yoki qo'riqlanadigan qo'riqxonalar yaratish borasida asosiy ma'sul hisoblanadi.

Shunday qilib, barqaror turizm:

birinchidan, turizmni rivojlantirishning asosiy elementi bo'lgan ekologik resurslardan maqbul foydalanishni ta'minlaydi, asosiy ekologik jarayonlarni qo'llab-quvvatlaydi, tabiiy meros va biologik xilma-xillikni saqlashga yordam beradi;

ikkinchidan, mezbon jamoalarning o'ziga xos ijtimoiy-madaniy xususiyatlarini hurmat qiladi, ularning o'ziga xos yaratilgan va o'rnatilgan madaniy merosi va an'anaviy urf-odatlarini saqlab qoladi, turli madaniyatlarni o'zaro tushunishga va ularni idrok etishda bag'rikenglikka hissa qo'shadi;

uchinchidan, doimiy bandlikni ta'minlaydi va kambag'allikni qisqartirishga zarur hissa qo'shadi;

to'rtinchidan, barqaror turizmni rivojlantirish innovatsion resurs tejoyvchi texnologiyalar va materiallarni joriy etish asosida turistik resurslardan foydalanish samaradorligini oshirish, energiya va suv sarfini kamaytirish hisobiga xarajatlarni kamaytirish, chiqindilar miqdorini kamaytirishni nazarda tutadi;

beshinchidan, turizm faoliyatini amalga oshirishda yangi, ekologik toza texnologiyalardan foydalanish jahon turizm bozoridagi raqobatda kuchli dalilga aylanishi mumkin;

oltinchidan, ular turistik oqimlarni vaqt va makonda yanada samaraliroq taqsimlaydilar, bu, shubhasiz, nafaqat ekologik, balki iqtisodiy nuqtai nazardan ham foydalidir;

yettinchidan, barqaror turizmga erishish doimiy monitoring va turizmni barqaror rivojlantirishning iqtisodiy, ijtimoiy va ekologik jihatlari bilan bog'liq barcha manfaatdor tomonlarning ishtirokini talab qiladigan uzluksiz jarayondir.

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YOSH AVLODNI HALOLLIK VA TEJAMKORLIKKA O'RGATISHDA SHARQ MUTAFAKKIRLARI QOLDIRGAN MA'NAViy MEROSDAN FOYDALANISH

Annotation. Maqolada halollik, rostgo'ylik, mehnatsevarlik, to'g'rilik, insof, diyonat mavzulari xalq durdonalarida o'z ifodasini topganligi, ular inson aql-zakovati, mehr-shafqati va uning buyuk yaratuvchilik qudratini o'ta ta'sirchan badiiy vositalar orqali ifodalanishi va yuz yillar davomida avloddan-avlodga o'tib, xalqning dili va tilida saqlanib kelayotganligi yorqin ifoda etilgan. Xalq og'zaki ijodi hamda yozma adabiyot namunalari o'quvchilarning iqtisodiy bilimdonligini oshirishda foydalanish ijobiy natija berishi Alisher Navoiyning "Mahbub – ul qulub" asari orqali yoritib berilgan.

Keywords: Xalq og'zaki ijodi, yozma adabiyot namunalari, xalq durdonalari, halollik, rostgo'ylik, mehnatsevarlik, to'g'rilik, insof, diyonat, aql-zakovati, mehr-shafqat, iqtisodiy bilimdonlik.

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USING THE SPIRITUAL HERITAGE LEFT BY EASTERN THINKERS TO TEACH THE YOUNG GENERATION TO BE HONESTY AND ECONOMICAL

Annotation. In the article, the themes of honesty, truthfulness, hard work, correctness, honesty, religion are expressed in folk masterpieces, they show human intelligence, compassion and great creative power through very impressive artistic means. It is clearly expressed that it has been preserved. in the language and language of the people for hundreds of years from generation to generation. Alisher Navoi's work "Mahbub-ul-Kulub" shows that the use of examples of folklore and written literature in improving students' economic knowledge has positive results.

Keywords: folklore, samples of written literature, folk masterpieces, honesty, truthfulness, hard work, correctness, honesty, piety, intelligence, kindness, economic knowledge.

O'zbek xalqining ma'naviy merosida, uning madaniyati xalqaro miqyos kasb etishida ulug' shoirimiz va mutafakkir Alisher Navoiyning o'rni, uning xizmatlari beqiyosdir. Alisher Navoiyning ilmiy merosi shu qadar boy va keng qirraliki, unda halollik va tejamkorlik masalalariga doir ko'pgina qimmatli g'oyalar o'z ifodasini topgan. Mutafakkirning tijorat va tejamkorlikka oid qarashlari uning «Mahbub ul-qulub» asarida bayon qilingan. Bu asarda Navoiy xiyonatchi, o'z foydasini ko'zlaydigan, elga qahatchilik tilaydigan, arzon olib, qimmatga sotib, ziyon etkazadigan olibsotarlarni la'natlaydi. U asarda odamlarni odob-axloqli, kamtar, kamsuqum, sharm-hayoli, insof-tofiqli, halol, pok, nafsini tiya oladigan bo'lishga da'vat etadi, odamiylikni yuksak darajada ulug'laydi.

Asarda A.Navoiy taqsimot munosabatlari, ularning adolatli tashkil etilishiga e'tiborni qaratadi, xususan xizmatga yarasha haq to'lash masalasi diqqat markazida turadi. U yasovul misolida shunday deydi: «Yasovul shunday odamki, u mazlum, ezilgan kishini zolimning zulmidan qutqargay. Lekin yasovul bu xizmati uchun haligi mazlumdan ortiqcha haq olguday bo'lsa, u ham zulmkorning zulmiga kattakon sherikdir. Agar xizmatiga yarasha haq olish xayolida bo'lsa, u ota merosi va ona suti kabi haloldir...».

A.Navoiy odamlarni hunarli bo'lish, doimo harakat bilan yashash, tadbirkorlik, tejamkorlik xislatlarini egallashga undaydi. U bu haqda shunday deydi: «Har bir ishdan foyda kutganingda, uni bajarishda qiyinchiliklar va ikkilanishlar paydo bo'lsa, mashaqqati ozroq tomonga kuch ber, qiyinchiligidan ezilmaslik chorasini ko'r... Nodon o'gitida xato bo'lishi muqarrardir; dushman nasihatida aldov bo'lishi shubhasizdir. Unisidan aldanma va bunisiga o'zingni aldatma».

Ko'rinib turibdiki, bu g'oyalarda tadbirkorlikning mazmuni, xosiyati chuqur mantiqiylik bilan bayon qilingan, ularda insonni aql-zakovat bilan ish yuritishga da'vat etilgan.

Quyidagi fikrlardan shunday xulosaga kelish mumkinki, mehnat evaziga orttirilgan barcha narsalarga tejamlilik va jonkuyarlik bilan munosabatda bo'lish, isrofgarchilikka yo'l qo'ymaslik natijasida farovonlikka erishilar ekan. «Har ishning bir sababi bordir. Ammo qashshoqlikning sababi isrofdir. Isrof faqat molni sarf qilishgina emas, ovqat, kishining qiliqlari, nutqida ham isrof bo'ladi, isrof tanni aldaydi, nafasini ranjitadi, aqlni qochiradi va tirikni o'ldiradi, ko'rmasanmiki, chiroqning tirikligi yog' bilandir. Agar yog'ni haddan tashqari ko'p solsang, yog' pilikning boshiga chiqib, chiroqni o'chiradi, yog' esa chiroqning yonishiga sababchi edi, isrof jihatdan o'limiga sabab bo'ldi...».

Savdodagi to'g'rilik va savdogarlik haqida quyidagi fikrlar keltirilgan: «Savdo ikki xildir, ikkovi ham xatarlidir: biri muomala, ikkinchisi musofirlikdir. Muomala o'rtoqlar (muqimlar)ga xosdirkim, kasod mollarni foyda ta'ma bilan

sotib oladilar. Bu ishda mol xatarlidirkim, jasoratli va oldindan ko'ruvchi kishi kasod molni foyda umidi bilan olishi kerak.

Demak, har yo'l bilan savdogar o'zining moli va taniga ehtiyot bo'lishi, beparvo bo'lmasligi kerak. Shu bilan birga, (savdogar) omonat va to'g'rilikni o'ziga odat qilishi zarur, o'zining foydasi uchun o'zgalarga ziyon etkazmasligi kerak va o'ziga tobe bo'lgan kishi bilan muomala qilgay.

«Ey farzand, xiyonatdan qochgilki, kimki bir marta xiyonat qilsa, unga hech kimning etimodi qolmaydi. To'g'rilikni o'zingga kasb qilib olgilki, to'g'rilik eng yaxshi ishdir. Oldi-sotdida muloyim bo'l va kishiga vada qilmagil, vada qilsang, unga xilof etmagil. Xaridorga yolg'on so'z demagil, rostini aytgil. Muomalada, birovga hujjat berganingda yoki hujjat olganingda ehtiyot bo'l, hujjat berishni istasang, to haqingni qo'lga olmaguningcha hujjatni qo'lingdan bermagil».

Yana bir hikoyatda omonatga xiyonat qilmaslik haqida shunday nasihat beriladi: «Men shunday eshitganmanki, bir kishi kechasi sahar vaqtida qorong'ida uyidan chiqib ketdi va hammomga bormoqchi bo'ldi. O'z do'stlaridan biriga: «Men bilan hamroh bo'lib hammomga borgil!»-dedi. U dedi: «Sen bilan birga boraman-u, ammo hammomga tushmayman, chunki mening bir zarur ishim bor». U kishi hamrohi bilan hammom tomonga qarab ketdi. Ikki ul ketgan joyga borib, hammomga boruvchi do'stiga bildirmasdan boshqa yo'lga kirdi. Hamrohi yolg'iz o'zi hammomga ketaverdi va do'stim bilan kelayotirman deb o'ylab boraverdi. Ittifoqo, bir o'g'ri u kishining izidan ketaverdi, u kishi buni do'stim deb fahmladi va uning qo'ynida yuz tillasi bor edi. Hammomning eshigida tillani qo'ynidan chiqarib kecha qorong'isida tanimay haligi o'g'riga berdi va dedi: «Ey birodor, men hammomga kirib chiqquncha bu tilla senda tursin, hammomdan chiqqanimdan keyin menga topshirasan». O'g'ri tillani olib, o'sha joyda o'tirdi. U kishi hammomdan chiqib, kiyimlarini kiyib ketaverdi. O'g'ri uning orqasidan chaqirib dedi: «Ey javonmard, kel mendan oltinlaringni ol. Bugun men sening omonatingni saqlab o'z ishimdan qoldim». U kishi dedi: «Sen kimsan, bu oltin qanday oltin?» O'g'ri dedi: «Men bir o'g'riman, bu oltin sening menga topshirgan oltiningdir». U kishi dedi: «Agar sen o'g'ri bo'lsang, nima uchun bu oltinlarni olib ketmading?» O'g'ri dedi: «Agar ming tilla bo'lsa ham, sendan andisha qilmay olib ketardim, lekin sen bu oltinni menga omonat topshirding. Omonatga xiyonat qilmoq javonmardlikdan emas».

Halollik, rostgo'ylik, mehnatsevarlik, to'g'rilik, insof, diyonat mavzulari xalq durdonalarida o'z ifodasini topgan. Ular inson aql-zakovati, mehr-shafqati va uning buyuk yaratuvchilik qudratini o'ta ta'sirchan badiiy vositalar orqali ifodalaydi. Ular yuz yillar davomida avlodan-avlodga o'tib, xalqning tilida saqlanib kelmoqda. Xalq og'zaki ijodi hamda yozma adabiyot namunalaridan o'quvchilarning iqtisodiy bilimdonligini oshirishda foydalanish ijobiy natijalarni beradi.

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MAKTABGACHA YOSHDAGI BOLALARNI AXLOQIY SIFATLARINI SHAKLLANTIRISHDA XALQ OG'ZAKI IJODINING O'RNI VA TA'SIRI

Annotatsiya. Ushbu maqolada maktabgacha yoshdagi bolalarni axloqiy sifatlarini shakllantirishda xalq og'zaki ijodi na'munalarining o'rni va ta'siri haqida bayon etilgan bo'lib, xalq pedagogikasi na'munalarining aynan maktabgacha yoshdagi bolalar uchun mo'ljallangan janrlarini tanlab olib, axloqiy sifatlarni shakllantirishda foydalanish mumkinligi ko'rsatib berilgan.

Kalit so'zlar: axloq, xalq og'zaki ijodi, maktabgacha yosh, tarbiya.

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THE ROLE AND EFFECT OF FOLK'S ORAL CREATION IN FORMING MORAL CHARACTERS OF PRESCHOOL CHILDREN

Annotation. This article describes the role and influence of examples of folk art in the formation of moral qualities of preschool children. It is shown that it can be used in the formation of adjectives.

Key words: ethics, folklore, preschool age, education.

Axloq so'zi - lotincha «myeros», ya'ni moral, mantiq so'zidan kelib chiqib, u hech qayerda qat'iy yozib qo'yilmagan ijtimoiy qonundir. Inson kundalik hayotida undan axloq normalaridan norma sifatida foydalanadi. Axloqiy tarbiya normalari har bir jamiyatning huquqiy normalariga asos bo'ladi. Axloqiy tarbiyada kishi axloqiy bilimlarni o'zlashtiribgina qolmay, har qanday vaziyatlarda o'zini ana shu normalarga munosib tuta oladigan kishilar axloqiy tarbiyalangan hisoblanadi. Axloqiy tarbiyalangan kishida barqaror ma'naviy motivlar shakllangan boladi. Bu motivlar esa o'sha kishini jamiyatda munosib xulq-atvoriga rag'batlantiradi. Yosh avlodni jamiyatga, mehnatga, o'ziga munosabatni ochib beruvchi ma'naviy fazilatlarga muvofiq ravishda tarbiyalash tarbiyalanuvchi shaxsni, axloqiy tarbiyaning pedagogik va psixologik asoslarini chuqur bilishni talab qiladigan murakkab jarayondir. Axloqiy bilimlarni ongli ravishda o'zlashtirib olishgina o'quvchilarga atrofda kishilar xatti-harakatidagi qaysi jihatlari yaxshi-yu, qaysilari yomon ekanligini anglab olishga yordam beradi.

Abdulla Avloniyning «Turkiy guliston yoxud axloq» kitobining «Haqqoniyat» deb atalgan bobida rostlik va to'g'riso'zlikni insonning eng insoniy

sifatlaridan biri deb hisoblaydi. U bola tarbiyasida o'sayotgan shart-sharoit va tarbiyaning roliga alohida e'tibor beriladi. A.Navoiy ijodida ham axloq-odob masalalariga katta ahamiyat berilgan. «Odobli inson barcha odamlarning yaxshisidir va barcha odamlar uchun yoqimlirog'idir» - deydi mutafakkir A.Navoiy. A.Navoiyning «Mahbub-ul qulub» asarida odob, axloqqa oid g'oyalar ilgari surilgan. Insonparvarlik g'oyalari ulug'langan. MTT (maktabgacha ta'lim tizimi)da xalq og'zaki ijodi namunalari vositasida ma'naviy-axloqiy tarbiyalashgayo'naltirilgan pedagogik jarayonlarni takomillashtirishda MTTpedagog-tarbiyachilar tomonidan bolalarni ma'naviyaxloqiy tarbiyasida amalga oshiriladigan ishlarning mazmun-mohiyati va yo'nalishiga ko'ra rejalashtirish va tashkil qilish funksiyalari quyidagi jarayonlarda amalga oshiriladi: maqsadi, vazifasi va shakliga ko'ra turli mashg'ulot va uchrashuv, suhbat jarayonlarini rejalashtirish va loyihalashtirish; modellashtirish, ya'ni tashkil qilinadigan pedagogik jarayonlarda tarbiyalanuvchilarning ma'naviy-axloqiy jihatdan tarbiyalanishlari uchun zaruriy shart-sharoitlarni yaratish va ularning imkoniyatlarini inobatga olgan holda faolligini ta'minlash bo'yicha vazifalarni oldindan belgilash; yaratilgan shart-sharoitlar va mavjud vaziyatlarga ko'ra tarbiyalanuvchilarning ma'naviy-axloqiy tarbiyalanganlik darajalarini nazorat qilish, ibrat, namuna ko'rsatish, tahlil qilish va ob'ektiv baholash asosida rag'batlantirish.

Xalq og'zaki ijodi namunalari vositasida maktabgacha yoshdagi bolalalarni ma'naviy-axloqiy tarbiyalash tizimini takomillashtirishda falsafiy, milliy-ma'naviy, psixologik, pedagogik yondashuvning mazmun va mohiyatini anglashga erishiladi, maktabgacha yoshdagi bolalarni ma'naviy-axloqiy tarbiyalashda ijtimoiy omillarning ta'sirini hisobga olish hamda ma'naviy - axloqiy tarbiyani o'zida mujassamlashtirgan xalq og'zaki ijodi namunalari tayanish zarur. Dunyo miqyosida ta'lim, fan, madaniyat va axborot sohasidagi mintaqaviy, submintaqaviy hamkorlikni yuksaltirish masalalarning yuzaga kelishi tufayli jamiyat va davlat hayotining barcha sohalarini izchil va barqaror rivojlantirishga doir ilmiy tadqiqotlar olib borilmoqda. Bu, o'z navbatida, zamonaviy pedagogik texnologiyalarga tayanib, xalq og'zaki ijodi namunalari rivojini fan va texnologiya yutuqlari bilan hamohang tarzda ilmiy tahlil qilish, bolalarnng ijodkorligini rivojlantirish, strategik rejalashtirish bilan bog'liq ko'nikma-malakalarini maktabgacha ta'lim tashkilotlarida xalq og'zaki ijodi vositalaridan foydalanishning pedagogik mazmunini ishlab chiqish orqali badiiy adabiyot va tarbiya integratsiyasi asosida ma'naviy-axloqiy fazilatlarini shakllantirish zaruratini keltirib chiqarmoqda.

Respublikamizda har bir hududning badiiy adabiyot va madaniyati, xususan, milliy madaniyati, urf-odat va marosimlari, badiiy an'analarni tarkib qilish sirlarini bolalar ongiga singdirish masalalariga alohida e'tibor berilmoqda.

Yuqoridagi g'oyalarga tayanib, fikrimcha maktabgacha ta'lim tashkilotlarida xalq og'zaki ijodi vositalaridan foydalanishning pedagogik mazmunini ishlab chiqish, o'zbek xalqining madaniy merosini o'rganishda va

rivojlantirishda milliy o'ziga xosligi, ma'naviy xususiyatlari hisobga olinib, xalq pedagogika an'alariga suyangan holda ish ko'rilishi muhim pedagogik ahamiyat kasb etadi.

Aytish o'rinliki bugungi texnogen sivilizatsiya bolalar tarbiyasiga bevosita ta'sir etib, tajriba va kuzatuvlarmiz jarayonida guvohi bo'lganimizdek, hatto yosh onalarimiz "mobil aloqa vositalari orqali murg'akkina go'daklarga milliy qadriyatlarimizdan biri sanalgan alla tinglatishayapti". Bu esa, xalq pedagogikasining bola tarbiyasidagi boy tajribalari hayotga to'la tadbiq etilmaganligi, buyuk allomalarning pedagogik qarashlari, sharqona urf-odatlar, boy an'analari hayotga joriy etilmaganligi tarbiya borasida bir qancha qusurlarning yuzaga kelishiga sabab bo'lmoqda. Shundan kelib chiqib aytishim mumkinki, Buyuk alloma va adiblarmiz, aziz-avliyolarimizning bebaho merosi, engilmas sarkarda va arboblarimizning jasoratini bolalik davridan boshlab yoshlar ongiga singdirish, ularda milliy g'urur va iftixor tuyg'ularini kuchaytirishga alohida e'tibor qaratishimiz kerak.

Sharq donishmandlari aytganidek, "Eng katta boylik – bu aql-zakovat va ilm, eng katta meros – bu yaxshi tarbiya, eng katta qashshoqlik – bu bilimsizlikdir ¹" Shu sababli hammamiz uchun zamonaviy bilimlarni o'zlashtirish, chinakam ma'rifat va yuksak madaniyat egasi bo'lish uzluksiz hayotiy ehtiyojga aylanishi kerak.

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ECONOMIC EFFICIENCY OF VARIOUS AGROTECHNICAL MEASURES IN WINTER WHEAT

Abstract. In this article, the economic effectiveness of the results of planting winter wheat in three different seeding rates on typical gray soils of Tashkent region is written.

Key words: yield, irrigation erosion, cotton, efficiency, yield winter wheat, typical gray soil, mineral fertilizers, plant height.

In the conditions of typical gray soils of Tashkent region, in 2012, when winter wheat was grown in three different seedling thicknesses, three different soil tillage methods and three different fertilizer standards, the first planting method, i.e., winter wheat was planted between cotton rows for three years in accordance with fertilizer standards and seedling thicknesses. Conditional net profit was worked out by the difference between the income received and the expenses incurred in relation to the average grain yield.

According to the obtained results, cotton was cultivated between the rows, 4 million winter wheat seeds were planted per hectare, mineral fertilizers were applied at the rate of N150P105K75 kg/ha, the conditional net profit was equal to 72323 soums, and the profitability rate was 8.0%. It was found that in the 2-3-options, in which the rate was increased to N200P140K100 and N250P175K125 kg/kg, the conditional net profit was 145123-223843 soums, the profitability level was 14.6-20.7%.

Winter wheat was cultivated between rows of cotton, but the seed sowing rate was set at 5 million pieces per hectare, and the conditional net profit obtained in the 4–5–6 options was 253483–287803–328043 soums, and the level of profitability was 27.6– It was found that it was 28.5-29.9%.

In the 7-8-9 options, where the seed planting standards are set at 6 million pieces per hectare, the conditional net profit is 334003-471923-497363 soums, and the profitability level is 35.7-46.0 according to these options. -44.6%. If we analyze the data obtained above, compared to the 1st option, in the 2nd and 3rd options, a higher grain yield of 5.5-11.2 t/ha was obtained due to the use of excess mineral fertilizers. This ensured a higher level of profitability by 6.6–12.7%.

In the options 7-8-9, where the sowing rate of winter wheat seeds is set at 6 million seeds per hectare, compared to the options 1-2-3, where seeds are planted at the rate of 4 million seeds per hectare, profitability is 27.7-31.4-23 We can see that it has increased by 9%. In this agricultural fund, the conditional net profit was 359,600-423,920-437,520 soums, and the level of profitability was 37.0-41.1-39 An increase of 0% was determined as a result of the data obtained

from the studies. In the options where the seed planting rate was increased to 6 million units per hectare, the conditional net profit was 137003-165403-161243 soums in accordance with the norms of three types of mineral fertilizers (N150P105K75, N200P140K100 and N250P175K125 kg/ha), seed Due to the increase in sowing rates, the height of winter wheat grew, the stalks became stunted and lay down, and the yield level decreased, i.e. 14.3–15.8–14.2% (see table 4.1).

If we analyze the results of the experimental field plowed before planting, and then winter wheat is planted, it was found that the conditional net profit and the level of profitability were completely different from the options of winter wheat planted between cotton rows and intercropped, that is, the differences between them were large due to increased costs. The experimental field was plowed and 4 million winter wheat seeds were sown per hectare, and the conditional net profit from the 19th option was 141166 soums, and the rate of profitability was 12.6%. It was noted that due to the increase in mineral fertilizer standards (N200P140K100 and N250P175K125 kg/ha), that is, in options 20-21, the conditional net profit was 409326-440223 soums, and the profitability level was 33.9-31.6%. If the field soil is plowed to a depth of 28-30 cm and the rate of sowing seeds is increased by 5 million pieces per hectare, the conditional net profit from winter wheat in accordance with the norms of mineral fertilizers in options 22-23-24 is 133043-273243-389163 soums, the profitability and the level was found to be 11.3–22.0–29.1%.

The analysis of the results of the scientific research shows that in the options where the soil of the experimental field was chiseled and plowed in the fall, the agrophysical properties of the soil were good, the germination of seeds, the growth of seedlings was good, the thickness of the seedlings increased, and the height of the winter wheat grew due to the use of mineral fertilizers at high standards. and because of this, its stems become dormant and lie down, which led to a decrease in the number of productive stems of the plant. This, in turn, caused a decrease in productivity.

According to the obtained results, the profitability level was the lowest in options 1–11–27, i.e. 8.0–8.8–6.5%, while the highest profitability level was in option 8, i.e. cotton was cultivated between rows and per hectare It was determined that 6 million seeds were planted, and the rate of mineral fertilizers N200P140K100 kg/ha was 46.0%.

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UCH O'LCHAMLI NILPOTENT ALGEBRALARDA LOKAL AVTOMORFIZMLAR

Annotatsiya. Bu ishda uch o'lchovli Nilpotent algebralarda har qanday chiziqli lokal avtomorfizmlar avtomorfizm bo'lishi isboti bilan ko'rsatilgan.

Kalit so'zlar: Avtomorfizm, Algebra, lokal avtomorfizm, chiziqli akslatirish.

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LOCAL AUTOMORPHISMS IN THREE-DIMENSIONAL NILPOTENT ALGEBRAS

Abstract. In this work, it is proved that any linear local automorphisms in three-dimensional Nilpotent algebras are automorphisms.

Key words: Automorphism, Algebra, local automorphism, linear reflection.

Ta'rif. A algebra bo'lib undagi xar bir $x \in A$ element uchun

$$\Phi(x) = \varphi_x(x)$$

shartni qanoatlantiruvchi $\varphi_x: A \rightarrow A$ avtomorfizm mavjud bo'lsa, u holda $\Phi: A \rightarrow A$ chiziqli akslantirish lokal avtomorfizm deb ataladi.

Quyidagi teoremda A_1 algebra uchun $\Phi: A \rightarrow A$ akslantirishni qaraylik.

Teorema. A_1 algebraning har qanday chiziqli lokal avtomorfizmi avtomorfizmdan iborat.

Isbot. Φ A_1 ning ixtiyoriy lokal avtomorfizmi bo'lsin. Barcha $x \in A_1$ uchun ta'rif bo'yicha $x \in A_1$ da $\Phi(x) = \varphi_x(x)$ avtomorfizmi mavjud.

1 teoreмага ko'ra, φ_x avtomorfizmi quyidagi matritsa ko'rinishiga ega:

$$A_x = \begin{pmatrix} \alpha_x & 0 & 0 \\ 0 & \alpha_x^2 & 0 \\ \beta_x & 0 & \alpha_x^4 \end{pmatrix}.$$

Xususan,

$$\Phi(e_1) = \varphi_{e_1} e_1,$$

$$\Phi(e_2) = \varphi_{e_2} e_2,$$

$$\Phi(n_1) = \varphi_{e_3} e_3$$

tengliklarni qanoatlantiruvchi $\varphi_{e_1}, \varphi_{e_2}, \varphi_{e_3}$ matritsalar mavjud. A matritsani quyidagicha quraylik:

$$A = \begin{pmatrix} \alpha_{e_1} & 0 & 0 \\ 0 & \alpha_{e_2}^2 & 0 \\ \beta_{e_1} & 0 & \alpha_{e_3}^4 \end{pmatrix}.$$

Φ chiziqli bo'lgani uchun

$$\Phi(x + y) = \Phi(x) + \Phi(y), \forall x, y \in A_1 (*)$$

tenglik o'rinli.

Bu tenglikka ko'ra

$$\Phi(e_1 + e_2) = \alpha_{e_1+e_2} e_1 + \beta_{e_1+e_2} e_3 + \alpha_{e_1+e_2}^2 e_2,$$

$$\Phi(e_1) + \Phi(e_2) = \alpha_{e_1} e_1 + \beta_{e_1} e_3 + \alpha_{e_2}^2 e_2$$

tengliklarga ega bo'lamiz. Bunda bazis elementlarining koeffitsientlarini taqqoslab, biz quyidagilarga erishamiz:

$$\alpha_{e_1+e_2} = \alpha_{e_1},$$

$$\beta_{e_1+e_2} = \beta_{e_1},$$

$$\alpha_{e_1+e_2} = \alpha_{e_2}.$$

Bundan esa $\alpha_{e_1} = \alpha_{e_2}$.

(*) tenglikdan foydalanib,

$$\Phi(e_2 + e_3) = \alpha_{e_2+e_3}^2 e_2 + \alpha_{e_2+e_3}^2 e_3,$$

$$\Phi(e_2) + \Phi(e_3) = \alpha_{e_2}^2 e_2 + \alpha_{e_3}^2 e_3.$$

Yana bazis elementlarining koeffitsientlarini taqqoslab, biz quyidagilarga erishamiz:

$$\alpha_{e_2+e_3} = \alpha_{e_2}, \alpha_{e_2+e_3} = \alpha_{e_3}.$$

Bundan esa $\alpha_{e_2} = \alpha_{e_3}$ bo'ladi.

Shunday qilib, biz Φ lokal avtomorfizm quyidagi shaklga ega ekanligini bilib olamiz:

$$\Phi = \begin{pmatrix} \alpha_{e_1} & 0 & 0 \\ 0 & \alpha_{e_1}^2 & 0 \\ \beta_{e_1} & 0 & \alpha_{e_1}^4 \end{pmatrix}$$

Teorema isbotlandi.

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THE ROLE OF MENTORING IN THE DEVELOPMENT OF PROFESSIONAL ERUDITION OF FUTURE TEACHERS

Abstract. The article examines the importance of mentoring in the formation of professional erudition among future teachers. In the context of modern educational requirements, a teacher must have not only knowledge in his subject area, but also the ability to effectively transfer it to his students. The author analyzes various aspects of mentoring, including its role in the formation of key skills, pedagogical competence and professional identity of future teachers. Based on modern research and practical experience, the influence of mentoring on the development of professional erudition and competencies of the teaching staff is studied in detail. The results of the work can be useful for pedagogical educational institutions, practical teachers and researchers interested in the professional development of teachers.

Keywords: mentoring, professional erudition, professional skills development, future teachers, pedagogical mentoring, educational practices, teacher competencies.

Introduction. Mentoring plays a key role in the formation of professional erudition among future teachers. In the field of education, it is an integral tool that contributes to the effective development of pedagogical skills and knowledge. The role of mentors in the learning process of students-future teachers cannot be overestimated, since their experience and knowledge help to create the basis for a successful career in education.

Firstly, mentoring facilitates the transfer of practical experience. Future teachers can learn valuable lessons first-hand, working under the guidance of experienced teachers. Mentors share their knowledge, teach effective teaching methods, and help students figure out difficult situations that may arise in the learning process. This practical experience cannot be obtained from books, so mentoring is a necessary component of the education of future teachers.

Secondly, mentoring promotes the development of adaptive skills. Teaching practice often requires a quick response to changing circumstances, the ability to quickly adapt to new situations and adapt curricula to the individual needs of students. Under the guidance of mentors, students learn to think flexibly, solve problems and adapt their learning approaches.

In addition, mentoring contributes to the formation of professional identity among future teachers. Working side by side with experienced teachers allows students to feel part of the educational community, imbued with its values and culture[1]. This process helps students better understand themselves as

professionals, define their goals and values in the field of education. Mentoring plays a crucial role in shaping the professional erudition of future teachers. This process not only transfers knowledge and skills, but also develops critical thinking, promotes self-reflection and professional growth. In the context of education, the role of mentoring becomes especially important, since future teachers must be ready to transfer knowledge and educate the next generation.

The first and perhaps the most important role of a mentor is the transfer of experience and knowledge. Future teachers need a deep understanding of the subject area, as well as the ability to effectively transfer this knowledge to their students. Mentors, having experience in the educational field, can share their knowledge and thereby help young teachers develop their professional erudition[2]. An important part of mentoring is the development of critical thinking. Future teachers should be able to analyze information, identify its reliability and applicability in the educational process. Mentors can stimulate this process by asking provocative questions and providing support in understanding different points of view.

Self-reflection also plays an important role in the professional growth of a teacher. Mentors help future teachers to be aware of their strengths and weaknesses, as well as find ways to improve them. Regular conversations and discussions with a mentor help teachers realize their professional path and constantly improve[3]. Finally, mentoring contributes to the creation of a professional network and support. Future teachers, having a mentor, get access to valuable resources and advice, which helps them successfully cope with professional challenges and difficulties.

Thus, the role of mentoring in the development of professional erudition of future teachers is invaluable. It provides the transfer of knowledge and experience, the development of critical thinking, self-reflection and support in professional growth. Successful mentoring contributes to the formation of qualified and competent teachers who are ready to work effectively in an educational environment.

Mentoring plays a crucial role in shaping the professional erudition of future teachers. This process not only transfers knowledge and skills, but also develops critical thinking, promotes self-reflection and professional growth. In the context of education, the role of mentoring becomes especially important, since future teachers must be ready to transfer knowledge and educate the next generation. The first and perhaps the most important role of a mentor is the transfer of experience and knowledge[4]. Future teachers need a deep understanding of the subject area, as well as the ability to effectively transfer this knowledge to their students. Mentors, having experience in the educational field, can share their knowledge and thereby help young teachers develop their professional erudition.

An important part of mentoring is the development of critical thinking. Future teachers should be able to analyze information, identify its reliability and

applicability in the educational process. Mentors can stimulate this process by asking provocative questions and providing support in understanding different points of view. Self-reflection also plays an important role in the professional growth of a teacher. Mentors help future teachers to realize their strengths and weaknesses, as well as find ways to improve them[5]. Regular conversations and discussions with a mentor help teachers realize their professional path and constantly improve.

Finally, mentoring contributes to the creation of a professional network and support. Future teachers, having a mentor, get access to valuable resources and advice, which helps them successfully cope with professional challenges and difficulties. Thus, the role of mentoring in the development of professional erudition of future teachers is invaluable. It provides the transfer of knowledge and experience, the development of critical thinking, self-reflection and support in professional growth. Successful mentoring contributes to the formation of qualified and competent teachers who are ready to work effectively in an educational environment.

The teaching profession requires not only knowledge about the subject, but also the ability to transfer it to students, inspire them to study and help them reach their potential. Mentoring plays a key role in this process, ensuring the transition from theory to practice and helping students develop their professional erudition[6]. Initially, mentoring provides students with the opportunity to immerse themselves in the real atmosphere of the teaching profession. They gain access to the experience of experienced teachers, can observe and analyze their teaching methods, and participate in lessons as assistants or interns. This hands-on experience helps future teachers better understand their strengths and areas that need improvement.

In conclusion, mentoring plays an important role in the development of professional erudition among future teachers. It promotes the transfer of practical experience, the development of adaptive skills and the formation of professional identity. Through mentoring, students receive not only knowledge, but also valuable teaching experience that will be useful to them in their future careers in education.

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PROBLEMS IN TEACHING ECONOMICS IN HIGHER EDUCATION COUNTRIES

Abstract. Nowadays, learning and studying are considered an important component of every person's life. It consists in mastering the knowledge and experiences created throughout the history of mankind and specially selected for mastering, improving knowledge, skills and abilities. For the implementation of teaching activities, the educational system is organized as a special activity, and in this process, each learner achieves certain goals and tasks of social importance.

In recent years, the number of higher educational institutions in our republic has increased dramatically, branches of foreign higher education institutions have been opened, and the number of specialties in existing institutions has increased. This, in turn, leads to increased competition between educational institutions.

Due to this, today, a lot of attention is paid to improving the quality of education in the higher education system.

Key words: specialist's competence, in the educational process, production, distribution, exchange and consumption of products.

Several theories of teaching have been developed by experts for several hundred years, some of them can be applied today to all educational subjects and objects, and others to specific subjects or to certain types of educational institutions. These theories determine and describe the main important signs and characteristics of the educational process determined by the subject being studied. Due to the changes taking place in the society at the present time, the teaching of social sciences has its own characteristics. Because most of the social sciences, especially the areas of economics, unlike the natural sciences, react very sharply to the changes in social life.

Therefore, the method of teaching economic sciences is a field of social relations, which consists in studying a set of interrelated means, methods and forms of teaching economic sciences. The peculiarity of this method is that it is closely related to the economic life of society, more specifically, to the

production, distribution, exchange and consumption of products. Activity for formation implies the active use of the name in practical terms.

It is known that teaching methods have a strong influence on the effectiveness of the educational process. Due to this, the level of preparation and effectiveness of education directly depends on the interaction between the teacher and the student.

Today, the demand for economic knowledge by the society requires a creative approach to the educational process from both the teacher and the student.

Because it is very important for a student to learn to act freely in not only simulated but also real economic processes and adapt to it. Teaching students to solve certain types of problems and forming their economic thinking will allow them to positively solve problems that arise in their future work.

In the process of teaching economic sciences, taking into account the close connection between theory and practice, it is possible to use a wide range of teaching methods. But the most important condition for increasing the effectiveness of education in the process of studying is the balanced use of these methods.

The effectiveness of the educational process depends on certain factors, because the method of teaching economic sciences is aimed at ensuring the clarity and openness of the educational material, as well as a high theoretical level of teaching. Therefore, during the training process:

- Each highly educated specialist must communicate his plans and ideas to students and colleagues competently and at a high level;
- It is important for the teacher to have the ability to objectively analyze and separate economic problems and tasks from all political and ideological information;
- Persuasion means attraction, therefore, substantiation of the objectivity of the given information depends primarily on the competence, awareness and level of knowledge of the expert providing the knowledge;

One of the first tasks of the method in the teaching of economic sciences is the need for a relationship between theory and practice, because practice in economics requires confirmation of theory and practical justification. It must be acknowledged. All economic subjects are taught on the basis of common methodological requirements. However, it is desirable to use special methods that can reflect the specific features of the content of the subject in the teaching of separate subjects, because the content of the teaching of economic subjects depends on what methodology we use (picture).

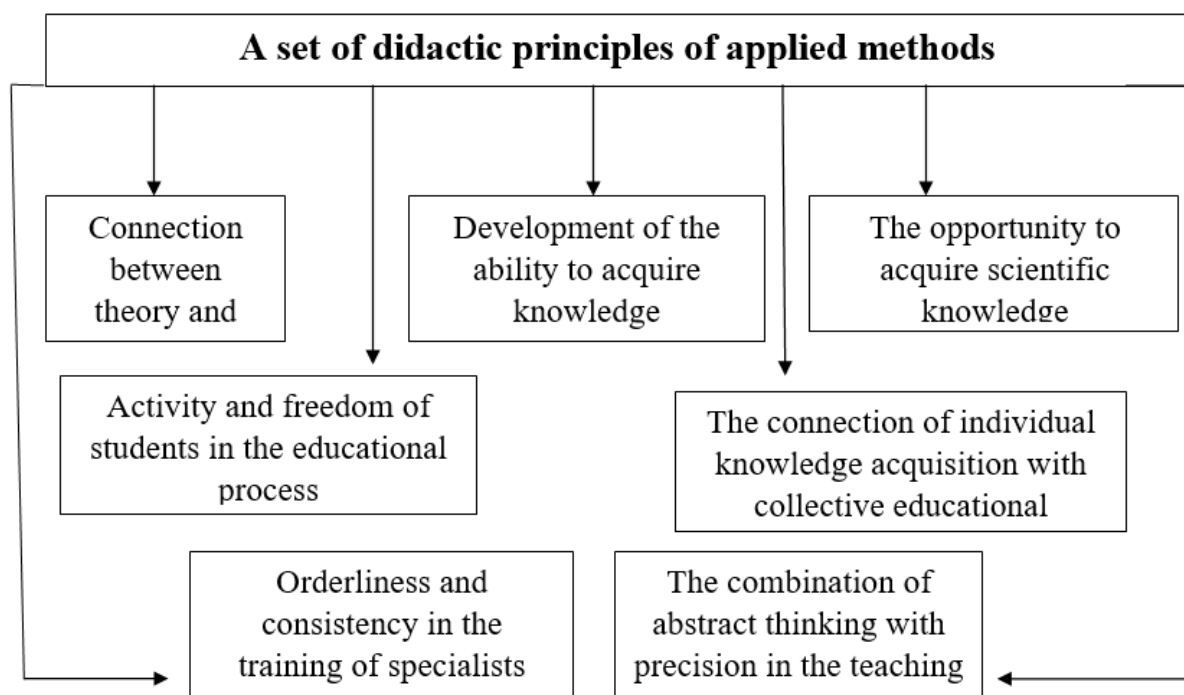


Image. A set of didactic principles of applied methods Because methodology is not only a science and a scientific discipline, but also an active way of understanding modern economic reality.

Statistical data and reports of commercial organizations have been widely used in the teaching of economic sciences since ancient times. But nowadays, the non-use of comparative values in the data of the republic's statistics agency and enterprises creates great difficulties in studying and analyzing the activity of objects. This, in turn, reduces the objectivity of the results of the state of enterprises.

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AI-DRIVEN ENVIRONMENTAL COMMUNICATION: TRANSLATING SUSTAINABILITY REPORTS INTO UZBEK FOR GLOBAL AWARENESS

Abstract. This study explores the application of artificial intelligence in translating sustainability reports and environmental content into Uzbek, emphasizing the importance of promoting global awareness. Our model, incorporating environmental ontologies and specialized language models, achieves nuanced translations that convey the ecological impact. Through case studies and comparative analysis, we showcase the effectiveness of our approach in fostering cross-cultural understanding in environmental communication.

Keywords: AI-Driven Translation, Environmental Communication, Cross-Cultural Understanding, AI Applications in Environmentalism.

1. Introduction

In today's interconnected world, effective communication stands as the cornerstone for addressing global challenges, particularly in the realm of environmental consciousness and sustainability. The ability to convey complex ecological concepts, initiatives, and reports accurately across languages is paramount for fostering global awareness and catalyzing collective action. This article delves into the utilization of artificial intelligence (AI) to facilitate multilingual environmental communication, focusing on the translation of sustainability reports into Uzbek, thereby fostering global awareness and understanding of environmental issues [1].

1.1 Significance of Multilingual Environmental Communication

Multilingual environmental communication plays a pivotal role in transcending linguistic barriers to disseminate vital information and promote worldwide engagement with environmental issues. It acts as a conduit for sharing best practices, scientific findings, and sustainability efforts across diverse linguistic and cultural landscapes [2]. The significance of multilingual environmental communication can be delineated through several critical aspects:

Global Reach and Inclusivity: Embracing multilingualism in environmental communication ensures inclusivity by making vital information accessible to a broader audience. Translating sustainability reports into Uzbek

facilitates comprehension and engagement among Uzbek-speaking populations, fostering a sense of inclusivity and empowerment [3].

Cultural Sensitivity and Nuances: Environmental issues are often intertwined with cultural context and values. Effective multilingual communication preserves cultural nuances, ensuring that environmental messages are not only accurately translated but also resonate with the local cultural ethos, thereby enhancing receptivity and engagement. *Cross-Cultural Collaboration:* Language barriers often hinder international collaboration on environmental initiatives. Multilingual communication bridges these gaps, fostering cross-cultural understanding and facilitating collaborative efforts toward global environmental goals.

Policy and Decision-making Impact: Translating sustainability reports and environmental findings empowers policymakers, stakeholders, and the public to make informed decisions. Access to these translated reports influences policy formulation, drives environmental advocacy, and fosters community engagement in sustainable practices.

1.2 Challenges in Translating Sustainability Reports

The translation of sustainability reports presents a multitude of intricate challenges that demand meticulous attention to detail and context. These challenges significantly influence the accuracy, cultural sensitivity, and effectiveness of conveying environmental messages across languages [4]. The following encapsulates some of the primary hurdles encountered in this domain:

- Technical Terminology and Complexity;
- Cultural Adaptation;
- Contextual Ambiguity;
- Data Interpretation and Accuracy;
- Language Structure and Idiomatic Expressions;
- Linguistic Diversity and Target Audience.

Language Structure and Idiomatic Expressions: Different languages possess diverse grammatical structures and idiomatic expressions, making direct translation challenging. Translating idioms or colloquialisms present in sustainability reports requires thoughtful adaptation to maintain the original message's essence.

Linguistic Diversity and Target Audience: The diversity within the target audience necessitates strategic decisions regarding language variants, dialects, or formal vs. informal language. Understanding the linguistic preferences of the audience aids in effective communication [6].

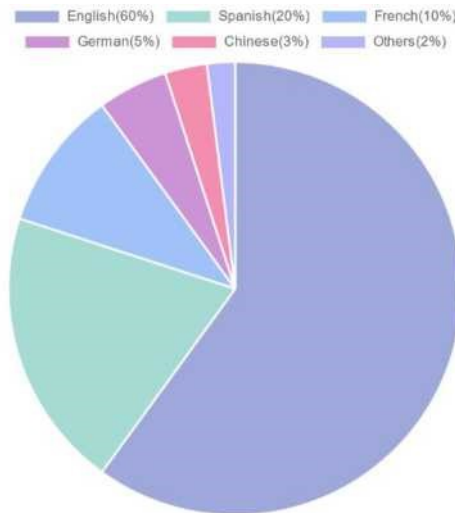


Fig 1. the percentage breakdown of languages (English, Spanish, etc.) in the sustainability reports intended for translation into Uzbek

1.3 Objectives of the Study

This study aims to accomplish several key objectives:

Evaluation of AI Translation Accuracy: Assess the accuracy and fidelity of AI-driven translation models specifically tailored for sustainability reports, focusing on their ability to maintain the integrity of technical terms and contextual nuances during translation into Uzbek [7].

Analysis of Cultural Adaptation: Investigate the effectiveness of AI models in preserving cultural sensitivity and nuances in translated sustainability reports, ensuring that the environmental messages resonate appropriately within the Uzbek cultural context.

Comparison with Traditional Translation Methods: Conduct a comparative analysis between AI-driven translation methods and conventional human translation approaches to highlight the advantages and improvements offered by AI in environmental communication [8].

Examination of User Perception: Explore the reception and comprehension of translated sustainability reports among the Uzbek-speaking audience, aiming to discern the impact and efficacy of AI-driven translations on user understanding and engagement [9].

Identification of Challenges and Recommendations: Identify and elucidate the specific challenges encountered in translating sustainability reports into Uzbek using AI models. Additionally, propose recommendations and best practices to enhance the effectiveness of AI-driven environmental communication.

2. Methodology

2.1 Compilation of Sustainability Report Datasets

The methodology employed for this study necessitates the acquisition and assembly of diverse sustainability report datasets from various sources. This

comprehensive dataset compilation involves several essential steps:

Data Collection Strategy: The initial phase involves devising a robust strategy for collecting sustainability reports across different industries, geographical regions, and organizational structures. Various sources such as corporate websites, databases, and repositories specializing in sustainability reports are meticulously explored.

Selection Criteria: Establishing stringent selection criteria is pivotal to ensure the inclusion of high-quality and diverse sustainability reports. Criteria encompass parameters such as publication date, report comprehensiveness, adherence to global reporting standards (e.g., GRI - Global Reporting Initiative), and linguistic diversity to represent a broad spectrum of environmental topics and industries [10].

Linguistic Annotation and Translation Alignment: Linguistic annotation involves tagging and annotating specific linguistic elements within the reports, such as technical terms, idiomatic expressions, and cultural references. Additionally, the original reports are aligned with their translated counterparts in Uzbek to facilitate comparative analysis and model evaluation [2].

Dataset Augmentation and Enrichment: In some instances, to enhance the dataset's depth and diversity, augmentation techniques such as synthetic data generation or enrichment through additional sources might be applied. This step aims to ensure a robust and comprehensive dataset conducive to effective AI model training and evaluation [11].

2.2 Training and Evaluating the Model's Performance in Environmental Communication

The effectiveness of AI-driven translation models in facilitating environmental communication relies significantly on the rigorous training and evaluation of these models. This multifaceted process involves several key stages:

Data Preparation for Model Training:

The first step encompasses preparing the dataset compiled from sustainability reports aligned with Uzbek translations. This dataset serves as the foundation for training the AI translation model. The data undergoes preprocessing to ensure uniformity, consistency, and relevance, aligning it with the model's requirements.

Model Training with Environmental Context: The AI translation model is trained using a process that integrates environmental ontologies and the curated dataset. This phase aims to familiarize the model with environmental terminologies, idiomatic expressions, and domain-specific context. The integration of ontological knowledge enriches the model's understanding of environmental concepts, enabling it to produce more accurate and contextually relevant translations [14].

Fine-Tuning and Optimization: Following initial training, the model undergoes finetuning and optimization iterations. This stage involves tweaking parameters, adjusting algorithms, and refining the model's architecture to enhance

its capability to capture subtle environmental nuances and cultural context specific to sustainability reports.

Evaluation Metrics and Validation: The trained model's performance is evaluated using established metrics tailored for environmental communication. Evaluation metrics include accuracy, fluency, adequacy, and preservation of environmental context in translations. The model's outputs are validated against human-reviewed translations and benchmarked against industry standards to ensure quality and accuracy.

Iterative Improvement through Feedback Loop: The evaluation outcomes inform an iterative feedback loop, wherein identified shortcomings or discrepancies in translations are utilized to further refine and improve the model. This cyclical process of evaluation and refinement iterates until the model achieves satisfactory performance levels aligned with the objectives of accurately conveying environmental messages in Uzbek translations.

Cross-Validation and Generalization Testing: Additionally, cross-validation techniques and generalization testing are employed to assess the model's performance across different subsets of the dataset. This ensures that the model maintains consistency and accuracy when faced with diverse environmental content.

3. Results and Discussion

3.1 Evaluation Metrics for Environmental Translations

Assessing the performance of AI-driven translation models in conveying environmental content accurately requires the utilization of specialized evaluation metrics. These metrics serve as benchmarks to measure the quality, fidelity, and contextual accuracy of translated sustainability reports into Uzbek. Key evaluation metrics include:

- *Accuracy and Fluency;*
- *Adequacy and Terminology Consistency;*
- *Cultural Relevance and Sensitivity;*
- *Contextual Preservation;*
- *Domain-Specific Understanding;*
- *Human Evaluation and Subjective Assessment.*

Accuracy and Fluency: Accuracy measures the precision of translations in correctly conveying the original meaning of the source text. Fluency assesses the naturalness and readability of translated content in Uzbek. A balance between accuracy and fluency is crucial for effectively communicating environmental messages.

Adequacy and Terminology Consistency: Adequacy evaluates the completeness of translations in effectively conveying the intended message without omitting crucial information. Terminology consistency assesses the model's ability to maintain consistency in translating domain-specific environmental terms and concepts.

Cultural Relevance and Sensitivity: These metrics focus on evaluating the

preservation of cultural nuances and context in translated sustainability reports. Ensuring that the translated content resonates culturally with the Uzbek audience is essential for fostering comprehension and engagement.

Contextual Preservation: This metric gauges the model's capability to retain and reproduce the contextual meaning and nuances present in the original sustainability reports. It evaluates how well the translated content captures the broader environmental context and implications.

Domain-Specific Understanding: Assessing the model's grasp of domain-specific environmental concepts and technical terminology is crucial. This metric measures the model's proficiency in accurately translating intricate environmental discourse and specialized terminology.

Human Evaluation and Subjective Assessment: Incorporating human evaluation and subjective feedback is paramount. Human reviewers assess translated reports for comprehension, readability, and overall effectiveness in communicating environmental messages to ensure alignment with human expectations and understanding.

3.2 Comparative Analysis with Traditional Environmental Translation Methods

Accuracy and Consistency: AI-driven translation methods often demonstrate superior accuracy and consistency in rendering complex environmental terminology compared to traditional methods. AI models, infused with domain-specific knowledge, exhibit a higher proficiency in maintaining terminological consistency and contextual accuracy, thus minimizing errors and enhancing fidelity in translations.

Efficiency and Scalability: AI-driven translation methods offer remarkable efficiency and scalability. These models, once trained, facilitate rapid and large-scale translations of sustainability reports into Uzbek with reduced human intervention. In contrast, traditional methods heavily rely on manual labor, making them more time-consuming and less adaptable to handling extensive translation tasks efficiently.

Adaptability to Context and Nuances: AI models, enriched with environmental ontologies and advanced language processing, showcase an enhanced adaptability to contextual nuances. They excel in capturing cultural intricacies and preserving the original context of environmental messages, resulting in more culturally sensitive translations. Traditional methods might struggle to maintain such nuances due to reliance on literal translation approaches.

Human Involvement and Subjectivity: Traditional methods often involve a higher degree of human involvement, leveraging the expertise of professional translators. While human translators bring subjective judgment and cultural understanding, this subjectivity might introduce variations and inconsistencies across translations. AI-driven methods, while less reliant on human input, undergo continual refinement based on human-reviewed feedback, aiming to bridge this gap.

Adaptation to Evolving Terminology: AI-driven models exhibit agility in adapting to evolving environmental terminology through continual learning. They can swiftly integrate new terms and concepts into their framework, ensuring up-to-date translations. In contrast, traditional methods might face challenges in keeping pace with rapidly evolving environmental jargon and terminology.

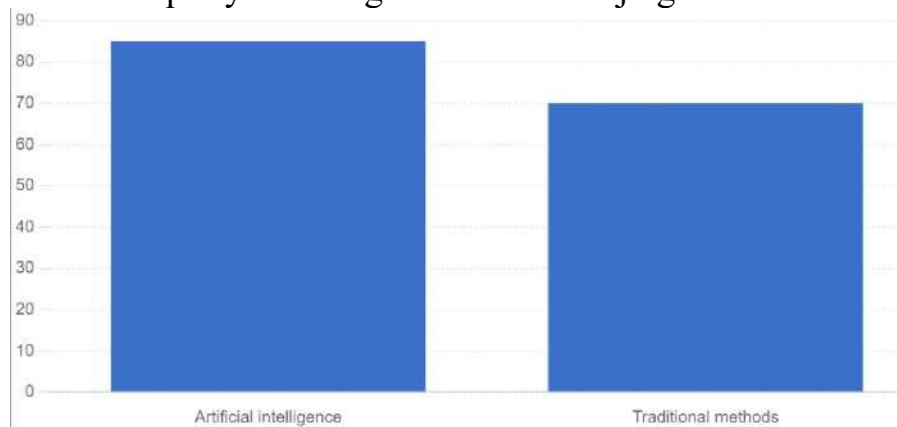


Fig 2. Comparative analysis showcasing the accuracy rates between AI-driven translation techniques and traditional methods, focusing on specific environmental terminology in Uzbek translations

4. Challenges and Solutions

4.1 Evaluation Metrics for Environmental Translations

Accurate translation of sustainability reports into Uzbek is pivotal to effectively convey intricate environmental concepts, technical terminologies, and nuanced messages present in the original content. Achieving precision faces various challenges, met with strategic solutions:

Challenges:

Technical Terminology Complexity: The complexity of technical environmental terminology presents a challenge in maintaining precision during translation. Concepts related to climate change, biodiversity, or sustainability metrics require meticulous translation to preserve their original meaning accurately.

Cultural and Contextual Adaptation: Sustainability reports often contain context-specific concepts and cultural references, making precise translation challenging. Failure to adapt these nuances to the target language may result in loss of context or misinterpretation.

Subjectivity and Interpretation: Environmental messages can be subjective and open to interpretation. Precision becomes challenging when various translators or AI models interpret nuanced environmental concepts differently, potentially leading to inconsistencies in translations.

Solutions:

Domain-Specific Training Data: Utilizing specialized training datasets rich in environmental terminologies aids AI models in understanding technical jargon, improving precision in translations by exposing them to varied terminology.

Context-Aware Translation Models: Implementing AI models with contextual understanding and cultural sensitivity contributes to precision. Models trained to adapt to cultural nuances and specific context enhance accuracy in sustainability translations. *Human-AI Collaboration:* Combining human expertise with AI capabilities improves precision. Human reviewers, especially environmental experts, refine translations, ensuring accuracy by providing nuanced insights and contextually relevant inputs.

4.2 Facilitating Cross-Cultural Understanding in Environmental Communication

Cultural Adaptation in Translation: Efficient translation transcends linguistic barriers and delves into cultural adaptation. AI models trained for environmental translation incorporate cultural sensitivity, ensuring that Uzbek translations resonate culturally with local audiences. This adaptation bridges the gap between diverse cultural contexts, fostering better understanding.

Incorporation of Local Context: Effective communication involves integrating local context into translated sustainability reports. Tailoring the content to encompass Uzbek societal values, norms, and environmental concerns ensures relevance and relatability, enhancing cross-cultural understanding.

Utilization of Culturally Relevant Examples: Employing culturally familiar examples within sustainability reports aids in comprehension. These examples resonate with the Uzbek audience, facilitating a deeper understanding of environmental concepts by connecting them to local experiences and contexts.

Community Engagement and Involvement: Engaging local communities in the translation process fosters a sense of ownership and inclusivity. Involving Uzbek-speaking individuals in reviewing or providing feedback on translated reports cultivates a deeper connection and understanding of the conveyed environmental messages.

Promotion of Environmental Education Initiatives: Beyond translations, investing in environmental education initiatives conducted in Uzbek further promotes cross-cultural understanding. Educational programs focusing on environmental stewardship and sustainability instill shared values and foster a deeper appreciation for environmental concerns.

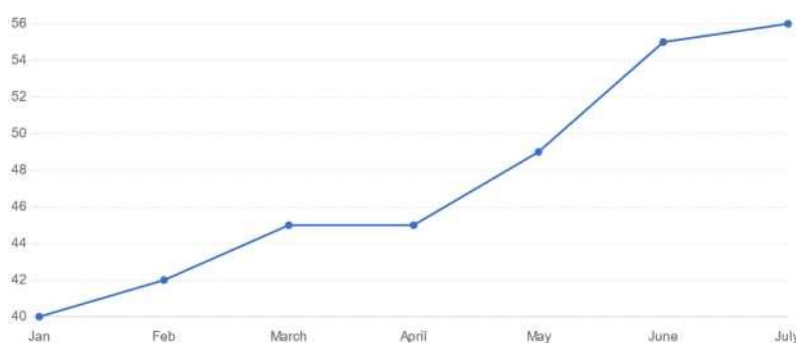


Fig 3. Impact of community involvement on cross-cultural understanding.

Conclusion

The translation of sustainability reports into Uzbek through the prism of artificial intelligence represents a transformative approach in facilitating cross-cultural environmental communication. This study explored the intricate landscape of ensuring precision, cross-cultural understanding, and addressing challenges in environmental translations, underpinned by AI-driven methodologies.

The challenges encountered, ranging from technical terminologies to cultural nuances, were met with strategic solutions. Leveraging domain-specific training data, context-aware translation models, and human-AI collaboration proved instrumental in enhancing precision and maintaining fidelity in conveying environmental messages accurately.

Moreover, the emphasis on cross-cultural understanding elucidated the significance of tailoring translations to resonate with local contexts. Incorporating cultural adaptation, local relevance, and community engagement in translation processes not only facilitated comprehension but also fostered a deeper connection with environmental concerns among Uzbek-speaking audiences.

The amalgamation of AI-driven translation advancements and a nuanced understanding of cross-cultural dynamics contributes significantly to bridging gaps in environmental communication. However, this study acknowledges that continual improvement and adaptation are essential. Embracing evolving terminologies, refining AI models, and actively engaging local communities remain pivotal in sustaining effective cross-cultural environmental communication.

In essence, the journey of using artificial intelligence to bridge linguistic and cultural barriers in sustainability translations signifies a promising stride towards fostering global environmental stewardship. As we navigate a world interconnected by environmental challenges, the role of precise, culturally adaptive translations becomes indispensable in catalyzing collective action towards a sustainable future.

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PEDAGOGIK FAOLIYAT JARAYONLARIDA INNAVATSION TA'LIM JARAYONLARI ORQALI PEDAGOGLAR SALOMATLIGINI SAQLASH

Annatsiya. Quyuda keltirilgan maqolada o'z kasbining mohir ustasi bo'lgan, yuksak darajada madaniyatli, o'z fanini chuqur biladigan, yondash fanlar sohalarini yaxshi tahlil eta oladigan, bo'lajak kasbiy mahoratini, ijodkorlik ko'nikmalarini hosil qilishi, muomala madaniyati, pedagogik texnika malakalarini shakllantirishi, o'qituvchilik, tarbiyachilik mahoratining dastlabki malakalarini tarkib toptirishdan jarayonlari yoritilgan. "Pedagogik mahorat" da kuzatuvchanlik, ijodkorlik, ilg'or pedagogik tajribalarni mustaqil o'zlashtirish sirlarini o'rgatadi.

Kalit so'zlar: pedagog, mahorat, kuzatuvchanlik, bilimdonlik, ko'nikma, malaka, o'qituvchi, madaniyat, pedagogik texnika, axloq, tajriba.

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PRESERVING THE HEALTH OF TEACHERS THROUGH INNOVATIVE EDUCATIONAL PROCESSES IN THE PROCESSES OF PEDAGOGICAL ACTIVITY

Abstract. In the article below, a master of his profession, highly cultured, deeply knowledgeable in his field, able to analyze the fields of related sciences well, develop his future professional skills, creative skills, culture of dealing, formation of pedagogical technical skills, processes of formation of the initial skills of teaching, educational skills are covered. "Pedagogical skills" teaches the secrets of observation, creativity, independent mastering of advanced pedagogical practices.

Key words: pedagogue, skill, observation, knowledge, skill, competence, teacher, culture, pedagogical technique, ethics, experience.

O‘qituvchi – O‘zbekistonning porloq kelajagini barpo etuvchi, dunyoga mashhur mutafakkir va olimlarning davomchisi bo‘lgan yosh avlod ta‘lim-tarbiyasi uchun javobgar shaxsdir. Shunday ekan, o‘qituvchining mazkur talablarga muvofiq keluvchi qiyofasi, uning o‘quvchilar, hamkasblar hamda ota-onalar o‘rtasidagi obro‘-e‘tibori hozirgi zamon talablariga mos bo‘lishi shart.

“Pedagogik mahorat” asosiy maqsadi bo‘lajak o‘qituvchilarda kasbiy mahorat, ijodkorlik ko‘nikmalarini hosil qilish, muomala madaniyati, pedagogik texnika malakalarini shakllantirish, o‘qituvchilik, tarbiyachilik mahoratining dastlabki malakalarini tarkib toptirishdan iboratdir. “Pedagogik mahorat”da kuzatuvchanlik, ijodkorlik, ilg‘or pedagogik tajribalarni mustaqil o‘zlashtirish sirlarini o‘rgatadi. Talabalar o‘qish va o‘qitish jarayonida diqqatni taqsimlash, bilim, ko‘nikma va malakalar, psixik holatlarini boshqara olish va pedagogik texnika madaniyatini mustaqil o‘zlashtirish malakalarini shakllantirishga e‘tibor qaratadilar. Har bir yosh mutaxassisni puxta ilmiy – nazariy bilimlar bilan qurollantirish, egallagan ilmiy bilimlarni amaliy faoliyatda qo‘llash uchun ko‘nikma va malakalarini rivojlantirish albatta oson ish emas. O‘qishga ilmiy, ongli munosabat bilan qaraydigan, mustaqil fikrlaydigan, mukammal ma‘lumotlarni egallashga layoqatli, bilish faolligi va aqliy mehnat madaniyatini o‘zida mujassamlashtirgan yoshlarni voyaga yetkazish – muhim vazifadir. Kasbiy pedagogik ta‘lim yo‘nalishida “Pedagogik mahorat” fanini o‘qitishni yanada takomillashtirish, uning samaradorligini oshirishga e‘tiborni kuchaytirish hozirgi kunning dolzarb muammosi sifatida tan olinmoqda

“O‘z kasbining mohir ustasi bo‘lgan, yuksak darajada madaniyatli, o‘z fanini chuqur biladigan, yondash fanlar sohaslarini yaxshi tahlil eta oladigan, tarb Ushbu ta‘rifning mohiyatidan kelib chiqib o‘qituvchining pedagogik mahorati tushunchasi mazmunini shunday izohlash mumkin:

1. Madaniyatning yuqori darajasi, bilimdonlik va aql zakovatning yuksak ko‘rsatkichi.

2. O‘z faniga doir bilimlarning mukammal sohibi.

3. Pedagogika va psixologiya kabi fanlar sohasidagi bilimlarni puxta egallaganligi, ulardan kasbiy faoliyatida foydalana olishi.

4. O‘quv – tarbiyaviy ishlar metodikasini mukammal bilishi.

Pedagogik mahorat tizimi quyidagi o‘zaro bir-biri bilan bog‘liq bo‘lgan asosiy komponentlardan iborat:

➤ Pedagogik insonparvarlik talablariga bo‘ysunishi.

➤ Kasbga oid bilimlarni boshqa fanlar bilan aloqadorlikda mukammal bilish.

➤ Pedagogik qobiliyatga ega bo‘lish.

➤ Pedagogik texnika sirlarini puxta egallash.

Barcha kasblar orasida o‘qituvchilik kasbi o‘zgacha va muhim ijtimoiy ahamiyat kasb etadi. Zero, o‘qituvchi yosh avlod qalbi kamolotining me‘mori, yoshlarga ta‘lim-tarbiya beruvchi insondir. Bugungi kunda u yoshlarni g‘oyaviy – siyosiy jihatdan chiniqtirib tabiat, jamiyat, ijtimoiy hayot, tafakkur taraqqiyoti

qonuniyatlarini o'rgatadi, yoshlarni mehnat faoliyatiga tayyorlab, kasb–hunar sirlarini puxta egallashlarida ko'maklashadi va jamiyat iyalash va o'qitish uslubiyatini mukammal egallagan mutaxassis”.

Pedagogik mahorat – o'qituvchilarning shaxsiy (bolajonligi, xayrixohligi, insonparvarligi, mehribonligi va h.k.) va kasbiy (bilimdonligi, zukkoligi, fidoyiligi, ijodkorligi, qobiliyati va hokazo.) fazilatlarini belgilovchi xususiyat bo'lib, o'qituvchilarning ta'lim-tarbiyaviy faoliyatida yuqori darajaga erishishini, kasbiy mahoratini doimiy takomillashtirib borish imkoniyatini ta'minlovchi faoliyatdir. U o'z fanini mukammal bilgan, pedagogik–psixologik va metodik tayyorgarlikka ega bo'lgan, o'qituvchilarni o'qitish, tarbiyalash va rivojlantirishning optimal yo'llarini izlab topish uchun, amaliy faoliyat olib boradigan har bir o'qituvchining kasbiy faoliyatida namoyon bo'ladi.

Shunday qilib, pedagogik mahorat egasi bo'lish uchun o'qituvchi o'z o'quv predmetini davr talablari asosida bilishi, pedagogik va psixologik bilimlarga ega bo'lishi, hamda insoniylik, izlanuvchanlik va fidoyilikni o'zida tarkib toptirishi lozim. I.P. Rachenko pedagogik mahoratni pedagogik san'atning bir qismi sifatida ta'riflab, shunday yozadi: “pedagogik mahorat deganda o'qituvchining pedagogik–psixologik bilimlarni, kasbiy malaka va ko'nikmalarni mukammal egallashi, o'z kasbiga qiziqishi, rivojlangan pedagogik fikrlashi va intuitsiyaci, hayotga axloqiy–estetik munosabatda bo'lishi, o'z fikr mulohazasiga ishonchi va qat'iy irodasi tushuniladi”. Tadqiqotchilarning fikriga ko'ra, quyidagi to'rtta komponent pedagogik mahoratning asosiy tashkil etuvchilari hisoblanadi

O'qituvchilarning kasbiy xususiyatlariga: o'z kasbini, bolalarni sevishi, ziyrakligi, hozirjavobligi, vazminligi, pedagogik nazokati, tasavvuri, qobiliyati, tashkilotchiligi, notiqlik madaniyati, chuqur va keng ilmiy saviyasi, kasbiy layoqatligi, ma'naviy ehtiyoji va qiziqishi, intellekti, yangilikni angelay va qo'llay olishi, kasbiy ma'lumotni muntazam oshirishga nisbatan intilishi va boshqa fazilatlar kiradi.

O'qituvchilarning kasbiy pedagogik tayyorgarligi shartli ravishda quyidagi yo'nalishlarda olib boriladi:

- 1) O'qituvchining shaxsiy fazilatlar bo'yicha tayyorgarligi.
- 2) O'qituvchining ruhiy – psixologik tayyorgarligi.
- 3) O'qituvchining ijtimoiy – pedagogik va ilmiy – nazariy jihatdan tayyorgarligi.
- 4) O'qituvchining maxsus va ixtisoslikka oid uslubiy bilimlarni egallab borishi.

O'qituvchining pedagogik mahorati pedagogika oliy ta'lim muassasalarida shakllanib boradi. Yuksak saviyali pedagogik kadrlar tayyorlashga nisbatan talablar, ularning malakasini oshirish va qayta tayyorlash tizimini takomillashtirish, o'z kasbi bilan uzluksiz taraqqiyotga moslasha oladigan o'qituvchining shakllanishi, bo'lajak o'qituvchi umummilliy mavqeining o'sib borishini ta'minlaydi.

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TOLALI CHIQINDILARINI SIFAT KO'RSATKICHLARI VA ULARNI TAHLILI

Annotatsiya. Ushbu maqolada Ip yigirishda chiqindilar miqdor jihatidan salmoqli ulushga egaligi bilan birga, qayta ishlash uchun alohida tozalashni taqozo etadi. Yuqoridagi holatlar va ma'lumotlarni hisobga olgan holda ushbu tadqiqotda turli tarkibli aralashmalarni qayta ishlashda hosil bo'lgan chiqindilarni yig'ish, dastlabki qayta ishlash va ishchi aralashmalarga qo'shish imkoniyatlari o'rganildi.

Kalit so'zlar: Tola, tolali chiqindi, tip, nav, momiq.

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FIBER WASTE QUALITY INDICATORS AND THEIR ANALYSIS

Annotation. In this article, while the waste in spinning has a significant share in terms of quantity, it requires separate treatment for recycling. Taking into account the above circumstances and information, in this study, the possibilities of collecting waste generated during the processing of mixtures with different compositions, preliminary processing and adding them to working mixtures were studied.

Keywords: Fiber, fibrous waste, type, grade, lint.

Xalq iste'mol mollari ishlab chiqarish va xizmat ko'rsatish sohasini rivojlantirish barcha turdagi ishlab chiqarilayotgan mahsulotlar sifatini yaxshilashga, assortimentini kengaytirishga, zamonaviy iste'molchilar talablariga javob beradigan yangi turdagi mahsulotlarni ishlab chiqarishni ko'paytirishga, mahsulotlarning ulushini ko'paytirishga asoslangan. Mahsulot ishlab

chiqarishning yuqori sifat toifasi va yaxlit mahsulot sifatini boshqarish tizimlarini joriy etish.

O'tgan asrning 80-yillariga qadar chiqindilar va past navli paxtadan ip ishlab chiqarish uchun faqat mehnat va jihozlarning unumdorligi, past tozalash qobiliyati va changning yuqori miqdori bilan ajralib turadigan apparatlar va halqali yigirish tizimlaridan foydalanilgan.

Ip yigirishda tolali aralashmaga qo'shiladigan tolali chiqindilarning turi va miqdorini tanlash murakkab masaladir. Birinchi sabab - chiqindilar paydo bo'ladigan joylar va ishlatilgan boshlang'ich xomashyo aralashmasi tarkibining vaqt o'tishi bilan o'zgaruvchanligi. Ikkinchisi, chiqindilar nomiga nisbatan ishlatiladigan atama bilan, ularning o'ziga xos sifat tarkibini ko'rsatib bo'lmaydi.

Barcha turdagi paxta tolasini qayta ishlashdagi ikkilamchi moddiy resurslarga O'zDSt 3310-2018 davlat standarti qo'llaniladi [1].

Amaliyot shuni ko'rsatadiki, ma'lum bir tolali chiqindilar yoki raqamlashning standart ta'riflari ularning sifat tarkibini etarli darajada tavsiflamaydi.

Bu ma'lumotlar dastlabki aralashmaga qo'shilgan tolalar sinfini hisobga olmaydi. Ma'lumki, tolalar sinfi ulardagi nuqsonlar va yot aralashmalarining umumiy miqdorini tavsiflaydi. Sinflar orasidagi farqlar tolaning sanoat naviga ham bog'liq. Qo'shni navlar va sinflar orasidagi nuqsonlar va yot aralashmalarining miqdoriy farqi 0,5% dan 3,5% gacha bo'ladi. Odatda bu farqlar birlamchi aralashmani hosil qilishda hisobga olinadi. Biroq, hosil bo'lgan chiqindilarda bu farqli o'zgarish juda katta bo'ladi.

Ip yigirishda chiqindilar miqdor jihatidan salmoqli ulushga egaligi bilan birga, qayta ishlash uchun alohida tozalashni taqozo etadi. Yuqoridagi holatlar va ma'lumotlarni hisobga olgan holda ushbu tadqiqotda turli tarkibli aralashmalarni qayta ishlashda hosil bo'lgan chiqindilarni yig'ish, dastlabki qayta ishlash va ishchi aralashmalarga qo'shish imkoniyatlari o'rganildi [2].

Tadqiqotlar uchta yigiruv fabrikasining ishlab chiqarish sharoitida olib borildi. Bu korxonalarda o'rnatilgan texnologik tizimlarning uchta varianti qo'llaniladi, ulardan ikkitasida pnevmomexanik usulda iplar ishlab chiqariladi. Ushbu korxonalarda titish va tozalash, aralashtirish va tarash jarayonlari Truetzschler (Germaniya) firmasining mashinalarida amalga oshiriladi [3]. Uchinchi korxonada ip halqali usulda ishlab chiqariladi. Bu yerda titish va tozalash, aralashtirish va tarash jarayonlari JINTAN mashinalarida amalga oshiriladi.

Tadqiqotlarda 10 ta namunalar tanlab olindi. Ularning 2 ta namunasi paxta tolasi hisoblanadi. 1-jadvalda namunalarning nomlari, tayyorlash joylari va xususiyatlari ko'rsatilgan.

Pnevmomexanik yigirish usulida ip uzilish darajasiga ta'minlash piltasining asosiy sifat ko'rsatkichlari ta'sir ko'rsatishi aniqlandi: tarkibidagi nuqsonlar va chiqindi aralashmalari va dog'lar, tolali konus komplekslarini uzish, piltaning notekisligidir.

Tolalar va tolali chiqindilar namunalari nomlari, joyi va xususiyatlari

Titish- tozalash agregati va tarash mashinalari	Namuna raqami	Namunaning tavsifi
JINTAN firmasining jihozlari	1	5 tip I nav paxta tolasi
	2	Tarash mashinasida ajralib, kompaktorda yig'ilgan St.7,11 chiqindilar
	3	Kompaktorda yig'ilgan oreshka va momiq St.3
Truetzschler firmasining jihozlari (pnevmomehanik usul)	4	4 tip II nav paxta tolasi
	5	Tarash mashinasidan olingan va presslangan St 7,11 chiqindilari
	6	Tarash mashinasida ajralib, kompaktorda yig'ilgan St.7,11 chiqindilar
Truetzschler firmasining jihozlari (halqali usul)	7	Tarash mashinasida ajralib, kompaktorda yig'ilgan St.7,11 chiqindilar
	8	Kompaktorda yig'ilgan oreshka va momiq St.3
Chiqindilarni tozalash agregati UOA-2	9	Tarash mashinasining tozalangan St. 7,11 chiqindilari
	10	Tozalangan oreshka va momiq St.3

Ip yigirishda chiqindilar miqdor jihatidan salmoqli ulushga egaligi bilan birga, qayta ishlash uchun alohida tozalashni taqozo etadi. Yuqoridagi holatlar va ma'lumotlarni hisobga olgan holda ushbu tadqiqotda turli tarkibli aralashmalarni qayta ishlashda hosil bo'lgan chiqindilarni yig'ish, dastlabki qayta ishlash va ishchi aralashmalarga qo'shish imkoniyatlari o'rganildi.

Odatda tolalar va tolali chiqindilarning tarkibidagi nuqsonlar, tolalar va xor-xas miqdorini aniqlash hamda tahlili uchun quyidagi usullar qo'llaniladi: namunani qo'lda saralash, namunalardagi nuqsonlar va xor-xaslarni qurilmalarda ajratish, namunalarga reaktivlar bilan ishlov berish [4].

Qo'lda saralash katta mehnat talab qilishiga qaramay, ushbu usul har xil nuqsonlar va xor-xaslarni ayrim turlarini sinchkovlik bilan aniqlashga imkon beradi. Bunday natijalar nuqsonlarning hosil bo'lish sabablarini o'rganish va ularni bartaraf etish choralari bo'yicha tavsiyalar ishlab chiqish uchun zarur.

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USE OF MODERN DIGITAL TECHNOLOGIES IN EDUCATION

Abstract. The article defines the priorities for the development of the educational process based on the use of digital technologies in the public education system of the republic, and analyzes their capabilities. It also offers suggestions on how not only to play an important role in education, but also how to implement it through the study, systematization and generalization of existing practices to obtain scientifically based conclusions about the implementation of digital technologies.

Key words: digital technologies, information and communication technologies, public education system, modern education, digital knowledge, Internet system, distance learning.

Today, digital technologies are actively used in all spheres of life, including education and upbringing. Digital technologies have entered the lives of all citizens living in the country, including young kindergarteners and pensioners. Nowadays, these digital technologies are becoming the most convenient way to share information, get the latest news and all the work done in the society. In addition, the issue of robotization of production and management processes arises, for example, in the banking sector, and the problem of competition between robots and workers. In the field of education, opening schools equipped with new modern digital technologies, providing existing schools with digital technologies are certainly necessary information and communication technologies to enter the period of development in the field of education.

With the use of digital technologies in education and the undoubted advantages of the technologies being introduced, issues related to the protection of ethical and personal data, and the legal aspects of competition between robots and employees of organizations are attracting more and more attention. During the research process, an objective method of scientific knowledge was used. The prospects for using modern digital technologies in education are objectively revealed. The period of formation of digital technologies is analyzed from a historical point of view. Sh.M. Mirziyoyev's appeal to the Oliy Majlis was reviewed for logical consistency.

As the President of our country Shavkat Mirziyoyev said: "For development, it is necessary and important to acquire digital knowledge and modern information technologies. This allows us to choose the shortest route to the ascent. Indeed, today in the world information technologies penetrate deeply into all areas. Of course, we know very well that the formation of a digital

economy requires the necessary infrastructure, a lot of money and labor. But no matter how hard it will be, if we don't start this work today, when will we start?! Tomorrow will be late"

Public and social management, including the widespread introduction of digital technologies into education, can dramatically improve the efficiency of education and learning. At the same time, the developing economy of our country, that is, the digital economy, is not only a type of activity, but also business, production facilities, quality education and services.

The term "digital" means the active use of information technology in all areas. If in a simple economy the main resource is material goods, then in a digital economy it will be information that can be processed and transmitted.

The purpose of using digital technologies in the education system of the republic is to identify priorities for the development of the educational process based on an analysis of their capabilities, based on an analysis of how digital technologies play an important role in education and how to implement them, enriched with audio and video materials, to show that they reach faster to the minds of students, and are also better retained in memory. When making a conclusion about the formation of a scientifically based approach to the introduction of digital technologies in education, it is advisable to use regulatory documents, study, systematization and generalization of existing practice. In our country, the pandemic has affected the education system, as well as all areas, including the massive transfer of kindergartens, schools and universities to online education. Because in any case, teaching and learning should not stop.

As our scholars say, if you want to invade a country, the first thing you need to do is destroy its education system. In the era of the pandemic, the same digital technologies in online education have come a long way in organizing the educational process. According to UNESCO, 1.7 billion students worldwide have lost their traditional reading skills due to the suspension of classes. According to data, today only 60 percent of countries that closed educational institutions due to the pandemic have switched to fully digital education. While some international experts argue that the transition to online education is not complete, this process should be seen as a way out of a problematic situation, otherwise the quality of education will decline, while others recognize that a new era for modern education has begun. Intellectuals in some countries are pushing for the use of digital technology in embracing distance learning.

We also have a low level of digital technology and Internet traffic. This is due to the fact that the Internet infrastructure in remote areas is not sufficiently developed. This could lead to a decrease in the quality of education, as some experts predict. It is not surprising that the education system today is immersed in digital technologies, since this serves as the basis for serious analysis and pedagogical justification of everything that is offered today in the information space. The importance of the influence of the Internet environment on the consciousness of young people can be judged from government reports, modern

media, pedagogical public discussions, as well as research by deputies. It should be noted that previously we were limited to the introduction of digital technologies in all areas: industry, economics, banking and others.

And today we can say that the introduction of digital technologies in the field of education only serves to increase the effectiveness of education. How this will help increase the activity of digital technologies in learning for teachers and students. **To teachers:**

- effective use of e-books;
- sudden reduction in paperwork;
- speed of information exchange between teachers and students;
- creation of electronic versions of educational materials not only on paper, but also for further use.

For students:

- extended exchange of information with peers and constant awareness of homework;
- be able to rethink lessons that increase efficiency using digital technologies;

What needs to be done to effectively use digital technologies in education while maintaining the quality of learning?

First of all, of course, we need to improve the Internet infrastructure in our country, improve the quality of services provided by mobile operators, and, most importantly, create conditions and benefits for the population, especially students, to master the latest achievements of modern information and communication technologies.

Secondly, to make proposals to the competent authorities to expand the use of digital technologies in organizing the educational process and developing information resources, teaching aids and distance learning technologies, attracting creative students to university digitization projects; Creation of centers, including structures, classrooms, laboratories, media studios, etc., equipped with effective digital devices, and application of the experience accumulated therein in all educational institutions of Uzbekistan.

Thirdly, ensure strong integration of modern information and communication technologies and educational technologies, create additional conditions for the continuous development of professional skills of teachers in this area.

Fourth, organize and conduct training courses for teachers on topics such as the use of interactive presentation systems, development of interactive and multimedia presentations in connection with the Internet for lectures and seminars.

Fifthly, the implementation of distance learning at any time using interactive presentation systems in real time, video conferencing systems, virtual rooms, and electronic resources.

Sixth, the use of cloud technologies, virtual reality, augmented reality and the use of 3D printers in the development of didactic materials and experimental projects, the use of digital didactics and digital educational models, the scientific Internet to discuss projects for teachers and students, dissertations, it is necessary to develop research and other sites.

Only then will we be able to use digital technologies to ensure students receive the education they need today, without compromising the quality of education.

It is important to note that our life today is all about technology, from the morning call to the end of the day with planning and reading. We wanted to create opportunities for the beneficial use of technology to improve and improve the quality of education. When a tablet becomes an element of learning, children enter the learning process with great interest. This is tantamount to combining classical education with play. As a result, the learning process will improve, skill, level of education and learning efficiency will increase. Educated generation and professional personnel are the key to the broad development of society.

CONCLUSIONS AND OFFERS

In conclusion, today's learning processes are very different from those of a decade ago, and classrooms are equipped with computers, iPads, tablets, smart boards and other learning technologies. As in other parts of the world, in our country there are seven generations of digital screens - TVs, computers, tablets, phablets, smartphones and smart watches. As a result of such a dense digital environment and constant interaction with it, today's students' thinking and information processing processes are radically different from their previous thinking and information processes.

The digital generation, which is our future, cannot and should not be raised in the style that our parents learned. Along with the use of blackboards and white chalk in teaching this generation, replacing the blackboard with a white board and the chalk with a marker will not change anything, that is, it will not be a way to encourage modern students to learn. It is necessary to adapt the education system to the digital generation through the massive and effective use of innovative educational technologies and didactic models based on modern information and communication technologies.

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OLIY TA'LIMDA O'QITISHNING ZAMONAVIY USULLARI

Annotatsiya. Ushbu maqolada zamonaviy globallashtirish davrida yoshlarni ijodiy fikrlash va tahlil qilishga o'rgatishning noan'anaviy usullari, ilm-fan va innovatsiyalar, qiziqish usullari yoritilgan va bu borada mamlakatimizda tub islohotlar amalga oshirilmoqda. Shuningdek, yoshlar ilm-fan va innovatsiyalarni olqishlaydi, bu bir qator me'yoriy-huquqiy hujjatlarda o'z aksini topgan.

Kalit so'zlar: fan, Uyg'onish davri, ijodkorlik, yoshlar, fuqarolik jamiyati, texnologiya, innovatsiyalar, ilmiy faoliyat, huquqiy hujjat, xalqaro, vaqt.

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MODERN METHODS OF TEACHING IN HIGHER EDUCATION

Abstract. In this article, in the modern era of globalization, non-traditional methods of teaching youth creative thinking and analysis, science and innovation, methods of interest are highlighted, and in this regard, fundamental reforms are being implemented in our country. Also, young people welcome science and innovation, as reflected in a number of regulatory legal documents.

Key words: science, Renaissance, creativity, youth, civil society, technology, innovation, scientific activity, legal document, international, time.

Bugungi kunda dunyo aholisining eng katta qismini tashkil etuvchi yoshlarni qo'llab-quvvatlash, ularni yot g'oya va tahdidlardan asrash kun tartibidagi dolzarb masaladir. Kelajak avlodni ilm-fan va innovatsiyalarga kengroq jalb etish moda. rivojlantirishning muhim yo'nalishlaridan biri hisoblanadi. Shunday ekan, yoshlar masalasi davlat zimmasida.

Siyosat darajasiga ko'tarilgani rost. Uning yangi tarixiy rivojlanishi. O'zbekiston zaminida ilk bor 9—12-asrlarda o'zining eng yuqori Uyg'onish bosqichiga intilayotgan, 14—15-asrlarda Ikkinchi Uyg'onish davri, ya'ni. umuminsoniy tamaddun yoshlar nazdida Uchinchi Uyg'onish davriga o'zining beqiyos hissasini qo'shgan buyuk ajdodlarimizning davomchisi sifatida. Bugungi ilm-fan va texnologiya zamonda rivojlanmoqda va o'rganish igna bilan quduq qazish kabi ko'p vaqt talab qiladigan ish bo'lib qolmoqda. Binobarin, globallashtirish davrida raqobat kuchayib borayotgan, ilmiy innovatsiyalarga bo'lgan talablar ortib borayotgan bir sharoitda mamlakatimizda ilmiy-innovatsion faoliyatni

qo'llab-quvvatlash, iqtidorli yoshlarning nufuzli, respublika va xalqaro olimpiada, ko'rik-tanlov, ko'rik-tanlovlarda yuksak natijalarga erishayotganiga alohida e'tibor qaratilmoqda. ularni egallash uchun zarur shart-sharoit va imkoniyatlarni yaratishga haq to'laydi. Shu munosabat bilan yoshlarning an'anaviy tafakkurdan o'qitishning ijodiy tahliligacha, ilm-fan va innovatsiyalarga bo'lgan munosabatning o'zgarishi, yosh olimlarning talab va qo'llab-quvvatlashiga moslashish davri yangilanmoqda. Bu O'zbekiston taraqqiyotining eng muhim asosiy yo'nalishlaridan biridir. Jamiyat hayoti va ta'lim tizimida yoshlarni ilm-fanga, innovatsiyalarga jalb etishning noan'anaviy usullaridan foydalanish zarur. Masalan, fan va ishlab chiqarish integratsiyasini ta'minlash, bu nazariyani amaliyot bilan uyg'unlashtirish, barcha ta'lim muassasalarida fan o'qitishda zamonaviy texnologiyalarni joriy etish, yoshlar, kelajak egalarining startap loyihalarini qo'llab-quvvatlashga qaratilgan platformalar yaratishni nazarda tutsa, uning ishtiyoqini oshiradi. va fanga qiziqishini oshiradi.

Ilmiy muassasa va tashkilotlarning ilmiy salohiyatini yuksaltirish, nufuzli xorijiy ilmiy tashkilotlar bilan hamkorlik qilish, yosh olim va ilmiy tadqiqotchilar almashinuvining kengayayotgani uchinchi Uyg'onish davri sari dadil qadam tashlayotganimizni ko'rsatadi. Bir qarashda, amalga oshirilgan harakatlar sezilarli; natijalar haqida gapirishga hali erta. Qonunchilikda belgilangan imtiyozlarni o'z manziliga yetkazish, yoshlarga yaratib berilayotgan imkoniyatlardan oqilona foydalanish borasida ham ayrim kamchiliklar mavjud. Demak, muammolar hali ham yetarli. Mamlakatimiz ilm-fanini yanada rivojlantirishda yoshlar muammosiga yechim izlash beqiyos o'rin tutadi.

20 millionga yaqin yoshlari bor O'zbekiston ana shunday katta va yangi avlod. yangi Uyg'onish davriga poydevor qo'yish arafasida. "Umuman olganda, Uyg'onish davri tushunchasini fanda ilk bor italyan gumanistlari qo'llashgan. Lekin haqiqat shuki, O'zbekiston Respublikasi Prezidentining so'zlaridan bu so'zni eshitib, uning jasorati va qudratiga alohida qoyil qoladi va yoshlar zimmasiga mas'uliyat yuklaydi. Davlatimiz rahbari rahnamoligida amalga oshirilayotgan strategik sa'y-harakatlar jamiyatimiz taraqqiyotiga befarq bo'lmagan har bir insonni Uchinchi Uyg'onish davri poydevoriga aylanishga undaydi.

Keyingi yillarda O'zbekistonda bir necha o'nlab yangi oliy o'quv yurtlari tashkil etildi. Asos solingan. Shuningdek, 2020-2021 o'quv yilidan boshlab yana bir yangi tizim joriy etildi: farovon oilalarda voyaga yetayotgan qizlarimizning ta'lim olishi uchun 940 nafar davlat granti asosida ular uchun oliy ta'lim muassasalariga qo'shimcha o'rinlar ajratildi. kengaytirish maqsadida muassasalar. Bu o'quv yilida bu raqamlar ikki barobar ortadi. kutilgan. Bu o'zgarishlar iste'dod sohiblarining intilishlarining ro'yobga chiqishi, faolligining ijtimoiy yuksalishi, ularning hayotda munosib o'rin egallashi uchun muhim poydevordir!

Bugungi kunda dunyoda innovatsion g'oyalar va ilmiy yutuqlarga ega bo'lmagan biron bir soha yo'q. rivojlana olmaydi. Shu ma'noda Alloh taolo mehnatkash, fidoyi olimlarimizdir. berdi desam mubolag'a bo'lmaydi. Ularni boshqalar bilan tenglashtirish mumkin, lekin ular mumkin emas. Bunday insonlar mingda bir, millionda bir tug'iladi, biz ularga g'amxo'rlik qilishimiz, har tomonlama qo'llab-quvvatlashimiz kerak. Bugun biz jamiyat hayotining barcha jabhalarini tubdan yangilashga qaratilgan innovatsion davlatmiz, taraqqiyot sari intilyapmiz. Bu bejiz emas, albatta.1 Yangi davrda milliy taraqqiyotimiz, xalqimiz, ayniqsa, yoshlarimiz o'rtasida yangicha dunyoqarashni shakllantirish, ularni milliy taraqqiyot g'oyasi atrofida birlashtirish, bunyod etishda ilm-fan va raqamli yutuqlar. uni texnologiya bilan qurollantirish orqali kuchli fuqarolik jamiyati dasturi bo'lib xizmat qiladi.

Darhaqiqat, sifatli ta'lim har qanday istiqbolli rejaning asosidir. yetarli. Qadimgi xitoy mutafakkiri Konfutsiy shunday degan edi: "Agar rejangiz bir yil bo'lsa, guruch eking, agar u o'n yil bo'lsa, daraxt eking. U buni bir sababga ko'ra aytdi. O'zbekistonda kutilayotgan "hosil" hozirda yoshlarni ilm-fanga jalb etish uchun keng imkoniyatlar yaratilmoqda, ilm-fanda egalarni qadrlashga qaratilgan tizim shakllanmoqda;

O'z navbatida, yoshlar ham o'zlarining shaxsiy rivojlanishi uchun motivatsiya manbalarini topadilar. ular buni o'zlari topishlari kerak - bu kitob yoki film, sport yoki sayohat. Imkoniyat Bu yaratilsa o'qiyman demayapman, har qanday vaziyatda ham bilim olish va rivojlanishga intilaman degan yigit-qizlarimiz soni kengayishni talab qiladi, asosiy millat javobgar bo'lishi kerak.

Biz yashayotgan bu muqaddas zaminda Uyg'onish davri boshlandi. Ko'pchilik yoshlar, ehtimol, Yevropa hali ham e'tiborsizlik holatida ekanini bilishmasa kerak. Bular Yevropadagi yetuk olimlar tarixiy haqiqatni tan olishlari mumkinligini ham bilmaydigan odamlardir. Har holda, mashhur nemis sharqshunosi Adam Misning "Musulmon Uyg'onish davri". Akademik Nikolay Konradning "Sharqiy Uyg'onish davri" tushunchasi osmondan tushdi, u emas. "Islomning tiklanishi" kitobi bu mavzuda asosiy manba bo'lsa. O'ylab ko'rsangiz, Adam Mesdek kabi buyuk olim fundamental tadqiqotlar bilan shug'ullanadi. Biz buyuk vatandoshimiz Beruniyning ilmiy merosiga tayanganimizdan faxrlan olmaymizmi!

Mashhur Ma'mun akademiyasida o'sgan Ibn Sino, Muso al-Xorazmiy,

Abu Rayxon Beruniy kabi yuzlab olimlar, temuriylar davri sivilizatsiyasining yorqin namoyandalari – Mirzo Ulug'bek – Alisher Navoiy, Zahiriddin Muhammad Bobur kabi olimlar sahnaga chiqadilar. Bugungi uchinchi Uyg'onish davri vakillari bilan solishtirganda, men islohotlar samarasidan foydalangan Yangi O'zbekiston farzandlari orasida ulg'ayganman, bu qanday ajablanarli! – deydi Alisher, O'zbekiston Yoshlar masalalari agentligi direktori Sa'dullayev.

Yoshlarning ijodiy, intellektual va tadbirkorlik salohiyatini ro'yobga chiqarish, innovatsion loyihalar va zamonaviy texnologiyalarni ishlab chiqarishga

joriy etish, iqtidorli talaba-yoshlar, yosh olimlar va tadbirkorlarning innovatsion faoliyatini yo'lga qo'yish orqali yuksak saviyaga erishish uchun zarur shart-sharoit yaratilmoqda.

Uzoq tanaffusdan so'ng O'zbekiston yana global innovatorga aylandi. Biz uchun uning indeks reytingiga kiritilishi muhim. bu o'zgarishlardan biridir. Respublikamizda bu, albatta, islohotlar orqali amalga oshirilmoqda, xususan, oshkoralik va ochiqlik siyosati ijobiy o'zgarishlar natijasi sifatida e'tirof etilishi mumkin;

O'zbekiston Respublikasi ushbu xalqaro tanlovda oxirgi marta 2015 yilda ishtirok etgan. Ma'lumki, u 140 dan ortiq mamlakatlar orasida 122-o'rinni egallagan. 2020-yilda O'zbekiston dunyoning 130 dan ortiq davlati orasida 93-o'rinni egalladi. 2020-yilda O'zbekiston 80-o'rinni egalladi, u uchta ko'rsatkichdan iborat Institutsional rivojlanish (Institutlar), Inson kapitali va tadqiqot faoliyati (Inson kapitali va tadqiqot), Infratuzilma, Bilim va texnologik natija (bilim va texnologiya natijasi) va ijodiy natija (Creative results) ko'rsatkichlari ijobiy natijalarga erishganligini ko'rish mumkin.

Ayni paytda 2020-yilda Global innovatsiyalar indeksi reytingida yetakchilik qilayotgan davlatlar, shuningdek, respublikamizga qo'shni bo'lgan boshqa bir qator iqtisodiyotlar erishilgan natijalarni taqdim etmoqda. Shveysariya – 1-o'rin, Rossiya – 47-o'rin, Qozog'iston – 77-o'rin, Qirg'iziston – 94-o'rin, Tojikiston – 109-o'rin.

Ma'lumki, O'zbekiston Respublikasi Prezidentining PF-5544-son "2019-2021-yillar.

"O'zbekiston Respublikasini innovatsion rivojlantirish strategiyasi to'g'risida"gi Farmonning asosiy vazifalaridan biri 2030 yilgacha respublikamizni global miqyosda rivojlantirishdan iborat. belgilangan innovatsiyalar indeksi reytingida eng yaxshi 50 davlat qatoriga kirish.

Shu bilan birga, innovatsion tadbirkorlik sohasiga yosh iqtidor egalari tizimli ravishda joriy etilmoqda. iqtidorli yoshlarni jalb etish, ishbilarmonlar va yetakchi olimlar bilan hamkorlikda ilm-fan sohasiga yosh kadrlar va shu asosda tayyorlashning yagona tizimini yaratish. ishlab chiqarish tizimining yaxlitligini ta'minlash;

Ishlab chiqarish va fan sohasida yuqori texnologiyalarni qo'llash. yoshlarni ilmiy-tadqiqot ishlariga jalb etish zarur. Bularning barchasi yoshlarni noan'anaviy qiladi. usullari orqali ilm-fan va innovatsiyalarda kengroq ishtirok etish mexanizmi bo'lib xizmat qiladi Prezident Sh.M. Mirziyoyev ta'kidlaganidek, "Xom ashyo va uni qayta ishlash sizni uzoqqa olib bormaydi, bundan tashqari, ishlab chiqarishda qo'shimcha qiymat olish, innovatsiyalar ham zarur. Shu bois ilmiy taraqqiyotimizning muhim yo'nalishi qo'llab-quvvatlanadi". 39 yoshgacha bo'lgan ilmiy xodimlarning umumiy sonida 2025-yilga kelib yuqori malakali professor-o'qituvchilar (fan, falsafa va tabiiy fanlar nomzodlari) ulushi 2000-yilga kelib 2 nafar, 2030-yilga kelib esa 3 barobarga ko'payishi ko'zda tutilmoqda. tadbirlar ertaroq boshlanganida, oramizda bilimdon yoshlar soni bir

qator ko'rsatkichlar bo'yicha sifatga erishgan bo'lardi; Jumladan, "Iqtisodiy erkinlik", "Inson kapitali", "Innovatsiya" kabi bir qator jahon reytinglarida "Biznes yuritish". Bundan ham muhimi, O'zbekiston Respublikasining xalqaro maydondagi imiji va mavqei. sezilarli darajada oshadi.

Amalga oshirilayotgan ishlarni yanada jonlantirish, mamlakatimiz ilm-fanini xalqaro darajaga ko'tarish, raqobatbardoshligini ta'minlash, innovatsion salohiyatini mustahkamlash va rivojlantirish maqsadida mavjud ilmiy maktablar salohiyatini oshirish borasida iqtidorli yoshlar tashabbuslarini qo'llab-quvvatlash 2019-yil 30-avgust" Yoshlarni ilm-fan sohasiga jalb etish va ularning tashabbuslarini qo'llab-quvvatlash tizimini takomillashtirish chora-tadbirlari to'g'risida O'zbekiston Respublikasi Prezidentining PQ-4433-son qarori qabul qilindi.

O'zbekiston Respublikasi Innovatsion rivojlanish vazirligi, Fanlar akademiyasi, Oliy va o'rta maxsus ta'lim vazirligi va O'zbekiston yoshlar ittifoqi: Yoshlar O'zbekiston Respublikasi Innovatsion rivojlanish vazirligi tarkibida yuridik maqomga ega bo'lmagan akademiya tashkil etish. tashkilot;

Yoshlar akademiyasiga innovatsion O'zbekiston Respublikasi taraqqiyot vazirining birinchi o'rinbosari lavozimiga tayinlash;

O'zbekiston Respublikasida oliy ta'lim tizimini tizimli isloh qilishning ustuvor yo'nalishlarini belgilash, iqtisodiy tarmoqlar va ijtimoiy tarmoqlarni rivojlantirish maqsadida zamonaviy bilim va yuksak ma'naviy-axloqiy fazilatlarga ega yuqori malakali kadrlar tayyorlash jarayonini yangi sifat bosqichiga olib chiqish, oliy ta'limni modernizatsiya qilish. ilg'or ta'lim texnologiyalari asosida: oliy ta'lim sohasida davlat-xususiy sheriklikni rivojlantirish, hududlarda davlat va nodavlat oliy ta'lim muassasalarini tashkil etish, oliy ta'lim muassasalariga qabul darajasini 50 foizdan oshirish, sog'lom raqobat muhitini yaratish sanoatda;

O'zbekiston Milliy universiteti va Samarqand davlat universitetini mamlakatimizdagi oliy ta'lim muassasalarining flagmaniga aylantirish;

Respublikaning kamida 10 ta oliy ta'lim muassasasi xalqaro miqyosda e'tirof etilgan tashkilotlar (Quacquarelli Symonds World University Rankings, Times Nearer Education yoki Academic Ranking of World University Rankings) reytingining dastlabki 1000 ta o'rindagi oliy ta'lim muassasalari ro'yxatiga kiritilgan, shu jumladan milliy birlar. Birinchi 500 ta oliy ta'lim muassasasi ro'yxatidan O'zbekiston universiteti va Samarqand davlat universiteti bor. 7Ammo respublikamizdagi taniqli oliy o'quv yurtlarining soni yetarli. Xalqaro reytinglardagi o'rnimizni sezilarli darajada yaxshilash zarurati bor. Chunki nufuzli universitetlarimiz faqat va faqat o'zimizda shuhrat qozongan. Ammo "Nobel" mukofoti laureatlari ishlab chiqarilishi haqida gapirmasa ham, nufuzli Nobel olimlari milliy oliy ta'lim jarayonlarida ishtirok etmaydilar. Amerika, Buyuk Britaniya, Germaniya kabi davlatlarda Nobel mukofoti sovrindorlari ko'p bo'lgan bir paytda mamlakatimizda bunday noyob salohiyatga ega birorta ham

shaxs yoʻqligi sohada masʼuliyat bilan amalga oshirilishi lozim boʻlgan ishlar borligini koʻrsatadi.

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11. Karimov Tolmasbek Xolmoʻmin oʻgʻli BARMOQ IZI YORDAMIDA DAVOMATNI ANIQLASH TIZIMI. IQTISODIYOT VA ZAMONAVIY

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O'QITUVCHI MUOMALA VA SUBYEKTI SIFATIDA

Annotatsiya. Ushbu maqola O'qituvchi o'z o'quvchilarini, ular muhitidagi o'zaro munosabatlarni, o'zining ular bilan o'zaro munosabatlarini hozirgi daqiqada qanday bo'lsa, huddi shunday idrok etish va ko'rish mahoratini, ya'ni ta'lim - tarbiya jarayonida ro'y berayotgan narsalarni ichdan idrok etish mahoratini doimo takomillashtirib borishi haqida.

Kalit so'zlar: pedagogik, fikr almashinuvi, qobiliyatlar, o'quvchilarning fe'l-atvori, persetiv.

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THE TEACHER AS BEHAVIOR AND SUBJECT

Abstract. This article teaches the ability of the teacher to perceive and see his students, the interactions in their environment, his interactions with them as they are at the present moment, i.e. Education is about constantly improving the ability to perceive things from the inside during the education process.

Key words: pedagogic, exchange of ideas, abilities, character of students, persective.

O'qituvchining bolalar bilan muomalasi muvaffaqiyatli bo'lishi ko'p jihatdan unda pedagogik qobiliyagning mavjudligiga va pedagoglik nazokati (odobi) ni egallaganiga bog'liq bbo'ladi. Psixologiyada pedagogik qobiliyatlar deganda insonning muayyan psixologik xususiyatlarini tushunish qabul qilingan. Bu xususiyatlar uning o'qituvchi vazifasida bolalarni o'qitish va bolalarga ta'lim berishda yuksak natijalarni qo'lga kiritishning sharti hisoblanadi. Ma'lumki, shaxsning u yoki bu qobiliyatlarini hosil qiluvchi xislatlar va xususiyatlar orasida bir xillari yetakchi rol o'ynasa, boshqalari yordamchi rol o'ynaydi. Pedagogik faoliyatda shaxsning o'zaro fikr almashuv bilan bog'liq xususiyatlari yetakchi rol o'ynaydi. Birinchi navbatda persetiv, ya'ni idrok qilish sohasiga taalluqli bo'lgan xususiyatlar (ulardan eng muhimrog'i ko'zatuvchanlikdir) yetakchi rol o'ynaydi, o'qituvchiga o'quvchining psixologiyasini, uning psixik holatini o'xshash tarzda idrok etish, muayyan holda umuman sinf kollektivining ahvoriga va xususan mazkur pedagogik vaziyatdagi ahvoriga to'g'ri baho berish imkonini beradi.

O'qituvchi shaxsining o'zaro fikr almashuv bilan bog'liq xususiyatlari tarkibiy qismi sifatida empatiyaga, ya'ni o'quvchilarning psixik holatini tushunishga va ularga achinishga tayyorgarlikni hisoblash mumkin. Buning zarur sharti bolalarga bo'lgan muhabbatdir. Nihoyat, o'qituvchi shaxsining o'zaro fikr almashuv bilan bog'liq xususiyatlarining uchinchi tarkibiy qismi deb ijtimoiy o'zaro harakatga bo'lgan yuksak rivojlangan ihtiyojni hisoblash mumkin, u bilimlarni boshqalarga berishga, bolalar bilan muomala qilishga intilishda, bolalar jamoasini tashkil etish istagida namoyon bo'ladi. Tashkil etish qobiliyati ham pedagogik qobiliyatlarning tarkibiy qismidir. U barcha o'quvchilarning har xil faoliyat turlariga jalb qilinishida, jamoaning har bir o'quvchiga ta'sir ko'rsatish quroliga aylanishida, har bir o'quvchiga faol vaziyatni ta'minlab berishda namoyon bo'ladi.

O'qituvchida ijtimoiy o'zaro harakatga bo'lgan ehtiyojni muvaffaqiyatli amalga oshirishning sharti bo'lib, unda mavjud bo'lgan pedagogik nazokat maydonga cchiqadi. Endi pedagogik qobiliyatlar strukturasi kiradigan yordamchi xislatlar va xususiyatlardan ayrimlarini qarab chiqamiz. Bu avvalo, aql-idrokning muayyan xislatlari: xozirjavoblik, tanqid ko'z bilan qarash, sobitqadamlik va boshqa bir qator xislatlardir. O'qituvchining nutqi: notiqlik qobiliyatining mavjudligi, so'z boyligi va hokazolar ham muhim rol o'ynaydi. Tabiatida bir qadar artistlik xususiyatiga ega bo'lish (hayol, fantaziya ishlata bilish) ham o'quvchilar bilan muomalada muvaffaqiyatga erishishda muayyan rol o'ynaydi. Pedagogik qobiliyatlar - faqat pedagogik faoliyat samarali bo'lishining shartigina emas, balki ko'p jihatdan o'qituvchining muvaffaqiyatli ishlashining natijasi hamdir. Shu munosabat bilan o'qituvchining o'zida pedagogik qobiliyatlarning aniq maqsadini ko'zlab tarkib topishi va rivojlanishi katta rol o'ynaydi. Tajriba va maxsus tadqiqotlar buning batamom haqiqiy narsa ekanligini ko'rsatmoqda. Masalan, shaxs perseptiv xususiyatlarining eng muhim elementi bo'lgan ko'zatuvchanlik o'qituvchining pedagogik tajriba hosil qilish jarayonida ham, uning maxsus kuch-g'ayrati natijasida ham rivojlanadi, takomillashadi. O'qituvchi o'zining sosial-psixologik ko'zatuvchanligini, ya'ni o'quvchilarda turli harakter xususiyatlari va mayllarni payqab olish qobiliyatigina emas, shu bilan birga ularning paydo bo'lish sabablarini bilib olish, ularga bu sabablarning paydo bo'lish vaziyatiga muvofik baho berish mahoratini va hokazolarni rivojlantirishga qodirdir.

O'qituvchi o'z o'quvchilarini, ular muhitidagi o'zaro munosabatlarni, o'zining ular bilan o'zaro munosabatlarini hozirgi daqiqada qanday bo'lsa, huddi shunday idrok etish va ko'rish mahoratini, ya'ni ta'lim - tarbiya jarayonida ro'y berayotgan narsalarni ichdan idrok etish mahoratini doimo takomillashtirib borishi lozim. Bu esa osonlikcha qo'lga kiritilmaydi. Bu narsa shunga olib kelishi mumkinki, pedagog uchun yangi bo'lgan hodisalar uning o'zida mavjud bo'lgan normalar va tasavvurlar asosida an'anaviy tarzda talqin etilishi mumkin. Bundan tashqari, pedagogning muayyan masalaga javob izlashga intilishi unda ahamiyatli biror faktni o'tkazib yubormaslik uchun qulay yo'nalish hosil qiladi. Lekin bu

yoʻnalishning oʻzi ayrim hollarda oldindan yanglish fikrga olib kelishi va koʻrgan narsalarini oʻzi kutgan narsalar ruhida talqin etishga majbur qilishi mumkin.

Pedagogik vaziyatlar tez-tez oʻzgarib turadigan sharoitda oʻqituvchining vazifasi roʻy bergan vaziyatda tez moʻljal olib, unga toʻgʻri baho bera bilish, zarur tarbiyaviy ahamiyatga ega boʻlgan toʻgʻri qarorga kelishdan iboratdir. Agar oʻqituvchi bolalarning hatti - harakatlarini faqat toʻgʻri idrok etib, baho bera bilsa, ularni vujudga keltirgan sabablarni chuqur koʻra olsagina, shu bilan birga oʻzida sabot, oʻzini tuta bilish, sabr- toqat, sezgirlik kabi feʼl-atvor xususiyatlarini rivojlantira olsagina, yuqoridagi vazifaga erishish mumkin. Bu pedagogik nazokatga rioya qilishning zarur shartidir.

Oʻqituvchining oʻz oʻquvchilarini: ularning feʼl-atvori, tengdoshlari va kattalar bilan munosabatlarini, turli voqealarga, muammolarga va hokazolarga munosabatlarini doimo oʻrganib va bilib borishga intilishi hamdir. oʻqituvchining oʻquvchilar bilan boʻladigan kichik ihtiloflariga barham beradi, unga oʻquvchilar bilan boʻladigan kelishmovchiliklarga tegishli darajada odob bilan aralashuviga yordam beradi.

Endi oʻqituvchilarning oʻquvchilar bilan muomalasi sohasida namoyon boʻladigan ayrim bir qolipdagi fikrlarni qarab chiqamiz. Bir qolipdagi fikrlar umuman pedagogik faoliyatda va xususan oʻquvchilar bilan munosabatlar sohasida ijobiy rol oʻynashi mumkin. Ular pedagogning gʻayratini tejaydi, ancha tez pedagogik taʼsir etishga yordamlashadi va hokazo. Shuning uchun ham oʻqituvchida tegishli bir qolipdagi fikrlarning muayyan sistemasi boʻlishi muhimdir, shu tufayli u koʻp hollarda deyarli avtomatik ravishda taʼsirlarga javob bera oladi. Gap birinchi navbatda oʻqituvchida hosil boʻlgan shunday fikrlar, chunonchi oʻquvchilar bilan albatta xushmuomalada boʻlish, oʻquvchi shaxsiga izchil yondoshuvning yuqori darajasini oʻzining birorta ham oʻquvchisi yomon boʻlishi, buning ustiga ishonchsiz boʻlishi mumkin emasligiga ishonch bilan qoʻshilib ketishi va hokazolar haqida boradi.

Oʻquvchilarning yosh xususiyatlari toʻgʻrisidagi bir xil tasavvur ham oʻqituvchiga halaqit berishi mumkin. Oʻquvchi falon yoshda faqat falon tarzda boʻladi va oʻzini falon tarzda tutadi, deb hisoblab, oʻqituvchi bolalarning koʻpgina individual xususiyatlarini normadan chekinish deb hisoblashi va ularni ana shu normaga keltirishga harakat qilishi mumkin. Tabiiyki, bu notoʻgʻri va zararli. Lekin boshqa shunday fikr ham uchraydiki, bunda oʻqituvchi yosh xususiyatlarini inkor etib, haqiqatda oʻz oʻquvchi xulq - atvori bilan kattalarga oʻxshagan boʻlishga harakat qiladi. Ayni vaqtda shu narsa aniqki, har bir yoshda oʻqituvchining nuqtai nazaridan u voyaga yetkazishi lozim boʻlgan shaxs qiyofasi uchun yaroqsiz boʻlgan, lekin bu yosh uchun mutlaqo tabiiy koʻrinishlar ham boʻladi. Bu koʻrinishlarning juda koʻplari keyinchalik oʻqituvchining aralashuvsiz yoʻq boʻlib ketadi.

Agar oʻqituvchi oʻquvchilarga nisbatan muayyan holatda tursagina (bu holat ularning yoshiga qarab turlicha boʻladi) pedagogik taʼsir koʻrsatishni muvaffaqiyatli amalga oshira oladi. Mazkur holat oʻquvchilar bilan muomala

sohasida o'qituvchining asosiy yo'l- yo'rig'idan iborat bo'lib, u o'quvchilarning psixologik va yosh xususiyatlariga monand bo'ladi. Tarbiyaning mavjud tajribasini tahlil qilish, tajriba sinov ishi o'quvchilarning yoshiga muvofiq ravishda o'qituvchi holati (tutgan yo'li) ning o'zgarish mezonini aniqlashga imkon beradi.

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MOLIYAVIY TAHLILNING AXBOROT BAZASINI TAKOMILLASHTIRISH

Annotatsiya. Ushbu maqola doirasida moliyaviy tahlilning axborot bazasini takomillashtirish masalalari muhokama etilib, uning nazari jihatlariga e'tibor qaratiladi. Shuningdek, soha olimlarning boshqaruv hisobi to'g'risidagi fikrlari o'rganilib umumiy muallif xulosalari shakllantirildi hamda axborot bazasini takomillashtirish muammolarini tasniflash masalalariga asosiy urg'u qaratildi. Nazariy, uslubiy va tashkiliy masalalarning murakkab tabiati nuqtai nazaridan boshqaruv tahlili axborot bazalarini takomillashtirish masalasi muhokama etildi.

Kalit so'zlar: boshqaruv hisobi, moliyaviy nazorat, bozor munosabatlari, kompaniyalar faoliyati, axborot bazasi, buxgalteriya ma'lumotlari, buxgalteriya hisobi, boshqaruv ma'lumotlari.

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IMPROVEMENT OF INFORMATION BASE OF FINANCIAL ANALYSIS

Abstract. Within this article, the issues of improving the information base of financial analysis are discussed and attention is paid to its theoretical aspects. Also, the opinions of scientists in the field about management accounting were studied and general author's conclusions were formed, and the main emphasis was placed on the issues of classification of the problems of improving the information base. In view of the complex nature of theoretical, methodological and organizational issues, the issue of improving management analysis information bases was discussed.

Key words: management accounting, financial control, market relations, company activity, information base, accounting information, accounting, management information.

Tashkilotning moliyaviy holati, uning faoliyatining moliyaviy natijalari va moliyaviy holatdagi o'zgarishlar to'g'risidagi ma'lumotlarning asosiy manbai buxgalteriya (moliyaviy) hisobotidir. Tahlil mazmuni korxonaning moliyaviy xo'jalik faoliyatidagi kamchiliklarni o'z vaqtida aniqlash va bartaraf etish hamda moliyaviy holatni yaxshilash chora-tadbirlarini belgilashdan iborat. Buxgalteriya (moliyaviy) hisobotlarini tahlil qilish maqsad va vazifalar bilan belgilanadi.

Buxgalteriya (moliyaviy) hisobotlarini tahlil qilishning maqsadi tashkilotning moliyaviy holati va moliyaviy natijalarini ob'ektiv va aniq ifodalovchi asosiy parametrlarni olishdir. Buxgalteriya (moliyaviy) hisobotlarini tahlil qilish maqsadiga asoslanib, quyidagi tahliliy vazifalar to'plami hal qilinadi:

- ❖ tashkilotning iqtisodiy holatini to'liq va ob'ektiv baholashni shakllantirish;

- ❖ bankrotlik xavfining potentsial darajasini aniqlash;

- ❖ samarali kapital tuzilmasini saqlab qolish uchun mablag'lardan to'g'ri foydalanishni baholash;

- ❖ tashkilot aktivlaridan to'g'ri va samarali foydalanishni baholash;

- ❖ investitsiya siyosatini asoslash;

- ❖ iqtisodiy faoliyatning salbiy natijalari va korxonaning moliyaviy holatini mustahkamlashda moliyaviy resurslardan foydalanishni yaxshilash bo'yicha boshqaruv qarorlarini ishlab chiqish.

Foydalanuvchilar guruhiga qarab, buxgalteriya (moliyaviy) hisobotlarini tahlil qilishning vazifalari va yo'nalishi, shuningdek, foydalaniladigan ma'lumotlarning (ichki, tashqi) xususiyati aniqlanadi. Buxgalteriya (moliyaviy) hisobotlarini tahlil qilish hisobotdan foydalanuvchilarning bir guruhi boshqa foydalanuvchilarning manfaatlariga zarar etkazadigan holda o'z manfaatlarini bir tomonlama ko'rib chiqish imkoniyatini butunlay istisno qilishi kerak.

Buxgalteriya hisobi to'g'risidagi me'yoriy xujjatlarda buxgalteriya (moliyaviy) hisoboti "tashkilotning mulkiy va moliyaviy holati va uning iqtisodiy faoliyati natijalari to'g'risida tuzilgan ma'lumotlarning yagona tizimi" deb ta'riflanadi. belgilangan shakllarga muvofiq buxgalteriya hisobi ma'lumotlarining asosi".

Shuningdek, buxgalteriya hisobi to'g'risidagi me'yoriy xujjatlarda buxgalteriya hisobi reglamentida hisobot shakllari to'plamini o'z ichiga olgan buxgalteriya (moliyaviy) hisobotlarning tarkibi haqida yozilgan, xususan:

- ✓ korxonaning mulkining tarkibi, tarkibi va uning shakllanish manbalarini belgilovchi balans, hisobot sanasidagi moliyaviy holatni tavsiflovchi;

- ✓ moliyaviy natijalar to'g'risidagi hisobot, unda tashkilotning yildagi ishi tavsiflanadi, foyda yoki zararining shakllanishi sabablari ko'rsatilgan;

- ✓ kapital, mablag'lar va zaxiralar harakati to'g'risidagi ma'lumotlarni aks ettiruvchi, sof aktivlar ko'rsatkichini o'z ichiga olgan o'z kapitalidagi o'zgarishlar to'g'risidagi hisobot;

- ✓ naqd va naqd pulsiz mablag'lar to'g'risida hisobot davri boshi va oxiridagi faoliyat turlari bo'yicha ma'lumotlarni o'z ichiga olgan pul oqimlari to'g'risidagi hisobot.

Buxgalteriya (moliyaviy) hisobotlarining bir xil tahlili buxgalteriya (moliyaviy) hisobotlarining asosiy ko'rsatkichlari o'rtasidagi munosabatlarni shakllantirishga imkon beradigan turli baholash usullari yordamida amalga oshiriladi, xususan:

❖ gorizontal tahlil - tashkilotning turli davrlardagi faoliyati natijalarini taqqoslash. Ushbu tahlil hisobot sanasidagi ma'lumotlarni oldingi davr ma'lumotlari bilan taqqoslaydi. Tahlil jarayonida har bir ko'rsatkichning o'sish (o'sish) sur'atlari hisoblab chiqiladi, uning tendentsiyalari aniqlanadi va mutlaq ko'rsatkichlarda nazorat qilinadi, ya'ni. rublda va nisbiy jihatdan, ya'ni. foizlarda;

❖ vertikal tahlil - xuddi shu tahlilda har bir moliyaviy ko'rsatkichning bir hisobot davridagi umumiy natijadagi ulushi aniqlanadi, shuningdek, ushbu tahlil yordamida tashkilotning aktivlari, majburiyatlari, daromadlari va xarajatlari tarkibi aniqlanadi;

❖ qiyosiy tahlil - hisobot ko'rsatkichlarini (bo'linmalar, seminarlar va boshqalar) solishtirish, tashkilot ma'lumotlarini raqobatchilar ma'lumotlari va o'rtacha sanoat ko'rsatkichlari bilan solishtirish imkonini beradi;

❖ trend tahlili - bunday tahlilning mohiyati chiziqning dinamikasini aniqlash, uning keyingi rivojlanishini bashorat qilishdan iborat;

❖ koeffitsient tahlili – bu tahlilda kompaniyaning moliyaviy holatini tavsiflash uchun ma'lum ko'rsatkichlar (nisbatlar) qo'llaniladi va bundan tashqari, ushbu tahlil nafaqat baholash, balki kompaniyaning to'lov qobiliyatini bashorat qilish imkonini beradi.

❖ Shunday qilib, iqtisodiy tahlil uchun axborot bazasi sifatida buxgalteriya (moliyaviy) hisobotining asosiy afzalliklaridan biri uning analitik imkoniyatlaridir, degan xulosaga kelishimiz mumkin. Buxgalteriya (moliyaviy) hisobotining barcha shakllarining keng tahliliy imkoniyatlari, uning oshkoraligi va ochiqligi buxgalteriya ma'lumotlarining ichki va tashqi foydalanuvchilari uchun tashkilotlarning moliyaviy-xo'jalik faoliyatini iqtisodiy tahlil qilish imkonini beradi.

Shunday qilib, iqtisodiy tahlil uchun axborot bazasi sifatida buxgalteriya (moliyaviy) hisobotining asosiy afzalliklaridan biri uning analitik imkoniyatlaridir, degan xulosaga kelishimiz mumkin. Buxgalteriya (moliyaviy) hisobotining barcha shakllarining keng tahliliy imkoniyatlari, uning oshkoraligi va ochiqligi buxgalteriya ma'lumotlarining ichki va tashqi foydalanuvchilari uchun tashkilotlarning moliyaviy-xo'jalik faoliyatini iqtisodiy tahlil qilish imkonini beradi. Buxgalteriya hisobi, axborot ta'minoti, tahlil qilish, nazorat qilish va muvofiqlashtirish chorhasida bo'lib, bunda xo'jalik yurituvchi subyektlarni boshqarishda alohida o'rin tutadi: u rahbariyatni boshqarish va axborot bilan ta'minlash funksiyalarini bog'laydi, ularni birlashtiradi, umumlashtiradi va muvofiqlashtiradi, eng asosiysi uning yuqori sifat jihatidan yangi bosqichga o'tishini ta'minlaydi. Boshqaruv hisobining paydo bo'lishi zarurati zamonaviy korxonalar umuman jamoaviy va uning alohida tarkibiy bo'linmalari faoliyatini baholash va tahlil qilish uchun moslashuvchan tizimlarga muhtojligi bilan izohlanadi.

Boshqaruv hisobi nafaqat amalga oshirilgan ma'lumotlarga ishora qiladi, balki istiqbolli ma'lumotlarga ham muhtoj. Bundan tashqari, buxgalteriya hisoboti qat'iy belgilangan muddatda tayyorlanadi va biznes sharoitlari

voqealarni tezkor baholashni talab qiladi. Va agar moliyaviy buxgalteriya tizimida umumiy qabul qilingan prinsiplar va qoidalar qo'llanilsa, boshqaruv hisobi qoidalari korxonaning o'zi tomonidan belgilanadi. Umuman olganda, jahon bozoridagi murakkab vaziyat va qarama qarshiliklar barcha korxonaning oldida turgan vazifalarni belgilashga yangicha qarashlarni shakllantirish ga sabab bo'ladi, xususan milliy xo'jalik yurituvchi subyektlar uchun ham. Taktik va strategik rivojlanishning eng muhim masalalarini hal qilish, boshqariladigan obyektlar natijadorligi iqtisodiy faoliyati to'g'risidagi ma'lumotlarni hisobga olish, rejalashtirish, monitoring qilish va tahlil qilish, hisob-kitoblarni asoslash va shu asosda tezlik bilan qaror qabul qilishga qodir bo'lgan moslashuvchan boshqaruv tizimi yaratilgan taqdirda ta'minlanishi mumkin.

Hozirda boshqaruv hisobining ta'rifi haqida fikr yuritganda, uning funksiyalari va xojalik yurituvchi subyektlardagi boshqarish tizimi tutgan o'rni, turli nazariyotchilar, shuningdek boshqaruv vakillari tomonidan turli yo'llar bilan izohlanadi.

Shunday qilib, yurtimiz olimlari A.X. Pardayev va Z.A. Pardayevaning muallifligidagi "Boshqaruv hisobi" darsligida shunday ta'rif beriladi "Boshqaruv hisobi – xo'jalik yurituvchi subyekt axborot tizimining tarkibiy qismi hisoblanadi. Ishlab chiqarish faoliyatini boshqarishning samaradorligi ko'p jihatdan xo'jalik yurituvchi subyektning tarkibiy tuzilmalari, bo'limlari va bo'linmalari faoliyatlari to'g'risida olinadigan operativ (tezkor) ma'lumotlarga bog'liq. Boshqaruv hisobi ana shunday ma'lumotlarni boshqaruv qarorlarini to'g'ri qabul qilish maqsadida xo'jalik yurituvchi subyekt ichidagi turli darajadagi boshqaruv rahbarlari uchun shakllantiradi".

Z.N. Qurbanov va K.M Misirov "Boshqaruv hisobi menejerlarga qaror qabul qilishda yordam beradigan moliyaviy va nomoliyaviy axborotlarni o'lchaydi va ular haqida hisob beradi. Moliyaviy hisobda aks ettirilgan moliyaviy axborot iste'molchilar, hukumat va tashqi tomonlar uchun chop etilishini kafolatlash menejerlarning majburiyatidir"

AQSh olimlari Ch. T. Xorngren i Dj. Foster quyidagi ta'rifni beradi: "Boshqaruv hisobi-bu har qanday obyektlarni boshqarish uchun zarur bo'lgan ma'lumotlarni aniqlash, o'lchash, yig'ish, tizimlashtirish, tahlil qilish, parchalash, talqin qilish va uzatish".

Rus olimmi A. D. Sheremet tomonidan tahrirlangan "Boshqaruv hisobi" kitobida yuqorida keltirilganlarga o'xshash ta'rif berilgan: "boshqaruv hisobi-bu bitta tashkilot doirasida o'z boshqaruv apparatini tashkilot faoliyatini rejalashtirish, to'g'ri boshqarish va nazorat qilish uchun foydalaniladigan ma'lumotlar bilan ta'minlaydigan buxgalteriya hisobi quyi tizimi. Ushbu jarayon boshqaruv apparati o'z funksiyalarini bajarishi uchun zarur bo'lgan ma'lumotlarni aniqlash, o'lchash, yig'ish, tahlil qilish, tayyorlash, talqin qilish, uzatish va qabul qilishni o'z ichiga oladi"

Shuningdek yana bir rus olimi M. A. Vaxrushing "Buxgalteriya hisobi" kitobida shunday ta'rif berilgan: "boshqaruv hisobi tashkilotning buxgalteriya

hisobining mustaqil yoʻnalishi sifatida belgilanishi mumkin, bu uning boshqaruv apparatini butun tashkilotni, shuningdek uning tarkibiy boʻlinmalarini rejalashtirish, boshqarish, nazorat qilish va baholash uchun foydalaniladigan maʼlumotlar bilan taʼminlaydi”

Boshqaruv hisobining taʼrifi va mazmuniga yondashuvlarni taqqoslash mualliflar boshqaruv hisobini tor maʼnoda – buxgalteriya hisobining quyi tizimi, shu jumladan maʼlumotlarni toʻplash, roʻyxatdan oʻtkazish va umumlashtirish, keng maʼnoda esa boshqaruvning barcha funksiyalarini qamrab oluvchi tashkilotni boshqarish tizimi sifatida talqin qilishadi degan xulosaga kelishimizga imkon beradi

Tadqiqot metodologiyasi

Tadqiqotning nazariy va uslubiy asosini bu boshqaruv hisobi nazariyasi va metodologiyasi, boshqaruv tahlili va boshqa tegishli iqtisodiy fanlar, ilmiy-uslubiy adabiyotlar, ilmiy konferensiyalar materiallari hisoblanadi, shuningdek tadqiqot jarayonida umumiy ilmiy usul — dialektika, tahlil, sintez, induksiya, deduksiya va ilmiy maʼlumotlarni tizimlashtirishning maxsus usullari: tekshirish, taqqoslash, nazariy va amaliy materiallarni umumlashtirish, kompleks tahlil va tizimli yondashuv ishlatilgan.

Boshqaruv hisobining axborot oqimlarining butun hajmini tizimlashtirish va koʻplab mezonlarga asoslanib turlarga boʻlish mumkin. Eng keng tarqalgan tasniflardan biri boshqaruv darajalari va maqsadlari asosida maʼlumotlarni guruhlashni oʻz ichiga oladi. Bunday holda, maʼlumotlar har qanday tijorat tashkilotining maqsadlariga muvofiq operativ, taktik va strategik boʻlinadi.

Strategik axborot konsepsiyasining boʻlinishi strategik boshqaruv hisobi rivojlanishning asosiy yoʻnalishiga aylana boshlagan bir paytda sodir boʻldi.

Operatsion boshqaruv maʼlumotlari boshqaruv jarayonini samarali amalga oshirish, shuningdek joriy faoliyatni nazorat qilish va tartibga solish uchun maʼlumotlarni shakllantirish hamda ulardan foydalanish bilan bogʻliq.

Taktik maʼlumotlar deganda kompaniyaning yaqin kelajakdagi faoliyati bilan bogʻliq asosiy fikrlarni ishlab chiqish uchun yaratilgan bunday maʼlumotlar hajmi tushuniladi.

Strategik boshqaruv hisobi yuqori menejment manfaatlariga moslashtirilgan. Uzoq muddatli istiqbolda kompaniyaning barqaror raqobatbardoshligiga erishish uchun ichki resurslarni izlash va ulardan maksimal darajada samarali foydalanish uchun tashqi muhit toʻgʻrisida baholovchi maʼlumotlarni taqdim etadi

Ushbu turdagi maʼlumotlar tashqi muhit haqidagi maʼlumotlarni toʻplaydi, bu uning noaniqligini kamaytiradi va kompaniyani tashqi tebranishlarga eng xavf-xatarsiz moslashtirish usullarini ishlab chiqishni taʼminlaydi. Taktik maʼlumotlar asosan tashkilotning yaqin kelajakdagi ishlab chiqarish siyosatini ishlab chiqish uchun ishlatiladi

Taktik boshqaruvni amalga oshirish doirasidagi asosiy maqsadlarga quyidagilar kiradi:

- kompaniyaning barqaror ishlashini ta'minlash;
- kompaniyaning uzluksiz rivojlanishi uchun potensialni yaratish;
- amalga oshirilayotgan o'zgarishlarni hisobga olgan holda dastlabki rejalariga o'zgartirishlar.

Ushbu boshqaruv darajasida taqdim etilgan ma'lumotlar o'rta rahbariyat tomonidan monitoring, nazorat va qaror qabul qilish uchun ishlatiladi. Strategik boshqaruv ma'lumotlari tashkilotning strategik qarorlari va maqsadlarini ishlab chiqishga, shuningdek ularni qo'llab-quvvatlashga qaratilgan.

Keyinchalik, ma'lumotlar boshqaruv hisobining kompaniyaning ichki yoki tashqi muhitiga yo'nalishiga qarab tasniflanishi kerak. Bunday holda, ichki va raqobatbardosh ma'lumotlar ajralib turadi. Ko'rinib turibdiki, ichki boshqaruv hisobi kompaniya ichidagi jarayonlarni o'rganishga qaratilgan.

Raqobat ma'lumotlari tashkilotning ichki va tashqi muhitini tahlil qilish, shu jumladan raqobatchilar faoliyatini tahlil qilish jarayonida olingan ma'lumotlarni qayta ishlash natijasini nazarda tutadi.

Umuman olganda, ma'lumotlar tashkilotning raqobatdosh ustunliklarini, shuningdek, alohida yondashuv va yechimni talab qiladigan faoliyatning kamchiliklarini aniqlashga qaratilgan. Raqobatchilarning faoliyatini, ushbu sohadagi tendensiyalarni, ishlab chiquvchilar, pudratchilar, kompaniyaning savdo bozoridagi mavqeyini hisobga olgan holda kompaniyaning bozordagi hozirgi holatini tavsiflovchi ma'lumotlar — bularning barchasi buxgalteriya ma'lumotlari bilan bir qatorda hal qiluvchi ahamiyatga ega.

Menejrlarning moliyaviy javobgarligini hisobga olgan holda, xarajatlar markazlari, daromad markazlari, foyda markazlari va investitsiya markazlari mavjud. O'z faoliyatini boshqarish va takomillashtirishning bir qismi sifatida ma'lumotlar nafaqat maxsus biznes bo'linmalari yoki javobgarlik markazlari, balki faoliyat turlari bo'yicha ham tuzilishi kerak.

Muayyan faoliyat turlarining xarajatlari to'g'risida olingan ma'lumotlar uning samaradorligini aniqlashga imkon beradi va shu asosda resurslar, xarajatlarni umuman kompaniya uchun maksimal foyda bilan qayta taqsimlash to'g'risida qaror qabul qiladi.

Keyinchalik, ma'lumotlar moliyaviy va moliyaviy bo'lmaganlarga bo'linishi kerak. Ko'pincha faqat moliyaviy ma'lumotlardan foydalaniladi, ammo samarali boshqaruv doirasida nafaqat miqdoriy ko'rsatkichlar, balki yuqori darajadagi raqobatbardoshlikni saqlab qolish uchun boshqa ma'lumotlar ham muhim ekanligi unutiladi.

Bunday ma'lumotlarga kompaniya mahsulotining sifati, mijozlarga yo'naltirilganligi va ularning mahsulotdan qoniqishi, xodimlarning malakasi va yangi mahsulotning ekspluatatsion xususiyatlari kirishi mumkin.

Moliyaviy va moliyaviy bo'lmagan ma'lumotlarni sintez qilish prinsipi asosida boshqaruv hisobotlarini shakllantirish ba'zan qarama-qarshiliklarning shakllanishiga olib keladi. Biroq, asosiy parametrlarni to'g'ri aniqlay olgan holda, ushbu prinsipga rioya qilish kerak. Bu muvozanatli buxgalteriya hisobining asosi

bo‘lib, u kompaniya faoliyati to‘g‘risida ishonchli va o‘z vaqtida ma‘lumot olish uchun yetarli bo‘lgan asosiy ko‘rsatkichlar to‘plamini taqdim etadi. Bir so‘z bilan aytganda boshqaruv hisobi uchun eng keng tarqalgan axborot bazasi kompaniyaning buxgalteriya tizimi hisoblanadi. Boshqaruv funksiyalari uchun ma‘lumot manbai sifatida u ishda e‘tiborga olinadigan ko‘plab taxminlarga ega. Ammo har qanday holatda, buxgalteriya hisobi deyarli boshqaruv hisobining asosiy axborot manbai bo‘lib xizmat qiladigan o‘rnatilgan mahalliy amaliyot bilan, kiruvchi axborot oqimini boshqaruv funksiyalarini amalga oshirishga hissa qo‘shadigan tarzda tashkil etish kerak.

Xulosa va takliflar.

Shunday qilib boshqaruv hisobi xo‘jalik yurituvchi subyektlarning boshqaruv tizimining eng muhim tarkibiy qism hisoblanadi, chunki uning asosida joriy boshqaruv qarorlari qabul qilinadi. Shu sababli, tadqiqot jarayonida kompaniya rahbariyati uchun eng to‘liq ma‘lumotlarni batafsil va taqdim etish uchun ichki hisobot uchun boshqaruv tahlili shakllari taklif etiladi. Shuningdek, operatsion faoliyat jarayonida har chorakda kamida bir yoki ikki marta qarorlarni o‘z vaqtida qabul qilish va moliyaviy rejani tuzatish uchun boshqaruv shakllarini monitoring qilish va tahlil qilish tavsiya etiladi. Tashkilot ichidagi hisobot tizimini joriy etish kompaniyaning tashkilotning raqobatbardoshligini oshirishga qaratilgan innovatsion faoliyat sifatida e‘tirof etiladi.

Shunday qilib, boshqaruv hisobini yuritish doirasida korxonalarida boshqaruv hisobini shakllantirish raqobatdosh ustunliklarga erishishga imkon beradigan yuqori samarali vositadir. Biroq, ushbu afzalliklarga erishish uchun nafaqat korxonada boshqaruv hisobi tizimini joriy etish, balki korxonada faoliyatining barcha xususiyatlarini hisobga oladigan boshqaruv hisoboti ko‘rsatkichlarining samarali tizimini ishlab chiqish bo‘yicha ham ish olib borish kerak.

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ABC BILAN JIHOZLAHGAN M1 TOIFALI AVTOMOBILLAR TORMOZ TIZIMLARINING USTIVORLIGI

Annotatsiya. Mazkur tadqiqot ishida yo‘l transport hodisalariga sabab bo‘lgan transport vositalarining noto‘g‘ri ishlashining asosiy turlari tormoz tizimi va yoritish moslamalari qisimlarining ishdan chiqishi va ishlamey qolishi edi. Nosozlik sabablaridan biri bo‘lgan transport vositalari ishtrokidagi YTH larning yarimidan ko‘pi yengil avtomobillarida sodir bo‘lishi holatlari keltirilgan. Bu avtomobillarning tormoz samaradorligini oshirishda yangicha va zamonaviy texnologiyalarni ishlab chiqish, ushbu faoliyat yo‘nalishlari bo‘yicha ilmiy tadqiqotlarni amalga oshirish, va muammolarni tahlil qilish va bartaraf etish bo‘yicha takliflar berildi.

Kalit so‘zlar: avtomobil, transport, faoliyat, yo‘l-transport, hodisasi, tormozlash, tizimi, tormoz, pedal, sekinlashuv, hisoblash.

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PRIORITY OF BRAKING SYSTEMS OF M1 VEHICLES EQUIPPED WITH ABC

Abstract. In this study, the main types of vehicle malfunctions that caused road traffic accidents were failure and failure of parts of the brake system and lighting devices. More than half of accidents involving vehicles, which are one of the causes of breakdowns, occur in passenger cars. Proposals were made for the development of new and modern technologies for improving the braking efficiency of these cars, for carrying out scientific research in these areas of activity, and for analyzing and solving problems.

Key words: car, transport, activity, road transport, event, braking, system, brake, pedal, deceleration, calculation.

Kirish. Avtomobil transporti –inson faoliyatining barcha sohalariga va butun jamiyat taraqqiyotiga ta’sir qiluvchi ijtimoiy ishlab chiqarishning yirik tarmoqlaridan biri.Yo‘lovchi tashishda harakatlanuvchi tarkib sonining ko‘payishi bilan ko‘plab transport vositalari va o‘n millionlab odamlar ishtrok etadigan yo‘llarda harakatlanish intensivligi oshadi. Shu bois yo‘l transport hodisalarning oldini olish eng jiddiy ijtimoiy iqtisodiy muammolaridan biriga aylanib bormoqda.Uning muvofaqiyatli hal etilishiga nafaqat insonlar hayoti va salomatligi, balki mamlakat iqtisodiyotining rivojlanishiga xam bog‘liq [1].

Tadqiqot metodologiyasi. Yo‘l transport hodisalariga sabab bo‘lgan transport vositalarining noto‘g‘ri ishlashining asosiy turlari tormoz tizimi va yoritish moslamalari qisimlarining ishdan chiqishi va ishlamey qolishi edi.Nosozlik sabablaridan biri bo‘lgan transport vositalari ishtrokidagi YTH larning yarimidan ko‘pi yengil avtomobillarida sodir bo‘lgan. Avtomobil transportida YTH darajasini kamaytrish ijtimoiy iqtisodiy vazifa va ilmiy texnikaviy muammo bo‘lganligi sababli uni hal qilish birinchi navbatda tegishli avtotransport tizimlarning ish xolatini kuzatish va tiklash orqali ekspulatsiya xavfsizligini oshirish talab etiladi. Avtotransport vositalariga o‘z vaqtida va sifatli texnik xizmat ko‘rsatish va tamirlash ularning texnik xolatini doimiy va sinchkovlik bilan kuzatib borish ularni instrumentall diagnostika qilishning eng yangi usullari va zamonaviy vositalaridan foydalanish ishlab chiqarishning ko‘rsatmalariga yo‘l xarakati qoidalariga va transport vositalari xavfsizligi talablarini tartibga soluvchi boshqa meyoriy xujjatlarga rioya qilish, avtomobil portidagi nosozliklar natijasida sodir bo‘lgan baxtsiz xodisalarni kamaytrishning asosiy vazifasidir [1].

Mavzuga oid adabiyotlarning tahlili. Avtotransport vositalarning energiya sarfini oshishi va avtomobillar sonining ko‘payishi tufayli yo‘llarda favqulodda tormozlash soni nafaqat tormoz tizimlarini loyihalashda matematik taraqqiyotning rivojlanishiga xam olib keldi ayniqsa ishqalanish materiallari – gidravlik tormoz tizimida ishlatiladigan mexanizimlardir.shu bilan birga,samaradorlikni ham unutmashimiz kerak.tormozning ishlashi yo‘lda shinalarning ilashishiga ham bog‘liq quruq sirtlarda judda yaxshi,lekin ho‘l yoki muzli sirtlarda etarli emas.shuning uchun blokirovkaga qarshi (ABS) tormoz sistemasini rivojlanishi miya tizimlari judda muhim edi.ABS maksimal samaradorligi ta’minlaydi quruq yo‘llarda qulay,lekin har qanday haydovchiga maksimal darajada foydalanish imkonini beradi [1,2,3].

Tahlil va natijalar. ABS tizimining xususiyati shundaki, u hatto eng yangi avtomobillarning ham tormoz tizimiga ulanishi mumkin. Ko'pincha, ular shunchaki tormoz chizig'i va mashinaning elektr tizimiga ulangan to'plamdir.

Tizimning afzalliklari va kamchiliklari

Qulfga qarshi tormoz tizimining afzalliklari haqida ko'p gapirishning hojati yo'q, chunki uning asosiy ustunligi tormozlash paytida g'ildirak siljishi holatida avtomobilni barqarorlashtirishdir. Bunday tizimga ega avtoulovning afzalliklari:

- Yomg'ir paytida yoki muzda (silliq asfalt) mashina yanada barqarorlik va boshqaruvchanlikni namoyish etadi;

- Manevrni amalga oshirayotganda boshqarishni yaxshiroq boshqarish uchun tormoz tizimidan faol foydalanish mumkin;

- To'g'ri sirtlarda tormozlanish masofasi ABSsiz mashinadan qisqa.

Tizimning kamchiliklaridan biri shundaki, u yumshoq yo'l qoplamalari bilan yaxshi kurasha olmaydi. Bunday holda, g'ildiraklar bloklangan bo'lsa, tormozlanish masofasi qisqaroq bo'ladi. ABS-ning so'nggi modifikatsiyalari allaqachon tuproqning xususiyatlarini hisobga olgan bo'lsa-da (transmissiya selektorida tegishli rejim tanlanadi) va ushbu yo'l holatiga moslashadi.

An'anaviy ravishda qulflashga qarshi tormoz tizimining ishi 3 bosqichga bo'linadi:

1. G'ildirak blokirovkasi - ECU tizimni faollashtirish uchun signal yuboradi;

2. Aktuatorni ishga tushirish - gidravlik blok tizimdagi bosimni o'zgartiradi, bu esa g'ildiraklarning ochilishiga olib keladi;

3. G'ildirakning aylanishi tiklanganda tizimni o'chirish.

Shunisi e'tiborga loyiqki, butun jarayon boshqaruv blokining dasturiy ta'minotiga kiritilgan algoritmlar tomonidan boshqariladi. Tizimning ishonchliligi shundaki, u g'ildiraklar tortish kuchini yo'qotmasdan oldin ham ishga tushiriladi. Faqat g'ildirakning aylanishi to'g'risidagi ma'lumotlar asosida ishlaydigan analog sodda tuzilishga va ishlash printsipiga ega bo'lar edi. Biroq, bunday tizim Gabriel Voisinning dastlabki dizaynlaridan yaxshiroq ishlamaydi.

Shu sababli, ABS g'ildirak tezligining o'zgarishiga emas, balki tormoz pedalini bosish kuchiga ta'sir qiladi. Boshqacha qilib aytganda, tizim g'ildiraklarning aylanish tezligini va pedalni bosish kuchini belgilab, mumkin bo'lgan skidni ogohlantirgandek, oldindan ishga tushiriladi. Boshqarish bloki mumkin bo'lgan sirpanishni hisoblab chiqadi va aktuatorni faollashtiradi [6-10].

Xulosa. Shunday qilib, ABS tizimi favqulodda tormozlashni xavfsizroq bajarishga imkon beradi, shuningdek, tormoz pedali to'liq bosilgan holda manevrlarni amalga oshirishga imkon beradi. Ushbu ikkita muhim parametr bu tizimni rivojlangan faol xavfsizlik tizimi bilan jihozlangan avtomobilning ajralmas qismiga aylantiradi. Avtomobil loy, ko'lmak, qum yoki ho'l qor orqali harakatlansa, sensor juda iflos bo'lib qoladi va tezda ishlamay qolishi yoki noto'g'ri qiymatlarni berishi mumkin, bu esa tizimning beqarorligiga olib keladi. Agar batareya quvvati past bo'lsa yoki avtomobilning bort tizimidagi kuchlanish past bo'lsa, boshqaruv bloki juda past kuchlanish tufayli tizimni o'chiradi.

Tizim ishlamay qolsa, mashina tormozlarini yo'qotmaydi. Faqat bu holatda, haydovchi klassik tormoz tizimi yordamida beqaror yo'lda tezlikni pasaytirishi kerak.

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THE IMPORTANCE OF THE CHANGE IN THE BALANCE OF WATER RESOURCES OF THE AYDAR-ARNASAY LAKES SYSTEM IN THE DEVELOPMENT OF FISHERIES

Annotation. Identification and assessment of water balance in the Aydar Arnasay Lake System (AALS) is important for the development of fisheries, ecotourism and efficient use of water resources in the region.

The amount of water discharged from the ash system consists of water from the water body into the atmosphere, which is used for infiltration and irrigation.

The article identifies and evaluates the changes in the amount of water balance of the AALS during 2004-2022 on the basis of statistical data and research conducted by the authors.

Key words: lake system, hydrology, water level, area, water volume, inlet and outlet waters, collector drainage waters, infiltration and water balance.

1. Introduction

The Aydar-Arnasoy Lakes system is the largest body of water in what is now the Republic of Uzbekistan. Today, the lake system has accumulated more water than any reservoir in the Region [1].

The Aydar-Arnasoy lake system (including Aydarkul, Tuzkon and Arnasoy reservoirs) is located 250 kilometers from Tashkent, in the middle part of the Syrdarya River, south of the Chordara reservoir, on the territory of Jizzakh and Navoi regions of the Republic of Uzbekistan. This water system was formed in the middle of the twentieth century, and in recent years its formation has gone through several stages, and each stage was determined by a separate direction and level of environmental and economic activity [1,2].

Part of the water balance in the Aydar Arnasoy Lakes system includes Syrdarya water entering Lake Arnasoy from the Chordara reservoir, collector-drainage water being dumped into the lake bottoms, atmospheric precipitation falling on the surface, and groundwater directly joining.

Exit waters from the lake system include evaporation from the surface of the water into the atmosphere, water used for irrigation, infiltration water that is absorbed underground. The assessment of the amount of input and output water gives the water balance in the Lakes system [3].

In the research work noted above, the dynamics of change in the balance of AALS Water Resources, methods for calculating water balance and their importance in the development of fisheries have not been fully studied. In the future, it will be necessary to determine and assess the water balance of the lake system and develop scientific and practical recommendations for the development of fisheries in the lake system in the protection and sustainable use of the AALS Water Resources, which are important for the region.

The purpose of this work is to calculate the mictor of entry and exit waters into the AAC, calculate the water balance of the lake system by determining the dynamics of change in water resources, and develop recommendations in the development of Fisheries.

2. Experimental space.

The Aydar-Arnasay lake system is located in the middle reaches of Syrdarya, south of Chardara reservoir, adjacent to the Kyzylkum steppe of the Southern Mirzachul low plain, in the territory of Jizzakh and Navoi regions of the Republic of Uzbekistan. AALS is considered to be the second largest closed body of water in the post-insular region to date in terms of water content. The size of the surface portion of the lake system leads to higher evaporation and remains an important factor in climate change in the region today.

The water balance of the Aydar-Arnasoy lake system was determined by calculating the amount of water entering and exiting the lake system.

The water balance in the Aydar-Arnasoy Lakes system (Table 4), compiled for 2004-2022, shows that the water balance indicator increased in 2004 and 2012. As of 2012, the amount of balance was decreasing due to the decreasing amount of Syrdarya water being pumped through Chardarya reservoir. The Collector-drainage water flowing into the lake system did not have a noticeable effect on the water balance, that is, the fluctuation of collector-drainage Waters did not allow the lake system to sharply reduce the water level, area and total volume of water.

In general, the origin of imbalances in the water balance is evidenced by the insufficient accuracy of monitoring carried out in the system of lakes. At the moment, an unfavorable situation has arisen in the system of lakes, one of the largest fishing reservoirs in Uzbekistan, which is important for nature-building not only for the Jizzakh and Navoi regions, but also for our entire country, requiring a high level of decision-making in time.

An analysis of the current state of the Aydar-Arnasoy lake system on the basis of our research materials showed that since 2014, a decrease in the amount of water balance is accompanied by a phase of lowering the water level in the lake system and clear signs of the nature of water use and deterioration of the environmental condition of neighboring areas. It is characterized by a gradual increase in the salinity of the water of the lake system, a decrease in fish productivity, the formation of Disturbed Areas of the drained bottom and the salinity of the shores.

Conclusion.

It is important to analyze, study and implement various options for regulating the water balance of different parts of the lake system.

The AALS water balance varies depending on the water in and out of the Lakes system. Research studies examined the water balance of the lake system between 2004 and 2022.

The amount of water entering AALS in 2004 was 5075,5 mln. m³, with an output of 3971,0 mln. m³, the amount of balance +1104,5 mln. m³, the amount of access water in 2008 was 3812,8 mln. m³, output water 4149,3 mln. m³, balance amount -336,5 mln. m³, the amount of access water in 2012 was 4375,2 mln. m³, output water 4043,0 mln. m³, the amount of balance +550,2 mln. m³, the amount of access water in 2014 was 2949,3 mln. m³, output water 4166,5 mln. m³, the amount of balance -1217,2 mln. m³, the amount of access water in 2016 was 3098,2 mln. m³, with an output of 3922,8 mln. m³, balance amount -823,8 mln. m³, the amount of access water in 2018 was 3035,4 mln. m³, the output water is 3898,2 mln. m³, balance amount -862,8 mln. m³, the amount of access water in 2020 is 2552,1 mln. m³, with an output of 3946,7 mln. m³, the amount of balance -1393,9 mln. m³, the amount of access water in 2022 is 2743,4 mln. m³, with an output of 3977,7 mln. m³, the amount of balance -1234,3 mln. m³.

The main environmental factors affecting the water balance of the lake system are the years of the deposition of Syrdarya water through the Chordara reservoir, and the high evaporation from the water surface of the lake system into the atmospheric air causes the outflow waters to exceed. As a result, the water in small ponds around the lakes evaporates, causing an increase in saltwater areas, and the ecological situation worsens.

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ADVANTAGES OF CONSTRUCTION OF EXTERNAL ENCLOSING STRUCTURES FROM AEROSHED CONCRETE IN MODERN CONSTRUCTION

Abstract. The article is devoted to the advantages of using aerated concrete in construction projects for the construction of external enclosing structures. Important thermal insulation properties of the material are its lightness, strength, environmental friendliness, ease of use, ease of processing and fire safety.

Key words: aerated concrete, external enclosing structures, construction, thermal insulation, lightness, strength, environmental friendliness, environmental friendliness, fire safety.

Gasbeton is a material widely used in modern construction. It has many advantages that make it an attractive choice for the construction of external enclosing structures. Here are some of them:

1. Insulation: Gasbeton has excellent insulating properties due to its porous structure. This allows you to save money on heating and air conditioning because the material retains heat in winter and coolness in summer.

2. Lightweight: Gasbeton is a lightweight material, making transportation and installation easier. This also reduces the load on the foundation of the building, potentially saving money on its construction.

3. Strength: Gasbeton has sufficient strength to be used as external enclosing structures. It can withstand significant loads and does not deform under the influence of moisture or temperature.

4. Eco-friendliness: Gasbeton is made from natural materials such as cement, sand, and water. It doesn't contain harmful substances and doesn't pollute the environment.

5. Durability: Gasbeton is a durable material that can last for decades without losing its properties. It is resistant to atmospheric conditions, rotting, and corrosion.

6. Ease of processing: Gasbeton is easy to process, allowing you to create various architectural shapes and elements. You can cut, drill, and polish it without much effort.

7. Fire safety: Gasbeton is a non-flammable material, making it safe for use in buildings. It doesn't support combustion and doesn't release toxic substances when heated.

Gasbeton has significantly better insulating properties than burnt brick. This is due to its porous structure formed during production. The pores are filled with air, which is a poor conductor of heat. As a result, walls made of gasbeton can effectively retain heat inside the room, reducing heating costs.

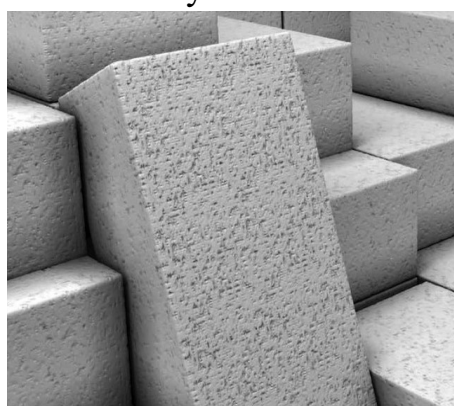


Fig.1. Appearance of aerated concrete and a building made of aerated concrete blocks.

Gasbeton is aerated concrete that hardens in an autoclave. Its composition includes cement, quartz sand, water, aluminum powder, and special additives. The material is characterized by high strength, low weight, and low density. Because of this, it has several advantages over other building materials. For example, the typical density of gasbeton ranges from 300 to 1200 kg/m³, it has low thermal conductivity, so walls made of it keep warmth in winter and coolness in summer, gasbeton is classified as a non-combustible material, so it can be used for constructing buildings of any fire resistance category, gasbeton allows steam passage, ensuring a comfortable microclimate indoors, gasbeton can withstand multiple freeze-thaw cycles without losing its properties.

Unlike burnt bricks, gasbeton has better insulation. Bricks are made from clay and baked at high temperatures, resulting in a dense structure. This structure holds heat less well, so brick walls require additional insulation.

In addition, gasbeton has greater thickness, which also contributes to improved insulation. For example, a wall made of gasbeton 30 cm thick can have the same insulation as a brick wall 1 meter thick.

Thus, gasbeton is a more preferable material for building walls in terms of insulation compared to burnt bricks.

Overall, using gasbeton for constructing exterior enclosing structures is a profitable solution that combines high efficiency, environmental safety, and economy.

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ADVANTAGES AND DISADVANTAGES OF USING COMPUTER TECHNOLOGY FOR TEACHING SECOND LANGUAGE LEARNING

Annotation. This article's goal is to go over the benefits and drawbacks of computer technology and Computer Assisted Language Learning (CALL) programmes in relation to modern second language acquisition. Learning how to use computer technology and its associated language learning programmes to support the nine million or so students in American classrooms who have limited English proficiency (LEP) each year is an important and urgent subject, according to a 2002 report from the National Clearinghouse for English Language Acquisition & Language Instruction Educational Programmes. Actually, utilising computers and CALL programmes has emerged as a new paradigm in second language training worldwide in recent times. Empirical studies have demonstrated that computer technology use improves English as a Second Language success levels.

Key words: Computer Assisted Language Learning (CALL), Limited English proficiency (LEP), Language Instruction Educational Programmes, syntax.

Introduction. According to educators, there are a lot of benefits associated with modern computer technology for learning languages as a second language. Learners of second languages could benefit from increased independence from classrooms and the ability to work on their course material at any time of day thanks to computers and the language learning applications they are connected to.

For students who are unfamiliar with computers, there are therefore no advantages to computer technology. Third, there are still flaws in the software used in computer-assisted language learning programmes. The majority of computer technology used today focuses on writing, reading, and listening abilities. Though some speech recognition software has been updated recently, its features remain restricted. According to some experts, a programme should ideally be able to comprehend verbal input from users and assess it for appropriateness as well as correctness. It must be able to identify certain pronunciation, syntax, or usage issues among students and then make an informed choice from a variety of possibilities. Fourth, computers are unable to deal with unforeseen circumstances. The learning environments that second language learners encounter are diverse and dynamic.

Research Methodology. Computer technology is not as intelligent as teachers when it comes to handling learners' unforeseen learning challenges and

providing prompt answers to their inquiries. It was also stated that computer technology with that level of intelligence does not now exist and is not anticipated to do so for a considerable amount of time. These factors contribute to the computer's incapacity to connect with humans in an efficient manner. To put it simply, current computer technology and the language learning software that goes along with it are not smart enough to be fully interactive just yet.

Analysis and results. People still need to work on developing and upgrading computer technology in order to assist second language learners. Last Words In summary, the purpose of this essay was to discuss the advantages and disadvantages of CALL programmes that are applicable to contemporary ESL classrooms. Despite recent global trends in second language learning instruction favouring the use of CALL programmes, computer technology remains flawed and limited despite advances in modern technology. Therefore, before attempting to apply CALL programmes to enhance our instruction or support students' learning, we should be aware of their advantages and disadvantages in order to prevent misuse of the programmes and to maximise the benefits for our ESL teaching and learning.

Using computer technology for teaching second language learning offers a range of advantages and disadvantages. Here's a comprehensive look at both:

Advantages

Interactive and Engaging Learning

Multimedia Resources: Integrates audio, video, animations, and interactive activities to cater to different learning styles.

Interactive Exercises: Provides engaging tasks like drag-and-drop activities, quizzes, and language games.

Personalized Learning

Adaptive Learning: Tailors lessons and exercises to the learner's pace and proficiency level.

Self-Paced Learning: Allows students to learn at their own speed, revisiting or advancing as needed.

Access to Authentic Materials

Real-World Contexts: Provides exposure to real-world language through news articles, videos, and social media.

Cultural Exposure: Enhances cultural understanding through diverse content from different regions.

Disadvantages

Technical Issues

Access to Technology: Not all students have access to computers, tablets, or reliable internet connections.

Technical Difficulties: Problems like software glitches, hardware malfunctions, or connectivity issues can disrupt learning.

Limited Personal Interaction

Lack of Face-to-Face Interaction: Reduces opportunities for real-time, face-to-face practice with peers and teachers.

Dependence on Digital Communication: May hinder the development of interpersonal communication skills.

Distraction and Over-Reliance

Distractions: The internet and apps can be distracting, leading students to lose focus.

Over-Reliance on Technology: May reduce the development of traditional study skills and discipline.

Conclusion

While computer technology offers many advantages for second language learning, such as increased engagement, personalized learning, and access to a wide range of resources, it also presents challenges like technical issues, limited personal interaction, and potential distractions. Balancing the use of technology with traditional learning methods and ensuring equitable access can help maximize the benefits while mitigating the disadvantages.

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MDH MINTAQASIDA TRANSPORT SOHASIDAGI HAMKORLIKNI RIVOJLANTIRISHDA EOII TRANSPORT INTEGRATSIYASINING TASHQI OMILLARI VA XAVFLARI

Аннотация. Ushbu maqolada EOII ga a'zo davlatlarning transport infratuzilmasi rivojlanishi darajasi ilmiy tahlil qilingan, xususan, dinamikada transport infratuzilmasining rivojlanish darajasini tavsiflovchi ikkita asosiy ko'rsatkichlari, yani yuk aylanmasi va yo'lovchi aylanmasi tahlil qilinadi. Natijada, EOII transport infratuzilmasini rivojlantirish strategiyasi qabul qilingandan keyin ushbu ko'rsatkichlarning barqaror o'sishi qayd etildi. Tadqiqotda, shuningdek, EOII transport integratsiyasi jarayonining rivojlanishi va samaradorligiga ta'sir etuvchi tashqi omillar ham aniqlandi. EOIIga a'zo davlatlar transport infratuzilmasini rivojlantirish, xususan, eskilarini modernizatsiya qilish va yangi temir yo'l va avtomobil yo'llarini qurish, yangi aeroportlarni ishga tushirish va rivojlanishi orqali ittifoqning transport salohiyatini oshirishga katta ahamiyat beradi. Yuklarni tashish jarayonining o'ziga yangicha yondashuvlarni shakllantirish, eng xavfsiz va tejamkor yangi yo'nalishlarni ishlab chiqish, zamonaviy yuqori texnologiyali transport vositalarini, shuningdek, yuklash-tushirish va saqlash uskunalari yaratishga katta ahamiyat berilmoqda.

Калум сўзлар: EOII ga a'zo davlatlar, transport infratuzilmasi rivojlanishi, yuk aylanmasi, yo'lovchi aylanmasi, transport integratsiyasi, yuklarni tashish jarayoni, yuqori texnologiyali transport vositalari, mamlakatlarning transport tizimi.

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EXTERNAL FACTORS AND RISKS OF TRANSPORT INTEGRATION OF THE EAEU IN THE DEVELOPMENT OF TRANSPORT COOPERATION IN THE CIS

Abstract. This article scientifically analyzes the level of development of transport infrastructure of the EAEU member states, in particular, analyzes two main indicators characterizing the level of development of transport infrastructure in dynamics - freight turnover and passenger turnover. As a result, after the adoption of the EAEU transport infrastructure development strategy, a

steady increase in these indicators was observed. The study also identified external factors influencing the development and efficiency of the EAEU transport integration process. The EAEU member states attach great importance to the development of transport infrastructure, in particular, the modernization of old and construction of new railways and roads, the launch and development of new airports, and increasing the transport potential of the union. Great importance is attached to the formation of new approaches to the process of cargo transportation, the development of new, safest and most economical routes, the creation of modern high-tech vehicles, as well as loading, unloading and warehouse equipment.

Key words: EAEU member countries, development of transport infrastructure, freight transportation, passenger transportation, transport integration, cargo transportation process, high-tech vehicles, transport system of countries.

Tadqiqot usullari

Tadqiqotning uslubiy asosini transport xizmatlari ko'rsatish tizimini takomillashtirish sohasidagi xorijiy va o'zbekistonlik olimlarning ilmiy ishlarida bayon etilgan fundamental tushuncha va qoidalar tashkil etadi. Muallif, shuningdek, ilmiy jamoalarning transport xizmatlarini ko'rsatish tizimini takomillashtirish, transportning barcha turlaridan cheklangan va cheksiz foydalanish sharoitida ulardan foydalanish samaradorligi muammolarini o'rganish, shakllantirish, foydalanish sohasidagi tadqiqotlar natijalariga tayanadi. Iqtisodiyotda tovarlarni tashish va iste'mol qilishning yangi yo'nalishlarini ishlab chiqish, davlat organlari hisobotlari va statistik ma'lumotlar, qonunchilik va me'yoriy-huquqiy hujjatlar, O'zbekiston kompaniyalarining uzoq muddatli rivojlanish dasturlari va hisobotlari shular jumlasidandir. Tadqiqot jarayonida funksional yo'naltirilgan qidiruv, iqtisodiy va statistik tahlil, prognozlash va modellashtirishning turli usullari va vositalaridan foydalanildi.

Adabiyot tahlili

Klassik iqtisodiy nazariyalar va global geosiyosiy muammolar va inqirozli vaziyatlar kontekstida transport xizmatlarini rivojlantirishning zamonaviy kontseptsiyalari turli sohalar va iqtisodiyot tarmoqlari faoliyatiga, birinchi navbatda, milliy manfaatlarni ta'minlash uchun strategik "yutuq" bo'lganlarga nisbatan faol muhokama qilinmoqda. Bir necha o'n yillar davomida iqtisodiy integrasion guruxlar faoliyati muhokama qilingan asosiy masalalar transport va yuk tashish modellari bo'ldi. EOII ga a'zo davlatlarda yuklarni tashish va tashish modelini shakllantirish muammolari xarajatlar mexanizmini, resurslar bilan ta'minlash modellarini - logistika faoliyatini rivojlantirish va uning samaradorligini takomillashtirish zarurati bilan bog'liq. Logistika iqtisodiy fanning eng muhim yo'nalishlaridan biri sifatida iqtisodiy materiya oqimini tashkil etishning qonuniyatlari va tamoyillarini va ushbu qonuniyatlarni ishlab chiqish nuqtai nazaridan va uning zamonaviy modellarga "integratsiyalashuvi"

tamoyillarini o'rganadi. (nazariy va tashkiliy-amaliy) innovatsion tadbirkorlik ilmiy qiziqish uyg'otadi.

Asosiy to'siqlar sifatida U. Baumoll quyidagilarni nazarda tutgan: birinchidan, nostandart mahsulotlarga innovatsiyalarni kiritish bilan bog'liq masalalar;

ikkinchidan, tadbirkorlikni tavsiflash va uni oddiy matematik shakllardan foydalanishga imkon bermaydigan rasmiy optimallashtirish modellarini ishlab chiqishda noaniqlik va nomuvofiqlik. Rasmiy optimallashtirish cheklangan va innovatsion tadbirkorlikni tahlil qilish uchun noqulay vositadir.

Taxlil va natijalar

EOII mamlakatlari o'rtasida transport integratsiyasini rivojlantirish bo'yicha kelishilgan va imzolangan transport strategiyasini amalga oshirishning asosiy bosqichlari kabi masalalar o'z aksini topgan, EOII doirasida 2025 yilgacha barcha transport turlarida tashishdagi barcha cheklovlarni olib tashlash bo'yicha qarorlar qabul qilingan.

Umuman olganda, EOII da o'rganilayotgan davrda yuk tashish hajmi 751,9 million tonnaga (o'sish sur'ati 106,9 foiz) oshganini ta'kidlash lozim. Biroq, alohida ishtirokchi mamlakatlarda pasayish kuzatildi. Masalan, Belarus Respublikasida yuk aylanmasi 27,5 million tonnaga kamaygan, 2022 yilda 2021 yilga nisbatan bu pasayish 45,4 million tonnani tashkil etgan. Biroq, keyingi 2022 yilda o'sish kuzatildi.

Armaniston Respublikasi bo'yicha ham ko'rsatkichlar beqaror: 2022-yilda yuk tashish hajmi 2021-yilga nisbatan 3,2 baravarga o'sgan, 2019-yilda esa 2018-yilga nisbatan 2,1 baravardan ortiq pasayish kuzatilgan.

Qozog'iston Respublikasi, Qirg'iziston Respublikasi va Rossiya Federatsiyasida barqaror o'sish kuzatilmoqda. Tahlil natijalari 1-jadvalda keltirilgan.

1-jadval. 2017-2023 yillar davomida EOII mamlakatlari tomonidan yuk tashish dinamikasini tahlil qilish. (million tonna)

Yil	Belorus Respublikasi	Armaniston Respublikasi	Qirg'iziston Respublikasi	Rossiya Federatsiyasi	Qozog'iston Respublikasi	EOII
2016	336,9	8,5	28,7	6928,3	3524,8	10827,2
2017	314,7	9,4	29,5	6827,0	3519,1	10699,7
2018	291,5	18,9	31,0	6866,1	3523,4	10730,9
2019	315,0	26,3	31,7	6934,3	3713,3	11020,6
2020	330,3	27,4	32,8	7095,3	3822,3	11308,1
2022	309,4	12,9	34,0	7262,3	3960,5	11579,1

Keyingi o'rinda yo'lovchi tashish bilan bog'liq vaziyatni ko'rib chiqamiz. Yo'lovchi tashish tahlili 2-jadval.

2-jadval. 2017-2023 yillar davrida EOII mamlakatlarida yo‘lovchi tashish dinamikasini tahlili. (milliard yo'lovchi-km)

Yil	Belorus Respublikasi	Armaniston Respublikasi	Qirg‘iziston Respublikasi	Rossiya Federatsiyasi	Qozog‘iston Respublikasi	EOII
2014	21,0	2,9	10,7	499,4	246,6	780,7
2015	19,9	2,4	10,9	474,7	250,9	758,9
2016	20,2	2,5	11,2	465,7	266,4	766,0
2017	20,8	2,6	12,2	507,0	272,8	815,4
2018	21,7	2,4	12,4	540,4	281,1	858,0
2019	27,2	2,7	13,1	570,6	295,2	908,9

EOII mamlakatlarida yo‘lovchi tashish dinamikasini tahlil qilish natijasida shuni ta’kidlash kerakki, umuman olganda, yo‘lovchi tashish hajmining o‘sishi kuzatilmoqda, bu aholining harakatchanligi oshganidan, sharoit va qulayliklar yaxshilanganidan dalolat beradi. Turmush darajasini oshirish va tariflarni pasaytirishdan iborat bo'lishi mumkin bo'lgan harakatlanish imkoniyatlarini oshirish transport jarayonini va yuqori texnologiyali transport infratuzilmasini yuqori samarali tashkil etish orqali xarajatlarni optimallashtirishga yordam beradi.

O'rganilayotgan davrda ushbu ko'rsatkichning kamayishi faqat Armaniston Respublikasida atigi 0,2 milliard yo'lovchi-km ga kamayganini ta'kidlash kerak. Rossiya Federatsiyasida bu ko'rsatkich 2015-2016 yillarda, shuningdek, umuman EOII da biroz pasayish tendentsiyasiga ega bo'lgan.

Ammo, agar biz butun tahlil qilinayotgan davrga (2017-2023) nazar tashlasangiz, shuni ta'kidlash kerakki, Rossiyada bu ko'rsatkich 71,2 milliard yo'lovchi/km ga oshgan, Belarus Respublikasida esa 6,2 milliard yo'lovchi/km kamaygan, (keyin esa yana o'sishni kuzatilgan), Qirg'iziston Respublikasi va Qozog'iston Respublikasida bu ko'rsatkichning barqaror yillik o'sishi kuzatigan.

Transport infratuzilmasi va transport sanoati integratsiyasini tavsiflovchi asosiy ko'rsatkichlarni tahlil qilish natijasida shuni ta'kidlash kerakki, alohida a'zo mamlakatlarda va umuman EOII da 2016 yildan keyin barqaror o'sish kuzatildi. Ya'ni Yevroosiyo iqtisodiy ittifoqiga a'zo davlatlarning kelishilgan transport siyosatini amalga oshirishning asosiy yo'nalishlari va bosqichlarida aks ettirilgan transport strategiyasi qabul qilingandan.

Shunday qilib, EOII transport sektori muammolarini faqat yuqori darajada rivojlangan transport infratuzilmasi bilan yagona integratsiyalashgan transport makonini shakllantirish orqali hal qilish mumkin.

Rivojlanish oldidagi to'siqlar

Transport infratuzilmasini rivojlantirish va EOII transport strategiyasini amalga oshirishni tavsiflovchi asosiy ko'rsatkichlarni o'rganish natijasida shuni ta'kidlash joizki, ko'rsatkichlar ijobiy o'sish tendentsiyasini aks ettiradi. Bu holat EOII transport strategiyasi doirasida qabul qilingan qarorlar samaradorligidan dalolat beradi.

Biroq, transport sohasida integratsiyalashuvning barqaror tendentsiyasi yuk va yo'lovchi tashish hajmining o'sishiga qaramasdan, ushbu strategiyani amalga oshirishda to'siq bo'layotgan bir qator texnik, siyosiy va ijtimoiy-iqtisodiy omillarga e'tibor qaratish zarur. Bularga quyidagi omillar va xavflar kiradi:

- transport-logistika infratuzilmasi va uning salohiyatining a'zo mamlakatlarda rivojlanish darajasining pastligi. Buni ayrim hududlardagi avtomobil yo'llarining sifatsizligidan (masalan, Armanistonda temir yo'llarning 40% ga yaqini ishlamasligi) dalolat beradi; temir yo'l liniyalarini elektrlashtirishning etarli emasligi (masalan, Belarusiyada temir yo'l liniyalarining butun ekspluatatsion uzunligining faqat to'rt dan bir qismi elektrlashtirilgan);

- me'yoriy-huquqiy hujjatlarning unifikatsiya darajasi pastligi sababli temir yo'l, havo va avtomobil transporti sohasida EOII institutsional va me'yoriy-huquqiy bazasining yetarli darajada rivojlanmaganligi.

Masalan, agar avtomobil transporti segmentini oladigan bo'lsak, Evrosiyo integratsiyasida, asosan, EOII avtomobil transporti tizimini davlatlararo modernizatsiya qilish jarayonida yuzaga keladigan munosabatlarni tartibga soluvchi huquqiy hujjatlarga e'tibor qaratiladi. Shu bilan birga, ushbu yo'nalishda ma'lum qarama-qarshiliklar mavjud, chunki qabul qilingan hujjatlarning bir qismi barcha mamlakatlar - EOII a'zolarining o'zaro hamkorligi, ikkinchi qismi esa - alohida davlatlar o'rtasidagi ikki tomonlama shartnomalar natijasidir.

Xulosa va takliflar

- Natijada shunday muammo yuzaga keladi: agar ushbu integratsiya birlashmasining barcha ishtirokchilari umumiy muammolarni yagona transport siyosati doirasida hal etuvchi to'laqonli a'zolar bo'lsa, unda ikki tomonlama kelishuvlarning o'rni qanday?

Shuningdek, EOIIga a'zo davlatlarning havo transporti va aviatsiya xizmatlarini davlat tomonidan tartibga solishga yondashuvlaridagi farqlarni, a'zo davlatlarda yirik va (yoki) og'ir avtotransport vositalarining harakatlanishi uchun maxsus ruxsatnomalar berish tartibidagi farqlarni ta'kidlash joiz.;

- transport infratuzilmasini saqlash va qurish bilan shug'ullanuvchi xodimlarning malaka darajasining etarli emasligi. Bu holat Kadrlar salohiyatini rivojlantirish bo'yicha takliflar ishlab chiqish bo'yicha Ishchi guruhi hamda transport va infratuzilma sohasida ilm-fan va innovatsiyalarni rivojlantirish bo'yicha Ishchi guruh yig'ilishi ishtirokchilari tomonidan ta'kidlangan;

- aylanma mablag'larning yetarli emasligi, bank tizimining infratuzilma loyihalarini moliyalashtirish imkoniyatlarining cheklanganligi (shu jumladan, siyosiy sabablarga ko'ra), transport infratuzilmasini qurish va avtotransport jarayonini tashkil etish sohasidagi farqni hisobga olgan holda ishtirokchi davlatlar o'rtasida qurilish va yo'llarni saqlash sohasidagi yondashuvlarda aloqa kanallarining samarasizligi;

- Rossiya va Qozog‘iston yuk tashish bozorlarida jiddiy nomutanosiblik yuzaga kelgan yuk narxlarining pastligi bilan ajralib turadigan Xitoy avtomobil tashuvchilari bilan raqobat;

- Rossiya orqali tranzit yuk tashish hajmini oshirishdagi cheklovlar, xususan, eksport va ichki tashishlarda turli nomenklaturalarni konteynerlashtirishning erishilgan yuqori natijalariga salbiy ta'sir ko'rsatishi mumkin bo'lgan temir yo'l transporti sohasidagi nomutanosibliklar.

Yuqoridagi tashqi va ichki omillar va xatarlarga ta'sir qilish EOII transport strategiyasini amalga oshirish samaradorligini oshirishi mumkin. Ta'sirning asosiy vositalari ishtirokchi mamlakatlar hukumatlari darajasida ko'riladigan institutsional, qonunchilik, moliyaviy, iqtisodiy va boshqa choralar bo'lishi kerak.

Foydalanilgan adabiyotlar ruyxati:

1. O‘zbekiston Respublikasining Prezidenti Shavkat Mirziyoevning O‘zbekiston Respublikasi Konstitutsiyasi qabul qilinganining 28 yilligiga bag‘ishlangan tantanali marosimdagi ma‘ruzasi

2. O‘zbekiston Respublikasi Temir yo‘llarda yuk va yo‘lovchilar tashish xavfsizligini nazorat qilish davlat inspeksiyasi faoliyatini tashkil etish to‘g‘risida O‘zbekiston Respublikasi Vazirlar Mahkamasining qarori 28.11.2017 yildagi 948-son

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CONTEXTUAL SEMANTICS OF MODAL WORDS IN ENGLISH

Annotation. Modality is the basic unit of speech, the most important feature of sentence semantics. In linguistics, modality is usually understood as a grammatical-semantic category that expresses the speaker's attitude to the idea being expressed, or the speaker's attitude to the content of the speech. It takes this objective reality as a verbal assessment, reflects it in the mind, and expresses its relation to reality using various semantic categories.

Keywords: modality, modal verbs, modal category, context, semantics, analysis, object, author, addressee.

Verbs that express other meanings such as obligation, possibility, necessity, trust, desire, or permission, assumption, presumption, affordability, and so on are called modal verbs. Modal verbs are semantically different from other verbs because they do not show action. Modal verbs are always used in conjunction with basic verbs in the infinitive form to add modal meaning to the main verbs. For example:

I go home - I must go home I have to go home - I have to go home.

Basic grammatical description of modal verbs. The peculiarities of modal verbs are:

1) Modal verbs are used only with verbs in the infinitive form. The infinitive used with the modal verb can be divided into:

a) not perfect infinitive:

Well, you can go out to the flat then, that's all right (Th. Dreiser).

So you may say he's in Government even before he's in the house, (Chesterton).

But you might keep chickens (Ibid)

b) perfect infinitive:

But he must have worked his way through this fortune also with marvellous rapidity (I. R. Chesterton).

You ought to have seen the tie he had on (Th. Dreiser).

c) Perfect infinitive in continuous aspect: The look in his eyes might well have been disquieting to anyone left alone with him on an island in the middle of a lake.

g) an infinitive not a perfect in the continuous aspect: "She oughtn't to be thinking about spending her money on theaters already, do you think?" he nodded (Th. Dreiser).

d) infinitive in passive calculation:

All this must be changed (K. Aldington).

It must not be thought that one could have her mistaken for a nervous sensitive, high strung nature, cast unduly upon a cold, calculating, and unpoetic world (Th. Dreiser).

e) passive ratio perfect infinitive: It might have been considered beautiful at one time.

2) The main verb after the modal verbs is aged without the preposition to, i.e. they are always in the predicative form. But the equivalent of modal verbs is an exception: he come to read - he can read.

3) The third person singular suffix -s is not used in the unit:

“You must go out in the fresh air all you can” (A. E. Coppart).

You can get a nice room here and some clothet and then you can do something (Th. Dreiser).

4) Some of the modal verbs come in two tense forms (can- could, may-might, will-would, dare-dared, shall-should) and some come in only one invariant form (must, ought, need):

Clyde could scarcely prevent her voice from trembling (Th. Dreiser).

«Perhaps» she thought, they may want some one (Th. Dreiser).

Between ourselves, I might say fled the country (I. K. Chesterton).

Then we can go. We will go to the house first and look over these weapons of which you speak (Galsworthy).

5) It is impossible to make participle forms from modal verbs.

6) New words are not formed from modal verbs using suffixes or prefixes because the modal verbs themselves are not formed from other words using the word formation method.

The modal verb does not take the preposition to, because the infinitive form of modal verbs is formed from the present tense form, not from the infinitive form of preterit-present verbs.

The meaning of the modal verbs can, may must, can also be given by means to have, to have got, to be obliged, to be. These infinitive forms are specific synonyms of modal verbs and are called equivalents of modal verbs. The meaning of the modal verb san can also be given in some cases to be able. The modal verb may has an equivalent such as sea to be allowed (to).

The equivalents of modal verbs do not replace all vast and modal verbs. Although these equivalent verbs are used in almost all grammatical categories, they are often lexically and stylistically limited.

Since the modal verb Can can only be used in two tenses, it has the forms san in the present tense and could in the past tense. When the verb san is used in the negative form, a note load is added to it: san - cannot. The use of to be able (to), which is the equivalent of the modal verbs san and could, is not limited to a particular tense or grammatical category. The negative form of to be able (to) is also made using the note load: Ne is able to do it he is not able to do it. It is also possible to express the un-prefix denoting negation by adding the predicative part

to able. For example: He is not able to do, it. He is unable to do it... and this I was unable to explain. (R. L. Stevenson).

Can (could) and its equivalent to be able (to) have the following lexical meanings:

1) physical ability, that is, the performance of an action

to be able to, to be able to or not:

I won't be able to pull you up, "the boy said" (J. Aldridge)

They could scarcely restrain her tears (Th. Dreiser).

2) the mental ability needed to do a job: (This group also includes the ability to buy and not to buy):

I can't understand it is sickening monstrous! (A. Huxley).

Carrie saw the drift but could not express her thoughts (Th. Dreiser).

3) to be able or not to do a job, to believe and not to believe:

"He could go along," said Carrie (Dreiser).

No, I'm afraid I can't help you (I. K. Chesterton).

Sir Harland Fisher could believe that he had ever been called Harry (Ibid).

4) pyxcat, permission - prohibition, permission or prohibition, command and similar meanings:

I can't go about naked can I? (A. Huxley).

What can I do for-you (I. K. Chesterton).

Can you give me something to do? - said Carrie (Th. Dreiser).

5) to assume, believe and disbelieve (here the meaning of the modal verb also depends on the words that come together):

I guess we can't use you (Th. Deesetf)

I've so many misfortunes I suppose I can bear this too (A. E. Coppard).

6) Surprise, surprise, etc.:

Why couldn't he speak? (G. K. Chesterton)

How could you be you stupid, Sophie (A. Huxley).

7) whether the action occurred or not, the origin is doubtful: "If I could only get something, to do," she said (Th. Dreiser).

8) can (could) not help indefinitely, using a verb in the form to indicate that something has happened, even if he does not want it to happen.

A: I couldn't help smiling - I couldn't help but smile.

She couldn't help feeling feeling pleased as she looked at herself (Ibid).

9) Can (could) + see (or understand, think etc) can be performed in the Uzbek language by performing the initial function of complementary adverbs is done. In a sense, this construction means to come to a conclusion, to understand.

One could see that the furniture was of that poor, hurriedly quality sold by the installment houses (Th. Dreiser).

He could, see the flash of big guns followed long after by a solemn deep boom (R. Aldington).

It should be noted that see can also retain a specific lexical meaning. For example: From the pavement below she could see that their room was lit (A. E. Coppard).

This modal verb is also used only in two tense forms, and its past tense form may be the past tense form might. In the following, tense, and other categorical forms, the equivalent of the verb may be used to be allowed (to):

The patient is allowed to walk. The patient was allowed to walk.

The patient was allowed to walk. The patient was allowed to walk.

The patient will be allowed to walk in a week. Kasabnr is allowed to walk after a week.

It can also use the to be permitted (to) construct in the equivalent class of May (might). This construction does not differ from the to be allowed (to) construction in meaning:

No one is allowed to be late No one is allowed to be late

No one is allowed to stay late.

The verb May has the following lexical meanings:

1) there is no resistance to the possibility of an action

lkgini:

But you might keep chickens (G. K. Chesterton).

I might show you round (Th. Dreiser).

2) Permission, permission and permission, request permission:

You may convey the assurance, said their host gravely (G. K. Chesterton).

May I ask, sir, by what right it has been taken from me? It is my private property (R. Aldington),

3) probability, whether the action occurred or not, whether or not it will occur:

Perhaps, she thought, they may want someone, and crossed over to enter (Th. Dreiser).

It was my idea that a gang of thieves might have broken in and be now runningsacking Northmour's cupboards (R. L. Stevenson).

If you will find the facts perhaps others may find the explanation (Conan Dayle).

The equivalents of the verb may to be allowed (to) and to be permitted (to) basically mean permission, permission, or prohibition. For example:

Do you know why we're not allowed in the Chrysler Building after eleven at night? (B. J. Friedman).

He was to be allowed to ride home just, like any man coming home to his family (Ibid).

Must is used only in the present tense form, and in other tense forms its equivalents are used - to have (to), to be obliged (to), to have got (to), to be (to). Must can be semantically and stylistically different in modal verb equivalents. In modern English, the verb must has the following meanings:

1) necessity or obligation:

Some day I really must go to the Louvre and see my portrait (A. Huxley).

I must find some clean linen (P. Abrahams).

I must have made some tart rejoinder (Ya. L. Stevenson).

He knew he must go (D. H. Lawrence).

2) order, advice, recommendation, strict request:

You must go out in the fresh air all you can (A. E. Coppard).

You must see her, miss Sarrie (P. Abrahams).

3) Prohibition:

He must not know he has to fly it The thought will scare him stiff (J. Aldridge).

Then Cat pretended to be sorry and said "Must I never come into the cave? Must I never sit by the warm fire? Must I never drink the warm white milk?" (R. Kipling).

4) probability, probability or confidence:

"It must be a cleverer family," said Harold March with a smile. (G. K. Chesterton)

But she must be lonely (P. Abrahams).

to have (to), to have got (to) and its meanings. The verb to have, which is used as an equivalent of the modal verb must, means to be compelled, to be compelled to do, because it is used with the infinitive. to have to is mainly used to denote dependence on a particular condition, event. For example:

He had to see her tonight (P. Abrahams). "He had to see her tonight."

Why did old Tante have to live on the other side of the farm? (Th. Dreiser).
"Why did old Tante have to live on the other side of the farm?"

I just have to go to Smith's (P. Abrahams). "I have to go to the Smiths."

to have (to) can be used in all three tenses.

a) at the present time:

But I have to think of you. (A. E. Coppard).

I have to be in London for some days (G. K. Chesterton).

b) in the past tense:

Stern had to walk through using a pocket flash-light and not really sure whether he was on some one's property (B. J. Friedman).

She had to bend and strain at it in order to pull it out (A. Huxley).

c) in the next tense:

I think I shall have to go (A. E. Coppard).

"It's only our secret's price, Mummy dear, and we'll tell you all about it the very, minute it's done; but please don't ask me what it is now, or else I'll have to tell (R. Kipling).

to have (to) can also be used in the conditional tense:

One day in early summer it seemed, miraculously, that Stern would not have to sell his house and move away (B. J. Friedman) She would have to go home, that was all (Th. Dreiser).

to have (to) can also be used instead of to have got (to): You've got to have friends he screamed at her (B. J. Friedman). The interrogative and infinitive forms of the verb to have (to) in the past and present tense are formed using the auxiliary verb do. Subsequent interrogative and non-interrogative forms are made with the participation of a note denial:

Does he have to go right now? He doesn't have to go right now.

She will not have to come so early tomorrow.

to be (to) indicates the necessity, the obligation to do something, agreed in advance. to be (to) is an action speech understood from the verb. occurs after the time being spoken, and is therefore not used in the modal sense in the future tense form. The verb to be (to) is used in both indicative and conditional tenses.

My mother said that when I meet a Hedgehog I am to drop him into the water and then he will ancoil, and when I meet a Tortoise I am to scoop him of his shell with my paw (R. Kipling).

If I were to die I shouldn't idle here? (Flemming).

If to be (to) is used in the negative form, it means that there is no need to perform the action or that the speaker is opposed to the occurrence of the planned action.

You're not to go! I object (A. E. Coppard).

No, murmured Lally, you're not to come with me (A. E. Coppard).

Need can be used in modern English both as a modal verb function and as a non-modal, correct verb function. The modal verb function is used only in the present tense and often means that there is no need to perform an action. Since the modal verb Need is used only in interrogative and non-interrogative sentences, it is translated into Uzbek using the following words:

You needn't stand on any such ceremony as that, said Ralph (James).

She may bring her husband if she likes but she needn't bring you (Ibid).

You need not answer. I can see (P. Abrahams).

«Ah» said Isabel, to enjoy that pleasure I needn't be so terribly emancipated (H. James).

Need comes in two different forms when it comes to the correct verb function.

3) probability, assumption;

You should have seen me at eight. (B. J. Friedman).

I should rather guess that the other people are blackmailing him about It (Ibid).

He should have been more careful to get a long range weather forecast when he left (Aldridge).

Should + like means not wanting to join:

“I should like to walk up and see Halstead street if it’s not too,” said Garrie, after a time (Th. Dreiser).

How I'd like to go there (Ibid).

What's for? I should like to know? (A. Huxley).

Shall can be used not only to create a future tense form, but it can also become a modal verb, signifying modality. Shall is used in the same way in all individuals when it comes to the function of a modal verb, meaning meanings such as desire, promise, warning:

You shall not go there if I can help you (I.K. Chesterton).

Musgrave shall leave it to Musgrave till the heavens fall (Ibid).

So your children shall be lazy (R. Kipling).

They shall be the laziest people in the world (Ibid).

They shall be called the Malazy - the lazy people (Ibid).

The verb will, like the verb shall, means to be determined to do something:

We will go up to the house first and look over these weapons which you speak (C. Doyle).

We will go out seven times a day, and the waters shall never be still (K. Kipling).

So I will go down to Somerset, said Home Fisher (G. K- Chesterton).

I will go and fetch it (Ibid).

If you won't let me work now while we're together then I must leave you and work for myself (A D. Coppard).

Would verb. The modal verb would would mean desire, desire, exhortation, and supplication when it comes to fidelity. For example:

I would cut up a big estate like this into small estate for everybody, even for poachers (I. K. Chesterton).

But she would never be able to get her packing done by herself (Huxley).

What would he say? How would he explain it? How would he resist that inevitable passionate fury? (A. E. Bates).

O, she would go mad then (O. E. Coppard). If I did, do you know what I would do with it (Ibid).

a) Used at all times as proper verbs with horses.

I need the money and it's near home (P. Abrahams).

I'll need somebody to take Mable's place (Ibid).

I don't need the did of a clever man to teach me 'how to live (H. James).

Bringing education to people who need it (P. Abrahams).

You will need help Mable (P. Abrahams).

b) used with other verbs, it comes with the preposition to:

I don't have enough. That's the perfect extra thing I need to carry (B. J. Friedman).

Need can also come in the form of a horse:

But one has no need of a reason for that (H. James).

There was no need for words (P. Abrahams).

The verb Dare also belongs to the group of modal verbs and corresponds to the Uzbek verbs such as dare, dare. The verb dare is divided into two groups according to its use: 1) like modal verbs, in the present tense it does not change in all persons, and in the past tense it changes to dared (or durst). The form without

division is daren't. 2) are interpreted as correct verbs. When taken as a verb, it takes -s in the third person, and the auxiliary verb do can be used in the present and past tense without interrogative and participle forms.

The verb dare often does not change in interrogative and non-interrogative sentences. For example:

We daren't touch what you propose with a barge pole (G. K. Chesterton).

I daren't go and tell him, you go and tell him (H. L. Bates).

I dare you to wear it (B. G. Friedman).

But she had vanished and she dare not ask for her (H. E. Bates).

The compound I dare say is used in modern English in the sense that I think I can say it with ease. For example:

But, I dare say I shan't miss it (H. James).

"I dare say you think me very irreverent" Isabel returned (H. James).

"I dare say he might let one or two of his houses," said the other (H. James).

Dare's past tense form of durst is now considered obsolete: "If I durst," said the captain, I would stop and pock off another man (K. L. Stevenson).

The modal verb ought is used only in the present tense form and has the following meanings:

1) Means zaruriyat. Ought is translated into Uzbek using modal words such as necessary, necessary, necessary, condition:

"I know how he ought to die," said Granby (I. K. Chesterton). I understand how he should give it his life," Granby said.

She ought to send her to bed (A. Hixley).

«She oughtn't to be thinking about spending her money... (Th. Dreiser).

You ought not to be working for those people (Th. Dreiser).

«I ought to have warned you that he is a man of infinite resource - and sagacity (R. Kipling).

2) Indicates the probability:

"I don't know," said the Ethiopian, "but it ought to be the aboriginal Flora (R. Kipling).

It ought to be made impossible, and then there'd be some sense in Christianity (O. E. Coppard).

And there ought to be a corner for me (R. Kipling).

Should is used with the infinitive that comes without a preposition, meaning advice, obligation, prohibition, necessity, probability, conjecture.

1) should represent the following meanings: necessity:

At seven o'clock Mr. Alobaster and Ar. Sulky tossed up to who should pay for supper... (O. E. Coppard).

You shouldn't do that (Kipling).

2) Tips:

You shouldn't do it, you know, grumbled Repton (A. E. Coppard).

You should not be cruel even to a cat (R. Kipling) It should be noted that in analyzing the modality category in English, most linguists focus on the

semantic properties of modal words. Modal words, as well as devices (turns) that come with a modal meaning, can be divided into several groups based on their semantic characteristics. Here we give the classification of modal words as follows:

- 1) Modal words expressing confidence through affirmation:
 - a) modal words that express the exact affirmation probably, possibly, etc.;
 - b) modal words that express unambiguous affirmation at the same time
 - c) modal words that come in the sense of an assumption representing an affirmation of a visible being are probably, and so on.
- 2) Modal words denoting assumption, insecurity, and doubt are certainly modal words denoting trust by way of doubtfully denying.

Among the words of the second group, it is expedient to distinguish perhaps the words which express doubt. The third group of modal words would be correct to include in the negative group. In general, this classification creates an affirmative (affirmative) system in the sentence about the meanings of the modal words that are part of the sentence and their interconnection and expression with verb forms and gives a clear idea about them. It is also possible to remove the words of the first group from the ran structure to change their general meaning. As a result, the content of the sentence may become narrower and narrower. It should be noted that if the words of the second and third groups cannot be excluded from the sentence without changing the general meaning of the sentence, the sentence creates insecurity - indecision, but the general meaning of the sentence remains unchanged. A similar situation can occur in other modal words. The most commonly used modal words in the middle of a sentence are 70%, the words that come at the beginning of a sentence are 20%, and the cases that come at the end of a sentence are 10% (modal words that use more negation are used here). The author points out that modal words used in isolation are rare. They do not exceed 5.4% of the sample size collected by the author alone.

We were the first to explain in detail the category of modality in English in compound sentences. In our opinion, the constructive features of speech are predicative and modal. Predicativeness and modality are inextricably linked, but they do not need to be identified. The essence of predicativeness is revealed when comparing affirmation and denial. Modality is a syntactic category that represents the relationship between the swimmer's thought and objective reality. Modality is manifested in two categories, namely, the reality-noreality (or potential-hypothetical modality) relationship.

“If reality has a single monolith, then the potential-probabilistic modality is manifested in three categories: 1) potential-unreal modality; 2) command modality; 3) predictive modality. Each of these categories can be further subdivided into more specific meanings. According to the author, modality is the basis of speech, which exists on the basis of three tendencies - indicative real category, which includes a number of meanings of conjunctive and imperative potential-probabilistic modality. Based on the modal nature of adverbial

conjunctions, we divided them into bimodality and monomodality types. Analyzing adverbial conjunctions, we note “the primary means of utilizing different modal meanings is inclination. Substituting an indicative for a conjunctive does not change the modality; on the contrary, in some cases they become synonymous with each other.

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PESTS OF OILY CROP AND THEIR CONTROL MEASURES

Annotation. It is known that the demand for oilseed crops is increasing in our republic, and at the same time, the pests of oilseed crops are also increasing. Naturally, such problems cause enough problems for our farmers. Another characteristic of oilseed pests is adaptation to the drugs used against them. is to produce. In this article, effective methods of combating pests of oil crops are mentioned.

Key words: Makhsar weevil, Big Makhsar filcha, Makhsar root weevil, Makhsar root weevil, oil crops, pests.

Oil crops are a group of crops grown for obtaining oil from their seeds and fruits. It includes annual and perennial plants belonging to Gulkhayrodash, Complexabguldosh, Labguldosh, Butguldosh, Dukkakdosh and other various botanical groups.

The origin of oil crops is different. Wild sunflower is native to North America. Hemp and sesame are from Africa, rapeseed and poppy are spread from the Mediterranean region, the homeland of peanut is South America. Soybeans, peanuts, sunflowers, olives, rapeseed, and flax are of great importance in world agriculture.

In the flora of Uzbekistan, 500 species of wild oilseeds have been identified. Also, the seeds of flax, soy, rapeseed, sesame, sorghum, etc. are processed. Types of pests of oil crops are the following; It includes Maxar Bit, Maxar Root Bit, Maxar Root File, Big Maxar File.

Definition of Makhsar louse - This louse is 2.5-1 mm without wings, 2.5-3.5 mm with wings, its body is dark brown or black, shiny; The suction tube is cylindrical, black in color. The plumage of winged lice is shorter than the body, and the plumage of winged lice is longer than the body. The body of a wingless louse is pear-shaped; There are hairy bumps on the abdomen.

Spread. The lice is one of the most common pests in Europe and Asia. Harm. As a result of this pest living on the leaves, stems and inflorescences of the mulberry plant, it sucks the sap of the plant, the mulberry buds fall off, the plant becomes very weak, and the yield decreases.

Control measures. In the fight against this pest, the same measures as against the weed are carried out, but since sorghum is grown in dry farming, the crop affected by lice is not sprayed, but dusted. It is very important to eliminate weeds with complex flowers.

Definition of the Makhsar root louse - The wingless female louse is 1.7-2.6 mm in size, the winged louse is 1.6-2.2 mm in size, and the body of the wingless louse is wide oval. The length of a wingless louse's whiskers is equal to one third of its body; and the mustache of the winged one is slightly shorter than half of its body.

The suction tube of lice is cylindrical in shape, and its length reaches the sixth joint of the whisker. The length of the tail of a wingless louse is equal to the length of the suction tube, and the length of the winged louse is shorter.

Living life. This type of lice has not been well investigated so far; louse lives on the leaves, stems, and roots of sedum and a number of complex flowering plants, including boztikan and sorghum. This aphid falls on the maksar crop in May. Winged lice appear in May and August (Nevsky).

The spread of this louse is often somewhat hindered by ants; an ant louse bites off its wing.

Countermeasures. The fight against lice on the above-ground part of plants is no different from the fight against other lice. Root lice removal activities are currently undefined.

Description of the Makhsar root beetle - this beetle is 4-4.5 mm long, black in color, covered with gray scales, with flowing hairs on the underside; the surface of the scales on the body of the beetle is covered with very thin flowing hairs and other parts of the body are covered with brown-black hairs; loss of hair on the legs; the thigh of the leg is black, the calf and paws are yellow. The body is elongated; the front part of the back is narrower than the bottom of the wing, and the two sides are rounded; the head protrudes a little forward and is united with a short, thick tail; the thigh of the leg is also thickened.

Living life. This pest appears in plants at the end of March - the first half of April; this filcha hibernates as an adult. During the flowering period of the Makhsar plant, this root filth lives and lays eggs in the field, and then disappears. Adult caterpillars gnaw and damage the plant; in this case, the plant dries up or falls off from the damaged area.

Spread. Makhsar root filcha is found in Uzbekistan, Tajikistan, Turkmenistan and South Kazakhstan.

Harm. In 1932, the Makhsar rootworm was described as a pest in the literature (Rodd, Husakovskii and Antova).

This filcha lives by gnawing the root neck and the lower part of the stem of the sorghum plant in dry land, as a result, the plant dries up and the crop becomes sparse.

Countermeasures. Control measures against root rot have not been developed. But in places where this filth appears, it is necessary to plant the crop

a little thicker, when the beetle appears, spray the crop with drugs that damage the crop, for example, Paris blue (mix 1 g of Paris blue and 2 g of lime in 1/ water) gives good results; in this case, the drug is sprayed so that it flows down the stem and falls into the root neck.

The description of the large mullet beetle is 8-12 mm in size; the color is black; covered with gray hairs; that's why the lower side of the belly looks gray; the feathers on the wings sometimes form pale spots. The underside and both sides of the young beetles are often covered with yellow dust of the plant flower.

Living life. The life style of the Great Hornbill is not well defined; this beetle appears in fields planted with sorghum at the end of April, the first half of May, and during the budding and flowering of the plant, and gnaws and damages the bud and flower, bud band and flower band; as a result, the buds and flowers of the plant dry up and become sparse.

The adult filths of the new generation appear when the fruit is ripe. It takes a month for a larva to hatch from an egg to an adult elephant.

Spread. The large Makhsar filcha is found in Central Asia, behind the Caucasus and in the south of the European part of Russia.

Harm. The adult beetle and especially the larva of this pest cause a lot of damage to the crop. The adult beetle gnaws the bud and its band; and the larva eats the seed and destroys it.

Countermeasures. It is important to control these weeds as this pest can be transferred from wild sedum and possibly other weeds to sedum. When filcha maxar appears during the budding period (until the time of egg laying), the plant should be dusted with calcium arsenate mixed with soil dust or wood ash, in which 8-10 kg of calcium arsenate, 4-5 kg of wood ash or soil dust per hectare is taken.

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SURXONDARYO VILOYATIDA KUZATILADIGAN CHANG BO‘RONLARINING SHAKLLANISHI VA TA‘SIRI

Annotatsiya. Maqolada inson salomatligiga ta‘sir etuvchi chang va kimyoviy birikmalar, atmosfera havosini Surxondaryo hududida ifloslovchi manbalar va ularning salbiy oqibatlari va ularni aniqlash haqida ma‘lumotlar yoritib berilgan.

Kalit so‘zlar: Atmosfera, chang kimyoviy birikmalar, inson, sanoat, transport, ekologik monitoring.

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FORMATION AND EFFECTS OF DUST STORMS OBSERVED IN SURKHANDARYA REGION

Abstract. The article describes dust and chemical compounds that affect human health, sources of atmospheric air pollution in the Surkhandarya region, and information about their negative consequences and their detection.

Key words: Atmosphere, dust chemical compounds, human, industry, transport, ecological monitoring.

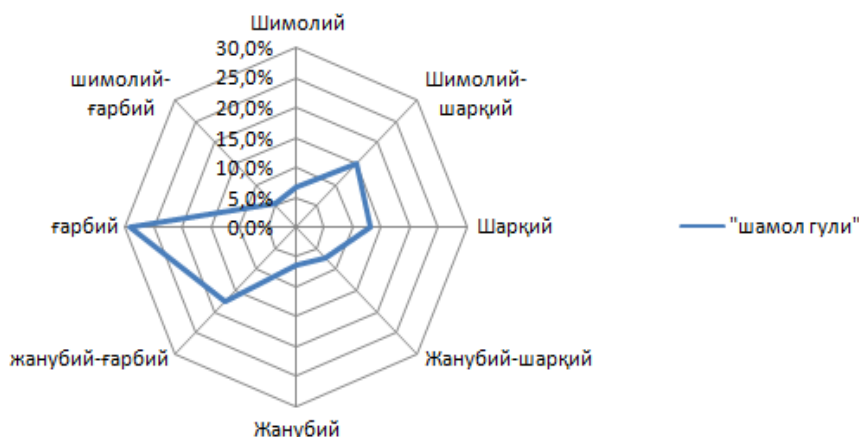
Dunyo bo‘yicha atmosfera havosining qalinligi minglab km bo‘lishiga qaramay, uning asosiy og‘irligini Yer shariga yaqin bo‘lgan yupqa troposfera qatlamida joylashganligi ham ahamiyatlidir. Yer yuzi bo‘yicha atmosfera havosi og‘irligining taxminan 50-55 foizi yer yuzasidan 5-6 km balandlikda bo‘lgan qatlamda, qolgan 45-50 foizi esa 25 –35 km balandlikda bo‘lgan qatlamlarda joylashgan. Atmosfera havosini muhafaza qilish bo‘yicha yurtimizda atrof muhitning ekologik holati va hududlarning ekologik muvozanatlari buzilishi ko‘p jihatdan atmosfera havosi tarkibi hamda uning turli ishlab chiqarishlardagi zararli ta‘siridagi salbiy o‘zgarishlariga bog‘liq bo‘lib qolmoqda. Ushbu o‘zgarishlar sayyoraviy, regional va mahalliy masshtabda ro‘y berib kelayotganligi yanada xavfli hisoblanadi. O‘zbekiston Respublikasi hududining o‘ziga xos tabiiy

holatlari uning ekologik xo‘jalik rayonlariga ajralishga va har bir rayonning yer usti atmosfera havosi ifloslanishi potensialini aniqlashga imkon bermoqda. Atmosfera havosining ifloslanishi bunday ilmiy bashorat qilishda asosiy shamollarning takrorlanishi, qancha vaqt surunkali esishi, turbulentslik koeffitsiyenti va boshqa xil ko‘rsatkichlardan foydalaniladi.

Atmosfera havosidagi radioaktiv moddalar aerozollari ayniqsa xavflidir. Inson faoliyati natijasida kimyoviy, fotokimyoviy va biokimyoviy jarayonlar ta’siri ostida atrof muhitda parchalanishi qiyin bo‘lgan bir qancha biosferada begona moddalar (ya’ni, ksenobiotiklar) paydo bo‘ladi. SHunday qilib ifloslantiruvchi moddalar barcha odam organizmini o‘rab turgan muhitda uchraydi va havo uzoq masofalarda ularning asosiy tashuvchisiga aylanadi.

Ma’lumki, ifloslantiruvchi moddalarning ta’siri havo oqimi orqali sodir bo‘ladi, sokin va past havo harakati tezligi zararli moddalarning atmosferaga tarqalishi uchun eng xavfli hisoblanadi. Yil davomida shamol yo‘nalishlarining barqarorligi uning tezligi bilan tavsiflanadi, uning takrorlanish birligi foizlar bilan o‘lchanadi. Termiz shahrining shamol yo‘nalishi o‘zgarishi tasviri diagrammada ko‘rsatilgan (1.1-rasm).

SHAMOL GULI



Rasm 1.1. Termiz shahrining “shamol guli” sxemasi.

Termiz shaxri va Termiz tumani janubiy g‘arbiy tomondan Amudaryo bilan chegaralangan bo‘lsada, boshqa tomonlari tekisliklar va asosan Katta Qum cho‘l maskani bilan o‘rab turilgani jihatidan ob-havoda bo‘ladigan o‘zgarishlar, shamollar, magnit to‘lqinlari aholi salomatligi nojo‘ya ta’sir etadi. Ayniqsa janubiy-g‘arbiy tomondan ya’ni Afg‘oniston Respublikasi tomonidan vaqti vaqti bilan esayotgan shamollar natijasida atmosfera havosiga uchma qum ko‘tariladi. SHu bilan birgalikda atmosfera havosida Afg‘oniston hududi tomonidan kelayotgan zararli moddalar changlari tarkibida ham har xil zararli moddalar shu jumladan chang aerollari uchraydi. Termiz shahrida esayotgan shamolning yo‘nalishlari hamda “Afg‘on shamoli”ni o‘rganishda kosachali animometr,

shamol yoʻnalishini koʻrsatuvchi moslama va Metioskop asboblardan foydalanildi. Shamolning yoʻnalishi va harakat tezligi, atmosfera havosining bosimi va harorati oʻlchanib, shamol guli yoʻnalishini aniqlash jadvali ishlab chiqildi (jad.1.1).

1.1 - jadval

Termiz shahriga taʼsir etadigan “Afgʻon shamoli” shamol oqimining “shamol guli” foizlarda aniqlangan holati

1.	Tomonlar	Shamol oqimi, %
2.	Shimoliy	6,6
3.	SHimoliy-sharqiy	14,9
4.	Sharqiy	12,9
5.	Janubiy-sharqiy	7,2
6.	Janubiy	6,4
7.	janubiy-gʻarbiy	17,5
8.	gʻarbiy	29,1
9.	shimoliy- gʻarbiy	5,4
		100,0

Atmosfera havosi tarkibida changlar miqdoriga qarab, xududlar toʻrt koʻrsatkichga ajratib olish mumkin:

1. $0,1-0,3 \text{ mg/m}^3$ – ushbu koʻrsatkichli hududlar changdan toza xisoblanadi. Ushbu koʻrsatkichga asosan togʻ oldi, qishloq joylari va sanoati boʻlmagan kichik shaharlar territoriyalarining atmosfera havosi kiritiladi.

2. $0,4-0,6 \text{ mg/m}^3$ - ushbu koʻrsatkichga kam ifloslangan hududlar kiritiladi. Ushbu koʻrsatkichga asosan rivojlangan shaharlar aholisi yashaydigan xududlari atmosfera havosi kiritiladi. Bu joylarda sanoat qisman rivijlangan hisoblanadi.

3. $0,7-1,0 \text{ mg/m}^3$ - ushbu koʻrsatkichli hududlarda kuchli ifloslangan hisoblanib. Ushbu koʻrsatkichga asosan sanoati rivojlangan shaharlarning industrial xududlari atmosfera havosining isloslanishiga sabab boʻluvchilar xisoblanadi.

4. $1,1-3,0 \text{ mg/m}^3$ - ushbu koʻrsatkichli hududlarda changlar miqdori meʼyoridan ortiq ifloslangan hududlar sanaladi. Ushbu koʻrsatkichlarga asosan koʻp miqdorda chang aerazol chiqindilari xosil qiluvchi sanoati korxonali xududlar kiradi. Bu hududlarda atmosfera havosida chang miqdori juda koʻp boʻlib salbiy oqibatlarni keltirib chiqaradi.

Surxondaryo viloyatida sanoati korxonali koʻp boʻlmasada bu xududda kuzatiladigan chang boʻronlari tufayli changlik darajasi yuqori hisoblanadi.

Surxondaryo viloyatida “Afgʻon shamoli” (garmsel) taʼsirida changlarning xavoga koʻtarilishi oqibatida quyidagi tizimli muammolar vujudga kelmoqda. Jumladan: -xududning ekologik xolati buzilib, iqlim salbiy tomonga uzgarib bormoqda; Chang kutarilishi kamida 12 soatdan 24 soatgacha ayrim vaqtlarda bundan xam koʻproq vaqt davom etishi oqibatida, odamlarning nafas olishiga qiyinlashishi, oʻz navbatida issiq oqim (garmsel) kirib kelishiga sabab buladi. Axolining salomatligi yomonlashuviga, ular orasida turli kasalliklar tarkalishiga

olib kelmoqda. "Afgon shamoli" kirib kelishidan oldin va kirishi davomida yurak ishemik kasalligi o'rtacha 2,5 barobarga, miokard infarkti 3 barobarga, bosh miya insultlari 2,8 barobarga oshganligi kuzatilgan. Ushbu kasaliklar asosan kislorod yetishmovchiligi oqibatida vujudga kelgan. Shuningdek, o'simlik va xayvonot dunyosiga jiddiy zarar yetmoqda. "Afg'on shamoli" ta'sirida Termiz shahri, Termiz, Muzrobot, Angor va Jarqo'rg'on tumanlaridagi ko'p yillik daraxtlar yaproqlariga chang to'plashi, xosil pishgan vaqtlarda xosilning bevaqt to'kilishi va o'simlik kasalliklari kuzatilmoqda. Qishloq xo'jaligi ekinlari ekilgan yerlarda sho'rlanishlar kuchayib, xosildorlikka salbiy ta'sir kilmqda.

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TRANSPORT VOSITALARINING ISHONCHLILIK NAZARIYASI VA DIAGNOSTIKASI

Annotasiya. Respublikamizda hozirgi kunda xalq ho'jaligining barcha sohalarida har xil turdagi minglab transport vositalari ishlab turibdi. Eksploatatsiya jaryonida ularning texnik holati o'zgarib boradi. Shu sababli transport vositalarining ishonchliligini oshirish katta iqtisodiy ahamiyatga ega. Ma'lumki, eksploatatsiya davrida texnik xizmat ko'rsatish va ta'mirlash uchun ketadigan sarf-harajatlar transport vositasining boshlang'ich narxidan ancha ortiqdir. Ishonchlilik va diagnostikalash muammosini hal qilish esa katta mablag'larni tejash imkonini beradi.

Kalit so'zlar: transport vositasi, falsafa nuqtayi nazaridan, obekt, sifat, hodisa, mezon, iqtisodiy samara, texnik xizmat ko'rsatish, joriy ta'mirlash, tannarxni qoplash, chegaraviy holat, samaradorlik, iqtisodiy maqbul masofa.

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RELIABILITY THEORY AND DIAGNOSTICS OF TRANSPORT VEHICLES

Abstract. Thousands of vehicles of various types are currently operating in our republic in all spheres of the national economy. During operation, their technical condition changes. Therefore, increasing the reliability of vehicles is of great economic importance. It is known that the costs of maintenance and repair during the operation period are much higher than the initial price of the vehicle. Solving the problem of reliability and diagnostics can save a lot of money.

Key words: vehicle, philosophy, object, quality, phenomenon, criterion, economic efficiency, maintenance, current maintenance, cost recovery, limit state, efficiency, economic optimal distance.

Kirish: Ishonchlilikning erishilgan darajasini baholash va uni oshirish zarurligi iqtisodiyot nuqtayi nazaridan hal qilinishi kerak, chunki iqtisodiyot ishonchlilik masalalarini yechishda asosiy mezon bo'lib xizmat qiladi.

Ishonchlilik – bu buyum (transport vosita)larini xizmat muddatlarining yaratishdan tortib barcha bosqichlarida, hisobdan chiqarish davrigacha bo'lgan oraliqda ta'minlashning muhim muammosidir. Buyumning xizmat muddatini barcha bosqichlarida o'zgarish jarayoni keltirilgan. Ishonchlilini oshirishning dastlabki bosqichi ishonchning hozirgi darajasini aniqlash va baholashdir[1]. Ushbu tizimning ishonchliligini oshirishning muhim sababini aniqlash kerak. Bu tizim mavjud bo'lgan bosqichga bog'liq, masalan, tizim konstruksiyalash bosqichida bo'lsa. Ushbu bosqichda konstruksiyaning faqat xavfsizligi va mustaxkamligi baholanadi, shuningdek, sifatli va yaxshi tarkibiy qismlardan foydalanib, soddalashtiriladi. Ishlab chiqarish bosqichida ishlab chiqarishning sifat boshqarish usullarini qo'llab ishonchlilikni oshirish mumkin. Eksploatatsiya davrida buyumning ishonchliligini ta'minlash uchun buyumga o'z vaqtida va sifatli texnik xizmat ko'rsatish va ta'mirlash ishlarini bajarish zarur[2].

Transport vositasi va agregatlarning ishonchlilik xususiyatlari ko'rsatkichlarini hisoblash, ularni tahlil qilish va texnik eksploatatsiya uchun tadbirlar ishlab chiqishda har doim buzilishlar tasnifi o'tkaziladi[3]. Buzilishlar quyidagicha tasniflanadi:

1. Transport vositasining ishlash qobiliyatiga ta'sir etishi bo'yicha:
 - element (agregat, mexanizm yoki tizim) lardan birining buzilishi transport vositasining nosozligini bildiradi;
 - transport vositasining ishlash qobiliyatining butunlay yo'qotishiga olib keladi va u o'z funksiyasini bajara olmaydi.
2. Buzilishlarning kelib chiqish manbayi bo'yicha:
 - konstruktiv buzilishlar – transport vositasini loyihalash va modellashtirish davrlarida yo'l qo'yilgan xatoliklar natijasida vujudga keladi. Bunday buzilishlar, asosan, transport vositasining kafolat davrida aniqlanadi;
 - texnologik buzilishlar quyidagilar ta'sirida vujudga keladi: texnik shartlarning asossizligi; texnologik jarayonning ishonchsizligi; texnologik nuqsonlarning uchrashi va boshqalar. Bunday buzilishlar transport vositasining kafolat davri ichida, moslashuv jarayonida namoyon bo'ladi;
 - eksploatatsion buzilishlar – bu turdagi buzilishlar eksploatatsiya davrida elementlarning ishlash muddati chegaraviy holatga yetganda yoki transport vositasidan foydalanish vaqtida texnik hujjatlarda keltirilgan tartibotlarga rioya etmaslik natijasida vujudga keladi;
 - tabiiy buzilish – bu transport vositasini loyihalash, konstruksiyalash, eksploatatsiyasi bo'yicha belgilangan qoida, me'yorlarga rioya qilinganida tabiiy eskirish, yeyilish, zanglash va charchash jarayonlari natijasida vujudga keladigan buzilish.
3. Boshqa elementlar buzilishiga bog'liq bo'lgan va bog'liq bo'lmagan buzilishlar bo'yicha:

– bog‘liq bo‘lgan buzilishlar – transport vositasining boshqa elementlari buzilganda yoki nosozligi natijasida vujudga keladi;

– bog‘liq bo‘lmagan buzilishlar – elementning boshqa elementlar ta‘siridagi buzilishi.

4. Buzilishlarning vujudga kelish tabiati bo‘yicha: asta-sekin va to‘satdan sodir bo‘ladigan buzilishlar:

– asta-sekin sodir bo‘ladigan buzilishlar – transport vositasi texnik holati ko‘rsatkichlari boshlang‘ich qiymatlarining yomonlashish tomoniga o‘zgarishi natijasida vujudga keladi. Bu buzilishlarning asosiy alomati ko‘rilayotgan masofa ichida buzilish ehtimolligining paydo bo‘lishidir, ya‘ni masofa oshgan sari buzilish ehtimolligining ham qiymati oshib boradi. Bunday turga buyumlarning yeyilishilashi, charchashi va materiallar eskirishining boshqa jarayonlari natijasida vujudga keladigan buzilishlar kiradi.

– to‘satdan (tasodifiy) sodir bo‘ladigan buzilishlar – transport vositasi ishlash qobiliyatini aniqlovchi bitta yoki bir necha ko‘rsatkichlarning birdaniga sakrab (diskret) o‘zgarishi natijasida vujudga keladi. Bu buzilishlarning asosiy alomati - buzilish ehtimolligining masofaga bog‘liq emasligi.

5. Qaytalanish davriyligi bo‘yicha buzilishlar quyidagilarga bo‘linadi:

– har 10–12 ming km da sodir bo‘ladigan buzilishlar TXK va JT ishlari sifatsiz bajarilganda vujudga keladi, ya‘ni sifatsiz bajarilgan qotirish va sozlash ishlari sababli nosozliklar qaytalanadi. Past sifatli yonilg‘i-moy materiallari qo‘llanilganda esa filtrlar ifloslanib, dvigatelning ravon ishlashi ta‘minlanmaydi.

– har 20–24 ming km da sodir bo‘ladigan buzilishlarga tez yeyiladigan detallar kiradi (tormoz ustqo‘ymasi, manjetalar, eksentriklar);

– 70...80 ming km dan keyin sodir bo‘ladigan buzilishlarga ishonchlilikka keskin ta‘sir etuvchi detallarning ekspluatatsiya davrida yeyilish, eskirish, ko‘mir holatga kelib qolish va h.k. sabablarga ko‘ra almashtirilishi kiradi (val, podshipnik, salnik, vtulka va boshqalar) [4].

Xulosa: Ishonchlilik nazariyasi va diagnostika asoslarini mukammal o‘rganish, shu asosda transport vositalari ekspluatatsiyasi bo‘yicha uslub va me‘yorlarni ishlab chiqish hamda ularni amalda samarali qo‘llashdir. Ushbu maqolaning asosiy maqsadi transport vositalari ekspluatatsiyasidagi ishonchlilik ko‘rsatkichlari va diagnostikalash tizimi to‘g‘risida tasavvur hosil qilish, transport vositalarining ishonchliligi va ishlash qobiliyatini ta‘minlashni, ularning ishonchliligini baholash hamda diagnostika usullari va vositalarini amalda tatbiq qilishni o‘rganishdan iboratdir.

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**MHD STEFAN FLOW OF CASSON NANOFLUID THROUGH A
POROUS MEDIUM IN THE PRESENCE OF CHEMICAL REACTION
WITH THE EFFECT OF THOMPSON AND TROIAN SLIP OVER A
PLATE IN THE COMPANY OF RADIATION**

Abstract. In this study, we present the impact of Stefan blowing, Thompson and Troian slip on the behavior of magnetohydrodynamic (MHD) Casson nanofluid past a porous medium in the presence of a chemical reaction. Using a two-phase model for nanofluids, we also investigate the influence of velocity distribution, Joel heat, and radiation parameters. The main Partial Differential Equations (PDEs) can be transformed into Ordinary Differential Equations (ODEs) using similarity transformations. To solve nonlinear equations, MATLAB Shooting and Runge-Kutta techniques can be used. The changes in non-dimensional perimeters reveal how fluid flow, heat, and mass transfer characteristics are affected. It is observed that with the expansion of Stefan blowing parameter S , the skin friction coefficient decreases. The fluid concentration reduces with the increasing values of Thompson and Troian slip parameters. The heat of the fluid increases with the increase of N_t, N_b and k , but the concentration decreases. The outcomes of this examination provide many appealing features that is going to give merits for further study of the problems.

Keywords: MHD, Porous Medium, Chemical Reaction, Radiation, Mixed Convection.

Formulation of the problem

Let us think about a forced convective Casson nano liquid flow over a plate of enormously small width and greatly bigger span, fixed in the medium (see, Fig. 1). The y -axis is normal to the upward direction plate of x -axis. We assume that the applied magnetic field is perpendicular to the plate. The magnetic field is applied to the strength of the transverse magnetic field. Assuming u, v as the

velocity apparatuses of parallel and normal to the plate respectively. Based on the above-mentioned conditions, the rheological equations are [33] given by

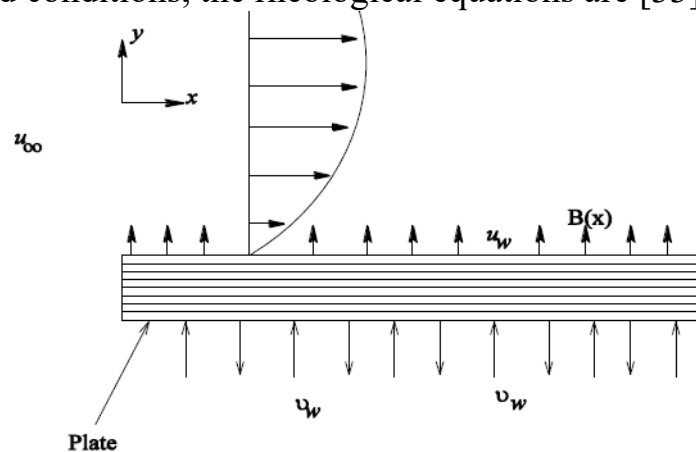


Fig. 1. Sketch of the physical flow problem

The appropriate governing equations of the problem

$$\frac{\partial u}{\partial x} + \frac{\partial v}{\partial y} = 0 \quad (1)$$

$$u \frac{\partial u}{\partial x} + v \frac{\partial u}{\partial y} = \nu_f \left(1 + \frac{1}{\beta} \right) \frac{\partial^2 u}{\partial y^2} - \frac{\sigma B_0^2}{\rho_f} (u - u_{\infty}) - \frac{\mu}{k} u \quad (2)$$

$$u \frac{\partial T}{\partial x} + v \frac{\partial T}{\partial y} = \alpha \frac{\partial^2 T}{\partial y^2} + \frac{(\rho c)_p}{(\rho c)_f} \left[D_B \frac{\partial C}{\partial y} \frac{\partial T}{\partial y} + \frac{D_T}{T_{\infty}} \left(\frac{\partial T}{\partial y} \right)^2 \right] - \frac{1}{(\rho c)_f} \frac{\partial q_r}{\partial y} + \frac{v}{(\rho c)_f} \left(1 + \frac{1}{\beta} \right) \left(\frac{\partial u}{\partial y} \right)^2 \quad (3)$$

$$u \frac{\partial C}{\partial x} + v \frac{\partial C}{\partial y} = D_B \frac{\partial^2 C}{\partial y^2} + \frac{D_T}{T_{\infty}} \frac{\partial^2 T}{\partial y^2} + k_1 (C - C_{\infty}) \quad (4)$$

Here, u and v are the velocity components in the x and y directions respectively,

The appropriate boundary conditions for this problem are given below as,

$$u = \gamma \left(1 - \zeta \frac{\partial u}{\partial y} \right)^{-1/2} \frac{\partial u}{\partial y}, \quad v = \frac{-D_B}{(1 - C_w)} \frac{\partial C}{\partial y}, \quad T = T_{\infty}, \quad C = C_w \text{ at } y = 0 \quad (5a)$$

$$u = u_{\infty}(y) = \beta_1 y, \quad T = T_{\infty}, \quad C = C_{\infty} \text{ at } y \rightarrow \infty \quad (5b)$$

Similarity analysis and solution procedure

We now put the following similarity transformation relations for u, v as

$$u = \frac{\partial \psi}{\partial y}, \quad v = -\frac{\partial \psi}{\partial x} \quad (6)$$

Where, ψ is the stream function. Again, let us introduce the following dimensionless variables,

$$\eta = \frac{y}{L} \left(\frac{x}{L} \right)^{-1/2}, \quad \psi = \nu \left(\frac{x}{L} \right)^{2/3} f(\eta) \quad \text{and} \quad \theta = \frac{T - T_{\infty}}{T_w - T_{\infty}}, \quad \phi = \frac{C - C_{\infty}}{C_w - C_{\infty}} \quad (7)$$

Using the relations (6)–(7) in the boundary layer Eq. (2), energy Eq. (3) and concentration Eq. (4) the following equations are obtained.

$$\left(1 + \frac{1}{\beta}\right) f'''' + \frac{2}{3} f f'' - \frac{1}{3} (f')^2 - \left(M + \frac{1}{K}\right) f' = 0 \quad (8)$$

$$\frac{1}{\text{Pr}} \left(1 + \frac{4R}{3}\right) \theta'' + N_b \theta' \phi' + N_t (\theta')^2 + \frac{2}{3} f \theta' + Ec \left[(f')^2 + (f'')^2 \right] = 0 \quad (9)$$

$$\phi'' + \frac{N_t}{N_b} \theta'' + Le \left[\frac{2}{3} f \phi' - k \phi \right] = 0 \quad (10)$$

the boundary conditions finally become

$$f = \frac{3S}{2Le} \phi', \quad f' = \delta(1 - \beta_1 f''), \quad \theta = 1, \quad \phi = 1 \text{ at } \eta = 0 \quad (11)$$

$$f'' = 1, \quad \theta = 0, \quad \phi = 0 \text{ at } \eta \rightarrow \infty \quad (12)$$

Results and Conclusions

Stefan flow of Casson nanofluid over a plate in the presence of shear flow, porous, MHD, and Radiation has been investigated. The effects of the Thompson-Troian slip at the boundary have also been inspected. Numerical solutions have been obtained and a comparison has been made with the available data and found excellent agreement. The following observations are made.

(i) Temperature increases with the augmented values of the thermophoresis parameter N_t and reduction in concentration is noted for mounting values of the Brownian motion parameter N_b .

(ii) Temperature decreases whereas the concentration oscillates with the rising values of chemical reaction parameter k .

(iii) Heat is transported from the plate to the liquid

(iv) Skin friction coefficient reduces with the growing values of Stefan blowing parameter S

(v) Mass transport rate diminishes with the rise in slip parameter δ and critical shear rate β .

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JISMONIY TARBIYA VA SPORTNING JAMIYATDAGI O'RNI

Annotatsiya. Mazkur maqolada sog'lom turmush tarzini shakllantirish, millat genofondini yanada sog'lomlashtirish va barkamol avlodni tarbiyalash borasida amalga oshirilayotgan ishlar hamda mamlakatimizdagi barkamol avlodni shakllantirish bilan bog'liq islohatlar haqida fikr yuritilgan.

Kalit so'zlar: jismoniy tayyorgarlik, sog'lom turmush tarzi, jismoniy tarbiya, sport, jismoniy madaniyat.

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THE ROLE OF PHYSICAL EDUCATION AND SPORTS IN SOCIETY

Abstract. This article discusses the work being done to create a healthy lifestyle, make the nation's gene pool more healthy, and educate a mature generation, as well as reforms related to the formation of a mature generation in our country.

Keywords: physical fitness, healthy lifestyle, physical education, sport, physical culture.

Taraqqiyotning hozirgi bosqichida, jamiyat hayotining barcha jabhalarini sifat jihatidan o'zgartirish sharoitida fuqarolarning muvaffaqiyatli mehnat qilishi uchun zarur bo'lgan jismoniy tayyorgarligiga qo'yiladigan talablar ham ortib bormoqda.

Dunyo jamiyati ilg'or rivojlanish bosqichiga kirdi, unda ijtimoiy-iqtisodiy va siyosiy o'zgarishlar insonparvarlik qadriyatlari va ideallarini o'rnatishga, rivojlangan iqtisodiyot va barqaror demokratik tizimni yaratishga qaratilgan. Bu jarayonda muhim o'rinni insonning o'zi hayoti, uning salomatligi va turmush tarzi bilan bog'liq masalalar egallaydi. Shaxs, jamoa, ijtimoiy guruh, millat hayotining barcha sohalarini birlashtirgan "Sog'lom turmush tarzi" tushunchasi yig'indisidan jismoniy tarbiya va sport eng dolzarb komponent hisoblanadi. Jismoniy tarbiya sohasi jamiyatda ko'plab funksiyalarni bajaradi va aholining barcha yosh guruhlarini qamrab oladi. Sohaning polifunksionalligi shundan dalolat beradiki, jismoniy madaniyat inson shaxsining jismoniy, estetik va axloqiy fazilatlarini rivojlantirish, ijtimoiy foydali faoliyatni, aholining bo'sh vaqtini tashkil etish, kasalliklarning oldini olish, yosh avlodni tarbiyalashdir. Jismoniy madaniyat umuminsoniy madaniyat bilan bir vaqtda vujudga keldi va rivojlandi va uning

organik qismidir. U ijtimoiy faol foydali faoliyat orqali shaxsning o‘zini o‘zi ifoda etishining ba’zi shakllarida muloqot, o‘yin va o‘yin-kulgiga bo‘lgan ijtimoiy ehtiyojlarni qondiradi. Shaxs rivojlanishining uyg‘unligi barcha xalqlar tomonidan va hamma davrda qadrlangan. Dastlab "madaniyat" so‘zi lotin tilida "o‘stirish", "qayta ishlash" degan ma‘noni anglatadi. Jamiyat taraqqiyoti sari "madaniyat" tushunchasi yangi mazmun bilan to‘ldirildi. Bugungi kunda umumiy insoniy tushunchada bu so‘z ham shaxsning ma‘lum xususiyatlarini (ta‘lim, aniqlik va boshqalar) va inson xatti-harakatlarining shakllarini (odoblilik, o‘zini o‘zi boshqarish va boshqalar), yoki ijtimoiy, kasbiy va ishlab chiqarish faoliyati (ishlab chiqarish) shakllarini anglatadi. madaniyat, turmush, dam olish va boshqalar). Ilmiy ma‘noda "Madaniyat" so‘zi ijtimoiy hayotning barcha shakllari, kishilar faoliyat yo‘llaridir. Bu, bir tomondan, odamlarning moddiy va ma‘naviy faoliyati jarayoni bo‘lsa, ikkinchi tomondan, bu ushbu faoliyatning natijalari (mahsulotlari). Keng ma‘noda "Madaniyat" mazmuniga, masalan, falsafa va fan hamda mafkura, huquq, shaxsning har tomonlama rivojlanishi, shaxsning tafakkur darajasi va xarakteri, uning nutqi, qobiliyati va boshqalar kiradi. Demak, "madaniyat" shaxsning ijodiy ijodiy faoliyatidir. "Madaniyat" rivojlanishining madaniy-psixologik jarayonining asosi va mazmuni, eng avvalo, insonning jismoniy va aqliy qobiliyatlarini, uning axloqiy va estetik fazilatlarini rivojlantirishdir. Bundan kelib chiqadiki, jismoniy madaniyat umumiy madaniyatning tarkibiy qismlaridan biri bo‘lib, u jamiyatning moddiy va ma‘naviy madaniyati bilan bir vaqtda vujudga keladi va rivojlanadi. Jismoniy madaniyat to‘rtta asosiy shaklga ega: Muayyan faoliyat uchun jismoniy tarbiya va jismoniy tarbiya (professional-amaliy jismoniy tarbiya); Jismoniy tarbiya yordamida sog‘lig‘ini yoki yo‘qolgan kuchini tiklash - reabilitatsiya; Sport sohasidagi eng yuqori yutuq. Shuni ta‘kidlash kerakki, insonning madaniyat darajasi uning bo‘sh vaqt kabi ijtimoiy ne‘matdan oqilona, to‘liq foydalanish qobiliyatida namoyon bo‘ladi. Chet elda jismoniy tarbiya va sport barcha darajadagi odamlar salomatligini mustahkamlashning universal mexanizmi, insonning o‘zini o‘zi anglash, o‘zini namoyon qilish va rivojlantirish yo‘li, shuningdek, g‘ayriijtimoiy hodisalarga qarshi kurash vositasidir. Shuning uchun ham keyingi yillarda zamonaviy madaniyat qadriyatlarini tizimida jismoniy tarbiya va sportning o‘rni keskin oshdi. Shunday qilib, butun dunyoda jismoniy madaniyatning jamiyatdagi rolini oshirishning barqaror tendensiyasi mavjud bo‘lib, u o‘zini namoyon qiladi: Jismoniy tarbiya, bu sohadagi tashkil etishning ijtimoiy shakllari va faoliyatini rivojlantirishni qo‘llab-quvvatlashda davlatning rolini oshirishda; Kasalliklarning oldini olish va aholi salomatligini mustahkamlashda jismoniy madaniyatdan keng foydalanishda; Odamlarning faol ijodiy uzoq umrini uzaytirishda; Yoshlarning bo‘sh vaqtini tashkil etishda va yoshlarning g‘ayriijtimoiy xatti-harakatlarining oldini olishda; Talaba yoshlarning axloqiy, estetik va intellektual rivojlanishining muhim tarkibiy qismi sifatida jismoniy tarbiyadan foydalanishda; Mehnatga layoqatli aholini jismoniy tarbiyaga jalb etishda; Nogironlarning, etimlarning ijtimoiy va jismoniy

moslashuvida jismoniy madaniyatdan foydalanishda; Sogʻlom turmush tarzini shakllantirishda jismoniy madaniyatni rivojlantirishda sport koʻrsatuvlari va televideniyaning oʻrni ortib borayotganida; aholining manfaatlari va ehtiyojlarini hisobga olgan holda jismoniy tarbiya, sogʻlomlashtirish va sport infratuzilmasini rivojlantirishda; Sogʻliqni saqlash, fitnes va sport xizmatlari bozorida taklif etilayotgan turli xil shakllar, usullar va vositalarda.

Umuman sogʻlom turmush tarzi, xususan, jismoniy madaniyat kuchli davlat va sogʻlom jamiyat rivojiga xizmat qiluvchi ijtimoiy hodisa, birlashtiruvchi kuch va milliy gʻoyaga aylanib bormoqda. Koʻpgina xorijiy mamlakatlarda jismoniy tarbiya, sogʻlomlashtirish va sport tadbirlari davlat, uning hukumati, jamoat va xususiy tashkilotlar, muassasalar va ijtimoiy institutlarning saʼy-harakatlarini uzviy ravishda birlashtiradi.

Jahon miqyosidagi tendensiya ham zamonaviy madaniyatdagi tub oʻzgarishlarni aks ettiruvchi elita sportiga qiziqishning keskin ortishidir. Globallashuv jarayonlariga zamonaviy sport turlari, ayniqsa, olimpiya sport turlari maʼlum darajada turtki boʻldi. Jismoniy madaniyat - sogʻligʻini saqlash va mustahkamlash, ongli jismoniy faoliyat jarayonida shaxsning psixofizik qobiliyatlarini rivojlantirishga qaratilgan ijtimoiy faoliyat sohasi. Jamiyatda jismoniy madaniyat holatining asosiy koʻrsatkichlari quyidagilardan iborat: odamlarning sogʻligʻi va jismoniy rivojlanishi darajasi va jismoniy madaniyatdan tarbiya va taʼlim sohasida, ishlab chiqarishda va kundalik hayotda foydalanish darajasi. Jamiyatda jismoniy madaniyat holatining koʻrsatkichlari quyidagilardir: Uning rivojlanishining ommaviy xarakteri; Taʼlim va tarbiya sohasida jismoniy madaniyat vositalaridan foydalanish darajasi; Salomatlik darajasi va jismoniy qobiliyatlarning har tomonlama rivojlanishi; Sport yutuqlari darajasi; Kasbiy va davlat jismoniy tarbiya xodimlarining mavjudligi va malaka darajasi; Jismoniy tarbiya va sportni rivojlantirish; Jismoniy tarbiya oldida turgan vazifalar sohasida ommaviy axborot vositalaridan foydalanish darajasi va xarakteri; Fanning holati va rivojlangan jismoniy tarbiya tizimining mavjudligi. Shunday qilib, bularning barchasi jismoniy madaniyat jamiyat madaniyatining tabiiy qismi ekanligini aniq koʻrsatadi. Hozirgi bosqichda jismoniy madaniyat oʻzining oʻziga xosligi tufayli muhim ijtimoiy hodisa sifatida jamiyatning barcha qatlamlarini qamrab olgan, jamiyat hayotining asosiy sohalariga keng taʼsir koʻrsatmoqda.

Jismoniy tarbiya darslarida kishilar nafaqat jismoniy mahorat va malakalarini oshiribgina qolmay, balki kuchli irodali, axloqiy fazilatlarini ham tarbiyalaydilar. Musobaqa va mashgʻulotlar paytida yuzaga keladigan vaziyatlar ishtirokchilarning xarakterini yumshatadi, ularni boshqalarga toʻgʻri munosabatda boʻlishga oʻrgatadi. Binobarin, jismoniy madaniyat insonning umumiy madaniyati, uning sogʻlom turmush tarzining jabhalaridan biri boʻlib, koʻp jihatdan insonning taʼlim, mehnat, kundalik hayot, muloqotdagi xatti-harakatlarini belgilaydi, ijtimoiy-iqtisodiy, taʼlim va sogʻliqni saqlash muammolarini hal qilishga yordam beradi. Bular. bu inson yetishtirish

jarayonidir. Bu shaxsning imkoniyatlarini ochib berish uchun o‘ziga xos vositalar va usullardan foydalanishga imkon beradi.

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OPTIMUM ORGANIZATION OF DATA EXCHANGE IN THE LOCAL NETWORK AND CONTROL OF THE LOCAL NETWORK USING CLOUD SYSTEMS

Annotation. This article provides information on the aspects of the physical location of network devices in the local network (LAN) that should pay attention to when placing them in the most convenient, most optimal way. Several secure data sharing protocols have been provided to ensure secure data exchange between users in a local area network environment.

Key words: cloud system, QoS (quality of service), virtual design, firewall.

INTRODUCTION

Network topology: The physical location and interconnection of devices on a network can greatly affect the efficiency of data exchange. Commonly used topologies include star, bus, ring, and mesh configurations. Analyzing the specific needs and limitations of your local network will help determine the most appropriate topology. Taking into account the above, after choosing a network topology, it is necessary to correctly choose the location of network devices based on the chosen topology, especially in a wireless local area, this is very important. Therefore, it is better to use cloud systems that create a virtual wireless network map by analyzing the pre-existing conditions, which help to take into account any external and internal influences in the construction of today's modern wireless local network. Tp-link omada cloud system was used for virtual design of wireless local area network in writing this article and many other possibilities of Tp-link omada cloud system were highlighted.

The tp-link Omada cloud system offers centralized management with Omada controller software and cloud access, helping network administrators easily manage the entire network from one place. The ability to manage, configure, and visualize your entire network from any connected PC makes centralized business Wi-Fi management more efficient and cost-effective than ever before. The tp-link Omada cloud system currently includes 802.11n, 802.11ac, 802.11ax software-controlled access points.[1] In addition, the capabilities of the Tp-link Omada cloud system are very wide, so without deviating from the topic, we can enter any building project from the map section after installing the Tp-link Omada cloud system to determine the virtual approximate location of the wireless local network. (Figure 1.1)

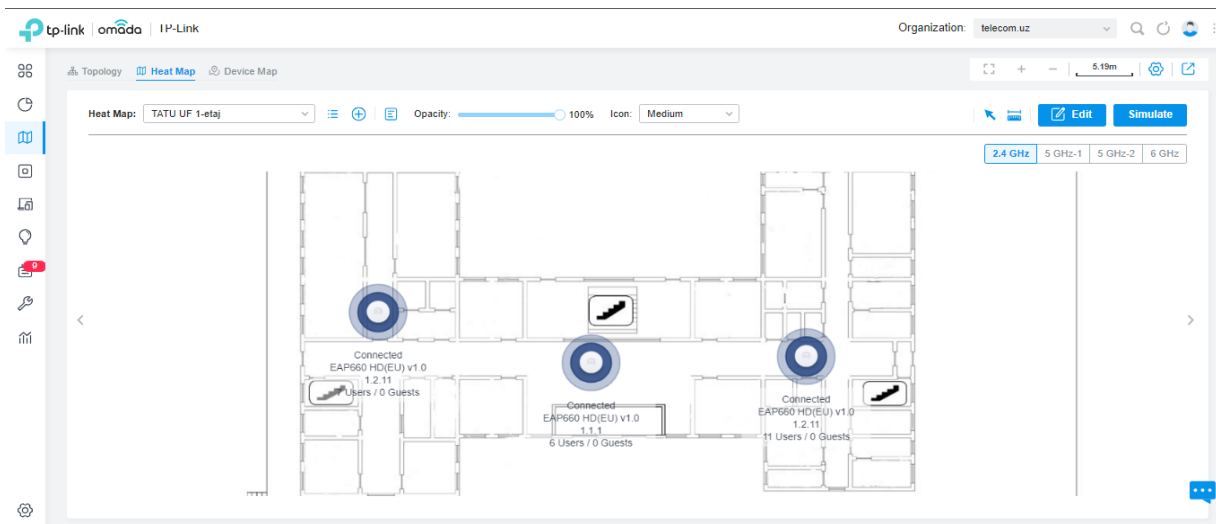


Figure 1.1. Placement of building layout and wireless LAN devices in TP-link Omada cloud system.

After placing the building scheme and wireless local network devices in the TP-link Omada cloud system, we can see the virtual state, whose accuracy indicators are almost indistinguishable from the real state. (Figure 1.2)

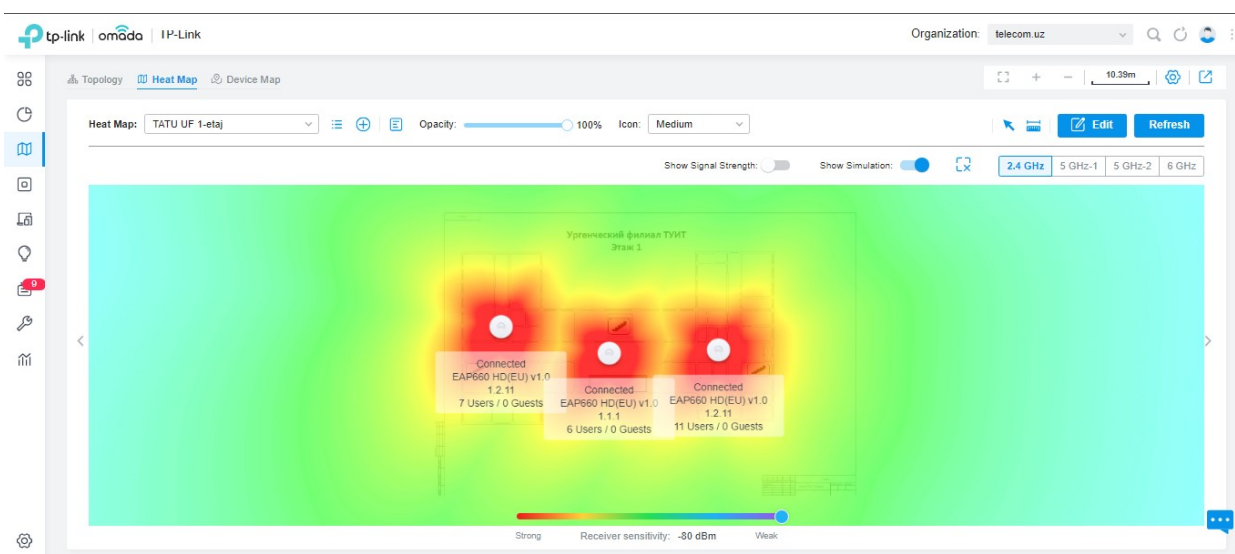


Figure 1.2. The state created after placing the building scheme and wireless LAN devices in the TP-link Omada cloud system.

Protocols and Standards: Ensuring the use of standardized network protocols such as Ethernet, Wi-Fi, TCP/IP, etc. can facilitate seamless data exchange between devices. Adherence to industry-accepted protocols ensures interoperability and scalability.

Ethernet is a family of related protocols that deal with how data is sent across Ethernet cables—it's not a single protocol. There are many parts to the

Ethernet family of protocols, including how the hardware is managed, how data is sent and received, and how data collisions are managed.

Wi-Fi is also a related family of protocols that deal with how data is sent over wireless connections. In fact, Wi-Fi is a trademark, and the general term for this type of network is WLAN. Any device with the Wi-Fi logo uses the Wi-Fi protocol and can therefore connect wirelessly to other Wi-Fi enabled devices.

Transmission protocols - TCP and UDP

Both TCP and UDP control how packets are prepared to be sent over the Internet and what happens to them when they are received by the other end.

TCP is the most widely used of the two and is also the most reliable. Using TCP, packets are addressed and tracked over the network to ensure they reach their destination safely. Any packages that do not reach their destination are re-sent by the sender. UDP, on the other hand, does packet tracking, which means that everything is sent once, and if packets do not arrive, they are not sent again. The advantage of using UDP is that it is much faster, and thus it is often used in online games or live streaming, where quality is less important than speed. [2]

Bandwidth Management: Proper allocation and management of available bandwidth is essential. This may include methods such as traffic prioritization, quality of service (QoS) policies, and load balancing to optimize data transmission.

Network Segmentation: Dividing a local area network into logical subnets, or VLANs, helps keep traffic within defined segments, reduces congestion, and improves overall performance. [3]

Switching and routing: The selection and configuration of network switches and routers can significantly affect the efficiency of data exchange. Factors such as port speed, switching capacity, and routing algorithms must be considered.

Security and Access Control: Implementing appropriate security measures such as firewalls, access control lists, and virtual private networks (VPNs) can help protect the integrity and confidentiality of data exchanges within a local network.

Monitoring and Troubleshooting: Regularly monitoring network performance, identifying bottlenecks, and proactively troubleshooting can help ensure optimal data exchange on your local network.

Scalability and flexibility: Designing the network infrastructure with future growth and evolving requirements in mind ensures that the data exchange solution remains effective as the organization's needs change over time. [4]

Summary

In this article, in today's rapidly developing field of information technologies, the increasing need for a high-performance Internet network to organize high-quality information exchange, to meet the needs of users, and the correct design of the corporate network, which is considered as a small link of the telecommunications network. It was mentioned that design is the need of the hour,

in which cloud systems based on modern technologies give us the following opportunities:

- centralized management
- network segmentation
- monitoring and troubleshooting
- scalability and flexibility

In addition, this article provides recommendations on network protocols and the use of standardized network protocols to facilitate seamless data exchange between devices. Also, one of the things we can focus on when building a local area network is that adherence to industry-accepted protocols ensures interoperability and scalability.

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UMUMTA'LIM MAKTABLARIDA KIMYO FANINI O'QITISHDA YANGI INNOVATSION METODLAR QO'LLASH ORQALI TA'LIM SAMARADORLIGINI OSHIRISH

Annotatsiya. Bugungi kunda kimyo fanini o'qitish samaradorligini oshirish va o'quv jarayonini yuqori saviyada tashkil etish yangi innovatsion yondashuvlarni taqozo etmoqda. Mazkur maqolada umumta'lim maktablari kimyo darslarini tashkil etishda bir qancha ta'lim metodlaridan foydalanish orqali o'quvchilarni qiziqtirish, ta'lim samaradorligini oshirish, o'quvchilarda nazariy bilimlar bilan birga amaliy ko'nikmalarni shakllantirish, mustaqil fikrlay olish qobiliyatlarini rivojlantirish to'g'risida fikrlar berilgan.

Kalit so'zlar: metodlar, bumerang, venn, debat, kimyo, reaksiya, pedagogik texnologiyalar, klaster, demonstratsiya, ilyustratsiya, ekskursiya, suxbat, aqliy hujum.

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INCREASING EDUCATIONAL EFFICIENCY BY USING NEW INNOVATIVE METHODS IN TEACHING CHEMISTRY IN GENERAL EDUCATION SCHOOLS

Abstract. Today, improving the effectiveness of teaching chemistry and organizing the educational process at a high level requires new innovative approaches. In this article, ideas are given on how to interest students, increase the effectiveness of education, form practical skills along with theoretical knowledge, and develop the ability to think independently by using several educational methods in the organization of chemistry classes in secondary schools.

Key words: methods, boomerang, venn, debate, chemistry, reaction, pedagogical technologies, cluster, demonstration, illustration, excursion, conversation, brainstorming.

Kirish: Bugungi kunda umumta'lim maktablarida kimyo fanini o'qitishda innovatsion ta'lim metodlaridan foydalanish o'quvchilarni fanga qiziqishlarini ortishi bilan birgalikda fanning mazmun va mohiyatini chuqur anglab yetish, uni amaliy ko'nikmalar bilan o'zlashtirishni yengillashtirmoqda. Kimyo darsliklarida

berilgan ma'lumotlardan tashqari mavzuga aloqador qo'shimcha manbalardan foydalanish, ba'zi mavzularni yoritishda mavzuga doir o'quv filmlari va slaydlardan foydalanish ham geografiya fanini o'qitish samaradorligini oshiradi. Chunki, o'quvchilar eshitish orqali ma'lumotlarni 20-25 foizini yodda saqlab qolsa, ko'rish orqali esa ma'lumotlarni 80-85 foiziga yaqinini yodda saqlab qolish imkoniyati ega bo'ladi. Shuningdek, umumta'lim maktablarida kimyo fanini o'qitishda ko'nikma va malakalarni shakllantirishda interfaol metodlarning ahamiyati benihoya katta.

Asosiy qism: Metod – lotincha so'z bo'lib, o'qitishning yangi yo'lini izlash, tushuntirishning oson usulini topish, qidirish degan ma'noni anglatadi. Pedagogik o'quv qo'llanmalarda o'quvchilarni bilim, ko'nikma va malakalar bilan qurollantirish va ular tomonidan o'zlashtirish usullari o'qitish metodi deb ataladi. Maktablarda shu vaqtgacha qo'llanilgan o'qitish metodlari turlicha bo'lib, eng keng tarqalgan va ko'p qo'llaniladigan turlari quyidagilar:

- 1) o'quv mavzusini og'zaki bayon qilish;
- 2) suhbat;
- 3) darslik va kitob bilan mustaqil ishlash
- 4) demonstratsiya, illyustratsiya (tasvirlash, rasmlar bilan ko'rsatish) va ekskursiya;
- 5) og'zaki, yozma mashq hamda grafik ishlar, maktab ma'ruzasi;
- 6) amaliy mashg'ulotlar (laboratoriya ishi, masala ishlash).

Ta'lim tizimida darslik bilan ishlash metodi asosiy o'rinlardan birini egallaydi. Darslik bilan ishlash ta'lim jarayonida o'qish-o'qitish ishlarini muvaffaqiyatli amalga oshirish uchun yordam bersa, ikkinchi tomondan, o'quvchilarning kelajakdagi faoliyati uchun zarur bo'lgan ilmiy va ilmiy-ommabop adabiyotlarni mustaqil o'qib-o'rganish madaniyatini tarkib topdirish bilan birga u o'quvchilarni ko'nikma va malakalar bilan qurollantirishda katta ahamiyatga ega. O'quv adabiyoti bilan ishlash murakkab psixik jarayonni o'z ichiga oladi. O'qish jarayoni o'qituvchi tomonidan bayon qilinayotgan bilimlarni o'quvchilarning eshitib, o'qishlarinigina emas, balki o'quv materiallarini (ma'lumotlarni) kitob matnidan ko'rib, ongli idrok qilish faoliyatini ham taraqqiy ettirishni nazarda tutadi. Darslik bilan ishlash metodi ikki shaklda olib boriladi:

- a) dars jarayonida darslik va o'quv adabiyoti bilan ishlash;
- b) darslik va o'quv adabiyotlari bilan sinfdan va maktabdan tashqari mustaqil ishlash;

Kitob bilan ishlashning har ikkala shakli o'quv fanlari bo'yicha deyarli hamma sinflarda qo'llanishi mumkin. O'quvchilarni darslik va boshqa o'quv ma'lumotlari bilan birga qo'shimcha adabiyot, ilmiy va ilmiy-ommabop maqolalar, shuningdek gazeta, jurnallardan foydalanishga ham o'rgatish kerak.

Zamonaviy pedagogik texnologiyalardan foydalangan holda guruhlarda ishlash o'quvchilarning o'qituvchiga bo'lgan hurmatini, qolaversa fanga nisbatan qiziqishlarining ortishiga olib keladi. Bu kabi metodlarning asosiy yutug'i bu barcha o'quvchilarning faolligiga erishishdir, ya'ni bu orqali bo'sh

o'zlashtiruvchi o'quvchilarning dars mashg'ulotlarida doimiy ishtirokini ta'minlash mumkin. O'qituvchi shu kabi qo'shimcha manbalardan o'rinli foydalansa, o'quvchi mavzu haqida kengroq ma'lumotga ega bo'ladi. Kimyo ta'limi sohasida, pedagogik va axborot texnologiyalarini rivojlantirish hamda keng ko'lamda qo'llash, dars mashg'ulotlarini noan'anaviy tarzda olib borish ta'lim samaradorligini oshirishga xizmat qiladi.

O'quvchilarga kimyo faniga oid ta'lim berish, ta'lim sohasida xorij tajribalaridan foydalanish, ta'lim tizimiga ilg'or pedagogik texnologiyalarini tadbiq etish zamon talabidir. Hozirgi kunda nafaqat ta'lim sohasiga, balki milliy iqtisodiyotning barcha tarmoqlariga internet, elektron tijorat, elektron biznes, virtual tijorat, virtual ta'lim, masofadan o'qitish va virtual stend texnologiyalari kirib kelmoqda hamda ularning o'rni muhim ahamiyat kasb etmoqda. Axborot xuddi an'anaviy resurslar kabi izlab topish, tarqatish mumkin bo'lgan resursga aylanmoqda. Moddiy ishlab chiqarish sohasidan mehnat resurslarining og'ishmay axborotlar sohasiga o'tib borish tendensiyasi tobora yaqqol sezilmoqda. Buning asosiy sababi shundaki, ishlab chiqarish sur'ati o'sishi va rivojlanishi jarayonida qarorlar qabul qilish hamda boshqarish uchun zarur bo'lgan axborot hajmi ortib bormoqda. Bu o'sish avvalo, iqtisodiy, texnik, ilmiy, texnologik va ijtimoiy tizimlar jarayonida namoyon bo'ladi. Kimyo fani ta'lim jarayonida ham axborot-kommunikatsion texnologiyalaridan foydalanishning o'rni katta.

Xulosa: O'quv jarayonini yuqorida ta'kidlab o'tilgan metodlar yordamida ko'rgazmali tarzda tashkil etish o'quvchilarda ijodiy fikrlash, fan haqida aniq tassavurga ega bo'lish ko'nikmalarini shakllantiribgina qolmasdan, fanga qiziqishlarini oshirish, tabiatga muhabbat ruhida tarbiyalashga xizmat qiladi. O'qituvchilar har bir yangi mavzuni o'tganida topshiriqlarning mazmunan o'rta ta'lim maktabida xilma-xil va qiziqarli bo'lishiga e'tibor qaratishi lozim. O'quvchilarga yangilik berish o'rta ta'lim maktabi bilan birga, ularning psixofiziologik imkoniyatlarini hisobga olish, ularning fikrlash qobiliyatlarini va ijodiy tashabbusini rivojlantira olish kerak. Xitoyliklarning bir maqolida "Bolangga baliq tutib bersang, bugun qorni to'q, baliq tutishni o'rgatsang ertaga qorni to'q. Baliq tutish bilan birga qarmoq yasashni ham o'rgatsang har doim qorni to'q", deyiladi. Darhaqiqat, o'quvchilarimizni mustaqil, erkin fikrlay oladigan, jahon ilm-fani darajasida o'z o'rniga ega bo'ladigan, raqobatbardosh kadrlar qilib tarbiyalash zimmamizdagi eng mas'uliyatli va sharaflil vazifa. Yaratilayotgan imkoniyatlardan to'laqonli foydalanib o'z kasbiga vijdonan yondashadigan o'qituvchilarimizdan nafaqat ochiq darslarda yoki fan oyliklarida, balki oddiy darslarda ham nutqiy savodxonlikka e'tibor qaratishlari, shiddat bilan rivojlanayotgan zamon bilan hamnafas bo'lishlari talab etiladi. Shundagina biz ko'zlagan manzirimizga, oldimizga qo'ygan maqsadimizga erishamiz. Zero, davr o'qituvchidan ham, o'quvchidan ham izlanishni, yangiliklarni o'zlashtirishni talab etmoqda.

Foydalanilgan adabiyotlar:

1. O‘zbekiston Respublikasi Prezidentining 2020-yil 6-noyabrdagi “O‘zbekistonning yangi taraqqiyot davrida ta’lim-tarbiya va ilm-fan sohalarini rivojlantirish chora-tadbirlari to‘g‘risida”gi PF-6108-son Farmoni.
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THE CONCEPT OF INFORMATION SYSTEM IN THE FIELD OF MANAGEMENT

Key words: information, information system, management, method of management, economic information.

In today's many companies, especially in public and private enterprises, we can see the occurrence of various conflicting problems between the workers and the deadline for the work to be completed before it is completed on time. It is in such situations that we need managers, i.e. managers.

"Management process" is often referred to as "management" and is actually derived from the English word "management".

- "Management" is a principle of management that includes actions and methods aimed at a goal.

- "Manager" is an employee who manages a team/enterprise with special knowledge and skills.

Information is both a starting point and a result of the activity of the management apparatus, as well as a condition for the existence of actions, a method of strengthening. As the volume of information increases, the demand for quality indicators of management information also increases.

The management process consists of gathering, transmitting and processing information for the purpose of making management decisions, providing information in the form of management orders and delivering it to the executors.

There are the following types of information: statistical, operational, business management, accounting, financial, supply, technical, marketing, construction, social, etc.

Economic information occupies a special place in the management of production, because it reflects the relations of people in the process of production, distribution, exchange and consumption of material resources. At the same time, it is necessary to emphasize the importance of scientific and technical information reflecting the development of production based on scientific and technical progress.

Depending on the source of origin, information is divided into external and internal types of information.

External information consists of messages received from the external environment. These include orders from higher organizations, planning assignments, and information about product sales conditions.

Internal information is formed and consumed in the enterprise or its management. In the enterprise, at the business level, they can include information

about the implementation of the plan by the workshops, material and technical supply, product cost, personnel, labor productivity.

According to the direction, information is divided into primary and managerial (leadership) types of information. Primary information always moves from lower levels of the management system to higher levels, while managerial information moves in the opposite direction. Management information is the result of decision-making based on initial information processing.

Information becomes more important over time. According to the degree of stability, it can be divided into stable, conditional-stable, variable types. Stable information does not change its value over a long period of time (name of the company, its divisions, type of product).

The importance of conditional-stable information remains for a certain period of time. Various standards and regulatory documents can be included in such information at the scale of production in the enterprise. This type of information makes up more than 35% of the general information about the enterprise.

Information should be accurate, clear, objective, meaningful and understandable for decision-making. Information should be small in size, deep in content, and its text should be clear and simple.

In the management of the enterprise, provision of information is carried out by means of various information flows in the form of proper communication, which allow solving a specific production task.

In modern large enterprises, the volume of information reaches up to a million lines of documents, and it is necessary to take into account the need to quickly process all information. For example, in an aviation factory, the daily primary data is a million figures. In such conditions, it is necessary to solve the following problems regarding the organization of working with information:

- development of an acceptable information system;
- development of methods of formation of information flows;
- choosing the optimal methods of receiving and sending information;
- organization of information storage and search;
- mechanization and automation of information processing.

All the work carried out in this direction should ensure the creation of a single general state system of information collection and processing. The collection of information constitutes the information system of management. Information system is a complex set of information that includes documents, information flows, communication channels and technical means of the management object. The collection of information on some part of the management object constitutes a small system. Establishing an acceptable information system is one of the important conditions for designing this or that organizational system of management and its effective operation.

Any manager spends at least 60-70% of his time communicating with employees. It is for this reason that we need soft-skills (we can understand it as a culture of dealings) from "managers".

In order to achieve the goal in front of him, the "Manager" will have to perform the following tasks in sequence:

1. Planning.
2. Organization.
3. Control.

Planning - at this stage, the "manager" plans the tasks facing the enterprise/team, writes down what needs to be done step by step and distributes it to the employees.

Organization - at this stage, the "manager" implements the created plan.

Control is the most important step. Because the success of the work depends on this stage. The "manager" himself is responsible for situations where things don't go well.

At the same time, there are many types of "managers" today. Let's take them as an example:

1) Project Manager - mainly responsible for planning, implementation and timely completion of special projects in companies. Focuses on resource management.

HR Manager - mainly responsible for recruiting personnel in the company, improving their efficiency and improving their qualifications.

1) General Manager - mainly responsible for where the company is going and how well the strategies are set.

2) Product Manager - mainly studies and responds to the company's position in the market and how to adapt to the market based on requirements.

3) Sales Manager - mainly deals with sales and is responsible for its implementation by setting the strategies correctly.

4) Quality Assurance Manager - mainly responsible for quality.

Currently, there are various types of IT companies/organizations, but we will take the main 2 as an example: Product oriented (working on exactly one product) and Outsource (offering their services to other companies on the basis of a contract).

In product-oriented companies, we mainly use the "Agile" method. Agile includes:

- 1) Planning
- 2) Placement according to priority
- 3) Implementation
- 4) Testing/Checking
- 5) Delivery to the customer
- 6) Review of customer feedback

"Agile" is constantly iterative, that is, after step 6, we consider the customer's opinion and return to step

The main difference from "Agile" is that we do not have constant iteration.

Each of the above-mentioned types of management is selected based on the needs of the enterprise/organization and helps the team to work faster, more efficiently, without any conflicts.

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EXPERIMENTAL RESULTS ON THE INFLUENCE OF THE LONGITUDINAL DISTANCE BETWEEN MODULAR PLUG BODIES ON THE QUALITY AND ENERGY INDICATORS OF PLUG WORK

Abstract. The article presents the results of an experimental study on the effect of the longitudinal distance between the modular plug housings for the main tillage of the soil on the quality and energy performance of the plug. In this case, the speed of movement of the aggregate, the depth of processing, the depth and completeness of burial of plant residues have achieved the required level of indicators.

Key words: Modular plug, housing, longitudinal distance between housings, processing depth, resource efficient, technology, energy, constructive.

The production of energy-resource-efficient and high-performance tillage machines occupies a leading position in the world.. « Globally, more than 1.6 mlrd hectares of land are cultivated annually for the cultivation of agricultural crops » considering, the development of high-quality and productive and energy-resource-efficient tillage machines and devices is one of the important tasks.

In the world, scientific-research works aimed at developing resource-saving technologies of basic land cultivation and the scientific basis of the technical means that implement them, as well as the effective use of high-power tractors are being carried out.. In this regard, it is considered urgent to conduct targeted scientific research on the development of the constructive scheme of the modular plow, which provides high-quality plowing of land with low energy consumption, and the justification of the parameters of the working parts that ensure resource efficiency in contact with the soil.

This article presents the results of field experiments in order to determine the optimal value of the longitudinal distance between the POT 01.000 bodies selected for the modular plug.

Table

Quality and energy indicators of plug work depending on the longitudinal distance between modular plug bodies

Indicators name	Value of indicators				
	$L_1=700$ mm	$L_1=800$ mm	$L_1=900$ mm	$L_1=1000$ mm	$L_1=1100$ mm
Movement speed, km/h	7,9	7,9	8,0	8,1	8,0
Processing depth, cm M_{sr} $\pm\sigma$	34,7 2,3	34,4 2,0	35,1 1,7	34,7 1,9	34,8 2,1
Burial depth of plant remains, cm $M_{sr} \pm\sigma$	11,3 6,9	14,7 6,1	17,4 5,2	17,0 4,8	16,1 5,3
Burial completeness of plant remains, %	84,8	91,0	96,1	96,1	95,8
Fertilization of the soil quality, %	11,2 14,7	10,7 11,4	9,4 11,5	9,5 11,8	10,2 11,0
Size of fractions, mm greater than 100 100 – 50 less than 50	74,1	77,9	79,1	78,7	78,8
Specific resistance of the body, kPa	86,6	72,5	70,8	71,7	71,3

The longitudinal distance between modular plug bodies was changed from 700 mm to 1100 mm with an interval of 100 mm. The processing depth was set at 35 cm, and the unit speed was 8 km/h. The results obtained in the experiments are presented in the table.

As it can be seen from the given data, when the longitudinal distance between the bodies is increased from 700 mm to 900 mm, the burial depth and completeness of plant remains increased, the soil compaction quality improved and the body's tensile strength decreased. Later, when the longitudinal distance is increased to 1100 mm, these indicators almost do not change. This can be explained by the fact that when the longitudinal distance is less than 900 mm, the free passage of the soil slab between the casings is not ensured, and as a result, the technological process of the plug work is disturbed and it becomes blocked..

Changing the longitudinal distance between the bodies from 700 mm to 1100 mm had almost no effect on the processing depth and its uniformity.

Thus, in order to ensure that the overturned soil slab passes between the casings without disrupting the technological process of plow work, the longitudinal distance between them should not be less than 900 mm..

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LOKAL KUCHSIZ SEPARABEL FAZOLARNING TOPOLOGIK XOSSALARI

Annotatsiya. Ushbu maqolada lokal kuchsiz separabel fazosining ta'rifi, hamda uning turli topologik xossalari o'rganilib, ularga doir muhim teoremlar isbotlangan va salmoqli natijalar olingan. Xususan, lokal kuchsiz separabel fazolarning ixtiyoriy ochiq qism to'plami va kanonik yopiq qism to'plami lokal kuchsiz separabel fazo bo'lishlik shartlari topilib isbotlangan. Shu bilan lokal kuchsiz separabel fazosiga 2-simmetrik darajali funktoir SP^2 ta'sir qilganda ham lokal kuchsiz separabel fazo bo'lishlik shartlari topilgan va isbotlangan.

Kalit so'zlar: topologik fazolar, separabel fazolar, lokal kuchsiz separabel fazolar, topologik xossa, kuchsiz zichlik, ochiq to'plam, Tixonov ko'paytmasi, Hattori fazosi, Sorgenfrey chizig'i.

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TOPOLOGICAL PROPERTIES OF LOCALLY WEAKLY SEPARABLE SPACES

Abstract. In this article, the definition of locally weak separable space and its topological properties are studied, important theorems related to them are proved and important results are obtained. In particular, the conditions for an arbitrary open partial set of locally weakly separable spaces and a canonical closed partial set to be a locally weakly separable space are found and proved. In this way, the conditions for splitting the locally weakly separable space even when the 2nd symmetric functor acts on the locally weakly separable space have been found and proved.

Keywords: topological spaces, separable spaces, locally weakly separable spaces, topological property, weak density, open set, Tikhonov multiplication, Hattori space, Sorgenfrey line.

X topologik fazo $x \in X$ nuqtada lokal kuchsiz separabel deyiladi, agar τ eng kichik kardinal son bo'lsa, bunda x ning X topologik fazoda kuchsiz separabelatrogga ega bo'ladi [2]. x nuqtada lokal kuchsiz zichlik $lwd(x)$ orqali ifodalanadi. X fazoning lokal kuchsiz zichligi $x \in X$ uchun barcha $lwd(x)$ kardinal

sonlarning supremumi va $lwd(X) = \sup \{lwd(x) : x \in X\}$ orqali ifodalanadi. Agar $lwd(X) = \aleph_0$ bo'lsa, X topologik fazo lokal kuchsiz separabel fazo deyiladi. Har qanday topologik fazo uchun $lwd(X) \leq wd(X)$ ekanligi ma'lum.

X ning almashtirishlar guruhi – barcha almashtirishlar guruhi (ya'ni, $X \rightarrow X$ bitta-bitta va ustiga akslantirish). X to'plamning almashtirishlar guruhi $S(X)$ orqali ifodalanadi. Agar $X = \{1, 2, 3, \dots, n\}$ bo'lsa, $S(X)$ ham S_n orqali ifodalanadi.

X^n - X kompakt fazoning n -darajasi bo'lsin. Barcha almashtirishlarning o'rin almashish guruhi S_n , koordinatalarni almashtirish sifatida n -chi darajali X^n ga ta'sir qiladi. Ushbu harakatning barcha orbitalari to'plamini $SP^n X$ orqali ifodalanadigan faktor topologiyasi bilan belgilaymiz. Shunday qilib, $SP^n X$ fazoning nuqtalari X^n ko'paytmaning chekli qism to'plamlaridir. Shunday qilib, ikkita $(x_1, x_2, \dots, x_n), (y_1, y_2, \dots, y_n) \in X^n$ nuqtalar ekvivalent deb hisoblanadi, agar $\sigma \in S_n$ almashtirish $y_i = x_{\sigma(i)}$ bo'lsa. $SP^n X$ fazo X fazoning n -almashtirish darajasi deyiladi [3].

1. Tasdiq. X – lokal kuchsiz separabel fazo va bo'lsin $f: X \rightarrow Y$ - uzluksiz ustiga akslantirish bo'lsin. U holda Y ham lokal kuchsiz separabel fazo bo'ladi.

Isbot. f – ustiga akslantirish bo'lganligi uchun har qanday $y \in Y$ nuqta uchun $f^{-1}(y)$ proobraz (qayta akslantirish)– X da bo'shbo'lmagan qism to'plamdir. Har bir $x \in f^{-1}(y)$ nuqta uchun shunday O_x atrof mavjudki, bu erda O_x – kuchsiz separabel. f - ochiq akslantirish bo'lganligi uchun $f(O_x)$ ham Y da nuqtani o'zichiga olgan ochiq to'plambo'ladi. f - uzluksiz akslantirish bo'lganligi sababli $f(O_x)$ to'plam Y da kuchsiz separabeldir. 1-Tasdiq isbotlandi.

2. Tasdiq. X – lokal separabel va G – X ning qandaydir qism to'plami bo'lsin. Agar G quyidagi shartlarning xech bo'lmaganda bittasini qanoatlantirsa lokal kuchsiz separabel bo'ladi, ya'ni:

A) G - X da ochiq b) G - X da hamma joyda zich v) G - X da kanonik yopiq.

Isbot. A) G - X ning bo'sh bo'lmagan ochiq qism to'plami bo'lsin. Ta'rifga ko'ra har qanday $x \in G$ nuqta uchun $O_x \cap X$ atrof mavjud bulib, bu O_x atrof kuchsiz separabeldir. U holda $O_x \cap G = O'_x$ – x nuqtani o'zichiga olgan G dagi bo'sh bo'lmagan ochiq to'plamdir. Kuchsiz separabel fazoning har qanday ochiq qism to'plami kuchsiz separabel bo'lganligi uchun O'_x ham kuchsiz separabeldir.

B) $M \cap X$ - X fazoning hamma joyda zich qism to'plami bo'lsin. Ixtiyoriy $y \in M$ nuqtani qaraymiz. X lokal kuchsiz separabel bo'lganligi uchun y nuqtaning shunday $O_y \cap X$ atrofi mavjud bulib, bunda O_y ham kuchsiz separabel. $O_y \cap M = O'_y$ ni tekshiramiz. U holda O'_y - M ning bo'sh bo'lmagan ochiq qism to'plami. Bundan tashqari $O'_y \cap O'_y$ va O'_y qism to'plamlar O_y atrofda hamma joyda zich. Kuchsiz separabel fazoning hamma joyda zich bo'lgan har qanday qism to'plami ham kuchsiz separabel bo'lganligi uchun O'_y ham kuchsiz separabeldir.

$V - X$ fazoning kanonik yopiq qism to'plami bo'lsin. U holda shunday U ochiq to'plam mavjudki, $G=[U]$ bo'ladi. A) punkt nuqtai buyicha qaralganda U - lokal kuchsiz separabel. Ixtiyoriy $z \in G$ nuqta va uning kuchsiz separabel bo'lgan $O_z \cap X$ atrofini qaraylik. U holda $O'_z = O'_z \cap G - G$ to'plamning bo'sh bo'lmagan ochiq qism to'plami bo'ladi. $V=O_z \cap U$ ni tekshirsak, modomiki kuchsiz separabel fazoning barcha ochiq qism to'plamlari kuchsiz separabel bo'lar ekan, u holda V ham kuchsiz separabeldir. Boshqacha qilib aytganda V to'plam O'_z da hamma joyda zichdir. 1-tasdiqga ko'ra z nuqtaning O'_z atrofi kuchsiz separabel bo'ladi. 2-Tasdiq isbotlandi.

3. Tasdiq. Har qanday $\alpha \in A$ nuqta uchun X_α - lokal kuchsiz separabel fazo bo'lsin. U holda $X = \bigoplus \{X_\alpha : \alpha \in A\}$ ham lokal kuchsiz separabel fazo bo'ladi.

Isbot. $x \in X$ - ixtiyoriy nuqta bo'lsin. U holda shunday $a \in A$ nuqta mavjudki $x_a \in X_a$ bo'lsin. X_a fazo lokal kuchsiz separabel bo'lganligi uchun x_a nuqtaning shunday $O_{x_a} \cap X_a$ atrofi mavjud bo'ladiki, bu O_{x_a} atrof ham kuchsiz separabel bo'ladi. X_a fazo X fazoda ochiq-yopiq bo'lganligi uchun O_{x_a} atrof ham X fazoda ochiq va kuchsiz separabeldir. 3-Tasdiq isbotlandi.

4. Tasdiq. $X_i \cap X, i=1,2,\dots,n$ va har bir X_i lokal kuchsiz separabel bo'lsin. U holda $\bigcap_{i=1}^n X_i$ lokal kuchsiz separabel bo'ladi.

Isbot. $x \in \bigcap_{i=1}^n X_i$ - ixtiyoriy nuqta bo'lsin. U holda $x \in X_i, i=1,2,\dots,n$ bo'ladi. X_i fazo lokal kuchsiz separabel bo'lganligi uchun shunday $O_{x_i} \cap X_i$ atrof mavjudki, har bir $i=1,2,\dots,n$ uchun O_{x_i} atrof kuchsiz separabel bo'ladi. $\bigcap_{i=1}^n O_{x_i} = O_x$ ni qaraymiz. $O_{x_i}, i=1,2,\dots,n$ da O_x ochiq to'plam bo'lganligi uchun O_x to'plam $\bigcap_{i=1}^n X_i$ da kuchsiz separabel bo'ladi. 4-Tasdiq isbotlandi.

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PROBLEMS IN TRANSLATION OF EUPHEMISMS IN ENGLISH AND UZBEK LANGUAGES

Abstract. The given article is focused on translating problems of Euphemisms in Uzbek and English language. The following tasks are planned to achieve the above mentioned aim: to investigate about classification of euphemisms both languages, to collect information and data concerning euphemisms and giving possible solutions these problems with some examples.

Key words: translation versions, TL discourse, service translation, translation strategies, cultural differences.

INTRODUCTION Most translation theorists agree that translation is understood as a transfer process from a foreign language or a second language to the mother tongue. However, market. As my data reveal, the subjects often produce several translation versions. They can comprise the entire text or only parts of it (e.g. paragraphs, sentences, clauses, or phrases). The production of several translation versions can have various reasons, of which at least two can be interpreted from the data:

1. If subjects do not succeed in solving a translational problem on the first attempt, they may try to solve the problem in its wider context. This may require more than two translation versions which may also contain non-strategic parts of the translation.

2. If, on the first attempt, subjects do not succeed in rendering a strategic or non-strategic part of an SL text into TL in a way which is considered adequate, they may try to optimize the TL text production by conceiving a more adequate translation in another version subjects may produce a further version of the TL text segment. Thus, they may sense the complex interrelationships between the components of the TL text methods and problems of its investigation 601 602 Meta, L, 2, 2005 the components, in order to make an adequate stretch of TL discourse, cannot be put together in the same way as they were successively translated from the SL.

MATERIALS AND METHODS

As far as the investigation of translation strategies is concerned, the potential conception of several translation versions by subjects play an important part because translation strategies and translation versions are interconnected in various ways. Two cases are of special interest here: In the first case, a further translation version contains one or more translation strategies. They are called intraversional strategies. In the second case, a translation strategy

contains one or more translation versions. They are called intrastrategic versions. Translating the cultural terms can be a difficult task. Facing cultural differences in translation, Nida believes in equal importance to both linguistic and cultural differences between the source language and the target language and concludes that "differences between cultures may cause more severe complications for the translator than do differences in language structure". (24; 130) Taboos are the cultural terms, translation of which is definitely difficult and controversial to some translators. This difficulty may be because of the differences between

different cultures, religions, and beliefs. There are different ways to translate a taboo from one language into another one. This paper suggests some ways to translate the taboos and euphemisms. requirements are increasingly demanding that translators transfer texts to a target language that is not their mother tongue, but a foreign language. This is what Newark calls "service translation. There must be thousands of examples, but I find this anecdote worth a Chilean exile who had been granted refugee status in a non-Spanish-speaking country, was going to undergo surgery for the simple removal of a skin blemish from her face. However, because of a misunderstanding by the translator on duty in the hospital at the moment she was going to be anesthetized, she was about to undergo breast surgery! It is quite clear that a poor translation can not only lead to hilarity or to minor confusion, but it can also be a matter of life and death. Hence the importance of training translators, not only in the acquisition and command of languages and translation strategies and procedures, but also in specific knowledge areas and, what is equally important, in professional ethics. If translating is a discourse operation interposing between language and thought (Delisle, 1980), we should accept that in the art or skill of translating we are inexorably going to come across assorted and numerous obstacles. There are many thorns that can mortify us during the translation process, whatever the nature of the text we face, and translators should be aware of them. The first problem is related to reading and comprehension ability in the source language. Once the translator has coped with this obstacle, the most frequent translation difficulties are of a semantic and cultural nature (Tricás, 1995): "Linguistic untranslatability" (cognates, i.e. true and false friends, calque, and other forms of interference; institutional and standardized terms, neologisms, aphorisms, etc.), and "cultural untranslatability," (idioms, sayings, proverbs, jokes, puns, etc.).

One should adopt a very cautious attitude toward these words or expressions so as to avoid interference and/or language misuse (Kussmaul, 1995).

RESULTS AND DISCUSSION

We should always bear in mind that one of the greatest virtues of a good translator is what I have called "contextualized intuition," i.e. the ability to find the nearest common sense interpretation of the "not found" element within its context. Whatever the difficulty in the translation process, procedures must aim at the essence of the message and faithfulness to the meaning of the source language text being transferred to the target language text. In addition to the

information provided above, another obstacle to translating from one language to another occurs with idiomatic expressions and slang. These pose problems because they do not mean what the individual words mean literally, and these idioms often involve cultural history that a foreigner would not know. In fact, often these idiomatic expressions pose the most problems for foreign students who cannot make sense of what American students are saying when they use them. Some languages, such as French, have a plethora of idioms and slang that are difficult to translate. Also, in French there are many expressions that are composed of the verb *faire*, which means to do or to make; however, in English a person uses the verb to play [Je fais du foot] or to study [Je fais du français] in such expressions. This occurs with German as well. For example, a German exchange student mostly fluent in English might still say "I make soccer." Still another issue that arises from translating occurs between English and Italian when expressing one's feelings. The Italians have a myriad of words to express each nuance of feeling while English comes up short.

CONCLUSION

So often Italians search for the word that will convey their feelings when they speak English. As alluded to in the above response, poetry is extremely difficult to translate from one language to another as the rhythm of a poem can be marred, or even lost; the cultural meanings attached to phrases and the figurative meanings of words, etc. are often truly untranslatable. Regarding the mention in the original question of technology as assistance in translation, it is effective in translating individual words and phrases, but many students have found themselves in trouble when they attempt the translation of entire passages. Translation strategies have been defined by me as procedures which the subjects employ in order to solve translation problems (Lörscher 1991a: 76 -81). Accordingly, translation strategies have their starting-point in the realization of a problem by a subject, and their termination in a (possibly preliminary) solution to the problem or in the subject's realization of the insolubility of the problem at the given point in time.

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GEOGRAFIYA DARSLARIDA SH'ER VA MAQOLLARDAN FOYDALANISH

Annotatsiya. Ushbu maqolada geografiya darslarida sh'er va maqollardan foydalanish haqida tahlil qilingan. Dars jarayonida she'r va maqollardan foydalanishning ahamiyati ochib berilgan. Maqollarga misollar keltirilga va ahamiyati ochib berilgan

Kalit so'zlar. Topishmoq, she'r, geografiya, maqol, Amerika, Afrika, Avstraliya, cho'qqi, lug'at, atama, fizikaviy, kimyoviy.

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USING POEMS AND PROVERBS IN GEOGRAPHY LESSONS

Abstract. This article analyzes the use of poems and proverbs in geography lessons. The importance of using poems and proverbs in the classroom is revealed. Examples of proverbs are given and their meaning is revealed.

Key words. Riddle, poem, geography, proverb, America, Africa, Australia, peak, vocabulary, term, physical, chemical.

Ta'lim samaradorligini ta'minlovchi asosiy shart-sharoitlardan biri o'quvchilarning o'qishga ijobiy munosabatini rag'batlantirish va turli-tuman ta'lim vositalaridan foydalanish hisoblanadi. Bu vositalar ichida geografiya darslarida topishmoq, she'r va maqollardan to'g'ri foydalana olish muhim o'rin tutadi.

Shunindek, Yurtboshimiz Sh.M.Mirziyoyev ta'kidlaganlaridek, "Olimlar va pedagoglar bola tarbiyasi qancha erta boshlansa, shuncha yaxshi, deb hisoblaydilar. Shuning uchun farzandlarimiz kamoloti yo'lida biz mablag' va imkoniyatlarimizni ayamasligimiz kerak"⁸

⁸ Ш.М.Мирзиёев "Буюк келажакимизни мард ва олижаноб халқимиз билан бирга курамиз" Тошкент "Ўзбекситон" 2017 Б 263.

Amalga oshirilgan mazkur bitiruv malakaviy ishi ta'lim tizimini takomillashtirish, topishmoq, she'r va maqollardan foydalanish orqali geografiya ta'limi samaradorligini ta'minlashga qaratilgandir. Darslarda topishmoq, she'r va maqollarni o'z o'rnida ishlatish orqali, o'quvchilarni darsga yanada ko'proq qiziqtirish va ta'lim samaradorligini oshirish imkoniyatlari beqiyosdir.

Geografiya darslarida o'rganilayotgan mavzu mazmuniga moslab foydalaniladigan topishmoq, she'r va maqollar o'quvchilarni yangi bilimlarni o'zlashtirishlarini osonlashtiradi, mustaqil fikrlashga undaydi, ularda o'qishga nisbatan qiziqishni uyg'otadi. O'qishga nisbatan qiziqish esa bilimlarni puxta o'zlashtirish garovidir. Bu fikrni o'tmishdagi allomalar ham ta'kidlab o'tishgan.

Buyuk mutafakkir Abu Nasr Forobiy "Maqsadni amalga oshirishda jahd va g'ayrat mo'ljallangan ishni bajarishda zo'r ta'sirga egadir", deyiladi [2].

Yoshlarga bilim berish, ularda muayyan ko'nikma va malakalarni tarbiyalash hamda qiziqish va qobiliyatlarini o'stirishda adabiyotning o'rni beqiyosdir. Aynan "so'z qudrati" dan to'g'ri foydalana olish geografiya darslarini sifatini oshirishga yordam beradi.

Zamonaviy ta'lim nazariyasida umumiy ta'lim fanlarini o'qitishda turli mazmundagi topishmoq, she'r, maqollardan foydalanish orqali o'quvchilarning darsga nisbatan qiziqishlari ortib borishi, ta'limni atrofdagi tabiiy va ijtimoiy hayot bilan bog'lashga imkon berishi va oqibatda, ta'lim samaradorligiga erishish mumkinligi alohida uqtiriladi.

Biroq respublikamiz geograf o'qituvchilari va metodistlarining pedagogik faoliyatida ta'limning boshqa vositalari kabi topishmoq, she'r va maqollardan ommaviy foydalanish masalasi ham o'z ijobiy yechimini topmagan. Buning asosiy sabablari sirasiga topishmoq, she'r va maqollardan foydalanish metodikasi bo'yicha yetarlicha asoslangan uslubiy ishlanmalarning yo'qligi, mashg'ulotlar jarayonida topishmoq, she'r va maqollarni ishlata olish mavhumligi, geografiyani o'rganishda turli topishmoq, she'r va maqollarga qo'yiladigan talablarning ishlab chiqilmaganligini kiritish mumkin.

Maqol xalq og'zaki ijodining ixcham shaklga, ammo chuqur mazmunga ega bo'lgan janrlaridan biri bo'lib, u xalqning ko'p asrlik hayotiy kuzatishlari, ijtimoiy- iqtisodiy, siyosiy va madaniy tajribalari asosida vujudga kelgan. Maqollar o'zlarining ijtimoiy- g'oyaviy funksiyalariga ko'ra, asosan keng xalq ommasining, ayrim hollarda esa ba'zi ijtimoiy tabaqa yoki guruhlarining dunyoqarashini ifodalaydi. Shu boisdan ham maqollarning tematik ko'lami juda ham keng bo'lib, bu ko'lamni juziy hayotiy voqelik doirasi bilan chegaralab bo'lmaydi; ijtimoiy borliqning hech bir sohasi yo'qki, u maqollarda aks etmagan bo'lsin.

Rus folklorshunosi V.P. Anikin ta'biri bilan aytgan, "Xalq tajribasida bo'lmagan narsa maqolda ham bo'lmaydi". Xalq tajribasi esa asta –sekinlik bilan asrlar mobaynida to'planib boyib boradi. Binobarin, anashu tajribalar bilan

aloqadorlikda yuzaga keluvchi maqollar xazinasini ham boyib boradi. Umumiyroq qilib aytganda, maqollar makon va zamon jihatidan xalq hayotidagi har qanday sabab oqibat munosabatlarini o'zida aks ettiradi, chunki u mushtday tugilgan xalq donishmandlarining bebaho qomusidir [3].

Maqollar fikrini lo'nda aniq va obrazli tarzda bayon etishda nutqimiz uchun zaruriy vosita hisoblanadi. Shuning uchun ham V.G.Belinskiy xalq maqol va matallarini "poeziyaning mohiyati" deb hisoblagan edi.

Boshqa xalqlarning maqollarida bo'lgani kabi o'zbek xalq maqollari ham o'zbek xalqining turmish tarsi, ma'naviy qiyofasi, dunyoqarashi, mehnatga, insonga, hayotga, tabiatga munosabat to'liq o'z ifodasini topgan. Shuning uchun ham ulug' rus yozuvchisi L.N.Tolstoy maqollarnining xalq hayoti, ruhiy dunyosi bilan naqadar yaqin ekanligi haqida to'xtalib: "Har bir maqolda men shu maqolni yaratgan xalqning siymosini ko'raman",- deb yozgan edi.

Maqol termini arabcha "qavlun" (aytmoq, gapirmoq) so'zidan olingan bo'lib, o'zbek tilida u xalq donoligining namunasi bo'lmish aforistik janrlardan birining atamasiga aylangan va ma'qul aytilgan so'z, gap yoki ibora ma'nolarini anglatadi.

Maqol mustaqil folklor janri sifatida qator o'ziga xos xususiyatlarga ega bo'lib, bu xususiyatlar uni boshqa afaristik janrlardan, xususan, matallardan keskin farqlab turadi [4].

Geografiya fani avvalo extiyoj tufayli yuzaga keladi. U vujudga kelgan kundan bugungi yuksak texnikalashgan davr tubdan farq qiladi. Bashariyatning qo'xna tarixga nazar tashlasak. Geografiya fani insoniyatga nima berdi? geografiya fani va uning jasur jonkuyar sayyoxlar bo'lmaganida balki Amerika, Afrika, Avstraliya qit'alari tog'larning balandligi, cho'qqilari okean osti chekmalar, noyob yer osti va ustki boyliklari, o'zga qi'ta jonzotlari, tabiat mo'jizalarini va bir qancha noyob durdonalar noma'lumligicha qolgan bo'lardi. Shuningdek, butun sayyora aholisi, uning ishlab chiqarish jarayonlari, ijtimoiy iqtisodiy ahvoli hamda yer sharining ekologik vaziyatlarini o'rganib bo'lmasdi. Bugungi kun geografiyasi ham ushbu masalalarga asoslanib, ravnaq topmoqda. Shu bois geografiya fani o'rganilishiga o'rta va oliy maktab dasturlarida alohida e'tibor qaratib kelinmoqda. Ushbu fanni o'quvchilarga o'rgatish davomida albatta boshqa fan asoslariga ham tayanishga to'g'ri keladi. Bu esa uning mukammalligini ta'minlaydi va fan obro'sini oshiradi. Masalan, joylarning uzoqligi kengligi, balandlik va chuqurliklarini o'lchashda ayniqsa masshtab bilan ish olib borishda matematika, yer sayyorasining o'zga sayyoralar bilan taqqoslashda astranomiya faniga bog'lanish, jismlarni fizikaviy va kimyoviy xossalarini aniqlashda ushbu tabiiy fanlarga yer shari o'simlik va hayvonlarni chuqurroq tahlil etishga qaratilgan masalalarda biologik va geografik lug'at va atamalar bilan ishlash jarayonida, xorijiy tillar hamda fikrlari jozibali va ohangdor ifoda etish borasida ona tili va adabiyoti asoslariga bog'lanish dars saviyasini oshiradi. Albatta shu o'rinda sher va topishmoq, maqollarni geografiya fani oid qismini tizimlashtirish

maqsadga muvofiqdir. Biz quyida sher, topishmoq, maqollarni tizimlashtirishga harakat qildik [5].

Dehqonchilik va chorvachilik haqida maqollar

Arpa yotsa, ombor sol.

Arpaga - o'rim,
Bug'doyga - ko'rim.

Bedov boylovda semirar,
Qo'y-qo'zi - yaylovda.

Bir yil tariq eksang, bir yil shudgor qil.

Bir yil tut ekkan kishi
Qirq yil gavhar terar.

Bog'bon bog'ini tuzar,
Dehqon dalasin suzar.

Bog'bon bo'lsang, sarxar qil,
Dehqon bo'lsang, shudgor qil.

Bog'ni qishda ko'l qil,
Yozda cho'l qil.

Bug'doy olaman desang, qovun polga ek,
Paxta olaman desang - jo'xori polga.

Bug'doy eksang, kuzda ek,
Yaxshi haydab, bo'zga ek.

Bo'lsa agar oqliging,
Bilinmaydi yo'qliging.

Dehqon bo'lsang, roshida bo'l,
Cho'pon bo'lsang - qoshida.

Dehqon bo'lsang, shudgor qil,
Mulla bo'lsang, takror qil.

Dehqon bo'lsang, qoshida bo'l,
Sipoh bo'lsang - boshida.

Dehqon dehqondan qolsa, bir yilda yetar,
Cho'pon cho'pondan qolsa, qirq yilda yetar.

Dehqon - yer sultoni,
Cho'pon - yaylov sultoni [6].

Maktab tabiiy geografiya darslarida sher, topishmoq, maqollardan foydalanish o'quvchilarning tabiatdagi voqea hodisa va jarayonlar bilan tanishtirish bilan birga, tabiatda bo'ladigan voqea hodisa va jarayonlarning ichki xususiyatlarini ochishga ham undaydi. Shuningdek, maktab tabiiy geografiya kurslarida o'quvchilarni geografik bilimlarga qiziqishga undaydi, ko'nikma, malakalarni shakllantirishga yordam beradi.

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APPLICATION OF INFORMATION TECHNOLOGIES AND MULTIMEDIA IN TEACHING

Annotation. This paper analyzes the features of informatization of the education system; technologies and multimedia tools are explored in modern learning systems.

Keywords: information technologies, multimedia technologies, interactivity, education system, computer tools.

Introduction

The development of modern society based on knowledge and highly effective technologies requires making adjustments to pedagogical theory and practice, intensifying the search for new models of education aimed at improving the level of qualifications and professional skills of teachers, meeting society's needs for specialists capable of successful adaptation and self-realization in the information society.

Thus, the main task of vocational education is implementing such a model for training a qualified specialist, which will allow him to successfully compete in the labor market, effectively implementing his professional skills in the acquired specialty with high creative ability [1].

The use of information and communication technologies (ICT) opens up new opportunities in teaching the subject, allows you to increase the efficiency of learning, and the intellectual level of students, instills the skills of self-education, and self-organization, and facilitates the solution of practical problems. The use of computer technology makes it possible to make each lesson non-standard, bright, rich, and memorable.

A modern teacher is engaged in various types of professional activities: pedagogical, educational, scientific, methodological, and managerial. It has various possibilities for using computer or information technologies for receiving, transmitting, systematizing, and processing information, as well as for communication between colleagues, students, their parents, etc.

1. Use of ICT in education

Informatization of education puts forward compliance requirements and professional training of teachers. Therefore, one of the global goals of informatization of education is the training of teachers who are ready and able to

apply new information technologies in the process of teaching and education management, actively participating in the process of informatization of education.

The use of ICT in education allows not only taking a fresh look at the pedagogical process but also provides the necessary scientific and methodological apparatus for their analysis and updating. In addition, ICTs have a significant impact on the content of education and management of the pedagogical process (planning, organization, monitoring, forecasting, etc.).

Traditional training of specialists, focused on the formation of knowledge, abilities, and skills in the subject area, still lags behind modern requirements, therefore the formation of a system of knowledge, abilities, and skills in the use of information and communication technologies in education is an urgent task, for which it is necessary to have:

- ability to generalize, analyze, and perceive information;
- readiness to use basic methods, methods and means of obtaining, storing, and processing information, readiness to work with a computer as a means of control information;
- ability to work with information in global computer networks;
- the ability to understand the essence and importance of information in the development of a modern information society, to understand the dangers and threats that arise in this process, to comply with the basic requirements of information security;
- the ability to develop modern pedagogical technologies, taking into account the characteristics of the educational process, the tasks of education, and personal development.

The teaching profession is becoming more complex, and multifaceted, but also more interesting from the point of view of revealing abilities and self-realization. The teacher must develop and implement new pedagogical technologies based on rapidly developing information and telecommunication technologies, opportunities taking into account modern scientific and production technologies, which require deep knowledge in the field of pedagogy, psychology, computer science, etc., mastering the methods of scientific knowledge, a developed research type of thinking.

It is possible to create a successfully functioning and timely model of professional training for a future specialist only on the basis of the constant introduction of pedagogical innovations into the practice of the educational process. Innovation in educational activities is the widespread use of new teaching technologies and the organization of the educational process at a university to obtain results in the form of educational services that differ in social and market demand.

In traditional teaching technology, the leading role is given to teaching aids: the teacher does not teach students but performs the functions of stimulating and

coordinating their activities, as well as the managerial function of the teaching aid [4].

The pedagogical skill of the teacher lies in the selection of the necessary content, the application of the best methods, and teaching aids in accordance with the program and pedagogical objectives.

A modern teacher constantly solves the following problems in his activities:

- use theoretical and practical knowledge for the design, implementation, and methodological support of the pedagogical process;
- select and analyze information;
- independently or in collaboration create new information based on it;
- use information technologies in the pedagogical process, in one's own research activities, when organizing students' research activities;
- develop educational and methodological complexes using information technologies;
- carry out experimental work and the like.
- develop and implement educational and training programs of various directions and at different levels;
- use various methods to assess student achievements, etc.;
- use various means of communication to communicate with colleagues and students (email, social networks, Internet, multimedia, etc.);
- generalization of one's own achievements and problems, search for new ways to solve them;
- navigate the sociocultural situation, using its opportunities to ensure the quality of education;
- bear responsibility for the quality of education and student performance results.

New requirements of society for the level of education and personal development have already led to changes in educational technology. Today, innovative technologies make it possible to organize the educational process taking into account the professional orientation of training, as well as the orientation of the student's personality towards his interests, inclinations, and abilities. Among them, the leading place belongs to such types as problem-based learning, test forms of knowledge control, block-modular learning, project-based learning, case method, and multi-level learning. As a result of their implementation, the functions of both the teacher and the student radically change.[5]

Today, there is no general and holistic education system that allows for the fully diversified development of student's personal qualities and intellectual abilities.

However, the use of multimedia in teaching can allow:

- development of interdisciplinary connections between mathematics and computer science;
- formation of computer literacy;

– development of independent work of students in the classroom.

Many educational institutions already have full-fledged computer classes, projectors, interactive whiteboards, and other equipment that are necessary for a more successful implementation of the process of informatization of education. One of the tools that is quite widely used is multimedia technology.

Multimedia is a field of computer technology that helps transform various (text, graphic, audio) information using computer tools. Often, correct transformation of the material allows you to make information more visual and memorable. Conducting lessons using multimedia resources is the strongest incentive for student learning. Through such lessons, the mental processes of students are strengthened: attention, memory, and thinking; the arousal of cognitive interest occurs much more actively and quickly.

Thanks to the use of presentations, the teacher can structure the material well. Modern applications for creating presentations support a large number of different functionalities: creating animations on pages, using sound effects, inserting pictures, and tables, text formatting, and using diagrams. A significant advantage of the presentation is that it can be easily distributed and the learner will always have well-structured material that is always at hand.

This material is often easier to read than handwritten text, it is easy to access, and the content search system helps save a lot of time. Moreover, if a student gets sick, he can always review the material covered and not miss out on the necessary knowledge [2].

Conclusion

The use of ICT helps to increase motivation for learning, deeper and more durable assimilation of material, development of independent thinking, the ability to reason, and independently obtain information.

The use of ICT is not only justified, but also expedient, since it allows students to intensify their activities, which, in turn, affects the quality of education, and the variety of forms of interpersonal communication between participants in the educational process allows them to achieve better results in the learning process [3].

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SURXONDARYO VILOYATIDA KUZATILADIGAN CHANG BO‘RONLARINING INSONLAR VA ATROF-MUHITGA TA‘SIRI

Abstract. In the article, the environment of Surkhandarya region under the influence of "Afghan wind" is exposed to heavy pollution, the rise of dust during the "Afghan wind", the increase in the amount of dust in the southern districts of Surkhandarya region and the monitoring data are highlighted.

Key words: "Afghan wind" in Surkhandarya region, dust rise, dust impact, climate change, strong winds, dust aerosols.

Bugungi kunda butun dunyoda kuzatilayotgan iqlim o‘zgarishi tufayli turli xildagi ekologik o‘zgarishlar sodir bo‘lib bormoqda. Iqlim o‘zgarishi markaziy Osiyo davlatlarini ham chetlab o‘tmayapdi, xususan O‘zbekiston Respublikasi hududlarida kuzatilayotgan salbiy oqibatlardan biri bu turli xildagi chang bo‘ronlarining ortib borishi va atmosferada chang zarrachalarining ortib borishini aytishimiz mumkin. Surxondaryo viloyatining janubiy tumanlari Sherobod tumani, Muzrobod tumani, Angor tumani, Termiz tumani va Termiz shahrining iqlimida barcha fasllarda kuzatiladigan tabiiy hodisa bu - kuchli shamollar va chang hodisalari hisoblanib bu hodisa mahalliy tilda “Afg‘on shamoli” ta‘sirida yuzaga keladi deb qaraladi. Shamollar va chang to‘zonlari asosan shimol va g‘arb tomondan jumladan Eron, Turkmaniston va qo‘shni Afg‘oniston hududlaridan kirib keladi.

Chang har qanday modda va jismlarning havoda muallaq holatda turadigan qattiq mayda zarrachalaridir.

Havoda uchib yurgan changlar aerazol deb, yuzaga cho‘kkani esa aerogellar deb ham ataladi.

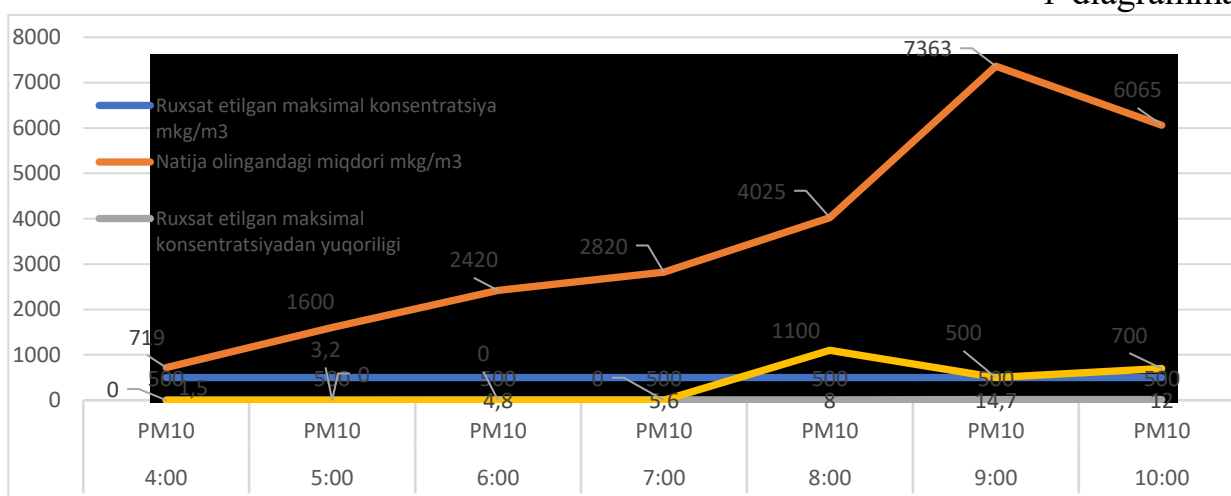
Chang aerodinamik siste'ma bo‘lib, dispersion muhitni havo, dispers fazani esa qattiq zarrachalar tashkil etadi. Chang inson organizmiga doim ta'sir etib turuvchi omillar turkumiga kiradi va ma'lum sharoitlarda organizmga ta'sir ko‘rsatadi.

Surxondaryo viloyatida kuzatiladigan chang bo‘ronlarida ham turli xil kattalikdagi chang zarrachalari uchraydi. Viloyatda kuzatiladigan chang bo‘ronlari vaqtida havodagi chang miqdori ruxsat etilgan konsentratsiyada bir necha marotaba yuqori bo‘lib ketishi esa viloyatning ekologik holatiga katta salbiy ta‘sir ko‘rsatadi. Surxondaryo viloyatida kiyingi kuzatilgan chang bo‘ronlari 3 iyul 2023-yil kuniga to‘g‘ri kelib shu kuni kuzatilgan chang bo‘roni Muzrobod tumani, Angor tumani, Termiz tumani, Jarqurg‘on tumani va Termiz shahri havoning ifloslanishiga ta‘sir qilib unda havodagi chang miqdori quyidagicha aks etgan.

1-jadval

№	Natija olingan vaqt	Chang dispersli	Ruxsat etilgan maksimal konsentratsiya mkg/m ³	Natija olingandagi miqdori mkg/m ³	Ruxsat etilgan maksimal konsentratsiya dan yuqoriligi	Ko'rish uzoqligi metrda (m)
1	04:00	PM10	500	719	1,5	yaxshi
2	05:00	PM10	500	1600	3,2	yaxshi
3	06:00	PM10	500	2420	4,8	yaxshi
4	07:00	PM10	500	2820	5,6	yaxshi
5	08:00	PM10	500	4025	8	1100
6	09:00	PM10	500	7363	14,7	500
7	10:00	PM10	500	6065	12	700

1-diagramma



Xususan 2023-yil 22 iyun kuni Termiz shahrida ob-havo sharoitlari tufayli chang bo'ron hodisasi kuzatildi. Monitoring qilish jarayonlariga ko'ra:

Soat 09:00 da atmosfera havosidagi mayda dispersli PM10 zarrachalarining miqdori 7192 mkg/m³ ni tashkil etdi va ruxsat etilgan maksimal konsentratsiyadan 14 baravar oshib ketdi. Shamol tezligi 5-7 m/s. Ko'rish 500 metr.

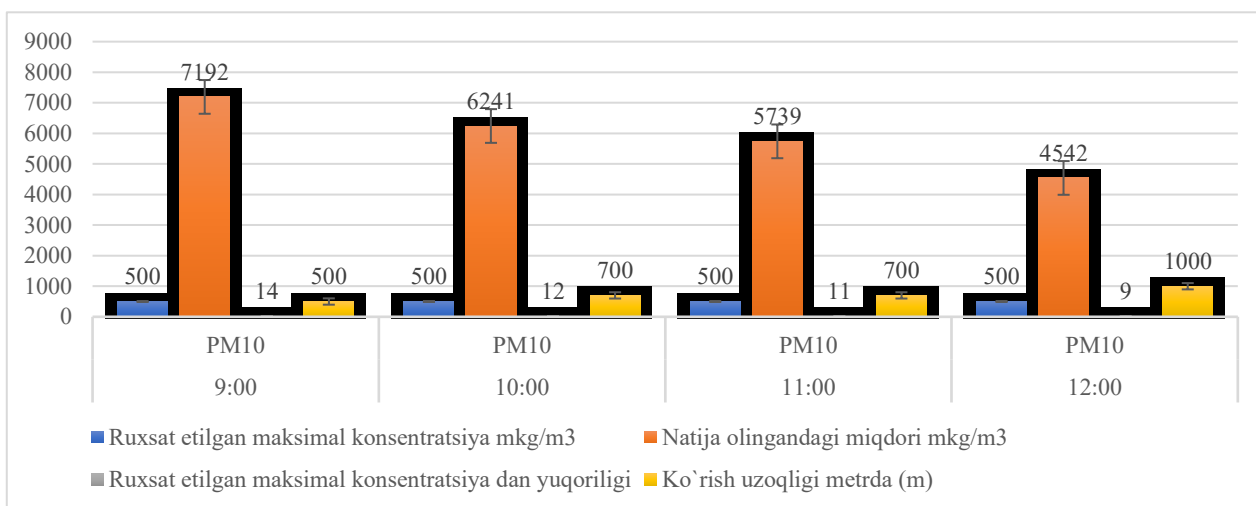
Soat 10:00 da atmosfera havosidagi mayda dispersli PM10 zarrachalarining miqdori 6241 mkg/m³ ni tashkil etdi va ruxsat etilgan maksimal konsentratsiyadan 12 barobar oshib ketdi. Shamol tezligi 7-9 m/s. Ko'rish 700 metr.

Soat 11:00 da atmosfera havosidagi mayda dispersli PM10 zarrachalarining miqdori 5739 mkg/m³ ni tashkil etdi va ruxsat etilgan maksimal konsentratsiyadan 11 barobar oshib ketdi. Shamol tezligi 7-9 m/s. Ko'rish 700 metr.

Soat 12:00 da atmosfera havosidagi mayda dispersli PM10 zarrachalarining miqdori 4 542 mkg/m³ ni tashkil etdi va ruxsat etilgan maksimal konsentratsiyadan 9 marta oshib ketdi. Shamol tezligi 5-9 m/s. Ko'rish 1000 metr.

1-jadval

№	Natija olingan vaqt	Chang dispersli	Ruxsat etilgan maksimal konsentratsiya mkg/m ³	Natija olingandagi miqdori mkg/m ³	Ruxsat etilgan maksimal konsentratsiya dan yuqoriligi	Ko'rish uzoqligi metrda (m)
1	09:00	PM10	500	7192	14	500
2	10:00	PM10	500	6241	12	700
3	11:00	PM10	500	5739	11	700
4	12:00	PM10	500	4542	9	1000



Bu kabi chang ko'tarilishi kamida 12 soatdan 24 soatgacha ayrim vaqtlarda bundan xam ko'proq vaqt davom etishi oqibatida, odamlarning nafas olishi qiyinlashib, o'z navbatida issiq oqim (garmse) kirib kelishiga sabab bo'ladi. Aholining salomatligi yomonlashuviga, ular orasida turli kasalliklar tarqalishiga olib kelmoqda. "Afg'on shamoli" kirib kelishidan oldin va kirishi davomida yurak ishemik kasalligi urtacha 2,5 barobarga, miokard infarkti 3 barobarga, bosh miya insultlari 2,8 barobarga oshganligi kuzatilgan. Ushbu kasalliklar asosan kislorod yetishmovchiligi oqibatida vujudga kelgan. Shuningdek, o'simlik va xayvonot dunyosiga jiddiy zarar yetadi. "Afgon shamoli" ta'sirida yuz beradigan chang bo'ronlari Termiz shahri, Termiz, Muzrobot, Angor va Jarqurg'on tumanlaridagi ko'p yillik daraxtlar yaproqlarini chang qoplashi, xosil pishgan vaqtlarda xosilning bevaqt to'kilishi va o'simlik kasalliklari kuzatilmogda. Qishloq xo'jaligi ekinlari ekilgan yerlarda sho'rlanishlar kuchayib, xosildorlikka salbiy ta'sir ko'rsatadi, (qishlok xo'jaligi ekinlarining xosildorligi o'rtacha 5-10% pasaymogda). Viloyat qishloq va suv xo'jaligi boshqarmasi tomonidan berilgan ma'lumotga ko'ra viloyatda boshqoli don ekinlarining o'rtacha xosildorligi 2009 yilda 56,1 s/ga. bo'lgan bo'lsa, 2018 yilga kelib bu ko'rsatkich 47,1 s/ga. to'g'ri kelgan, shuningdek paxtaning o'rtacha xosildorligi 2009 yilda 29,3 s/ga. bo'lgan bo'lib, 2018 yilda bu ko'rsatkich 19,4 s/ga. ni tashkil etgan bo'lsa bu jarayonlar 2023-yilda ham pasayishda davom etgan. Tuproq deflyatsiyasi, chigit va boshqa

qishloq xo'jaligi ekinlarini shamol uchirib ketishi, irrigatsiya tarmoqlari va dalalarni qum bosishi xolatlarini keltirib chiqaradi.

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SIFATNI BOSHQARISH NAZARIYASI VA AMALIYOTI RIVOJLANISHIDA VATANIMIZ OLIMLARINING QO'SHGAN HISSASI

Annotatsiya. Ushbu maqolada bugungi kunda mamlakatimizda xizmat ko'rsatish sohalarida boshqaruv jarayonlari va sifat mezonlarini oshirish masalalari, Sifatni boshqarish nazariyasi va amaliyoti rivojlanishida vatanimiz olimlarining qo'shgan hissasi muallif tomonidan yoritib berilgan.

Kalit so'zlar: xizmatlar sohasi, mehmonxona xo'jaligi, sifatni boshqarish, metodologik yondashuvlar.

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CONTRIBUTION OF OUR COUNTRY'S SCIENTISTS TO THE DEVELOPMENT OF QUALITY MANAGEMENT THEORY AND PRACTICE

Abstract. In this article, the issues of improving management processes and quality criteria in service sectors in our country today, the contribution of our country's scientists to the development of the theory and practice of quality management are covered by the author.

Key words: service industry, hotel industry, quality management, methodological approaches.

Bizlarning zamonamiz rivojlangan tovar ishlab chiqarish jamiyatlari zamonidir. Tovar ishlab chiqarishning zaminida ixtisoslashuv, kooperatsiya va ayrimboshlash yotadi.

Ixtisoslashuv yuqori mexnat unumdorligini ta'minlaydi va shu bilan jamiyatning farovonligiga asos soladi. Shubxasiz faqat mehnat unumdorligining yuqori cho'qqilariga chiqishgina hozirgi xalq boyliklarini vujudga kelishiga sabab bulgan.

Kooperatsiya tovar ishlab chikarishda mukammal alokalarni yaratish asosida ummuy xarajatlarnikamaytirishga olib kelgan. Masalan: avtomobil motorlarining eng sifatli va arzoni Angliyada ishlab chikariladi. Demak, O'zbekistonda kimmat matorlarni ishlab chikarish urniga arzon motorlarni sotib olib avtomobillarga urnatamiz va "Neksiya"larimiz yanada arzon bo'ladi. Xalqaro

miqyosdagi koopearsiya AKSh, Yaponiya, Singapur Janubiy Koreya kabi davlatlarning rivojlanish negizidir.

Va nixoyat tovar ishlab chiqarish jamiyatining uchinchi va eng muxim elementi ayirboshlashdir. Jamiyat a'zolarining ayirboshlash asosida faoliyat ko'rsatishi ixtisoslashuv va koopearsiyani vujudga keltiradi. Ayirboshlash zarurati ko'proq mahsulot yaratilishiga olib keladi. Ayirboshlash jarayoni ishlab chikarishning zarurligini baholaydi va sifatga e'tibor berishga olib keladi.

Iqtisodiy nazariyada teng ayirboshlash tushunchasi mavjud, ya'ni qiymati teng bulgan buyumlar almashish obyektlari bo'lishi mumkinligiga ta'kidlanadi.

Bu yerda qiymat tariqasida ijtimoiy mehnat sarflari tushuniladi. Ammo shuni e'tiborga olish zarurki, ayirboshlash vaqtida tomonlar ushbu buyumning "qiymatini" o'zlari kelishadilar. Ya'ni tomonlarning fikricha ayirboshlanadigan buyumning foydaliligi berilayotgan buyumdan yuqori bo'ladi. Demak, ayirboshlashda buyumning qiymati emas, balki iste'mol qiymati muhim o'rinni kasb etadi.

Iste'mol qiymati aniq bir shaxsga nisbatan yoki aniq bir buyumga nisbatan namoyon bo'ladi. Xar bir shaxs ushbu buyum qanchalik foydaliligini o'zi xal qiladi. Hozirgi vaqtda ushbu foydalilik darajasini o'rganish va me'yorlashtirish usullari kashf etilgan va muvaffakiyatli qo'llanmoqda. Bozor iqtisodiyotida iste'mol qiymatini buyum bahosiga tenglashtirish tajribasi asosiy urinni egallaydi.

Sifat tushunchasi juda keng ma'noda ma'lum talablarga yoki ko'rsatkichlarga javob berishni anglatadi. Sifat ko'rsatkichlari deganda ma'lum tovar, xizmat, tabiiy yoki siyosiy hodisa va boshqalarning jamiyat qo'ygan talablari tushuniladi. Hayotda xar bir kichik yoki katta narsaga ma'lum talab qo'yiladi. Masalan: Turar joy binosi yashashga mos bulishi kerak; avtomobil yukni tashish vazifasini bajarish kerak, yozda ob-xavo ma'lum darajada bo'lishi kerak va hokazo. Ushbu talablarning bajarilishi mahsulot yoki jarayonning sifatni yokisifatsizligini belgilab beradi.

Mahsulot sifati tushunchasi xam yuqoridagilarga asoslangan xolda ta'riflanadi.

Mahsulot sifati - bu mahsulot yoki xizmatning shunday hossalari va ko'rsatkichlar majmuasini, ular mahsulotda belgilangan yoki potensial ehtiyojlarni qondirish qobiliyatini yaratadilar.

Ushbu atama quyidagilarga asoslanadi:

■ xar bir mahsulot yoki xizmat ma'lum ehtiyojni kondirish uchun yaratiladi, demak uning foydali ko'rsatkichlari oldindan belgilanadi;

■ xar bir mahsulot kuplab turli hossalarga ega va bu hossalari nafaqat oldindan kuzlangan ehtiyojni balki yana boshqa potensial ehtiyojlarni kondirishi mumkin;

■ shu kuplab hossalarning, ichida xaridor yoki iste'molchilarning fakat ehtiyojni kondiruvchi hossalari kiziktiradi.

Demak, mahsulot sifatini albatta iste'molchi nuktai nazaridan kurib chikilishi maksadga muvofikdir. Mahsulot sifatini belgilovchi hossalari birlamchi

sifat belgilari (BSB) deb ataladi. Ushbu birlamchi sifat belgilari mahsulot ishlab chikarish jarayonida ishchilarning psixologik, ijtimoiy va iqtisodiy sharoitlarga turlicha e'tibor berishlari va ularga doimiy ravishda boshqaruv xarakterlarini amalga oshirish bilan bog'liq. Tajriba shuni ko'rsatadiki ishchilarning mehnat qilish sifati mahsulot sifatining eng asosiy omillaridan biri hisoblanadi.

Sifat - bu mahsulotning (xizmatning) belgilangan yoki taxmin kilinadigan ehtiyojlarni kondirish kobilyatini shakllantiruvchi hossalari va ko'rsatkichlar majmuasidir.

Mahsulot - faoliyat yoki jarayonlar natijasi.

Ehtiyojlar - odatda hossalarda yoki ushbu hossalarning miqdoriy ko'rsatkichlarida namoyon bo'ladi. Ehtiyojlar funksional naflilik, xavfsizlik, ekspluatatsiyaga tayyorlik, ishonchlilik, iqtisodiy omillar va atrof muxitni ximoyalash kabi belgilarni uz ichiga olishlari mumkin.

Klass (sort, nav) - hossalari yoki ularning ko'rsatkichlariga tallukli bulgan va xuddi shunday funksional foydalanish uchun kuzda tutilgan mahsulot (xizmatlar) buyicha ehtiyojlarning turli majmualarini xisobga oladigan takkoshlashning nisbiy ko'rsatkichi.

Sifat xalkasi (sifat spirali) - mahsulot (xizmat) sifatiga turli boskichlardan, ya'ni ehtiyojlarni aniklashdan to ularni kondirishini baxolashgacha bulgan boskichlarda ta'sir utkazuvchi uzaro bog'liq faoliyat turlarining sxematik modeli.

Sifat tizimi - sifatning umumiy boshqaruvini amalga oshirilishini ta'minlashga karatilgan tashkiliy tarkib, mas'uliyat, protsedura, jarayonlarning majmuasi.

Sifatni tekshirish - sifat soxasidagi faoliyatni va natijalarni rejalashtirilgan tadbirlarga muvofikligini aniklash imkonini beruvchi muntazam va mustakil taxlil.

Sifat nazorati - ulchovlarni amalga oshirish va belgilangan talablar bilan takkoshlashga karatilgan xarakterlar.

Ishonchlilik - mahsulotning talab kilingan funksiyalarni belgilangan sharoitda belgilangan vakt davomida bajarish kobilyati.

Nomuvofikllik - belgilangan talablarning bajarilmasligi.

Nukson - belgilangan ekspluatatsiya talablarning bajarilmasligi.

Sifatni boshqarishning yana bir uziga xos tizimi "motoresursni oshirish buyicha ishlarni ilmiy tashkil qilish" (NORM) deb ataladi. Ushbu tizimning asosiy elementlariga quyidagilar kiritiladi:

■ ishlab chiqarilgan materiallarning ishonchlilik maxsus tayanch nuqtalari orkali yigilish va kayta ishlash;

■ mahsulotni yaratish soxasidagi jaxon tajribasini urganish, uni ijodiy yondashuv asosida korxonaga moslashtirish imkonini maxsus tuzilgan ilmiy bulinmalar tomonidan tadkikot kilish;

■ motorlarning sifati va xizmat muddatini oshirish buyicha ilmiy izlanishlarga ishlab chikarish faoliyatini buysindirish;

■ ishchi va xizmatchilar malakasini doimiy ravishda oshirish;

■ erishilgan sifat darajasini saklab kolishning tashkiliy - texnik choralarini doimiy ravishda amalga oshirish;

■ mahsulot attestatsiyasini joriy qilish;

■ mahsulotlarni ishlatuvchi iste'molchilar bilan birgalikda motorlar

Korxonalar, tashkilotlar va alohida tadbirkorlar bozor talablarini ta'minlash uchun sifatni boshqarish tizimlarini yaratishga manfaatdirlar. Shu sababli yuqoridagi tizimlarning ijobiy tomonlarini takomillashtirish, zamonga moslashtirish va ommaviy qo'llash davr talabi deb ta'kidlasak mubolaga bulmaydi.

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SIFATNI BOSHQARISHNING AQSH MAKTABI SHAKLLANISHI VA RIVOJLANISHI

Annotatsiya. Ushbu maqolada bugungi kunda mamlakatimizda xizmat ko'rsatish sohasida boshqaruv jarayonlari va sifat mezonlarini oshirish masalalari, sifatni boshqarishning AQSh maktabi shakllanishi va rivojlanishi muallif tomonidan yoritib berilgan.

Kalit so'zlar: xizmatlar sohasi, mehmonxona xo'jaligi, sifatni boshqarish, AQSH tajribasi.

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FORMATION AND DEVELOPMENT OF THE AMERICAN SCHOOL OF QUALITY MANAGEMENT

Abstract. In this article, the issues of improving management processes and quality criteria in the service sector in our country today, the formation and development of the US school of quality management are covered by the author.

Key words: service industry, hotel industry, quality management, US experience.

70-80 yillarga kelib ko'p davlatlarning olimlari va mutaxassislari faqat tayyor mahsulot sifatini tekshirish yo'li bilan sifatga kafolat berib bo'lmaydi degan xulosaga keldilar.

U ancha avvalroq bozor talablarini o'rganish jarayonida, loyihalash va konstruktorlik ishlari jarayonida, ishlab chiqarishning barcha jabhalarida jamlangan mahsulot va materiallarni ta'minlovchilarni tanlashda va albatta, mahsulotni olishda, texnik xizmat ko'rsatishda va ishlatib bo'lgandan so'ng utilitatsiya qilishda ta'minlanishi lozim. Bunday kompleks yondoshish bozorni o'z talabini aniqlashdan boshlanib va o'z ichiga chiqarilayotgan mahsulotni takomillashtirish, ishlab chiqarishga tayyorlash, ishlab chiqarish, sotish va eng kam xarajatlarda sifatni ta'minlash bozor kon'yukturasini hisobga olib «qayta aloqa» va rejalashtirishning foydali sistemasi asosidagi yopiq jarayonni yaratishni ta'minlaydi.

Mahsulotning sifatini pastligi (raqobatbardosh emasligi) – bu abstrakt kategoriya bo‘lmay balki korxonaning yashovchan emasligiga aniq asosdir. Shuning uchun sifat muammosi endilikda strategik muammodek anglanadi.

Mahsulotning raqobatbardoshligini oshirish tartibini qurayotib, korxonalar quyidagi oldinga qo‘yilgan maqsadlarga ega bo‘lishi kerak:

1. Mahsulot sifatiningbozor talabi va aniq xaridor talabiga muvofiq kelishi;
2. Mahsulotning sotib olish, yetkazib berish va foydalanish xarajatlari yig‘indisini kamaytirish;
3. Xaridor istagan muddatga yetkazishni amalga oshirish;
4. Korxonaning bozorda yuqori mavqeini yaratish va korxonaning mustahkam hamkor sifatida tasdiqlaydigan dalillarni keltira bilish.

Korxonaning o‘z maqsadiga erishish qobiliyati, chiqarilayotgan mahsulotning raqobatbardoshligini ta‘minlash, undagi boshqarish va tashkil etish tartibi – sifatni boshqarish tartibidan aniqlanadi.

Sifatni boshqarish tartibi – firmada amal qilinayotgan va foydali texnik, boshqarish usullarini o‘z ichiga olgan, insonlar va mashinalarning o‘zaro munosabatini eng yaxshi va eng qulay usullarni ta‘minlagan va shuningdek sifat uchun qilingan xarajatlarni tejash, ma‘lumotlarni berishni o‘zida namoyon etadigan kelishilgan ish qurilishidir.

Jahon tajribasi va faqat amaldagi sifatni boshqarish tartibini umumiy belgilarini, bplki har birida qo‘llanishi mumkin bo‘lgan prinsip va usullarni barpo etadi. Hozirgi vaqtda konseptual farqlarni o‘z ichiga olgan ba‘zi sifatni boshqarish tartibini uch darajasini ajratish mumkin:

- 9000 seriyasidagi ISO standarti talablariga muvofiq sistemalar
- umumfirma sifatni boshqarish sistemasi (TQM umum sifatni boshqarish-Total Quality Management).
- Milliy mezon va sifat bo‘yicha halqaro (regional) mukofot va diplomlar sistemasi.

Xitoy Xalk Respublikasida maxsulot sifatini kompleks boshkarishning asosi sifatida Yaponiyaning TQS tizimi olingan edi. Ikki yil ichida TQS tizimlari 8200 dan ortik korxonalarda muvaffakiyatli joriy kilinishiga erishildi. Bunday ommaviy xarakat uz natijasini bermay kolmadi. Faoliyatning ikkinchi yil davomida 5300 korxonada maxsulotning talab kilinadigan sifat darajasiga erishishga muvaffak bulindi.

Xitoy korxonalarida fakat 1989 yilning uzida 74 ming sifat tugaraklari shakllantirildi. Sifat tugaraklari faoliyatlarining yillik iktisodiy samarasi 35,6 mlrd.yuangacha yetdi. Xitoy maxsulotlari sifatining oshirish yunalishlarining taxlili ularning aksariyati bozor iktisodiyoti mexanizmini rivojlantirish bilan boglikligi tugrisidagi xulosaga olib keladi.

Xozirgi kunda Xitoyda maxsulot sifatini oshirish asosiy boskichlariga kuyidagilarni kiritish mumkin:

- 1990-1992 yillarda maxsulot sifatini kafolatlash tizimining shakllantirilishi;

- iste'molchilarga sifatsiz maxsulotni rad kilish xukukini kiritish;
- xalkaro standartlar va ularga muvofik bulgan milliy standartlarni faol joriy kilishda davom etish;

- Makroiktisodiy boshkaruv pogonasida xalkaro talablarga javob berish darajasini belgilashga karatilgan yechimlar ishlab chikish;

- milliy korxonalarda TQS tizimini moslashtirishni davom ettirish;

Zero-defekt (ZD) yoki "nukson yuk" degan sifatni boshkarish tizimi. 1962 yilda AKShning xarbiy sanoatida joriy kilingan bulib sungra sanoatning barcha soxalarda keng tarkaldi. "ZD" dasturi yukori sifatning motivlashtirish dasturi bulib, unda statistik, nazorat va kaytish alokalarni puxta ishlab chikishga eng muxim e'tibor karatiladi. Shunisi tan olinadiki, xatolarni tuzatishga ularga yul kuygan xodim boshkalardan kuprok tayyor buladi. Ushbu tamoyil ishlab chikarish sifatining markaziy elementi bulib boshkaruvning barcha pogonalari tomonidan kullab kuvvatlanadi.

Ishlab chikarishdagi xato va nuksonlarning negizida ikkita asosiy sabab yotadi: bilimlar yetishmasligi va e'tiborning yukligi. Birinchi sabab ishchilarni ukitish va kayta ukitish tizimi yordamida bartaraf kilinishi mumkin. Demak "ZD" usulining elementlaridan biri korxonaga personalining bilimlarini doimiy ravishda oshirishga karatilgan.

Dikkatning yukligi jiddiyrok muammo xisoblanadi. Ushbu sabab bilan boglik nuksonlarni tuzatish va oldini olish ancha murakkab. Buning uchun texnologik jarayonlarning, jixozlarning, mexnatga kuyiladigan talablarning uzgartirilishi talab kilinadi. Maxsus chora-tadbirlarning mavjudligi texnik kayta jixozlanishga kushimcha mablag sarflanishini talab kiladi.

Bundan tashkari ishchilarda xatosiz yoki nuksonsiz ishlash mumkinligi tugrisida psixologik ishonch xosil kilish xam bu usulning muvaffakiyati zaminida yotadi.

"ZD" usulini kullashda "xato-sabab-bartaraf kilish" nazorat kartalari markaziy urinni egallaydi. Xar bir ishchi uz ish joyida aniklangan xato va uni tuzatish buyicha maxsus oddiy kartani tuldirib boradi. Xatolarning xar biri texnologik jarayonning oldingi ish joylari bilan mantikan boglangan, shu sababli smenaning oxirida kaysi nuksonlar topilgan, ular kanday tuzatilgan va kimning aybi bilan vujudga kelganligi taxlil kilinishi mumkin buladi.

Barcha muxandislik xizmatlar ishchilarning nuksonsiz ishlash maksadiga buysundiriladi. Ya'ni korxonaga boshkaruv tizimi ishchilarga sifatli xizmat kursatish tizimiga aylantiriladi.

"ZD" sifatni boshkarish tizimining asosiy xususiyatlariga kuyidagilarni kiritish mumkin:

1. Korxonaga faoliyatini baxolashning asosiy mezoni nuksonning uchramasligi xisoblanadi. Xo'jalik-moliyaviy faoliyatning barcha kursatgichlari ushbu mezonga boglanadi yoki buysundiriladi.

2. Tizimda asosiy tashabbus yukori rahbariyat tomonidan chikishi ta'minlanadi. Avvalo, korxonah rahbariyati nuksonsiz ishlashga kizikishlarini namoyon kilishlari zarur.

3. Motivlashtirishning butun jarayonini nuksonsiz ishlashga boglash. Ish xaki moddiy va ma'naviyat ragbatlantirish kasbiy martabani oshirish texnik kayta kurollanish va boshkalar yagona maksadga - nuksonlarning sabablarini bartaraf kilishga xizmat kiladi.

4. Ukitish, ya'ni korxonah mexnat jamoasida doimiy ravishda malaka oshirish va tajriba almashish tizimini shakllantirish.

5. Uzluksizlik. "ZD" tizimida takomillashuv cheksiz bulishi aloxida uktiriladi, ya'ni nuksonlarning yangi sabablari aniklanishi mumkin va ularni bartaraf qilinishi boshka muammolarni oldinga suradi.

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TOURISM OPPORTUNITIES IN UZBEKISTAN AND ITS IMPORTANCE IN INCREASING EMPLOYMENT

Abstract. This article gives a brief overview of the tourist potential and capabilities of the regions of the Republic of Uzbekistan, tourist attraction throughout the country, and changes in tourism development.

Keywords: Tourism, territory, historical monuments, touristic routes, competitive, complex development, regional programs, employment.

Tourism is one of the most promising and rapidly developing sectors of the economy, and is the third largest oil and car industry in terms of revenue generation. In fact, "tourism is a place where people can travel without a permanent residence in their home country, or travel abroad, for health care, hospitality, education or occupational purposes, but do not engage in any moneydriven jobs" in scientific literature [1 p, 236].

There are many opportunities and conditions in Uzbekistan for the development of this sphere. Uzbekistan, as a unique country, has the vast tourism potential of its ancient civilizations and cultures that have been developed, developed and attracted by the world's best destinations for holidays and excursions. Today, there are more than 7,000 rare historical monuments in the country, and unique and unique architectural samples. The country's national parks and national parks are the treasures of its rich and varied nature. The centuries-old traditions of national culture, arts and crafts are carefully preserved and developed in the country. Our world-renowned national cuisine and culinary traditions are a symbol of the hospitality of the East. The cities of Samarkand, Bukhara, Khiva and Shahrizabz are included in the list of UNESCO World Heritage Sitein Uzbekistan, and "The unique event of the most important cultural and socio-economic significance in the history of the world – the Great Silk Road has just passed through the centers of these cities and cultures " is of particular importance [2p.56]

With nearly 3,000 years of history, these cities are now home to international conferences, exhibitions and many prestigious competitions. And each of them has always drawn the attention of the world. Registan Complex, Samarkand Regency Complex, Ulugbek Observatory, Bukhara's Old Fortress, Somoni's Tomb, Khiva's Ichanqala, Karshi Odina, Kokgumbaz monuments, Shakhrisabz's Oksaroi, Cultural Heritage and Kokand County are always crowded with tourists [3 p.24]

Since the early years of gaining independence, memories of great ancestors and saints have been highly respected in Uzbekistan, and memorial complexes of such great people as Abdukholiq Gijduvoni, Bahouddin Nakshband, Imam Bukhari and Imam Moturidi, Burhoniddin Marginiani, Hazrati Imam were built. Today, the pilgrims do not go to these complexes. Our example, many of our past examples of hospitality, have become even more apparent in the years of independence through the improvement of the tourism industry and service sector. At the same time, the Decree of the President of the Republic of Uzbekistan "On tourism" (August 20, 1999) "On training highly qualified personnel for tourism in Uzbekistan" (June 30, 1999) (October 10, 2012) is an important guide to action.

The State Committee for Tourism Development in the country has developed the following touristic routes, depending on the type of travel:

- classical direction (Tashkent, Samarkand, Bukhara, Khiva, Tashkent). This route is linked to the oldest monuments and other historic cultural sites;
- ecologic tourism direction (Chimgan, Charvak rest and treatment camp, Zaamin reserve, Bukhara region).

This area is related to visits to places that are environmentally friendly and useful for protected natural areas and for tourists;

- archeological tourism direction (along Karakalpakstan, Surkhandarya, Samarkand). This area aims to get acquainted with the most ancient finds and archeological excavations in Uzbekistan;

- extreme tourism direction (Chimgan, Fergana valley, Aral, Bukhara, Navoyi region); religious tourism direction (Tashkent, Samarkand, Bukhara, Tashkent) - is related to visiting historical monuments of our country.

In order to further improve the efficiency of existing opportunities in the country, the Decree of the President of the Republic of Uzbekistan "On measures to ensure the accelerated development of the tourism sector of the Republic of Uzbekistan" was adopted on December 2, 2016. According to the decree, Uzbektourism has been transformed into the State Committee for Tourism Development. The Decree of the President of the Republic of Uzbekistan is aimed at ensuring dynamic development of the tourism sector, turning tourism into the strategic sector of the economy, turning it into a powerful means of sustainable development of the country's economy, the effective use of tourism potential in the regions, enhancing the level and quality of life of the population. The decree envisages unprecedented measures to radically reform the sector, determining the transition to a qualitatively new level of state policy in the field of tourism, the following main objectives and priorities are defined:

- formation of favourable conditions for activity of subjects of tourism industry, elimination of barriers and obstacles in development of tourism, simplification of visa and registration procedures, passport and customs control;
- implementation of complex measures to ensure the safety of life and health of tourists and tourists in organizing tourist services;

- accelerated development of new types of tourism - visiting, ecological, educational, ethnographic, gastronomic, sports, health, rural, industrial, business, children, youth and family tourism;

- expansion of cooperation with international and national organizations, large foreign brands and companies in the field of tourism, introduction of advanced world standards of tourism services;

- accelerated development of modern objects of tourism infrastructure, first of all hotels, transport and logistics structures, engineering-communication infrastructure in the regions of the country, wide involvement of foreign investments for these purposes;

- development of competitive tourism products, creation of new tourist destinations in the regions, their promotion to world tourism markets;

- improve the system of qualitative training of qualified personnel for the tourism sector.

- all countries are granted single tourist visas for a period of 30 days, significantly simplify the procedure for obtaining visas, including the online application of visa application requests, as well as the introduction of electronic visa systems starting from 2018.

These procedures will help to raise the positive image of Uzbekistan in tourism, considerably increase the flow of tourists to the country, and strengthen the business activity in this area.

In summary, it can be said that the country has a vast tourist potential, one of the main factors in the development of tourism is peace, stability, mutual respect and solidarity.

Because of the similar feelings in the Uzbek people, tourism in Uzbekistan is increasing and the number of tourists is increasing day by day.

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THE INFLUENCE OF TOURISM ON THE ECONOMY AND SOCIO-CULTURAL LIFE IN THE COUNTRY: THEORETICAL ASPECT OF THE ISSUE

Abstract. General concepts of why it is necessary to develop the tourism sector; types of tourism; which development of which sectors of the economy can be affected by tourism; factors influencing the development of regional tourism or possible factors impeding the development of this area.

Key words: the need for tourism development, tourism facilities, development of new tourism destinations, supporting tourism infrastructure.

Tourism provides an opportunity to get acquainted with the culture of other countries and regions, satisfies a person's curiosity, enriches him spiritually, improves his physical health, and promotes personal development. It allows you to combine relaxation with learning new things.

The most popular types of tourism

Recreational tourism: sea, sun, beach...

Cultural and historical tourism: for the most curious...

Medical and health tourism: with health benefits...

Sports and extreme tourism: for those who appreciate adrenaline and obstacles...

Business tourism: business without barriers [1].

It should be noted that the tourism infrastructure includes a variety of tourist resources, which are the basis for creating a tourist product and forming tourist attractiveness, they create tourist interest, provide motivation for tourists and increase the competitiveness of a tourist destination [2].

What can contribute to the development of tourism?

The tourism industry is a diversified industrial complex engaged in the reproduction of conditions for travel and recreation, that is, the production of a tourist product. It is one of the most significant economic sectors in the world, and for some developing countries it is the main economic sector (Cyprus, Malaysia, Thailand, etc.).

However, the definition of the tourism industry as a complex of enterprises in the production and non-production spheres, providing tourism services and producing goods of tourist demand, is a consequence of the sectoral approach. Therefore, it is worth considering that the tourism industry is not only a collection of the above listed enterprises, but is one of the forms of territory development. Economic factors in the development of tourism The industrial era, in which

material well-being was the main value, is being replaced by the post-industrial era, where the main goal is impressions and sensations. Important factors influencing the development of tourism were the development of transport, communications, growing mobility, urbanization, reduction of working hours, and growth of social wealth. Under these conditions, the socio-economic position of tourism is rapidly strengthening. Its share in global trade in services is more than 30%. In the world market, the tourism product is the leader along with oil. The annual growth of investment in the tourism industry is about 35%. Tourism has become one of the most profitable types of business and today uses up to 7% of global capital.

The rapid strengthening of the financial and economic position of the tourism industry has led to the fact that in many countries of the world tourism has become a significant factor in regional development. Territorial authorities of various hierarchical levels, from counties and districts to federal authorities, take care of the development of tourism and areas with valuable recreational resources. Tourism is considered as a catalyst for the regional economy, allowing the use not only of the entire range of recreational resources, but also the most effective use of the total production and socio-cultural potential of the territory while maintaining environmental and cultural diversity. Based on this, the authorities initiate the development of a strategy for tourism activity, together with business — development of tourism infrastructure, creation of national parks and recreational areas, attraction of investments and increase in the number of visits to the region [3].

Why is tourism so important?

Tourism is one of the most important sectors of the world economy. The tourism sector employs one in ten people on earth and provides the livelihoods of hundreds of millions more. It grows economies and allows countries to prosper.

It allows people to discover some of the world's cultural and natural riches and brings people closer together, highlighting our common humanity. Indeed, it can be said that tourism itself is one of the wonders of the world [4].

What factors influence the development of tourism?

Factors promoting the development of domestic and inbound tourism are:

- political
- the presence of a democratic rule of law state
- economic
- the achieved level of domestic and incoming tourist flow
- social
- favorable image of the country
- cultural
- cultural and historical potential
- natural
- environmental

Culture is the fundamental basis of the process of development, preservation, strengthening of independence, sovereignty and identity of peoples. The purpose of cultural development is to ensure well-being and meet the needs of society and each person. This means that every person, every nation has the right to receive information, acquire knowledge and pass on their experience.

The similarity of the paths of historical evolution of culture and tourism predetermined the commonality of new methods of approach to their further development: over the past forty years, the process of democratization of culture and tourism has been taking place in most countries of the world. Culture and tourism form an integral part of human life. Self-awareness and knowledge of the world around us, personal development and achievement of set goals - all this is unthinkable without acquiring cultural knowledge at home, at work and while traveling.

Over the past decades, the concepts of “culture” and “tourism” have expanded, and there are still no final and generally accepted definitions of these concepts, as they are in the process of transformation. At the Mexico City Conference (1981), two definitions of culture were used. One is of a more general nature, based on cultural anthropology and including everything that man has created in addition to nature: all directions of social thought, economic activity, production, consumption, literature and art, lifestyle and expression of human dignity. The other is of a more specialized nature and is built on the “culture of culture,” that is, on the moral, spiritual, intellectual and artistic aspects of human life.

What is needed to develop domestic tourism?

To develop domestic tourism, it is necessary to develop tourism clusters with accessible accommodation facilities, restaurants, cafes, leisure and entertainment centers, as well as sports activities for various categories of travelers.

What impact does tourism infrastructure have on tourism development?

Tourism infrastructure is proposed to be considered as a set of interconnected structures, including tangible and intangible components that support tourism activities. The degree of development of tourism infrastructure affects the competitiveness of a tourist destination.

What factor plays a key role in the development of tourism?

The goals, types and forms of travel, tour planning are closely related to certain geographical areas and objects. Therefore, the geographical factor plays a key role in tourism.

What is enabling infrastructure?

Supporting infrastructure – objects of transport, energy, utilities, social, digital infrastructure used exclusively for the purpose of implementing the investment project.

What types of tourism can be developed?

Priority types of tourism in Uzbekistan:

- Children's tourism
- Cultural and educational tourism
- Ski tourism
- Ecological tourism

What is needed to develop domestic tourism?

To develop domestic tourism, it is necessary to develop tourism clusters with accessible accommodation facilities, restaurants, cafes, leisure and entertainment centers, as well as sports activities for various categories of travelers.

Why is tourism so important?

It grows economies and allows countries to prosper. It allows people to discover some of the world's cultural and natural riches and brings people closer together, highlighting our common humanity. Indeed, it can be said that tourism itself is one of the wonders of the world.

What types of tourism are developing?

Cultural and historical tourism UNESCO and the WTO play a leading role in coordinating and standardizing global cultural and tourism activities....

Cycle tourism is one of the most environmentally friendly and healthy types of tourism.

- Ecological tourism...
- Rural tourism...
- Medical and health tourism

What types of tourism objects are there?

Objects of visit for tourists are monuments of architecture, history, culture, places associated with important historical events and personalities, museums, art galleries and other educational tourism sites. Cultural, entertainment, business, sports and other types of tourism are actively developing.

What is enabling infrastructure?

Supporting infrastructure – objects of transport, energy, utilities, social, digital infrastructure used exclusively for the purpose of implementing the investment project.

What is the main tourism product?

The tourism product includes basic and additional services: Basic - services that are included in the tourist package and are purchased by the tourist at his place of residence. Additional - services not provided for in the voucher or travel package, brought to the consumer in the mode of his free choice.

What are the disadvantages associated with tourism development?

One of the main problems hindering the development of tourism in Uzbekistan is the lack of convenient and accessible infrastructure. The lack of modern hotels, hotels and other tourist facilities makes it difficult for tourists to have a comfortable stay and discourages potential visitors.

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YURAK ISHEMIK KASALLIGI BOR BEMORLARDA GASTREZOFAGEAL REFLUKS KASALLIGI RIVOJLANISHINING ÒZIGA XOSLIGI

Annotatsiya. Gastroezofagial reflyuks kasalligi (GERD) va yurak ishemik kasalligi (IHD) murakkab patofiziologik o'zaro bog'liqliklarga ega bo'lgan keng tarqalgan holatlardir. GERD va IHD ning birgalikda mavjudligi keng e'tirof etilgan bo'lsa-da, IHD bilan og'rigan bemorlarda GERD rivojlanishining o'ziga xos xususiyatlari hali ham yaxshi tushunilmagan. Ushbumaqola bir vaqtning o'zida IHD bo'lgan odamlarda GERD patogenezini va klinik ko'rinishlarining o'ziga xos jihatlari yoritishga qaratilgan bo'lib, asosiy mexanizmlar, diagnostika muammolari va terapevtik ta'sirlari haqida tushuncha beradi.

Kalit so'zlar: Gastroezofagial reflyuks kasalligi (GERD), yurak ishemik kasalligi (IHD), patofiziologik o'zaro ta'sir, vegetativ asab tizimi (ANS), umumiy xavf omillari, diagnostika muammolari, terapevtik ta'sirlar, kardio-qizilo'ngach o'qi, simptomlarning bir-biriga mos kelishi, multidisiplinar boshqaruv.

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CHARACTERISTICS OF THE DEVELOPMENT OF GASTROESOPHAGEAL REFLUX DISEASE IN PATIENTS WITH ISCHEMIC HEART DISEASE

Abstract. Gastroesophageal reflux disease (GERD) and ischemic heart disease (IHD) are prevalent conditions with complex pathophysiological interconnections. While the coexistence of GERD and IHD has been widely acknowledged, the peculiarities of GERD development in patients with IHD remain poorly understood. This article aims to shed light on the specific aspects of the pathogenesis and clinical manifestations of GERD in people with concurrent IHD, providing insight into the underlying mechanisms, diagnostic challenges, and therapeutic implications.

Key words: Gastroesophageal reflux disease (GERD), ischemic heart disease (IHD), pathophysiological interplay, autonomic nervous system (ANS), shared risk factors, diagnostic challenges, therapeutic implications, cardio-esophageal axis, symptom overlap, multidisciplinary management.

Gastroezofagial reflyuks kasalligi (GERD) va yurak ishemik kasalligi (IHD) ikki keng tarqalgan va ko'p qirrali tibbiy holat bo'lib, butun dunyo bo'ylab millionlab odamlarga birgalikda ta'sir qiladi. An'anaviy ravishda alohida ob'ektlar sifatida qaralsa-da, paydo bo'layotgan dalillar ushbu kasalliklar o'rtasida sezilarli o'zaro bog'liqlikni ko'rsatadi va klinisyenlarga noyob diagnostika va terapevtik qiyinchiliklarni taqdim etadi. Darhaqiqat, GERD va IHD ning birgalikda mavjudligi yurak ishemik patologiyasi bo'lgan bemorlarda GERD rivojlanishining o'ziga xos xususiyatlari haqida qiziqarli savollar tug'diradi.

GERD va IHD o'rtasidagi bog'liqlikning tobora ortib borayotgan e'tirofiga qaramay, ularning o'zaro bog'liqligining bir qancha jihatlari hali ham yaxshi tushunilmagan. Ushbu maqolaning maqsadi yurak ishemik kasalligi bo'lgan bemorlarda GERD rivojlanishining o'ziga xos xususiyatlarini o'rganish, asosiy mexanizmlarni, klinik ko'rinishlarni, diagnostika muammolarini va terapevtik oqibatlarini yoritishdir. Ushbu nuanslarni yoritib, biz GERD va IHD o'rtasidagi murakkab o'zaro ta'sirni tushunishimizni yaxshilashga va birgalikda mavjud bo'lgan bemorlarni boshqarishda dalillarga asoslangan yondashuvlar haqida ma'lumot berishga harakat qilamiz.

Gastroezofagial reflyuks kasalligi (GERD) va yurak ishemik kasalligi (IHD) butun dunyo bo'ylab millionlab odamlarga ta'sir qiladigan ikkita keng tarqalgan holat. Bir-biriga bog'liq bo'lmagan bo'lsa-da, paydo bo'layotgan tadqiqotlar ushbu kasalliklar o'rtasidagi muhim o'zaro bog'liqlikni ko'rsatadi, ularning murakkab munosabatlariga va klinik boshqaruvda yuzaga keladigan qiyinchiliklarga oydinlik kiritadi.

Oshqozon kislotasining qizilo'ngachga teskari oqimi bilan tavsiflangan GERD, oshqozon yonishi, regurgitatsiya va ko'krak og'rig'i kabi alomatlar bilan namoyon bo'ladi. Boshqa tomondan, koronar arteriya kasalligi sifatida tanilgan IHD, toraygan koronar arteriyalar tufayli yurak mushagiga qon oqimining kamayishi natijasida paydo bo'lib, ko'krak og'rig'i yoki angina kabi alomatlarga olib keladi.

GERD va IHD ning birgalikda paydo bo'lishi tasodifiy emas. Ularning birlashishiga bir nechta omillar, jumladan, semirish, chekish va ovqatlanish odatlari kabi umumiy xavf omillari hissa qo'shadi. Biroq, bu shartlarni bog'laydigan fiziologik mexanizmlar faqat xavf omillarining bir-biriga mos kelishidan tashqariga chiqadi.

GERD va IHDni bog'laydigan markaziy mexanizmlardan biri avtonom nerv tizimini (ANS) o'z ichiga oladi. ANS yurak urish tezligi, qon bosimi va ovqat hazm qilish kabi turli xil tana funktsiyalarini tartibga soladi. GERD bilan og'riqan bemorlarda ANS disfunktsiyasi qizilo'ngachning anormal harakatlanishiga va pastki qizilo'ngach sfinkterining (LES) bo'shashishiga olib kelishi mumkin, bu esa oshqozon tarkibini qizilo'ngachga qaytarishini osonlashtiradi. Qizig'i shundaki, ANSning bu disregulyatsiyasi IHD patogenezida ham bog'liq bo'lib, koronar arteriya spazmi va miyokard ishemiyasiga yordam beradi.

Bundan tashqari, bir holatni davolash uchun ishlatiladigan dorilar ikkinchisini kuchaytirishi mumkin. Masalan, kaltsiy kanal blokerlari, gipertenziya va angina uchun buyurilgan dorilar guruhi, GERD bilan og'rigan bemorlarda refluksiyani rag'batlantiradigan LESni bo'shatishi mumkin. Xuddi shunday, GERDni davolashning asosiy yo'nalishi bo'lgan proton pompasi inhibitörleri (PPI) IHD bo'lgan bemorlarda yurak-qon tomir kasalliklari, shu jumladan miyokard infarkti xavfining oshishi bilan bog'liq.

GERD belgilari angina simptomlarini taqlid qilishi mumkin, bu esa IHD bilan og'rigan bemorlarda diagnostika uchun qiyinchilik tug'diradi. Ko'krak qafasidagi og'riq, ikkala holatning o'ziga xos belgisi, yurak va yurak bo'lmagan sabablarni farqlash uchun ehtiyotkorlik bilan baholashni talab qiladi. IHD bilan og'rigan bemorlarda GERDni ko'krak qafasidagi og'riqning potentsial hissasi sifatida tan olmaslik keraksiz yurak aralashuviga va GERDni davolashning kechikishiga olib kelishi mumkin.

Bundan tashqari, IHD bilan og'rigan bemorlarda GERD mavjudligi ularning hayot sifati va prognoziga salbiy ta'sir ko'rsatishi mumkin. Surunkali refluks belgilari ko'krak qafasidagi og'riqni kuchaytirishi, aritmiyalarni tezlashtirishi va uyquni buzishi mumkin, shu bilan yurak-qon tomir natijalarini yomonlashtiradi va funktsional imkoniyatlarni pasaytiradi.

GERD va IHD o'rtasidagi murakkab munosabatlarning tobora ortib borayotgan e'tirofiga qaramay, optimal boshqaruv strategiyalari qiyinligicha qolmoqda. Ikkala holatda ham bemorlarni har tomonlama baholash va davolash uchun kardiologlar, gastroenterologlar va birlamchi tibbiy yordam shifokorlarini o'z ichiga olgan multidisipliner yondashuv juda muhimdir.

Og'irlikni yo'qotish, dietani o'zgartirish va chekishni tashlashni o'z ichiga olgan turmush tarzini o'zgartirish IHD bo'lgan bemorlarda GERDni davolashning asosini tashkil qiladi. Bundan tashqari, PPI va H2 retseptorlari antagonistlari kabi dori-darmonlardan oqilona foydalanish, ularning yurak-qon tomir xavfini hisobga olgan holda, bemorning individual ehtiyojlariga moslashtirilishi kerak.

Bundan tashqari, Barrett qizilo'ngach kabi refrakter simptomlari yoki asoratlari bo'lgan bemorlar GERD bilan bog'liq morbiditni engillashtirish uchun jarrohlik fundoplikatsiya yoki endoskopik muolajalarni o'z ichiga olgan ilg'or aralashuvlarni talab qilishi mumkin.

Xulosa qilib aytganda, GERD va IHD ning birgalikda mavjudligi ularning umumiy patofiziologiyasi va moslashtirilgan terapevtik yondashuvlarni chuqur tushunishni talab qiladigan klinik jumboqdir. Ikkala shartni ham har tomonlama ko'rib chiqish orqali tibbiyot xodimlari bemorning natijalarini yaxshilashlari va ularning hayot sifatini yaxshilashlari mumkin. Ushbu qiziqarli munosabatlarning murakkabliklarini aniqlash va shunga mos ravishda boshqaruv strategiyalarini takomillashtirish uchun doimiy tadqiqot harakatlari kafolatlanadi.

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APPLICATION OF ISLAMIC FINANCIAL INSTRUMENTS IN THE INSURANCE MARKET

Abstract. This article explores the use of Islamic financial instruments in the insurance sector, specifically emphasizing takaful. This study analyzes the experiences of other countries in integrating takaful into their domestic insurance systems and explores the potential for its implementation in the Uzbek market. The focus is mostly on the techniques and systems used to implement takaful, along with suggestions for improving the insurance industry within the framework of Islamic finance. The conclusion emphasizes the capacity of takaful to enhance financial stability and attract investment to Uzbekistan.

Keywords: Takaful, Islamic insurance, financial instruments, insurance market, Sharia principles.

Introduction

Islamic financial products are gaining significance on the global arena due to globalization and heightened intercultural engagement. This is particularly evident in areas such as insurance, where conventional Western practices are starting to merge with Sharia rules, resulting in the emergence of novel financial products like takaful. Takaful is a kind of insurance that adheres to Islamic principles and provides equitable and cooperative methods for sharing risks and benefits.

Countries with a primarily Muslim population are increasingly incorporating Islamic financial instruments into their insurance industry to meet the rising demand for products that adhere to Islamic principles. This trend is particularly evident in the Middle East, Southeast Asia, and some areas of Eastern Europe and Central Asia, where takaful is not only emerging as an alternative to conventional insurance, but also as a substantial component of the financial system.

When examining Islamic insurance, particular emphasis is placed on its essential distinctions from traditional insurance practices. Takaful principles strictly prohibit the inclusion of interest (riba), significant uncertainty (gharar), and speculation (maisir). These qualities constitute a distinctive insurance model that not only adheres to the moral and ethical principles of Muslims, but also presents novel prospects for the whole global financial world in terms of creating and executing insurance products.

Literature review

The integration of Islamic financial instruments in the field of insurance continues to attract the attention of many researchers. The growing interest in

takaful as an alternative model of insurance necessitates a more in-depth analysis of theoretical and empirical works devoted to this topic.

Theoretical works often focus on the analysis of the Sharia principles underlying takaful. Al-Sulaimi's (2015) study deeply analyzes the principles of gharar, maysir and riba, discussing how their avoidance contributes to the formation of fair and transparent insurance practices. Khalid and Malik (2016) develop this theme by exploring how Islamic ethics can be integrated into global financial systems to increase the trust and resilience of markets.

Empirical work includes the analysis of data on the sale of takaful in different countries. Shah (2017) presents data on the growth of takaful in Southeast Asia, highlighting how government support is helping to accelerate the integration of Islamic finance into regional insurance systems. Zaruka (2018) highlights the experience of takaful in MENA countries, pointing out significant differences in the uptake and adaptation of these financial instruments due to cultural and economic factors.

A number of works compare traditional and Islamic methods of insurance. A study by Butler and Hussain (2019) demonstrates that takaful can offer a more sustainable and attractive environment for consumers, contributing to its growth even in non-Islamic countries. These findings are reinforced by the work of Ghani and Zhang (2020), who analyze consumer perceptions of takaful and traditional insurance in the context of consumer trust and satisfaction. The review shows that the successful implementation of Islamic financial instruments in insurance depends on many factors, including cultural, economic and regulatory aspects. A growing body of research confirms the potential of takaful to create fairer and more sustainable financial systems.

Analysis and results

Table 1. Methods and mechanisms of takaful in Malaysia and Indonesia

Country	Methods and mechanisms
Malaysia	Development of educational programs, regulation of the sector
Indonesia	Incentives through tax incentives, active regulation

Source: prepared by the author

Malaysia has successfully implemented takaful, actively using educational programs to raise awareness of the principles and benefits of Islamic insurance. Regulation of the sector includes strict regulations on compliance with Sharia laws, which increases confidence in takaful. This is an approach that Uzbekistan could consider to stimulate the development of its takaful market.

Indonesia is using tax incentives to boost interest in takaful by introducing tax incentives for companies and individuals participating in takaful programs. Active regulation helps to ensure that operations are Sharia compliant, making the market more attractive to Muslim investors. These measures can be adapted by Uzbekistan to accelerate the integration of Islamic insurance products.

Table 2. Experience of Saudi Arabia, Bahrain and the UAE in Takaful

Country	Methods and mechanisms
Saudi Arabia	Strict adherence to Sharia principles, public administration
Bahrain	International cooperation, development of the regulatory framework
United Arab Emirates	Innovative financial products, attracting foreign investment

Source: prepared by the author

Saudi Arabia ensures strict adherence to Sharia principles in all aspects of financial activities, including takaful. Public administration plays a key role in setting standards and monitoring compliance with legislation, which creates a solid basis for confidence in Islamic insurance.

Bahrain is actively working to strengthen international ties and develop its regulatory framework for insurance. This allows not only to adapt the best world practices, but also provides flexibility in the integration of new financial products, which can be useful for Uzbekistan in the development of international cooperation in the financial sector.

The United Arab Emirates stands out for its openness to innovation and foreign investment. The creation of innovative financial products, such as investment platforms and digital insurance solutions, makes the UAE market one of the most progressive in the field of takaful.

Recommendations

Analyzing the experience of using Islamic financial instruments in insurance on the example of various countries, it is possible to identify key aspects that will help Uzbekistan adapt and successfully implement such instruments in its market. These recommendations are aimed at improving the regulatory environment, increasing the awareness and competence of market participants, and stimulating innovation in the insurance sector.

1. Development and improvement of the legislative framework: It is necessary to create a clear and transparent legislative framework that will regulate the activities of Islamic insurance companies in Uzbekistan, based on successful international practices and features of the national market. This includes the standardization of insurance products and processes that comply with Sharia principles.

2. Training and Certification: Organization of specialized courses and programs for insurers and financial analysts on the basics of takaful and other Islamic financial instruments. This will increase the level of professionalism of market participants and help to better understand the needs of Shariah-compliant clients.

3. Promotion and marketing: Developing information campaigns to raise awareness among the population about the benefits and features of Islamic insurance. This may include conducting seminars, publishing articles, and creating online resources with information about takaful.

4. Innovation and technological development: Driving the introduction of innovative technologies in the insurance process, such as blockchain and artificial intelligence, to create transparent and efficient insurance products that comply with Sharia requirements. This also includes the development of mobile applications and online platforms that simplify the insurance process and make it more accessible.

5. Creation of insurance pools and syndicates: The organization of joint insurance pools and syndicates that allow the distribution of risks among a larger number of participants, thereby reducing insurance premiums and increasing the availability of takafulas to a wider population.

6. International cooperation: Establishing partnerships with international organizations and insurance companies working in the field of takaful to exchange experience, attract investment and build confidence in the Uzbek insurance market.

These recommendations offer a comprehensive approach to the integration and development of Islamic financial instruments in the insurance sector of Uzbekistan, which will not only strengthen the country's position in the international financial market, but also provide new opportunities for economic growth and development.

Conclusion

Islamic financial instruments, in particular takaful, represent a promising direction for the development of the insurance sector in Uzbekistan. Examples from various countries that have successfully integrated Islamic insurance products highlight the importance of adapting and implementing these methods to national characteristics and needs. This not only contributes to the strengthening of the country's financial system, but also opens up new opportunities for economic growth and attracting investment.

The implementation of takaful in Uzbekistan will require a comprehensive approach, including the development of legislation, training of specialists, informing the population and stimulating innovation. The implementation of these steps will create an insurance market that not only meets international standards, but also reflects the cultural and religious characteristics of the Uzbek people.

Positive changes in the Uzbek insurance market, based on takaful principles, can help increase confidence in insurance operations, expand insurance coverage and, as a result, improve the overall economic well-being of the population. In the long term, this will lead to a more sustainable and dynamic financial sector that is ready to meet both modern challenges and the needs of all segments of society.

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ARAB TILIDA KO'MAKCHI FE'LLARNING MORFOLOGIK TASNIFI VA GRAMMATIK XUSUSIYATLARI

Annotatsiya. Mazkur maqola arab tilida yorgamchi fe'llarning grammatik xususiyatlarini ochib berishga qaratilgan. Shuningdek, Mahmud Zamaxshariyning "Al-Mufassal" asarida keltirilgan kaana va axovaatuha, kaada va axovatuhaa yordamchi fe'llarni morfologik va grammatik tahlil ko'rishida ko'rib chiqilgan.

Kalit so'zlari: ko'makchi fe'llar, yordamchi fe'llar, kaada va axovatuhaa, raf holatdagi ism, nasb holatdagi xobar, afa'l al-muqoraba, fe'l ul-asa'a, kada va fe'l ul-madi.

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MORPHOLOGICAL CLASSIFICATION AND GRAMMATICAL CHARACTERISTICS OF AUXILIARY VERBS IN ARABIC

Abstract. This article aims to reveal the grammatical features of verbs in Arabic. Also, the auxiliary verbs kaana and axovaatuha, kaada and axovatuhaa mentioned in Mahmud Zamakhshari's work "Al-Mufassal" were considered in the form of morphological and grammatical analysis.

Key words: auxiliary verbs, auxiliary verbs, kaada va axovatuhaa, noun in the case of raf, noun in the genitive case, afa'l al-muqoraba, fe'l ul-asa'a, kada and fe'l ul-madi.

Arab tilida ko'makchi fe'llar mavzusi juda keng va murakkab mavzulardan hisoblanadi. Ularni farqlash va tasniflashdan avval uning o'zi haqida qisqacha ma'lumot berish maqsadga muvofiq bo'ladi.⁹

Ko'makchi fe'llar deb sub'yektning ish harakatini bildiruvchi yetakchi fe'l bilan birga kelib, unga turlicha qo'shimcha ma'no beruvchi fe'llarga aytiladi. Arab va o'zbek tilshunoslari ko'makchi fe'llarga bergan ta'riflari bir-biridan qisman farqlansada, ular deyarli farq qilmaydi.¹⁰

Bu fe'llar ega va kesimni o'zgartiruvchi fe'llar tarkibiga kiritiladi. Darhaqiqat ular egani bosh kelishikda, kesimni tushum kelishigida keltiradi.

9 Nasirova Malika. Arab tili grammatikasining nazariy masalalariga oid qarashlar. – T.: QAMAR MEDIA, 2020. 70-b

10 Ibrohimov N. Yusupov M. Arab tili grammatikasi. II jild — Namangan, 2009.-B.243

Shuning uchun u bosh kelishikdagi ism, tushum kelishigidagi kesim deyiladi. Ularning noqisligi shundaki "ضَرَبَ" و "قَتَلَ" kabi fe'llarga yordamchi fe'l bo'ladi. Qachonki gapda kesim bosh kelishik olib, bu yordamchi fe'llar tushurib qoldirilganida bosh kelishik bilan tushum kelishigi birga kelmaydi. (Izoh: ko'makchi fe'llar fe'l-kesim bilan bog'langanda unga qo'shimcha ma'no anglatadi, yoki yordamchi fe'llardan so'ng ega va kesim bo'lmasa u gap bo'lmaydi.

كاد وأخواتها

(أقسامها)

ما يدل على الشروع

ما يدل على الرجاء

ما يدل على العقابية

نُشَأَ - طَفِقَ - عَطِقَ

صَى - أَخْلَوَقَ

كَلَدَ - أَوْشَكَ

أَخَذَ - وَهَبَ - بَدَأَ

حَرَى

كَرَبَ

[معنى «كاد، أوشك، كرب»]

قال صاحب الكتاب: ومنها «كاد» ولها اسم وخبر، وخبرها مشروط فيه أن يكون فعلاً مضارعاً متأولاً باسم فاعل، كقولك: «كاد زيد يخرج».¹¹

"kad"ning ism va kesimi bo'lib, kesimi ismi foilni izohlovchi hozirgi-kelasi zamon fe'li bo'lishi kerak. Masalan: «كاد زيد يخرج» - Zayd chiqayozdi deganiz kabi.

"kan" kabi ot-kesimni tushum kelishigi holatiga qo'yuvchi fe'llar toifasidan biri "af'alu-l-muqaraba"dir. Bu fe'l sirasiga kad, karb, awshak, fe'llari kiradi. Bu fe'llar ish xarakatni boshlanishiga yaqin, oz vaqt qolganini bildiradi. Af'alu-l-muqaraba fe'llaridan keyin kelayotgan kesim butun bir jumla shaklida bo'lishi mumkin.¹² Masalan: "كَادَتْ الشَّمْسُ تَشْرُقُ" – Quyosh Sharqdan chiqay dedi.

Arab tilshunoslari ushbu jumlaning quyidagicha tahlil qiladilar:

(كاد) فعل ماض ناقص من أخوات (كان) مبني على الفتح. و (التاء) للتأنيث و (الشمس) اسم كاد مرفوع و علامة الرفع الضمة الظاهرة. (تشرق) فعل مضارع مرفوع لتجرده من الناصب و الجازم و علامة الرفع من الجملة الضمة الظاهرة. و الفاعل ضمير مستتر جوازا تقديره (هي). والجملة من الفعل و الفاعل في محل نصب خبر (كاد).

"kan" guruhiga mansub va fatha bilan tugallanadigan, ya'ni o'zgaras fe'ldir.

"kad" ning egasi bosh kelishikda va buning ko'rsatkichi al-damma az zoxiradir.

"shart (jazzm) va istak (nasb) yuklamalaridan holi bo'lgani uchun darak maylidagi hozirgi zamon fe'lidir. Uning darak mayliga ishora qiluvchi belgi

11 Sharhu al-Mufasssal limahmud al-Zmkhshry.doc. Emiel Barie Yaqub. n.Dar al-kitaab al-ilmiyya.Bayrut Lubnan.2001y..-B.376

12 Nosirova M. Arab tilidagi ko'makchi fe'llarning semantik tasnifi.// Islom ziyosi. –T.: O'zXIA. 2020, №3.-B.98

ad-damma az-zohiradir. Uning "الفاعل"ning taqdiri هي bo'lgan (ma'nosini beruvchi) ad-damir mustatirdir. Jumla ega va fe'l-kesimdan tashkil topgan bo'lib "كاد" fe'lidan keyin tushum kelishigi holatida turadigan kesim o'rnidadir.¹³

"كاد"ga nisbatan kesim bo'lib kelayotgan jumla ko'pincha أن yuklamasi bilan keladi.

"كاد" fe'li inkor yuklamasi bilan kelganda, "zo'rg'a", "deyarli" ma'nolarini bildiradi.

Masalan: لَا نَكَادُ نَفْهَمُ هَذَا

"كاد" fe'lidan so'ng asosiy fe'l hozirgi kelasi zamonda, "أَوْشَكَ" fe'lidan keyin esa "أَنْ" yuklamasi bilan istak maylida keladi.

Masalan: كَادَ الطِّفْلُ يَمُوتُ مِنَ الْخَوْفِ

"كاد" boshqa fe'llarga o'xshab agar undan oldin inkor so'zi kelsa, o'z ma'nosi va kesimining ma'nosida inkor bo'ladi. Aks holda musbat (bo'lishli) bo'ladi. الصبي الوقوع، فمقاربة الوقوع ثابتة، و لكن الوقوع كاد الصبي يقع قارب bo'ladi. ya'ni Bola yiqilay dedi, Bola yiqilishga yaqinlashdi, yaqinlashish esa sobit, lekin yiqilish sodir bo'lmadi.

لم يقارب الصبي الوقوع فمقاربة الوقوع منفية، إنما كاد الصبي يقع bo'ladi, ya'ni bola yiqilishga yaqinlashmadi, yaqinlashish esa inkor bo'lmoqda.

إذا انصرفت نفسي عن الشيء لم تكذب — إليه بوجه — آخر الدهر تقبل¹⁴

Agar ko'ngil bir narsadan sovub ketsa, to abad hech bir yo'l bilan unga(o'sha narsaga) qaytmaydi.

Zamaxshariy كاد يفعّل إلى «كذّن»، و«كذت تفعل، إلى اكدتن»، و«كذت» — fe'lini كاد Zamaxshariy كاد يفعّل إلى «كذّن»، و«كذت تفعل، إلى اكدتن»، و«كذت» بالضم Kabi tuslaydi va (ك) harfining harakatini ba'zi arablar damma harakati bilan ham aytadilar deb ta'kidlab o'tadilar.¹⁵

[معنى «أوشك»]

أوشك — yordamchi fe'li ham ikki turi bo'lgan «عسى» va «كاد» fe'llarining qo'llanishi kabi qo'llaniladi.

«يُوشِكُ زَيْدٌ يَجِيءٌ»، «يُوشِكُ زَيْدٌ أَنْ يَجِيءَ»، «يُوشِكُ أَنْ يَجِيءَ زَيْدٌ»، M:

[معنى «عسى»]

Ish-harakatning amalga oshish ehtimoli borligini عسى fe'li bildiradi va bu fe'l faqat o'tgan zamon shaklida ishlatiladi. Undan keyingi fe'l yuklamasi bilan istak maylida keladi. Masalan: عسى زيدٌ أن يكذبَ — Ehtimol, Zayd yozar. Bu fe'lga ba'zan birikma olmoshi qo'shib keladi va u gapning egasini bildiradi. Mas., عَسَانِي أَنْ أَرَكَ — Ehtimol, men seni ko'rarman.¹⁶

قال صاحب الكتاب: منها «عسى»، ولها مذهبان: أحدهما أن تكون بمنزلة «قارب»، فيكون لها مرفوع ومنصوب، إلا أن منصوبها مشروط فيه أن يكون «أن» مع الفعل متأولاً بالمصدر، كقولك: «عسى زيد أن يخرج» في معنى: قارب زيد الخروج. قال الله تعالى: (فَعَسَى اللَّهُ أَنْ يَأْتِيَّ بِالْفَتْحِ). والثاني أن تكون

13 Nosirova M. "Afyolu-sh-shuru' va-l-mukoraba" fe'llari.// O'zbek sharqshunosligi buguni va ertasi. -T.: TDSHI, 2013.-B.26.

6 Abbas Hasan."al-Nahv ul-vafiy".Misr.2004y.

15 Sharhu al-Mufasssal limahmud al-Zmkhshry.doc. Emiel Barie Yaqub. n.Dar al-kitaab al-ilmiyya.Bayrut Lubnan.2001y..-B.381

16 Ibrohimov N. Yusupov M. Arab tili grammatikasi. II jild — Namangan, 2009.-B.349

بمنزلة «قرب»، فلا يكون لها إلا مرفوع، إلا أن مرفوعها «أن» مع الفعل في تأويل المصدر، كقولك: «عسى أن يخرج زيد» في معنى: قرب خروجه. قال الله تعالى: ﴿وَعَسَى أَنْ تَكْرَهُوا شَيْئًا وَهُوَ خَيْرٌ لَكُمْ﴾.¹⁷

Kitob sohibi aytadiki: "ning ikki yo'nalishi bor. Birinchisi "قَارَبَ" – yaqinlashmoq fe'li ma'nosida keladi va unda bosh va tushum kelishik shakli bor bo'ladi, lekin uning tushum kelishikda bo'lishligining sharti "أَنْ" yuklamasi fe'l bilan birga masdarni izohlab kelishi lozim. Masalan: Zayd chiqishlikka yaqin bo'ldi.

Izoh: "أَنْ" ning "قَارَبَ" ma'nosida Zayd uning bosh kelishigi "يُخْرِجُ" uning mansubi.

Alloh ta'ala aytadi: ﴿فَعَسَى اللَّهُ أَنْ يَأْتِي بِالْفَتْحِ﴾ — *Shoyadki Alloh fathu nusrat bersa (Moida 52-oyat)*

Ikkinchi yo'nalishi: "قَارَبَ" ning "عسى" ma'nosida kelishi. Bunda uning faqat bosh kelishigi bo'ladi. أَنْ yuklamasi fe'l bilan birga masdarni izohlab keladi. Zaydning chiqishligi yaqin qoldi (Zayd chiqish arafasida).

Izoh: عسىning قَارَبَ ma'nosida خُرْجُهُ — أَنْ يُخْرِجُ uning chiqishligi ma'nosida.

Alloh ta'ala aytadi: -- *Shoyadki yoqtirmagan narsangiz siz uchun yaxshi bo'lsa (Baqara 216-oyat)*¹⁸

[تصريف «عسى»]

قال صاحب الكتاب: وللعرب في «عسى» ثلاثة مذاهب: أحدها أن يقولوا: «عَسَيْتَ أَنْ تفعل»، و«عَسَيْتُمْ»، إلى «عَسَيْتُمْ»، و«عسى زيدٌ أن يفعل»، و«عسى إلى عسَيْن»، و«عسىتُ»، و«عسىنا». والثاني ألا يتجاوزوا «عسى أن يفعل»، و«عسى أن يفعلوا»، والثالث أن يقولوا: «عساك أن تفعل» إلى «عساكن»، و«عساه أن يفعل» إلى «عساهن»، و«عساني أن أفعل»، و«عسانا».¹⁹

Kitob sohibi aytadi: "عسى" fe'li uch ko'rinishda tuslanadi. Birinchi o'tgan zamon shaklida, ikkinchi turi shaxs-sonda turlanmaydi, uchunchi shakli "عسى" fe'lga birikma olmoshi qo'shiladi.

{استعمال أفعال الشروع}

"كرب" fe'llari "كاد" yordamchi fe'li kabi ishlatiladi.

Masalan: «كرب يفعل»، و«جعل يقول ذلك»، و«أخذ يقول»²⁰

— *Alloh taalo deydi: 22 قال الله تعالى: (وَطَفِقًا يَخْصِفَانِ عَلَيْهِمَا مِنْ وَرَقِ الْجَنَّةِ) الأعراف. ular o'zlariga jannat barglaridan to'siq to'qiy boshladilar (A'rof-22).*²¹

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DIVERSIFIKATSIYALASHGAN KOMPANIYALAR FAOLIYATINI BOSTON KONSALTING GURUXI MATRITSASI ASOSIDA BAXOLASH

Annotatsiya. Ushbu maqolada firmani buyurtma portfelini tahlil etish yoʻnalishlaridan biri boʻlgan Boston konsalting guruhi matritsasidan foydalanish tahlil etilgan. Bunda asosan ikkita koʻrsatkich yaʼni, bozorning oʻsish tezligi va bozorning nisbiy ulushi asosida firma mablagʻlarini istiqbolli sohalarga investitsiya qilish toʻrtta kvadrant asosida tavsiya etiladi. Ushbu kvadrantlar yulduzlar, sogʻin sigirlar, muammoli bolalar va itlar deb ataladi. Strategik biznes guruhlarining mohiyati ochib berilgan boʻlib, ularga nisbatan muayyan tavsiyalar berilgan.

Kalit soʻzlar: Boston konsalting guruxi matritsasi, bozorning ushish tezligi, bozorning nisbiy ulushi, yulduzlar, sogin sigirlar, muammoli bolalar, itlar.

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EVALUATION OF THE ACTIVITY OF DIVERSIFIED COMPANIES BASED ON THE MATRIX OF THE BOSTON CONSULTING GROUP

Abstract. This article analyzes the use of the Boston Consulting Group matrix, which is one of the directions for analyzing the firm's order portfolio. It is recommended to invest the firm's funds in promising areas based on four quadrants, mainly based on two indicators, i.e. market growth rate and relative market share. These quadrants are called stars, milk cows, problem children and dogs. The nature of strategic business groups has been revealed, and specific recommendations have been made in relation to them.

Keywords: Boston Consulting Group matrix, market growth rate, relative market share, stars, cash cows, problem children, dogs.

Firma faoliyatini asosiy yoʻnalishlarini (buyurtma portfelini) tahlil etish uning cheklangan mablagʻlarini har xil tovar bozorlari oʻrtasida toʻgʻri taqsimlash strategik menedjmentning dolzarb muammolaridan biri xisoblanadi.

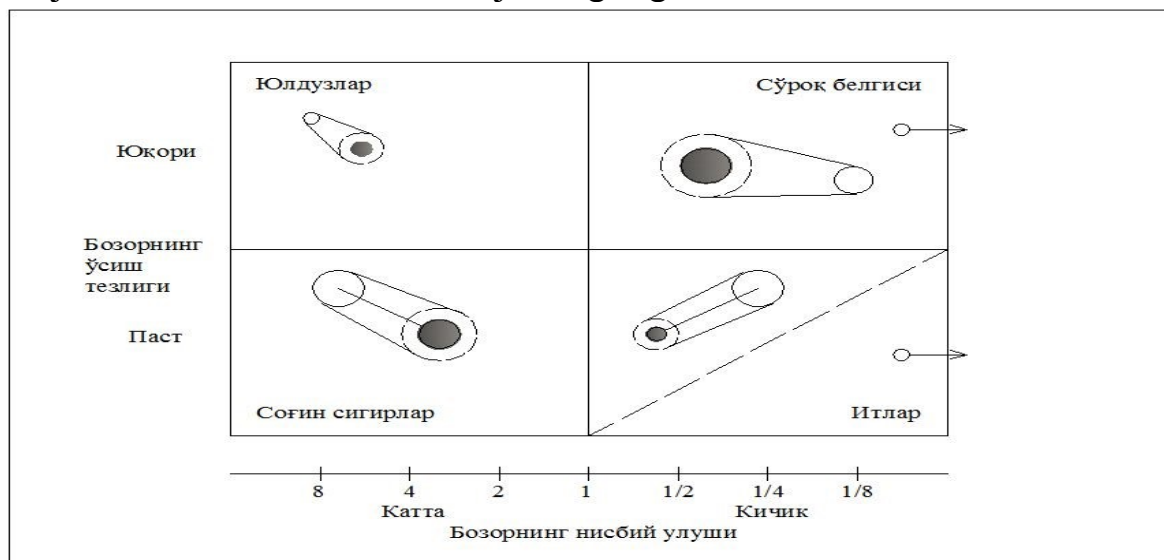
Umuman olganda, vazifa shundan iboratki, har bir tovar bozorini bir-biriga bogʻliq boʻlmagan oʻlchashlar yaʼni - tayanch bozorning jozibadorligini va firmaning raqobat kuchini tasniflashdan iborat.

Buning uchun jozibadorlikni va raqobatdoshlikni aniqlaydigan turlicha matritsalar, indikatorlar va koeffitsientlar ishlab chiqilgan. Biz ularni ayrimlarini

qarab chiqamiz. Boston konsalting guruhi (BKG) “o‘shish - bozor ulushi” matritsasi jozibadorlikni va raqobatbardoshlikni aniqlashda muhim ahamiyatga ega.

BKG matritsasi kompaniyaning bozordagi vaziyatini strategik taxlil etish va rejalashtirish uchun foydalaniladi. Ushbu matritsa Boston konsalting guruxi asoschisi Bryus S. Xenderson tomonidan yaratilgan bulib, u kompaniya ishlab chikaradigan tovarlari bozor ulushini va istemolchilar tomonidan kandy kabul kilishni taxlil etishga bagishlangan. Ushbu matritsaning asosida ikkita konsepsiya: tovarning xaetiy sikli va ishlab chikarishi kulami (masshtabi) yeki ukish, tajriba egri chizigi yetadi.

BKG matritsiyasida ikkita mezondan foydalaniladi. Jozibadorlik ko‘rsatkichi sifatida maqsadli bozorning segmentining o‘shish tezligi va raqobatdoshlikni ko‘rsatkichi sifatida eng xavfli raqobatchining bozor ulushi. Natijada to‘rtta kvadratdan iborat jadvalga ega bo‘lamiz.



Rasm 1. “O‘shish – bozor ulushi” matritsasi.

“Bozor o‘shishi” o‘qiga nisbatan tayanch chiziq bozorni yuqori va past o‘shishiga mos keladigan ikkita bozorga ajratadi. Bozorni o‘shish tezligini ikkiga ajratadigan ushbu chiziq natural ko‘rsatkichlarda ifodalangan mamlakat bo‘yicha yalpi ichki maxsulotlarni ishlab chiqarish darajasiga mos keladi yoki firma faoliyat ko‘rsatadigan bozor segmentlarining o‘rtacha o‘shish darajasini ifodalaydi.

“Bozor ulushi” o‘qi uchun bozor ulushini katta va kichiklarga ajratadigan chiziq odatda 1 yo 1,5 ga teng nuqtalardan o‘tkaziladi. Agar firmaning bozor ulushi ushbu ko‘rsatkichlardan yuqori bo‘lsa, u katta aks holda kichik bozor ulushi hisoblanadi.

Shunday qilib, matritsa bozorning nisbiy ulushi tushunchasiga asoslanadi. Agar A tovar markasiga 10% bozor ulushi B tovar markasiga 20% bozor ulushi to‘g‘ri kelsa, unda A tovar markasining nisbiy ulushi 0,5 (10%, 20%) ga teng bo‘lib, u past bozor ulushi hisoblanadi. Chunki uning bozor ulushi 1 dan kichik bo‘lmoqda. B tovar markasi uchun bozor ulushi 2 (20%, 10%)ga teng bo‘ladi.

Bozor nisbiy ulushini asosiy ko'rsatkichlaridan biri sifatida qabul qilishining sababi shundaki, tajriba egri chizig'i demak, rentabellik bilan bozorning nisbiy ulushi o'rtasida ijobiy korrelyatsiya bog'lanishi mavjudligi to'g'risidagi ilmiy farazlardir. Ushbu nuqtai nazardan ma'lum bo'ladiki, eng yaqin raqobatchi 40% yoki 5% bozor ulushiga ega bo'lganda bizning bozor ulushimiz 20% ga teng bo'lishi har xil raqobat vaziyatlariga mos keladi. Shunday qilib yuqorida keltirilgan rasmdagi 4 kvadrant bir-biridan keskin farq qiladigan raqobat vaziyatlarini aks ettiradi. Ularning har biri strategik menejment va moliyalash nuqtai nazaridan turli yondashuvlarni talab etiladi.

BKG usulida tahlillar ikki turdagi fundamental vaziyatlardan paydo bo'ladi. Bular nisbiy tajriba samarasiga va tovarning hayotiy sikliga asoslanadi.

Ularni quyidagicha tasvirlash mumkin

-Tajriba samarasi ta'sirida katta hajmdagi bozor ulushiga ega bo'lgan firma sarf-xarajatlarda raqobat ustunligiga ega bo'ladi. Demak kichik bozor ulushiga ega bo'lgan firmaning sarf xarajatlari ham yuqori bo'ladi. Ushbu faraz ma'lum bo'ladiki, eng yirik raqobatchi bozor narxlarida sotiladigan tovarlar uchun eng yuqori rentabelikka ega bo'ladi va uning moliyaviy oqimlari ham maksimal darajada shakllanadi.

- O'sib borayotgan bozorda ishtirok etish moliyaviy mablag'larga yuqori darajada ehtiyoj mavjudligidan dalolat beradi. (ya'ni, ishlab chiqarishni kengaytirish, reklama intensivligini oshirish va h.k.) Teskari holatda esa sekin o'sish an'anasiga ega tovarlar katta hajmdagi moliyaviy investitsiyalarni talab qilmaydi.

Shunday qilib, muvozanatlashgan tovarlar nomenklaturasiga va assortimentiga (tovarning turli hayotiy sikllariga ega majmuasiga) ega bo'lish uchun tovarning hayotiy sikli(THS) modeliga murojaat qilamiz.

Ikkinchi farazning to'g'riligini o'sib borayotgan bozorda tovarning moliyaviy ehtiyojlari to'rg'un yoki so'nib borayotgan tovarlar bozoriga nisbatan yuqoriroq ekanligidan ko'rishimiz mumkin.

Ikkala faraz ham bajariladigan vaziyatda to'rt guruh tovarlar bozorini ajratib ko'rsatish mumkin. Ular har xil strategik maqsadlarga va moliyaviy ehtiyojlarga mos keladi.

-“Sog'in sigirlar” (“sekin o'sish/katta ulush”): o'z bozor ulushini qo'llab-quvvatlash xarajatlariga nisbatan ko'proq mablag' yaratadigan tovarlar bozoridir. Diversifikatsiyani yoki tadqiqotlarni rivojlantirish uchun moliyaviy manbalar bo'lishi mumkin. Bunda afzal strategik maqsad “hosilni yig'ish”.

-“Itlar” (“sekin o'sish/kichik ulush”): bozordagi eng noqulay vaziyat sababchilari hisoblanadi. Odatda harajatlar yuqoriligi va bozor ulushi kichikligi hamda raqobat kurashi asosan yakunlanganligi tufayli ular noqulay bozor vaziyatiga ega bo'ladilar. Ushbu tovarlar ishlab chiqarilishini saqlab qolish katta moliyaviy xarajatlarga olib keladi. Bunda investitsiya yo'nalishlarini qayta ko'rib chiqish afzal strategiya hisoblanadi.

-“Suroq belgisi yoki muammoli bolalar” (“tez o‘shish/kichik ulush”) ushbu tovar guruhlari bozorni saqlab qolish uchun katta hajmdagi moliyaviy harajatlarni talab qiladi. Ular sardor tovarlarga nisbatan imkoniyatlari pastroq, lekin bozor kengayib borayotganligi tufayli muvaffaqiyat qozonishlari mumkin. Agar ushbu tovarlar moliyaviy qo‘llab-quvvatlanmasa ular “itlar” guruhiga yaqqol da’vogar bo‘ladilar.

-“Yulduzlar” (“tez o‘shish/yuqori ulush): ular tez o‘sayotgan bozorda sardor tovarlar hisoblanadi. Ularni jiddiy tarzda moliyaviy ta’minlash zarur. Lekin ushbu tovarlarning raqobatbardoshligi yuqori bo‘lganligi uchun yuqori foyda beradilar. Bozor o‘zining yetuklik darajasiga yaqinlashgan sari ular “sog‘in sigirlar” o‘rnini egallaydilar.

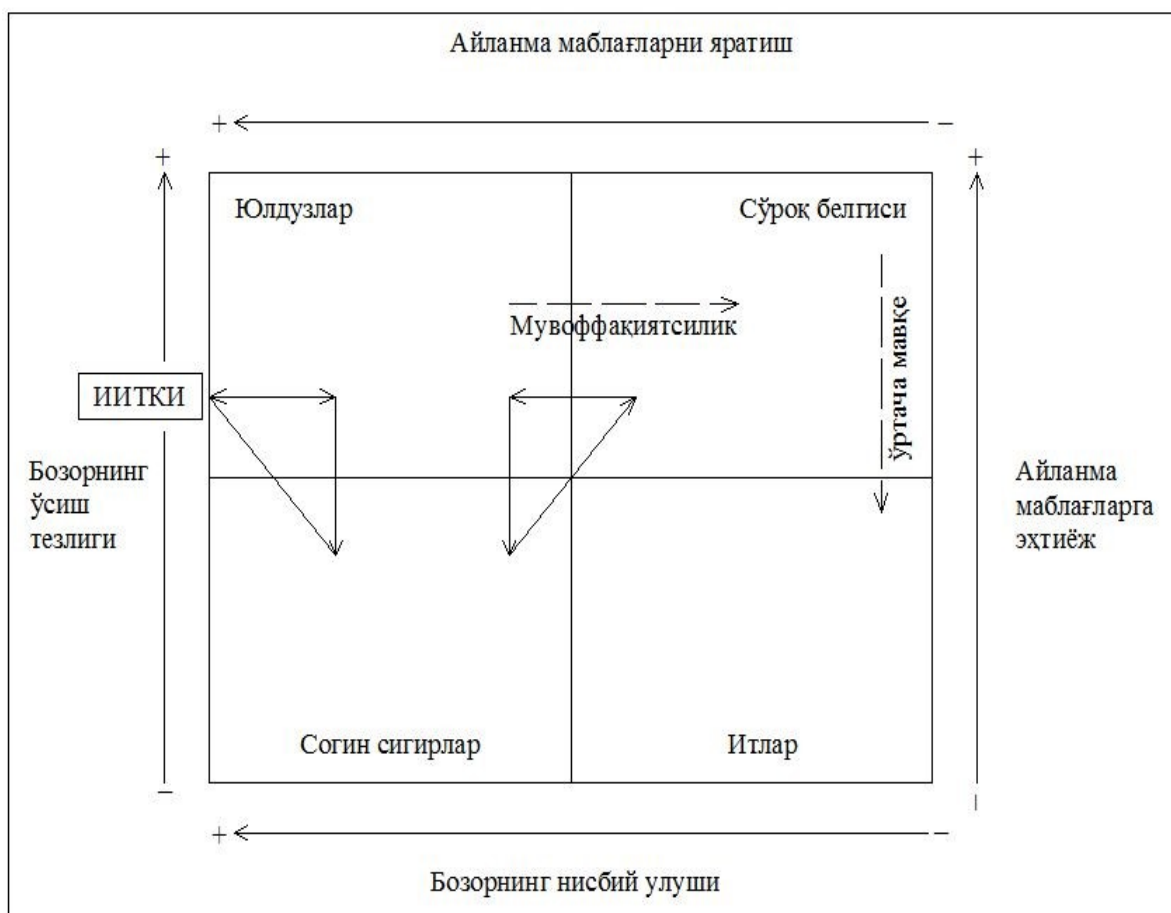
BKG matritsasidan foydalanish uchun tovar raqobatlashadigan tayanch bozorni aniq bilish lozim. Agar bozorning tor segmenti to‘g‘ri aniqlangan bo‘lsa, firma albatta sigment sardoriga aylanadi, aks holda u zaif bozor mavqeiga ega bo‘ladi.

Tahlillar quyidagi xulosalarni nazarda tutadi:

- Matritsa ichidagi vaziyat qaysi strategiyadan samarali foydalanish mumkinligini ko‘rsatadi: “yulduzlar” - sardorlikni saqlab qolish; “Itlar” uchun - bozordan ketish yoki past darajadagi faollik; “so‘roq belgisi” - investitsiya kiritish yoki selektiv rivojlanish; “Sog‘in sigirlar” uchun - maksimal foyda olishini ta’minlashdir.

- Matritsadagi vaziyat moliyaviy mablag‘larga bo‘ladigan ehtiyojni va potensial rentabellikni baholash imkoniyatini beradi. Bunda foyda raqobat vaziyatining funksiyasi sifatida qaraladi.

-Tovar sotishni kvadrantlar bo‘yicha taqsimoti asosida faoliyat yo‘nalishlari yoki tovar portfeli muvozanatini baholash mumkin. Ideal holatda u erkin moddiy mablag‘lar oqimini ijobiy ta’minlaydigan tovar guruhlaridan iborat bo‘lishi lozim. Bunda ikkinchi guruhlarning moddiy ehtiyojlari birinchi guruh hisobidan ta’minlanadi.



Rasm 1. Rivojlanishning asosiy ssenariylari.

Ushbu rasmda keltirilgan tahlillar asosida firma rahbariyati turli strategiyalarni taqqoslab ko‘rish mumkin. Bunda firma portfelini barqarorligini ta‘minlash asosiy muammo hisoblanadi.

BKG matritsasi diversifikatsiyalashgan kompaniyalar faoliyatining jozibadorligini baxolashning yetarlicha anik mexanizmi bulishiga karamay, uning kamchiliklari mavjud. BKG matritsasi buyicha muvoffakiyatsizlikning ikki yunalishi mavjud: 1) vakt utishi bilan “yulduzlar” guruxidagi biznelar “muammoli bolalarga” aylanadilar, sungra tarmokning usishi sekinlasishi bilan ular “itlarga” aylanadilar. Strategik nuksonlardan yana biri “sogin sigirlar” guruxidagi bizneslarga xaddan tashkari kup investitsiyalarni jalb kilish extimoli xisoblanadi, “muammoli bolalar” toifasidagi bizneslarga moliyaviy mablaglarning yetishmasligi bulishi mumkin.

Bundan tashkari: 1) “Yukori-past tasnifga asoslangan turtta kvadratdan iborat matritsa bozorda urtacha vaziyatni egallaydigan bizneslarni xakkoniy aks ettirmaydi. Matritsada urtacha bizneslar uchun joy ajratilmagan. 2) Bizneslarni “yulduzlar”, “sogin sigirlar”, “muammoli bolalar” va “itlar” kurinishida tasfirlash jozibador bulsa xam, bunday yendashuv salbiy tomonlarga ega. Bazi bizneslar bozor ulushi buyicha sardor bulsalar xam, foyda manosida xakikiy yulduzlar emas. 3) BKG matritsasi xujalik birliklarining imkoniyatlarini aks ettiradigan

ishonchli indikator xisoblanadi. Masalan, “yulduz”larni investitsiyalash yaxshi foyda keltiraetgan “sogin sigirlarni” investitsiyalashga karaganda jozibali bulishi shart emas.

Ushbu matritsa “muammoli bolalar” guruxidagi biznes potensial golib yeki maglub bulishini aks ettirmaydi. U talantli investor “itlar”ni “sogin sigirlar”ga aylantirish mumkunligini inobatga olmaydi. 4) Bizne guruxlarining uzok muddatli xar tomonlama baxolash uchun kompaniya strategiyalari fakat tarmokning usish tezligi va nisbiy bozor ulushini taxlil etish bilan cheklanib kolmasligi kerak. 5) Bozorning nisbiy ulushi bilan foydalilik darajasi ukish samaradorligi egri chizigi tasvirlagandek bir-biriga yakin bogliklikga ega emas.

Tarmoklarda tuplangan ishlab-chikarish tajribasining solishtirma xarajatlarini pasaytirishdagi roli birxil emas. Bazan xakikatdan xam bozorning yirik ulushi kompaniyaning solishtirma xarajatlar kurinishda uning ustunligiga aylanadi, bazan esa bunday xol yuz bermaydi. Shu sababli ukish egri chizigi samaradorligidan kompaniya rakobatbardoshligini taminlash yunalishida foydalanishga karor kilinganda jiddiy iktisodiy va boshkaruv taxlillariga asoslanish lozim.

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KICHIK SANOAT KORXONALARI IQTISODIYOTIDA TARKIBIY- TUZILMAVIY O'ZGARISHLAR VA ULARNI STATISTIK BAHOLASH

Annotatsiya. Ushbu maqolada O'zbekistonda sanoat tarmog'ining tarkibiy-tuzilmaviy o'zgarishlarni yillar davomida dinamikasi tadqiq qilinib, ushbu o'zgarishlardagi asosiy statistik qonuniyatlarga alohida e'tibor qaratilgan va ularning joriy holatdagi iqtisodiyotga tadbiq qilish masalalari ilmiy asoslanib, tarmoqda ishlab chiqarishning iqtisodiy-statistik tahlili va istiqboldagi yo'nalishlari yoritib berilgan.

Tayanch iboralar: qichik sanoat, kichik sanoat korxonalarini mahsuloti, kichik sanoat korxonalarinin tarkibiy o'zgarishlar, yalpi ichki mahsulot, yalpi hududiy mahsulot, investitsiya, hudud iqtisodiyoti, iqtisodiy-statistik tahlil, ekstrapolyatsiya, ijtimoiy-iqtisodiy jarayonlar.

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STRUCTURAL CHANGES IN THE ECONOMY OF SMALL INDUSTRIAL ENTERPRISES AND THEIR STATISTICAL ASSESSMENT

Abstract. In this article, the dynamics of the structural changes of the industrial sector in Uzbekistan over the years are studied, special attention is paid to the main statistical laws of these changes, and the issues of their application to the economy in the current state are scientifically based, and the economic-statistical analysis of production in the sector and future directions are highlighted.

Key words: small industry, output of small industrial enterprises, structural changes of small industrial enterprises, gross domestic product, gross regional product, investment, regional economy, economic-statistical analysis, extrapolation, socio-economic processes.

Jahon xo'jaligining globallashuvi moddiy ne'matlar ishlab chiqarish bilan shug'ullanuvchi sub'ektlarning xo'jalik faoliyati noaniqligining doimiy o'sishiga olib keladi. Mahalliy sanoat rivojlanishining hozirgi bosqichining o'ziga xos xususiyatlari bilan birga, korxonalar uchun ichki muhit omillarini tashqi

tahdidlarga o'z vaqtida moslashtirish muhim ahamiyatga ega. Bu qoida, ayniqsa, bir tomondan, qarorlar qabul qilishda moslashuvchanlik va samaradorlikka ega bo'lgan, ikkinchi tomondan, kapitalni ko'p talab qiladigan, harakatsiz, shuningdek, resurslari juda cheklangan bo'lgan kichik sanoat korxonalarini uchun dolzarbdir.

Uzoq muddatli sifatli iqtisodiy rivojlanish maqsadida kichik korxonalar rahbari oldida imkoniyatlardan o'z vaqtida foydalanish va atrof-muhit omillari tahdidlarini bartaraf etish imkonini beradigan boshqaruv tizimini shakllantirish masalalari turibdi. Ushbu muammoni hal qilishga mas'uliyat va vakolatlarni oqilona taqsimlash, ya'ni korxonaning samarali tashkiliy tuzilmasini ishlab chiqish orqali erishish mumkin.

Bugungi kunda boshqaruv tizimlarini loyihalash bo'yicha ko'plab mahalliy va xorijiy nazariy va uslubiy ishlar mavjud. Ushbu mavzu bo'yicha tadqiqotlar, qoida tariqasida, empirik xususiyatga ega va murakkab ierarxik tuzilishga ega yirik tashkilotlar tajribasini aks ettiradi. Shu bilan birga, kichik korxonalarining tashkiliy tuzilmalarini ularning faoliyatining o'ziga xos xususiyatlarini hisobga olgan holda loyihalash jihatlari amalda yoritilmagan va qo'shimcha uslubiy ishlab chiqishni talab qiladi.

Mamlakatimizda kichik sanoat korxonalarini yanada rivojlantirish, tarmoqda tubdan islohotlar o'tkazish va yangi innovatsion texnologiyalarni joriy qilish bo'yicha hukumat darajasida e'tibor berilmoqda. Bunga O'zbekiston Respublikasi Prezidentining 2022 yil 28 yanvardagi 2022-2026 yillarga mo'ljallangan Yangi O'zbekistonning taraqqiyot strategiyasi to'g'risidagi farmonida «kichik sanoat korxonalarining tashkiliy tuzilmasini ilmiy asosda intensiv taraqqiy ettirish, joylarda tuproq unumdorligini oshirish va yuqori hosildorlik darajasini ta'minlash, ilm-fan va innovatsion taraqqiyotga asoslangan agroxizmat turlarini ko'paytirish va sifatini yanad oshirish, ular faoliyatini takomillashtirish, agrosanoat tarmoqlarida faoliyat yuritayotgan firmalarning realizatsiya hajmini 1,5 barobarga oshirish, agrologistik markazlarni rivojlantirish, zamonaviy laboratoriyalar sonini ko'paytirish, urug'chilik va ko'chat yetishtirish bo'yicha milliy dasturni amalga oshirish, xalqaro kichik sanoat korxonalarini universitetini tashkil etish, sohada ilm-fan va amaliyot integratsiyasini chuqurlashtirish» kabi vazifalar belgilab berilganligi fikrimizning isboti sifatida keltirishimiz mumkin bo'ladi.

Mamlakatimizda kichik sanoat korxonalarini tarmog'ini rivojlantirishning ustuvor yo'nalishlari sifatida quyidagilarni keltirishimiz mumkin:

- kichik korxonalarda tayyor mahsulotlarni chuqur qayta ishlash, yarim tayyor va tayyor oziq-ovqat mahsulotlari ishlab chiqarish bo'yicha eng zamonaviy yuqori texnologiyalar asosida asbob-uskunalar bilan jihozlangan yangi qayta ishlash korxonalarini qurish, mavjudlarini rekonstruksiya va modernizatsiya qilishga qaratilgan investitsiya loyihalarini amalga oshirish;

- kichik korxonalar tarmoqda yetishtirilgan mahsulotlarni saqlash, tashish va sotish, agrokimyoy, moliyaviy va boshqa zamonaviy bozor xizmatlari ko'rsatish infratuzilmasini tarmoqlarini yanada takomillashtirish;

- paxta va boshqoqli don ekiladigan maydonlarini qisqartirish evaziga bo'shagan yerlarga kartoshka, sabzavot, ozuqa va yog' olinadigan ekinlarni ekishni tashkil qilish, shuningdek, yangi intensiv bog' va uzumzorlarni yaratish orqali ekin maydonlarini yanada optimallashtirish;

- tarkibiy o'zgarishlarni yanada chuqurlashtirish va kichik korxonalarda ishlab chiqarishini izchil davom ettirish, yurtimizda oziq-ovqat xavfsizligini ta'minlashni yanada barqaror davom ettirish, ekologik toza mahsulotlar ishlab chiqarishni yanada rivojlantirish, kichik sanoat korxonalarini eksport salohiyatini yuqori darajada o'sishini ta'minlash;

- kichik sanoat korxonalarida, eng avvalo, kichik korxonalarda mahsulot yetishtirish, qayta ishlash, tayyorlash, saqlash, sotish, qurilish ishlari va xizmatlar ko'rsatish bilan shug'ullanayotgan ko'p tarmoqli kichik sanoat korxonalarini faoliyatini yanada kengaytirish va ularni moddiy rag'batlantirish hamda qulay shart-sharoitlar yaratish;

- kichik korxonalarda ishlab chiqarish vositalaridan foydalanishda intensiv usullarni joriy qilish, suv resurslaridan tejamkorona foydalanishda zamonaviy agrotexnologiyalarni joriy qilish va x.k.lar.

Kichik sanoat korxonalarini faoliyatini rivojlantirish bilan bog'liq bo'lgan me'yoriy va huquqiy asoslarning qabul qilinishi va tashkiliy iqtisodiy chora tadbirlarni amalga oshirilishi natijasida ularning kichik sanoat korxonalarini yalpi mahsulotidagi ulushi yildan-yilga oshib bormoqda.

O'zbekiston kelajakda rivojlanishini barqarorligini ta'minlash uchun iqtisodiyot tuzilmasidagi siljishlarning zaruriyati islohotlarni chuqurlashtirish, mamlakatimizni yangi ijtimoiy-iqtisodiy darajaga ko'tarishda o'z aksini topadi. Ushbu mavzudagi tadqiqot olib boruvchi olimlar oldida iqtisodiyot tarmoqlarida vujudga kelayotgan siljishlarni miqdor va sifat borasida keng qamrovda tadqiq qilish orqali samarali iqtisodiyot tuzilmasini shakllantirishdagi o'rnini aniqlash vazifasi turibdi. Ijtimoiy-iqtisodiy jarayonlar tuzilmasida sodir bo'lgan siljishlarni statistik o'rganish usullari universal bo'lib, ularning iqtisodiyotning barcha jabhalari va darajalarida qo'llash imkonini beradi.

Kichik sanoat korxonalarining tashkiliy tuzulma samaradorligini baholashning nazariy va uslubiy asoslari F.Kotler, J.J. Lamben, M. Porter, K.L. Keller, va boshqa xorijiy olimlarning ilmiy asarlarida o'z aksini topgan.

Butun korxonalar, shuningdek, tashkiliy tuzilmalar samaradorligini baholash muammosi bilan ishlab chiqarishning nazariy, uslubiy asoslari va boshqa masalalari MDH davlatlari olimlaridan G.L. Bagiev, R.A. Fatxutdinov, B.A. Solovyov, R.B. Nozdreva, V.A. Ye.P. Golubkov, Shapovalov, *E.Yu. Cherkesov* va boshqalarning ilmiy asarlarida o'z aksini topgan.

Mamlakatimizning iqtisodchilari olimlaridan S.S.Gulyamov, G.N.Axunova, A.Sh.Bekmurodov, M.A.Ikramov, A.A. Fattaxov,

Sh.D.Ergashxodjaeva, M.Yusupov, A.N.Samadov, D.I.Ro‘zieva va boshqalarning ilmiy asarlarida korxonalarining ishlab chiqarish-texnik tizimlari va ishlab chiqarish quvvatlarining parametrlarini diagnostika qilish va optimallashtirish usullariga bag'ishlangan ishlari mehnat unumdorligini oshirish uchun zaxiralarni aniqlash, balans darajasini prognozlash va ishlab chiqarish mashinalaridan foydalanish darajasini oshirish imkonini beradi. va uskunalar. Korxonaning strategik rivojlanish rejasi doirasida tashkiliy o'zgarishlar strategiyasini ishlab chiqish bo'yicha nashr etilgan yagona ishlar samarali tashkiliy qayta qurishning uzoq muddatli tizimli kontseptsiyasini shakllantirishdagi muammolarning butun majmuasini hal qilmaydi. Bugungi kunga qadar kichik sanoat korxonalarida tashkiliy boshqaruv tuzilmasini shakllantirish mavzusi yetarlicha yoritilmagan. Kichik sanoat korxonalarida qo'llaniladigan tashkiliy tuzilmaning samaradorligini baholash usullarini takomillashtirish bo'yicha keyingi vazifa ochiqlicha qolmoqda.

Iqtisodiyot tarmoqlarining tarkibiy tuzilmasida sodir bo'ladigan siljishlar turli omillar, ya'ni ijtimoiy-iqtisodiy ehtiyojlarning, shart-sharoitlarning, mulk shaklidagi o'zgarishlar, tabiiy-iqlim omillari, ilm-fan va texnika yutuqlari, moliyaviy omillar ta'sirida vujudga keladi.

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SANOAT KORXONALARIDA MARKETING BOSHQARUVINI TAKOMILLASHTIRISH YO'LLARI

Annotatsiya. Keyingi paytlarda jahon mamlakatlarida, jumladan mamlakatimizda ham tadbirkorlik faoliyatiga katta e'tibor qaratilmoqda. Tadbirkorlik faoliyati mamlakat iqtisodiyotini rivojlantirishda ham muhim ahamiyatga ega bo'lib bormoqda. Tadbirkorlik faoliyatida qaror qabul qilish va uni ishlab chiqishda tadbirkorlikning samarali vositasi hamda asosi bo'lib marketing hisoblanadi hamda tadbirkorlik faoliyatini boshqarish tizimida, uni tashkil etishda, rejalashtirish va nazorat qilishda muhim ahamiyat kasb etadi.

Kalit so'zlar: Marketing nazariyasi, Zamonaviy marketing, Sanoat korxonalarining faoliyati, Xaridorlar va iste'molchilar

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WAYS TO IMPROVE MARKETING MANAGEMENT IN INDUSTRIAL ENTERPRISES

Abstract. Recently, a lot of attention is paid to entrepreneurship in the world, including in our country. Entrepreneurship is also playing an important role in the development of the country's economy. Marketing is an effective tool and basis for business decision-making and development, and plays an important role in the management system, its organization, planning and control.

Keywords: Marketing Theory, Modern Marketing, Industrial Enterprise Activities, Buyers and Consumers

Jahon moliyaviy-iqtisodiy inqirozi korxonalar va tashkilotlarning faoliyatida marketing faoliyatini keng miqyosda qo'llash lozimligini ko'rsatdi va isbotladi. Iqtisodiy jihatdan rivojlangan ilg'or davlatlarning yirik firmalari tajribasi shuni ko'rsatadiki, marketing faoliyati korxonalar va tashkilotlarning uzoq vaqt yashab qolishiga va unumdorligini orttirib borishiga imkoniyat yaratadi. Marketing faoliyatini amalga oshirish marketing nazariyasi va amaliyotining ravnaqiga bog'liqdir.

Marketing nazariyasi va amaliyotining ravnaqi bevosita marketing izlanishlari va tadqiqotlari yo'nalishlariga bog'liq. AQSh, Germaniya, Yaponiya,

Fransiya, Angliya kabi davlatlarda yuqori darajada shakllangan marketing faoliyati amalga oshirilmoqda. Unda birinchi o‘ringa xaridor, jamiyat farovonligini, ular oldidagi ijtimoiy mas’uliyatni qo‘yadi. Xaridor va qolaversa yalpi jamiyat miqyosida manfaatlar mushtarakligini ta’minlash, zamon talablari asosida uni takomillashtirib borish vazifasini firmaning kommunikatsiya siyosati, izlanishlari hal etadi.

Keyingi paytda iqtisodiy lug‘atimizga va umuman hayotimizga ko‘plab yangi iqtisodiy tushunchalar kirib keldi. Shunday tushunchalardan biri va eng ahamiyatli hisoblangan marketing so‘zi birinchi marta Amerika Qo‘shma Shtatlarida paydo bo‘lgan. AQSh da ishlab chiqaruvchilar o‘z mahsulotlarini ko‘proq sotishga harakatlarni amalga oshirib, bozorlarni qidirishga kirishadilar.

Marketing so‘zi - bozorlarni o‘rganaman, bozorlarni qidiraman degan ma’nolarni beradi. O‘sha vaqtdagi tadbirkorlar va fermerlar o‘zlari bilmagan holatda marketing faoliyati bilan shug‘ullanganlar. Keyinchalik marketing faoliyatining nazariy asoslari yaratildi.

Marketing faoliyatiga tushuncha berishga ko‘plab olimlar va tadqiqotchilar harakat qilganlar. Marketing – ayirboshlash yo‘li bilan ehtiyoj va talablarni qondirishga yo‘naltirilgan inson faoliyatining turi, bozordagi barcha qatnashchilarning o‘zaro manfaatlariga asoslangan harakatlarini, talabni shakllantirish va qondirish uchun birlashtirishdir. Marketing bu tovar harakatlarining barcha bosqichlarini o‘z ichiga oluvchi, talab taklifni o‘rganish, mahsulot ishlab chiqarish dasturini yaratish, sotish va iste’mol qilish bilan bog‘liq bo‘lgan turli xildagi xizmatlar ko‘rsatish va iste’moldan chiqqandan keyin utilizatsiyalashni tashkil qilish kabi bozor muammolarini yechishda yaxlit tizimli yondashishdir.

Marketing faoliyati nafaqat mahsulotlar va xizmatlar tayyor bo‘lgandan keyin sotishni nazarda tutadi. Marketing sanoat korxonasi faoliyatining barcha sohalarida amalga oshiriladi. Ular xom ashyo va materiallarni sotib olishda, ishlab chiqarish jarayonini tashkil etishda va tayyor bo‘lgan mahsulotlar va xizmatlarni bozorda sotish jarayonlarida amal qiladi. Marketing faoliyatida marketing tadqiqotlari muhim o‘rin tutadi. Marketing tadqiqotlari yalpi marketing faoliyatini tashkil etishda, uni boshqarishda, rejalashtirishda va nazorat etishda muhim ahamiyatga ega.

Bu esa – zamonaviy marketing nazariyasining asosiy xususiyatlaridan biri sifatida namoyon bo‘lmoqda. Marketing tadqiqotlarinig yuqori darajada tashkil etilishi, ularning ko‘lami, tahliliy va qayta ishlash jarayonlarida foydalaniladigan uslublar yig‘indisi, bevosita korxonada va tashkilotlarning marketing strategiyasini belgilashda, amalga oshirishda, dastlabki bosqich, «tayanch nuqta» hisoblanadi. Iste’mol bozori tobora yangi tovarlar va xizmatlar bilan boyib borayotgan bugungi sharoitda yangi imkoniyatlarni aniqlash va ulardan oqilona foydalanishda marketing tadqiqotlarining ahamiyati kun sayin ortib bormoqda.

Keyingi paytlarda jahon mamlakatlarida, jumladan mamlakatimizda ham tadbirkorlik faoliyatiga katta e’tibor qaratilmoqda. Tadbirkorlik faoliyati

mamlakat iqtisodiyotini rivojlantirishda ham muhim ahamiyatga ega bo‘lib bormoqda. Tadbirkorlik faoliyatida qaror qabul qilish va uni ishlab chiqishda tadbirkorlikning samarali vositasi hamda asosi bo‘lib marketing hisoblanadi hamda tadbirkorlik faoliyatini boshqarish tizimida, uni tashkil etishda, rejalashtirish va nazorat qilishda muhim ahamiyat kasb etadi. “Ay-si-ay” konserni boshqaruvi raisi Djon Xarvi Djons tadbirkorlikda marketingni o‘rnini tavsiflab shunday deydi, ya’ni “Marketing tadbirkorlikning tayanch omilidir. Bu nafaqat yoqilg‘i, balki kema komandasidir.”

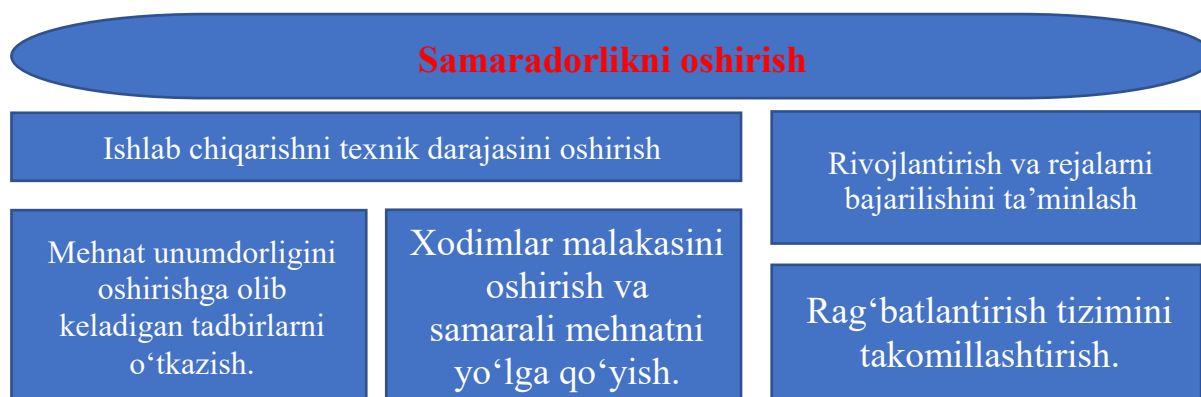
Marketing eng avvalo tovarlar to‘planib, sotilmay qolgan va iqtisodiyot inqirozi kuchaygan sharoitda, uni shu inqirozdan chiqarish quroli sifatida ixtiro qilingan, yaratilganidir. Uning maqsadi nihoyatda keng va murakkab masalalarni hal qilishga qaratilganidir. U ishlab chiqarishni xaridor ehtiyojiga moslashtirib, talab va taklifni muvozanatiga erishgan holda, uni tashkil etgan korxonalar, tashkilotlarga yuqori foyda keltirishdir. Bunga erishish uchun marketing quyidagi muhim vazifalarni hal etishi lozim:

- xaridorlar va iste’molchilarning ehtiyojlarini o‘rganish va aniqlash;
- turli tovarlar va xizmatlarga bo‘lgan talablarni o‘rganish;
- sanoatkorxonalarining faoliyatini uning xaridorlariehtiyojlariga moslashtirish;
- talab va taklif to‘g‘risida olingan ma’lumotlar asosida bozorni o‘rganish;
- tovarlar reklamasini tashkil etish, xaridorlarni tovarlarni sotib olishga qiziqishini orttirish;
- tovar yaratuvchi yoki uni sotuvchi korxonalar tadqiqotlarini amalga oshirish uchun ma’lumotlar to‘plash va tahlil qilish;
- tovarni bozorga chiqarishdagi barcha xizmatlar to‘g‘risida ma’lumotlar olish;
- to‘ldiruvchi tovarlar va o‘rnini bosuvchi tovarlar to‘g‘risida axborotlar yig‘ish;
- tovarlarga bo‘lgan talabni istiqbollash, ularni amalga oshirishni nazorat qilishdan iboratdir.

Marketingning vazifalaridan eng muhimlari qatorida sotishni rag‘batlantirish hisoblanadi. Sotishni rag‘batlantirish bozorga chiqarilgan tovarni rejalashtirilgan sotish darajasini ta’minlashga imkon beradi. Bu ishlab chiqarish xarajatlarini qoplash va foyda olish demakdir. Sotishni rag‘batlantirishning quyidagi faol shakllari mavjud - ko‘rgazma-savdo, yarmarkalar, maxsus savdo agentlari xizmatidan foydalanish va arzon baholar. Marketing tizimida sotish siyosati - bu tovar davriy harakatini tashkil etish jarayonidir. U tovar massasining ishlab chiqaruvchidan to iste’molchigacha bo‘lgan harakatining har bir bosqichida qabul qilinadigan qarorlarga ta’sir qilishning aniq tahlilini talab qiladi. Bu holda sotish deganda ishlab chiqarish bilan savdo orasidagi barcha aloqalar tushuniladi. U ulgurji va chakana savdoni, tashish va saqlashni o‘z ichiga oladi. Bizning iqtisodiy sharoitimizda marketingning tovar siyosati kabi vazifasi ham muhim ahamiyatga ega.

Har tomonlama o'ylab yuritilgan tovar siyosati resurslardan samarali foydalanish imkonini beradi. Tovar siyosati har bir ishlab chiqarilgan mahsulotning aniq iste'molchilar guruhiga mo'ljallangan bo'lishini ta'minlaydi. Ya'ni, har qanday tovar aniq iste'mol manziliga ega bo'lishi kerak. Har qanday mamlakat iqtisodiyotining rivojlanishida sanoat tarmog'ining ahamiyati va hissasi katta bo'ladi. Sanoat tarmog'i boshqa barcha tarmoqlarga muhim hisoblangan asosiy vositalarni yetkazib beradi. Ulardagi fan-texnika taraqqiyotini amalga oshirishga ko'mak beradi. shu sababli, sanoatni rivojlantirish birinchi galdagi asosiy vazifalardan hisoblanadi.

Sanoat korxonalarida ishlab chiqarish samaradorligini oshirishning muhim shartlaridan biri haqiqiy rag'batlantirish tizimini etishdir. Har qanday tashkilotda ishlarni tashkil etilishi, faoliyatni amalga oshirilishi ulardagi mehnat miqdori va sifati uchun rag'batlantirishi darajasiga bog'liqdir. Har qanday ishlab chiqarishning rivojlanishi undagi odamlarning shaxsiy qiziqishlari orqali amalga oshadi.



Sanoat korxonalarining bu kabi maqsad va vazifalarini bajarilishida ulardagi marketing faoliyatining ahamiyati nihoyatda kattadir. Bu faoliyat korxonalar mahsulotlari va xizmatlarining o'z vaqtida raqobatga bardosh berishi va bozorlarda sotilishini ta'minlaydi. Mahsuloti va xizmati sotilgan tashkilotgina bozor iqtisodiyoti sharoitida muvaffaqiyatga erishadi.

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RANGLI VA NODIR METALLARNI RUX KEKLARI TARKIBIDAN AJRATIB OLISH

Annotatsiya. Maqolada rux minerallari va rudalarining konlari olish mumkin bo'lgan turli xil materiallar haqida ma'lumotlar keltirilgan bo'lib, rux kekiga suv bug'i ishtirokida termik ishlov berilganda ro'y berishi mumkin bo'lgan reaksiyalarning termodinamik ko'rsatkichlari o'rganilgan. Shuningdek qo'rg'oshin va qimmatbaho metallarni ajratib olish bo'yicha o'tkazilgan tadqiqot natijalari keltirilgan.

Kalit so'zlar: rux, kek, mineral, maydalash, temir, pirometallurgik, kuydirish, harorat, cho'kma, metal, temir.

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SEPARATION OF NON-FERROUS AND RARE METALS FROM ZINC CAKES

Abstract. The article provides information on various materials from which zinc minerals and ore deposits can be obtained, and thermodynamic parameters of reactions that can occur during heat treatment of zinc cake with water vapor are studied. The results of the research on the separation of lead and precious metals are also presented.

Key words: zinc, cake, mineral, grinding, iron, pyrometallurgical, calcination, temperature, deposition, metal, iron.

Tabiatda tarkibida rux bo‘lgan 66 ta minerallar aniqlangan, biroq uning sanoat ahamiyatiga ega bo‘lgan minerallari bu sulfidli rudalarda sfalerit, oksidli rudalarda esa smitsonit va kalamindir. Rux minerallarining qisqacha tasnifi 1-jadvalda keltirilgan.

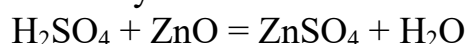
1-jadval. Rux minerallarining qisqacha tasnifi

Minerali	Formulasi	Ruxning miqdori, %	Zichligi, g/sm ³	Qattiqligi
Sfalerit	ZnS	67,1	3,5 – 4,2	3 – 4
Smitsonit	ZnCO ₃	59,5	3,5 – 3,8	2,5
Kalamin	2ZnO·SiO ₂ ·H ₂ O	53	3,4 – 3,5	4 – 5
Sinkit	ZnO	80,3	5,7	4
Villemit	2ZnO·SiO ₂	59,1	4,1	5 – 6
Franklinit	(Zn,Mn) O·Fe ₂ O ₃		5 – 5,2	6

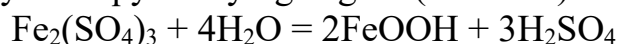
Rux kekini gidrometallurgik qayta ishlash hozirgi paytda keng tarqalayotgan jarayondir. Bu usullardan asosan getit va yarozi jarayonlar qo‘llanilmoqda. Getit jarayoni. Ushbu jarayon hozirgi kunda Belgiyaning Balen shahridagi rux ishlab chiqarish zavodida qo‘llaniladi. Bunda dastlab rux keki qayta ishlangan elektrolit bilan 6-8 soat davomida, 95°C haroratda tanlab eritiladi. Jarayon erkin sulfat kislotasining qoldiq miqdori 50 g/l lguncha davom etiladi. Olingan qo‘rg‘oshin-kumush keki tarkibida 25 % Pb va 3-4 % Zn bo‘ladi, so‘ngra kek qo‘rg‘oshin ishlab chiqarishga yuboriladi. Pb-Ag kekining ajralib chiqishi umumiy rux kekinining 1/3 qismini tashkil etadi.

Kekni tanlab eritish natijasida hosil bo‘lgan eritmada temirning bir qismi (30 g/l) Fe₂(SO₄)₃ shaklda uchraydi. Vaqtidan oldin temir (III) gidrolizini oldini olish maqsadida temir rux sulfidi bilan tiklanadi: Fe₂(SO₄)₃ + ZnS = ZnSO₄ + 2FeSO₄ + S

Tiklanish reaksiyasi 97°C haroratda 3-4 soat davomida olib boriladi. Jarayon mahsuloti - sulfidli kek tarkibida 20% Zn va 50% S mavjud bo‘lib, u dastlabki konsentrat bilan birga kuydirishga yuboriladi. 20 g/l H₂SO₄, 20 - 30 g/l ekvivalentli temir va 1 g/l uch valentli temirga ega bo‘lgan eritma neytrallashga yuboriladi. Neytralizator sifatida rux kuyindisi qo‘llanadi:



Eritmada H₂SO₄ning miqdori 3 g/l gacha pasaytiriladi. Bunda Fe (III) cho‘kmaga o‘tadi. Neytrallashdan so‘ng quyultirilgan mahsulot tanlab eritishga qaytariladi, eritmadan esa getit cho‘ktiriladi. Jarayon 90-95°C haroratda 6 soat davomida o‘tkaziladi. Bunda eritmani qo‘shimcha neytrallab, pH=1,5-2,5 gacha pasaytiriladi va Fe (II) havodagi kislorod bilan oksidlantiriladi. Temirning oksidlanishi Cu (II) ishtirokida tezroq o‘tadi. Oksidlangan temir gidrolizga uchraydi va qiyin eriydigan getit (-FeOOH) hosil qiladi:



Choʻkma deyarli yaxshi filtrlanadi. 50 % Fe va 3-4% Zn mavjud boʻlgan getit keki chiqindi (otval)ga tashaladi, eritma esa neytral tanlab eritishga yuboriladi. Getitni choʻktirish jarayonida eritma mishyak, surma, germaniy kabi yoʻldosh elementlardan tozalanadi. Getitli choʻkma tarkibida 50% ga yaqin temir boʻladi. Bu texnologiyaning asosiy kamchiligi jarayonning koʻp bosqichliligi va aylanma materiallarning koʻpligidir. Yarozit jarayoni hozirda Norvegiyaning Oddo shahridagi rux ishlab chiqarish zavodida qoʻllaniladi. Bu yerda Zn keki 150-200 g/l H₂SO₄ eritmasida 80-90°C da 4-6 soat davomida qayta ishlanadi. Qoldiq (asosan PbSO₄, SiO₂ va temir oksidlari) oltin va kumushga boy boʻlib, eritmadan ajratib olinadi va qoʻrgʻoshin zavodiga yuboriladi. Eritmada rux, kadmiy, mis va boshqa sulfat kislota eriydigan moddalar bor. Eritmada H₂SO₄ ning qoldiq miqdori 40-60 g/l boʻlgani uchun uni 10 g/l gacha pasaytirish maqsadida m rux kuyindisi bilan neytrallanadi. Pulpa (boʻtana)ning qattiq fazasini eritmadan quyuqlashtirgichda ajratib olinadi. Quyultirilgan pulpa kekni tanlab eritish bosqichiga yuboriladi. Eritma esa temirdan tozalashga yuboriladi. Temirdan tozalash 85-95°C da olib boriladi. Temirni yarozit shaklda oʻtkazish ruxni zavod boʻyicha yuqori darajada (95-96 %) ajratib olishga imkon yaratadi. Qoʻrgʻoshin va qimmatbaho metallarning 94-97% i qoʻrgʻoshin - kumush kekiga oʻtadi. Jarayonning kamchiliklari: eritmani qizdirish va sovitish uchun qoʻshimcha jihozlar ishlatilishi, yarozitning choʻkish vaqtinigi koʻpligi. Gematit jarayoni. Rux kekini Yaponiyaning "Akita zink" firmasining "Induzima" zavodi sharoitida qayta ishlash. Bu korxonada rux kekini gematit jarayonida qayta ishlash yoʻlga qoʻyilgan. Gematit texnologiyasida rux keklarini avtoklavda 110-180°C haroratda va 150-180 g/l konsentratsiyali sulfat kislota ishtirokida tanlab eritishga asoslangan. Tanlab eritish jarayoni sulfat kislota konsentratsiyasi 40-50 g/l boʻlgunga qadar davom etadi. Bu sharoitda esa rux, mis, noyob metallar va temir deyarli toʻliq eritmaga oʻtadi. Temirning katta qismi yoʻqotilishi mumkin. Temir gidrolizlanib gematit holida choʻkadi. Bu usul sanoatda faqatgina ikki korxonada qoʻllaniladi: Yaponiyaning "Akita zink" firmasining "Induzima" zavodida va Germaniyaning "Dattel" zavodida. Induzima zavodida kekni qayta ishlash uchun Kanadaning "Sherrit Gordon" firmasi tomonidan ishlab chiqarilgan va "Dova mayning" firmasi tomonidan takomillashtirilgan avtoklavdan foydalaniladi. Dastlab kek qayta ishlangan elektrolit bilan repulpsiyalanadi, keyin sulfat kislota qoʻshilib kislota konsentratsiyasi rostlanadi va toʻrt kamerali avtoklavga yuboriladi. Keklarni avtoklav usulida qayta ishlash jarayonida mis va temir eritmaga oʻtadi, qoʻrgʻoshin esa kekda (choʻkmada) qoladi. Kek ajratib olingandan keyin eritma maxsus bakka yigʻiladi. Eritmadan vakuum filtrda filtrlanib, mis keki ajratib olinadi va "Dova mayning" firmasining Kosaka zavodiga yuboriladi. Eritmadan mis keki ajratib olinganidan soʻng ohaktosh bilan neytrallanib, galliyga boy gips va oddiy gips olinadi. Olingan bu choʻkmalar Kosaka zavodida qayta ishlanadi. Eritma 200°C gacha qizdiriladi temirni oksidlash va choʻktirish maqsadida unga kislorod yuboriladi. Bu operatsiya titan qoplamali avtoklavlarda oʻtkaziladi. 59% dan ortiq temir va 3% oltingugurt

tarkibli choʻkma (temirning III oksidi) eritmadan ajratib olinadi va zavoddagi kuydirish uskunasiga yuboriladi. Rux keklarini avtoklavda tanlab eritishdan hosil boʻlgan gematitli choʻkma - kekda temir miqdori 67 % gacha boʻladi (1-jadval). 70 g/l Zn va 60 g/l H₂SO₄ ga ega boʻlgan yakuniy eritma asosiy ishlab chiqarish -boshlangʻich rux keklarini repulatsiyalashga yuboriladi. Rux keklarini tanlab eritishdan olingan qoʻrgʻoshin keki qimmatbaho metallarni saralab olish uchun qayta ishlanadi. Ushbu usulda rangli metallarni ajratib olish darajasi quyidagicha: Zn 95-96 %; Cu 93-94 %; Cd 93-94 %. Gematit jarayonini yarozi va getit jarayoni bilan solishtirganda, yuqori temir tarkibli mahsulot (60 % Fe) olinadi va poʻlat eritish zavodlariga yuboriladi. Jarayonning kamchiligi murakkab va yuqori qiymatli dastgoh-avtoklavning qoʻllanilishidir. Rux kekini tanlab eritish uchun foydalaniladigan erituvchini tanlashda juda koʻp omillar hisobga olindi, jumladan: boshlangʻich mahsulotning kimyoviy va fizikaviy tabiati, erituvchining narxi, erituvchining dastgohga korroziyon taʼsiri, tanlab eritilayotgan mahsulotga nisbatan erituvchining tanlovchanlik harakati. Erituvchi sifatida sulfat kislotasining qoʻllanilishi texnologik va iqtisodiy samarador hisoblanadi, shu bilan birga hosil boʻladigan rux sulfatini rux zavodining asosiy sikliga kiritish mumkin. Hozirgi kunda "Olmaliq KMK" AJ Rux zavodida ishlab chiqarilayotgan rux keki pirometallurgiya usuli bilan vels pechida velslash jarayoni orqali qayta ishlanadi. Bu usulning kamchiliklari sifatida jarayonda katta miqdorda tannarxi yuqori boʻlgan koksning ishlatilishi, klinker bilan oltin, kumush, mis, qoʻrgʻoshin va boshqa metallarning yoʻqolishi, uchirmalarni ushlab olishning murakkabligi, olingan mahsulot tarkibida zararli qoʻshimchalar: xlor, ftor, uglerod miqdorini kamaytirish uchun qoʻshimcha jarayonning qoʻllanilishi, shuningdek, atrof muhitga katta miqdordagi chiqindi gazlarni chiqarib atmosferani ifloslantirishini koʻrishimiz mumkin.

Maʼlumki suv tabiatda eng yaxshi erituvchi hisoblanadi. Suvning bu xususiyatidan gidrometallurgik jarayonlarda keng foydalaniladi. Ammo suvning bugʻ (par) holatidagi xossalari hozirgacha oʻrganilmagan. Bunday uylab qaralsa biz bugʻ dunyosida yashayapmiz. Yilning istalgan vaqtida havoda suv bugʻi boʻladi va u har qanday kimyoviy reaksiyalarda ishtirok etadi deb ishonch bilan aytish mumkin. Soʻnggi yillarda Oʻzbekistonda professor S.A. Abduraxmonov rahbarligida turli metallarning sulfidli minerallarini suv bugʻi ishtirokida oksidlanish mexanizmi va kinetikasi boʻyicha ancha materiallar toʻplandi. Jumladan, rux keklarini qayta ishlashni past haroratda (600-700 °C) suv bugʻi ishtirokida termik ishlov berish usuli eksperimental tadqiqotlar va termodinamik hisoblashlar orqali asoslandi.

Rux boyitmasi qaynar qatlamli pechda kudirilib, kuyindi tarkibidagi ruxni eritmaga oʻtkazish maqsadida sulfat kislotaning suvli eritmasi bilan tanlab eritiladi. Kuyindini tanlab eritish vaqtida uning tarkibidagi Cu, Cd, Fe, As kabi metallarning ham qisman eritmaga oʻtishi kuzatiladi. Ruxning eritmaga oʻtish darajasi 85-90%, kekning chiqishi 20-25% boʻladi.

Rux keki kuyindini tanlab eritishdan qolgan qattiq qoldiq bo‘lib uning tarkibi quyidagicha, %: Zn-18-23; Pb-4,8-11,7; Cu-0,25-1,28; Cd-0,08-0,2; Ag-170-425g/t; Fe-23-32; Au-1-2g/t; Sum. – 4,7-10. Hozirgi kunda Olmaliq kon-metallurgiya kombinati, rux konxonasida kek tarkibida qolgan ruxni ajratib olish maqsadida 1000-1100°C haroratda 35-55% koks qo‘shilib vel’slash jarayoni amalga oshirilmoqda. Bunda ruxli uchirma va tarkibida ko‘pgina metallar bo‘lgan klinker hosil bo‘ladi. Vel’slash jarayoni kamchiliklariga qimmatbaho va tahchil bo‘lgan koks sarfining yuqoriligi, jarayonning yuqori haroratda kechishi, klinkerni qayta ishlashning samarali texnologiyasi yo‘qligi sababli boshqa qimmatbaho metallar (Au, Ag, Pb, Cu va boshqalar) ni ajratib olinmasligi kiradi. Yuqoridagilardan kelib chiqib rux keki tarkibidagi rangli metallar bilan birga nodir metallarni ham ajratib olishga imkon beradigan texnologiyani ishlab chiqish dolzarb muammo bo‘lib hisoblanadi.

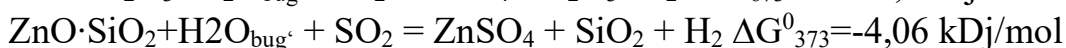
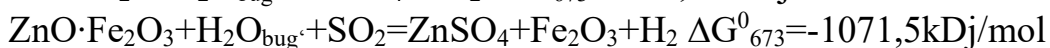
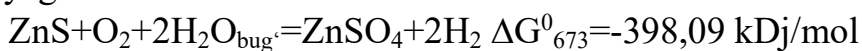
Yuqoridagilardan kelib chiqib, rux kekiga suv bug‘i ishtirokida termik ishlov berilganda ro‘y berishi mumkin bo‘lgan reaksiyalarning termodinamik ko‘rsatkichlari o‘rganildi. Reaksiyalarning izobar-izotermik potentsiallari L.P. Vladimirov usuli bo‘yicha hisoblandi. Rux kekiga suv bug‘i ishtirokida termik ishlov berilganda ko‘pgina reaksiyalar ro‘y berishi mumkinligi sababli ularni quyidagi guruhlariga bo‘lish mumkin:

1. Sulfidli minerallarning (sfalerit, pirit, galenit va b.) oksidlanishi.
2. Ferrit va silikatlarining suv bug‘i bilan ta’sirlashuvi.

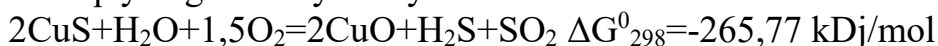
Elementar oltingugurt rux kekida erkin holatda va organik birikmalar bilan birikkan holatda uchraydi. Bundan tashqari u beqaror sulfidli birikmalarning termik parchalanishi hisobiga ham hosil bo‘ladi. Aniqlandiki, elementar oltingugurtning uchish harorati 150-200°C, arsenopirit va piritning parchalanishi 450-500°C haroratda ro‘y beradi. Pirit, arsenopirit va xal’kopiritning to‘liq parchalanishi ~700°C haroratda ro‘y beradi. Bunda gaz fazasida sulfid angidrid va boshqa uchuvchan oksidlar bo‘ladi. Hosil bo‘lgan oltingugurt suv bug‘i bilan reaksiyaga kirishadi.



Rux sulfidi, ferriti va silikati sulfid angidridi ishtirokida suv bug‘i bilan reaksiyaga kirishadi.



Mis sulfidi suv bug‘i bilan termik ishlov berish jarayonida kislorod ishtirokida quyidagi reaksiya bo‘yicha oksidlanadi:



Rux keklarini turli xil gidrometallurgik usullarda qayta ishlash texnologiyalari o‘rganildi. Mavjud texnologiyalarni o‘zaro tahlilidan so‘ng, xulosa o‘rnida shunday qilib, termodinamik hisoblashlar va olib borilgan tadqiqotlar quyidagilarni ko‘rsatdi:

1. Rux keki tarkibidagi elementar oltingugurt va sulfidlarining parchalanishidan hosil bo'lgan oltingugurt suv bug'i bilan reaksiyaga kirishib oltingugurt (IV) oksidi hosil qiladi va keyinchalik oltingugurt (IV) oksidi sulfidli minerallar bilan ta'sirlashadi.

2. Termodinamik hisoblashlar shuni ko'rsatdiki rux keklariga suv bug'i ishtirokida termik ishlov berish jarayonida rux sulfidi (ZnS) rux sulfatiga ($ZnSO_4$), rux ferriti ($ZnO \cdot Fe_2O_3$) $ZnSO_4$ va Fe_2O_3 ga, rux silikati ($ZnO \cdot SiO_2$) $ZnSO_4$ va SiO_2 holatiga o'tadi.

3. Suv bug'i ishtirokida termik ishlov berish natijasida olingan kuyindini sulfat kislota eritmasi bilan tanlab eritish natijasida rangli metallar (asosan Zn, Cu) eritmaga o'tadi, so'ngra erimay qolgan kek tarkibidan nodir metallar (Au, Ag) ni gidrometallurgik usulda ajratib olish imkoniyati paydo bo'ladi.

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DEVELOPMENTAL PURPOSE OF TEACHING SECOND LANGUAGE

Annotation. The article discusses the issue with utilising CLIL technology, demonstrates its value, and lists both its benefits and drawbacks. It also emphasises the significance of utilising this technology as students enhance their professional and communication competence in a second language. Additionally, the essay details a teaching initiative that was carried out at a humanitarian-pedagogical university's history department while taking CLIL technological requirements into account.

Key words: CLIL, well-rounded personality, oral (listening and speaking) and verbal (reading and speaking), the colorfulness of language.

Introduction. It is consistent with the meaning of developmental education in didactics and represents the development of intellectual, emotional and motivational aspects of the student's personality. The student can be intellectually and spiritually nourished, he tests his feelings in speech and communication, his personality grows by knowing the opinions of interlocutors (students, teachers, etc.) and expressing his own opinion. Overcoming language and speech difficulties during the educational process, including learning English, ensures the development of the student's thinking and feelings. A developmental goal is achieved only through words and actions. Its serious difference from the general educational goal is that education is connected with the acquisition of educational information, and the content of the information serves to form various concepts. Education, including learning English, occupies a special place in the development of a person. As a psychological, communicative, functional and cultural phenomenon, language is very important for the process of knowledge, because it is a factor that leads from ignorance to knowledge. In English, the student acquires two types of knowledge, the first and basic, the necessary algorithmic rules for participation in the speech process, and the information that is useful during the student's life, which acquires social significance.

The CLIL (Content and Language Integrated Learning) technology provides such opportunity. The CLIL technology in a university implies the learning that equally includes learning the content of the profile subject and the foreign language, which becomes the language of the educational process.

Intercultural communication serves to inculcate the characteristics and customs of the mentality of another nation. In this way, he learns not to advertise the lifestyle of others, but to look at the world through the eyes of an English

speaker and, as a result, to deeply feel his own culture. There is a convergence of universal and national values.

The quality and effectiveness of any education depends on the level of accuracy in defining the goal. Practical (primary), general education, educational and developmental goals are recognized in English language teaching. The main goal of teaching English at all levels of education in our country is to form communicative competence in English so that students can be active in everyday, scientific and professional fields in the cultural world of the blind.

Based on the experiences of the developed democratic countries and the rapidly changing requirements of the present time, English is taught in our country on the basis of integrative teaching aimed at demonstrating communicative activity, personal orientation, and acquisition of competence. Teaching English in the primary grades:

- to provide students with full access to the wonderful world of foreign languages and provide education and training at the level of international standards;

- formation of a well-rounded personality, development of the student's speech and language skills, as well as psychological aspects such as attention, perception, memory;

- forming a positive attitude to learning English in students, instilling self-confidence, enjoyment and pride in learning English;

- creating conditions for students to adapt to the language environment from an early age, eliminating psychological obstacles that prevent them from using English as a means of communication;

- to interest students in the activity of learning English and to form in them the ability to acquire communicative competence in English;

- formation of basic skills of oral (listening and speaking) and verbal (reading and speaking) communication in English within the limits of the students' speaking abilities and needs;

- to introduce students to the colorfulness of language and culture, to form in them a sincere and tolerant attitude towards different cultures.

Teaching a second language has several developmental purposes that can be broadly categorized into cognitive, cultural, social, and economic benefits:

Cognitive Benefits

1. **Enhanced Cognitive Abilities:** Learning a second language improves brain functions like problem-solving, multitasking, and critical thinking. It can delay the onset of dementia and Alzheimer's disease.

2. **Improved Memory:** Bilingual individuals often have better memory retention and recall skills.

3. **Greater Metalinguistic Awareness:** Learning a second language heightens awareness and understanding of language structure and usage.

4. **Better Academic Performance:** Students who study a second language tend to perform better in other academic areas due to improved cognitive skills.

Cultural Benefits

1. **Cultural Awareness and Sensitivity:** Learning a second language fosters an appreciation for other cultures, promoting understanding and tolerance.

2. **Broader Worldview:** Exposure to another language and culture can expand one's perspective and understanding of global issues.

Social Benefits

1. **Enhanced Communication Skills:** Bilingual individuals can communicate with a wider range of people, leading to better social interactions and relationships.

2. **Stronger Community Ties:** Knowing a second language can help individuals connect with cultural communities and build stronger ties within diverse societies.

Economic Benefits

1. **Increased Job Opportunities:** Bilingual individuals are often more competitive in the job market, especially in globalized industries where language skills are a valuable asset.

2. **Higher Earning Potential:** Many employers value language skills and may offer higher salaries to bilingual employees.

3. **Business and Trade Advantages:** Knowledge of a second language can facilitate international business and trade, providing a competitive edge in global markets.

Developmental Purpose in Education

1. **Promotes Lifelong Learning:** Language learning encourages continuous personal and professional development.

2. **Fosters Academic Discipline:** The process of learning a new language requires dedication and discipline, which are valuable skills in all areas of study.

3. **Supports Multidisciplinary Learning:** Language education often intersects with history, literature, and cultural studies, providing a well-rounded educational experience.

Conclusion. By integrating second language education into developmental frameworks, educators and policymakers can enhance cognitive abilities, foster cultural understanding, improve social interactions, and provide economic advantages, thereby contributing to the holistic development of individuals and societies.

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THE IMPORTANCE OF DIDACTIC GAMES IN THE FORMATION OF BASIC COMPETENCIES OF PRESCHOOL CHILDREN

Annotation. Today, working with a unique methodical, pedagogical, psychological preparation in improving the content of preschool education has become the norm of the time. Because the improvement of the content of preschool education is a broad concept, and its effective implementation requires the condition of the building of the preschool educational organization, the participation of teachers-pedagogues, assistant educators, parents and children in the educational process should be innovative. requires. The article provides information about the role of games in the development of basic competencies of preschool children.

Keywords: Competence approach, child, competence, developmental centers, basic competence, didactic game, education.

Enriching the quantity and quality of pedagogical-psychological, methodological, fiction literature, suitable and specific literature for each age group in the process of a competency-based approach based on the “State requirements for the development of children of primary and preschool age” and “The First Step”. “The state curriculum is also an important issue. The organization of educational and developmental play centers that encourage children to think while playing, the involvement of parents and the public in coordinating their activities and other similar factors increase the content of preschool education.

Over the past short time, the President of the Republic of Uzbekistan “On measures to further improve the preschool education system in 2017-2021”, “Measures to radically improve the management of the preschool education system”, “On the organization of activities of the Ministry of Preschool Education of the Republic of Uzbekistan”, as well as “Programs for further improving the preschool education system for 2017-2021” and on the basis of the “Road Map” for further development, unprecedented work is being carried out. improving the preschool education system in the republic. The economic power of each country and the rise in the level of social and spiritual life are determined by the competitiveness of the education system and the development of science.

Therefore, in the Action Strategy for the further development of the Republic of Uzbekistan, the priority is to radically improve the education sector, improve the quality of education, form a generation with intellectual potential, physical fitness, and in-depth training in specific sciences. The objectives were to train qualified personnel for various sectors of the economy, and it was planned

to create an education system that could ultimately meet the requirements of today's era.

In order to achieve the quality and efficiency of pre-school education, it is important to organize meaningful and interesting daily activities of children, use their free time effectively, determine their abilities and bring a creative approach to the process accordingly. Adapting the activities and resources for children to the needs of children and society is an appropriate process. For this reason, the competency approach in pre-school education is an important issue.

Competency approach in preschool education means preparing children for use in familiar or unfamiliar situations encountered in everyday life through knowledge acquired in educational organizations. Competency approach to education of preschool children is to prepare the growing child's personality for life, mastering the moral standards and values necessary for solving important life issues, communicating with other people, "I" in it provides preparation for the formation of methods of activity related to the construction of the image.

Preschool education lays the foundation for the development of the child's basic competencies. It develops in later stages of education and throughout life. The state curriculum is based on the competency approach. It is aimed to develop the competencies formed in various children's activities during the pre-school education and upbringing period.

Competence is the totality of a child's knowledge, skills, abilities and values.

A literate child can mobilize and apply his knowledge, skills and abilities in a specific situation, achieve his goals and solve age-appropriate tasks at each stage of development.

Competency approach in education of preschool children is aimed at forming children's ability to effectively respond to cognitive needs, problems and opportunities, developing moral norms and values, communicating with other people, personal ("I" concept) includes the formation of

Basic competences of a child of preschool age (6-7 years old).

- Communicative.
- Social.
- Personal (building the concept of "I").
- Knowing.

The child's competencies are determined in the following areas of child development:

- physical development and formation of a healthy lifestyle;
- socio-emotional development;
- speech, communication, reading and writing skills;
- development of cognitive process;
- creative development.

It is known that the game occupies the main place in the activity of a child who first steps on the threshold of a preschool educational organization. The game

is their favorite pastime, and they try to combine any activity with the game. Therefore, a skilled educator allows to increase the efficiency of the educational process by using it for the purpose, without squeezing their favorite pastime - the game.

Play is an integral part of a child's life. Through the game, the child gets acquainted with the environment, natural phenomena, landscapes, objects, plants, animals.

Didactic game is a method of education that matches the age characteristics and mental abilities of preschool children. An experienced educator uses this game to mix inactive children into a team, to carry out various plans and tasks without fear. A didactic game is a practical activity for children, because in it children use the knowledge they have acquired during training. From this point of view, didactic game strengthens children's intellectual activities, creates living conditions for them to use the knowledge they have acquired in various ways.

Didactic games can be organized in different ways. Dolls, toys, pictures and handouts, various geometric shapes can also be used.

According to the purpose of didactic games, it includes 4 factors: 1. Task of the game. 2. Movement of the game. 3. The rule of the game. 4. The end of the game.

In the modern conditions of the reform of the preschool education system, the status of the educator is changing radically, his educational functions, accordingly, his professional and pedagogical competence, and the requirements of his professional skill level are changing. Today, in the modern system of upbringing and development of a preschool child, a creative and skilled teacher is required, who is able to develop the skills of mobilizing his personal potential.

In conclusion, it should be said that currently didactic games play a special role in the development of basic competencies of preschool children. The correct and effective use of didactic games aimed at expanding the worldview of children educated in preschool educational organizations, strengthening their knowledge, forming their creative thinking, and expanding their imagination is an important tool in forming the necessary abilities of children.

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QO`CHQORLARNI BO`RDOQIGA BOQISH USULLARI VA NATIJALAR

Annotatsiya. Hozirgi vaqtda mamlakatimizda etishtirilayotgan chorva maxsulotlarining asosiy qismi nodavlat xo`jaliklari zimmasiga tushmoqda. Ammo, bu xo`jaliklarda etishtirilayotgan chorvachilik mahsulotlarining sifatli bo`lishini ta`minlash chorva mollarining tabiiy himoyalaniish qobiliyati, ularni saqlash sharoiti va oziqlantirish darajasiga bog`liq bo`ladi.

Kalit so`lar: yaylov, chorva, ozuqa, nasl, maxsuldor, bo`rdoqi.

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METHODS AND RESULTS OF FEEDING RAMS TO BEAVER

Annotation. Currently, the main part of the livestock grown in our country falls on non-state farms. However, ensuring the quality of the livestock productivity grown on these farms will depend on the ability of the livestock to be protected naturally, the conditions for their storage and the level of feeding.

Key so: pasture, livestock, feed, breed, specialty, Beaver.

Kirish: Qishloq xo`jaligi mahsulotlarini ishlab chiqarishning ijtimoiy tarkibi tubdan o`zgarimoqda. Bugungi kunda xo`jalikning bir qismi bo`lgan chorvachilikdir. CHorvachilikni rivojlantirishda dehqon fermer xo`jaliklarning tashkil etilishi zooveterinariya mutaxassisleri oldiga yangi vazifalarni qo`ymoqda

ya'ni qishloq xo'jalik hayvonlarini saqlash, asrash, boqishni chuqur o'rganmay turib, xo'jaliklarda sog'lom va sermahsulot mollarni bosh sonini oshirishga hissa qo'shmaydilar. Ma'lumki chorvadorlarning asosiy vazifasi aholini chorva mahsulotlariga qishloq xo'jalik xom-ashyosi bilan ta'minlashdir.

O'zbekistonda va dunyoda qorako'lchilikning axvoli, kelajakdagi istiqboli, hozirgi bozor iqtisodiyoti sharoitida rivojlanishi, yangi sermahsul zot tiplarini, zavod tiplarini, rang va rang-barangliklarni yaratish va ulardan unumli foydalanish chora tadbirlarini ishlab chiqish dolzarb hisoblanadi. Qorako'l qo'yining genofondini saqlash muammolari, mo'yna bozori talabiga javob beradigan, jun tola qoplami ipaksimon, yaltiroq va engil bo'lgan qorako'l terilarni etishtirish amaliy ahamiyatga ega.

Asosiy qism: Odatda qo'chqorlar yaylovda va qo'yxonada bo'rdoqiga boqiladi. Bo'rdoqiga puchak qilingan sovliq, qo'chqor, bichilgan qo'chqorlar va o'tgan yilgi erkak qo'zilar boqiladi. Qo'chqorlar bo'rdoqiga 60 - 90 kun jadal usulda boqiladi. O'tkazilgan ilmiy tadqiqot natijalari shuni ko'rsatadiki qo'zilarni uzoq vaqt bo'rdoqiga boqqancha jadal usulda boqilsa iqtisodiy tomondan samarali bo'ladi. Ular bir kunda 4 marta oziqlantirilib 2 marta sug'oriladi, em ozuqalar miqdori ko'paytiriladi. Qo'zilar 5-6 oyligida 40 kg ga etganda bo'rdoqiga qo'yiladi. Bo'rdoqi qo'zilar ratsionida dukkakli ekinlar pichani, ildiz mevali, shirali va boshqa ozuqalar bo'lishi kerak. Bo'rdoqilanayotgan qo'chqorlar quruq binolarda, qalin to'shamada saqlanib havo harorati +3 +5⁰S, nisbiy namlik 60-70 %, yorug'lik koeffitsienti 1:25 bo'lgan binolarda boqilib semirgandan so'ng go'shtga jo'natiladi.

Qo'chqorlarni oziqlantirish. Qo'chqorlarni oziqlantirish ularni yil davomida zavod kondisiyasida bo'lishini ta'minlashni ko'zda to'tadi. Oziqlantirish jadalligi qochirish mavsumi oldidan kuchaytiriladi. Ratsionning energiya, protein, mineral moddalar va vitaminlar bilan to'liq ta'minlanishi qo'chqorlar urug'ini sifati va jinsiy faolligiga ijobiy ta'sir ko'rsatadi. Qo'chqorlardan foydalanish jadalligiga qarab me'yorlar belgilanadi.

Qish paytida qo'chqorlarga 1,5-2 kg pichan, 1,5-2 kg shirali oziqalar, 0,6-0,8 kg yem beriladi. Yozda esa qo'chqorlar yaylovlarda boqilib, qo'shimcha yem berilib turiladi. Urug' yetilishi 40-45 kun davom etadi, shuning uchun qochirish mavsumidan 1,5-2 oy oldin ularni tayyorlash boshlanadi. 70-80 kg vazndagi qo'chqorlarga 1,5-2 oziqa birligi va 150-200 g hazmlanuvchi proteinga ega ratsion belgilanadi.

Burdoqilarni oziqlantirish tez va yuqori semizlikka erishishga qaratiladi. Unda asosan arzon va xo'jalikda mavjud oziqalarda foydalanish iqtisodiy samara beradi. Burdoqilashga podani tiklashga yaroqsiz qo'zilar va puchak qilingan qo'ylar qo'yiladi.

Burdoqilar ratsionida protein yuqori bo'lishi shart emas, chunki ular tanasida kuniga faqat 5-8 g oqsil tuplanadi holos, shuning uchun 1 oz. birligida 88-90 g hazmlanuvchi protein bo'lsa kifoya. Burdoqilar ratsioni qo'yidagi oziqalar tashkil topishi mumkin: somon 0,6 kg, silos 5 kg, lavlagi 1 kg, yem 0,2

kg. Burdoqilash davomida 10kg qo'shimcha vazn olish uchun 115 oziqa birligi va 8,1kg hazmlanuvchi protein kerak bo'ladi. O'rtacha kunlik semirish 180-200g ni tashkil qilishi kerak.

Respublikamizda qo'ylarni yog'-moy sanoati chiqindilari shulxa va shrotda burdoqilash keng tarqalgan. Ularning yidirish miqdori muayyan sharoitda qo'yning zoti, yoshi, tirik vazniga qarab belgilanadi va burdoqilash 90-100 kun davom etadi. Burdoqilash davrining uzaytirilishi ularning gassinol moddasi bilan zaharlanishiga sabab bo'lishi mumkin. Shuningdek qo'ylarni yaylovlarda semirtirish ham keng tarqalgan. Unda qo'ylar yaylovlarda 600-800 boshdan otar qilib boqiladi, burdoqilarning to'yimli moddalarga talabini qondirilishiga qarab yem qushiladi. Ularga yetarli miqdorda osh to'zi va sifatli suv bilan ta'minlash kerak.

Bo'rdoqilashning natijalari (1 bosh hisobida)

Ko'rsatgichlar	O'lchov birligi	Guruhlar	
		Nazorat	Tajriba
Bo'rdoqiga boqishning boshida tirik vazn	kg	29,0	30,1
Bo'rdoqiga boqishning oxirida tirik vazn	kg	47,2	50,1
Bir boshdan olingan 30 kun maboynida olingan vazn	kg	17,2	20,10
Kunlik o'sish	g	590	695

Jadval ma'lumotlar tahlili shuni ko'rsatadiki, haqiqiy to'yimlilik asosida tuzilgan ratsion bilan oziqlantirilgan qorako'l qo'chqorlarning ya'ni tajriba guruhida, nazorat guruhiga nisbatan bir boshdan olingan 30 kun maboynida olingan vazn o'sish 2,9 kg ko'p bo'ldi. Kunlik o'sish nazorat guruhida 590 gr tashkil etgan bo'lsa, tajriba guruhida 105 gr ko'p bo'lgan.

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RESEARCH OF THE PROCESS OF THE PROCESS OF REASONABLE DETERMINATION OF MOISTURE IN GAS CONTENT

Abstract. This article describes the method of mass determination of moisture in gas: determination of moisture in gas by absolute mass method is based on the adsorption of moisture in gas by certain substances. Such substances include: calcium chloride, silica gel, sulfuric acid, phosphoric anhydride, etc., information such as the scheme for determining the moisture content of gas by mass method is presented in the article.

Key words: gas conductor, filter sampling tube, thermometer, absorption drying, condensation, calcium chloride, silica gel, sulfuric acid, phosphoric anhydride.

INTRODUCTION: Water vapor in gas can be separated by physical methods (adsorption, absorption, membrane, condensation) and chemical methods (using CaCl_2) and their hybrid combination methods. Today, oil and gas processing industries use the following traditional and modern gas drying methods [1]:

1. Absorption drying;
2. Adsorption drying;
3. Condensation. Spray cooling of hydrate inhibitors;
4. Membrane method. Using elastomers and glassy polymers.
5. Chemical method. Using hygroscopic salts. Metal chlorides are usually used.

Absorption and adsorption methods are widely used in the world.

Absorption drying of gases (Glycolic drying)[2]

Drying gases using glycols is one of the most common methods, allowing gases to be dried sufficiently for transmission or use as fuel.

Basic requirements for industrial consumers

In the absorption process, ethylene glycol, diethylene glycol and triethylene glycol are mainly used as absorbers. In desorption cycle drying processes and repeated application of the absorbent, almost no absorbent is consumed. Therefore, any substance capable of separating the absorbent from the extracted component can be used as an absorbent. However, in order to choose an absorber in the industry, it is necessary to take into account a number of the following requirements [3-4]:

- The absorbent must have a high absorption capacity relative to the component to be extracted from the gas. The use of an absorbent with a low

absorption capacity leads to an increase in circulation of the circulating solution and an increase in the cost of desorption.

- Absorbent should be easily regenerated during desorption. For this, the component pressure in the absorbing solution must be high at the desorption temperature.

- The selectivity of the absorbing solution should be high, that is, it should absorb the desired component well and not absorb other substances in the gas.

- The absorption and desorption temperatures of the absorber should not have high vapor pressure. Otherwise, the quantitative loss of this absorbent may increase.

- The absorbent should be chemically stable under working conditions, and should not undergo structural changes. Chemical reactions should not occur between the gas and the absorbent.

- The absorber must be cheap and have a large resource.

- The absorbent should not have a corrosive effect on the equipment of the absorption process.

- The mass transfer coefficient must be sufficiently high [5].

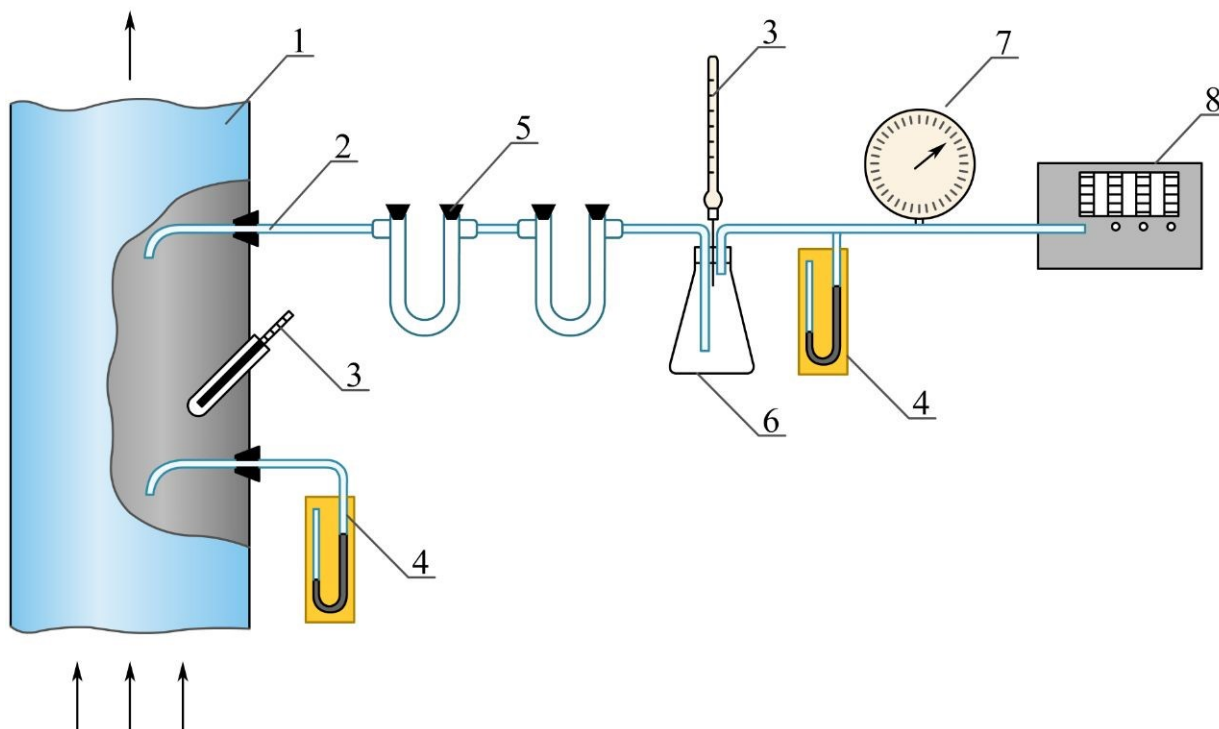
RESULT: Determination of moisture in gas by absolute mass method is based on adsorption of moisture in gas by certain substances. Such substances include: calcium chloride, silica gel, sulfuric acid, phosphoric anhydride, etc. When choosing one of these dehumidifiers, it should be taken into account that some of them absorb SO₂, Cl₂, CO₂ and other gaseous compounds along with water vapor. Because it affects the final results obtained.

In order to determine the humidity in the mass method, a certain amount of gas is passed through an adsorber filled with a moisture absorbent and placed in series (Fig. 1).

The tubes containing the absorber are weighed using analytical balances before analysis (m_1) and after analysis (m_2). Knowing the humidity and the amount of transferred gas (V_G), the absolute humidity index of the gas is calculated as follows:

$$f'' = \frac{m_2 - m_1 \cdot 1000}{\left(V_G \tau \frac{273}{273 + t_G} \frac{B - P_{II}}{760} \right) + \left(\frac{m_2 - m_1}{0,804} \right)}, \quad (1)$$

where: m_1 is the mass of the absorbent for water vapor adsorption, g; m_2 - the mass of the absorber after adsorption of water vapor, g; V_G - the volume of gas passed through the absorber tube, l/min; t is the transit time of the gas sample under study through the absorbent tube, min; t_G is the temperature of the gas measured after absorption of water vapor, °C; RP is the pressure of the gas sample after absorption of water vapor, mm.cm.ust.



1 – picture. Schematic of determination of moisture content in gas by mass method: 1 – gas conductor, 2 – sample tube with filter, 3 – thermometer, 4 – manometer, 5 – U-shaped absorber tube, 6 – hydraulic barrier (only liquid absorber, e.g. installed when sulfuric acid is used), 7 – gas meter, 8 – electric aspirator

A solid absorbent filter should not be allowed to drop in resistance during sampling, as this means that it is saturated with water vapor and the results obtained will be erroneous. In addition, the rate of sample gas extraction should be carefully controlled. Sample gas is taken at a rate of 0.5-1.0 l/min (sampling duration 10-15 minutes). If the gas is sampled at a rate of less than 0.5 l/min, water vapor in the gas may condense in the sampling tube. If it is taken at a speed higher than the given speeds, the hydraulic resistance in the system will increase and the results will not be accurate.

CONCLUSION: In researching the process of mass determination of moisture in gas, the following conclusions were reached: To determine moisture in mass method, a certain amount of gas is filled with a moisture absorber and passed through an adsorber located in series. was studied.

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PESTS OF CEREALS AND BREAD PRODUCTS

Abstract. From errors related to carelessness, we turn to more serious errors, which are probably related to a lack of knowledge. Because of this, this article provides information about pests of grain and bread products and how to fight against them.

Key words: grain, pest, rodent, insects, damage.

Grain pests have been known since ancient times. Man in ancient times used various measures to protect grain from pests. With the appearance of granaries for the first time, various rodents and insects began to gather there. For some species, this new ecological environment is acceptable, and they gradually adapted to live and develop only in these places. As a result, a whole group of "warehouse" pests began to appear.

It is known that various pests pose a great threat to the quality and quantity of grain. Even in the primitive society, people have supported the preservation guidelines against grain storage pests.

Barn weevil (*Sitophilus granarius*) (beetles - Coleoptera family, belongs to the weevil family) is the most important warehouse pest. It damages wheat, rye, barley, oats, rarely corn, rice, millet and sometimes flour and products made from it.

The seeds that fall with long nose lose their fertility partially or completely. The barnyard weevil is the most widespread, stocking pest, and it can be found everywhere. The length of the beetle is 2.4-3.5 mm, dark brown, sometimes black shiny. The second pair of wings is not well developed and it cannot fly.

The length of the egg reaches 0.71 mm, the color is grayish at first and becomes yellowish as it develops. A female beetle lays 50 to 300 eggs, on average 160. She lays her eggs one at a time on the thick end of the grain, in which she pierces the grain with her horn and lays the egg on it. Larvae emerge from the eggs in 8-12 days and eat the core of the grain. Damaged grains are lightened and shriveled.

Flour mite (*Tenebrio molitor*) (beetles - family of Soleoptera, belongs to the family of beetles.) The length of the beetle is 12-16 mm, it is dark brown and

shiny. The wing has a clearly defined saddle. The length of the larva is 25-30 mm, yellow-brown hard. The larva of the pest hibernates in the crevices of unheated buildings, piles of flour products and gives birth once. Beetles fly in the evenings and at night, laying up to 300 eggs on bags of flour and other products in wall cracks. The larva feeds on flour and bran, as well as starch, bread, dried bread. But he adapted to living hungry for a long time.

Cereal moth (*Sitotroga cerealella*). The front wings of the butterfly are narrow, and the gray-yellow scales are shiny. The back wings are gray like silver, elongated and sharpened with a notch at the tip. The worm is white or yellow, the body is short and thick, 7-8 mm long, the abdominal legs are not well developed. She lays 80-200 eggs on grains, one by one or in groups of up to 30, each female butterfly lays 80-200 eggs. Newly laid eggs are sticky and stick to grains easily. lays eggs on the flower petals of crops. Its embryonic development period lasts 5-14 days. Grain moth is the first and most dangerous pest of a number of legumes such as wheat, rye, barley, oats, corn, rice, buckwheat.

Warehouse moth. (*Nemapogon granellus*) (Lepidoptera family, belongs to the true moth family). The front wings of the butterfly are 9-15 mm pale white with dark brown spots. The length of the worm is 7-9 mm, the color is white or pale white, it has an orange shield in front of the chest. The border around the breathing hole is the same color. They can be found in granaries, elevators, mills, wood fungi and rotten wood in residential areas. The worm of the pest hibernates. They turn into cocoons in their porous cocoons in grain houses or wall cracks. The mushroom phase lasts 14-21 days. Butterflies fly in the evening and at night. Worms feed on grain, gnawing it and opening shallow grooves. Butterflies lay 1-2 eggs per grain, up to 100 eggs in total. The period of embryonic development is 10-14 days. The pest produces 2-3 offspring. One worm damages up to 30 grains. In addition to grains, the pest also damages confectionery products, dried mushrooms, fruits and other stored products.

Countermeasures.

1. Construction of improved warehouses according to the typical project.
2. Cleaning of warehouses, mills, pre-storage buildings and vehicles, tares and residues, grains.
3. Keeping the humidity and temperature of grain at the level required by the instruction and standard.

Countermeasures. Mechanical and physical measures of struggle.

1. Sweeping pests from walls, floors and equipment or collecting them with industrial vacuum cleaners.
2. Cleaning the grains.
3. Grain storage, cooling according to the instructions. When the temperature drops below 10 C, the development of pests slows down or does not develop at all, and when it drops below 0 C, they die.
4. Using high temperatures to disinfect dry fruits, dried bread and other products as indicated in the instructions.

5. Use of new achievements in the use of physical methods of combating pests, gamma rays, high-frequency currents, vacuum.

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TYPOLOGY OF PARADIGMATIC GROUPS IN VOCABULARY AND PHRASEOLOGY

Annotation. The article discusses lexemes and phrasemes in the field. Analyzed the main paradigmatic groups are identified - thematic group and lexical-semantic group on the example of lexical-phraseological fields "literature". It is emphasized that seminal analysis plays an important role in field research.

Key words: lexeme; phraseme; thematic group; lexical-semantic group; paradigmatic group; lexicalphraseological field; literature; term; character. Keywords: lexeme; phrase; subject group; lexico-semantic group; paradigmatic group; lexico-phraseological field; literature; term; character.

Introduction

Combining lexemes and phrasemes into paradigmatic groups – the most striking characteristic of the field, the most indicative manifestation of the systemic connections between elements operating in it. Let us consider the main paradigmatic groups in the LFP “Literature”. The most relevant concept for our research is the concept of a field, since the entire union we are considering terms is a lexical and phraseological field. Field - the largest association of language units, opposed smaller associations within it. How the field is maximal The wide-ranging LFP “Literature” is a macrofield, in which microfields are distinguished. Macropole and microfield represent elements of macrostructure and microstructure LFP “Literature”, characteristic of this horizontal structure fields. In our opinion, it would be most logical to highlight in the LFP “Literature” microfields corresponding to literature, developing in one country or another, in one language or another or associated with some religion, culture, historical period. For a number of microfields, the semes ‘country’ and ‘people’ will coincide: "Austrian Literature", "Chinese Literature"; series of microfields characterized only by the seme ‘people’: “Komi literature”, "Crimean Tatar literature"; characteristic of other microfields only seme ‘country’: “Congo Literature”, “Belgian Literature”. For the LFP “Literature”, considered in relation to Russian language, the actual semes in these microfields will be ‘Russian’ (‘related to Russian literature’) and ‘non-Russian’ (‘not related to Russian literature’). Last semester in each microfield has a specific form: ‘Belgian’, ‘Chinese’ and under. Based on religious criteria, microfields are identified “Christian literature”, “Buddhist literature”, etc. Archisema for these fields the seme ‘religion’ (‘belief’) becomes. In every microfields form their own system of thematic groups, types of time paradigms and other paradigmatic groupings terms.

At the same time, microfield terms also refer to lexical semantic groups - other largest paradigm- tic formations in the structure of physical therapy. The microfield can be divided into even smaller microfields based on some other criteria, for example, "Russian literature" includes microfields "Old Russian literature", "Modern Russian literature", etc. The terminological nature of the LFP "Literature" determines exceptional significance in its paradigmatic structure thematic groups (TG), since it is thematic association, associated with the attribution of an object or phenomenon to the field of knowledge lies based on terminological fields. In modern linguistic research, a thematic group is defined as "a collection words of the same lexico-grammatical category, highlighted based on an extralinguistic feature" [10, p. 210]. In the concept of TG the main characteristics are the extra-linguistic essence of the given paradigmatic unification (the topic is set not by linguistic, but by factors external to language), connection with reality surrounding reality (concepts) and belonging constituents to one part of speech. In the LFP "Literature", in our opinion, the following TGs are distinguished: as "Literary methods (directions)", "Types of literature", "Genres of Literature", "Creators of Literary Works", "The plot of the work", "Means of expression", "Literary techniques", "Thematic focus", etc. More details some TG will be discussed in the next chapter. Lexemes and phrasemes are combined into thematic groups based on extralinguistic factors. For example, based on the thematic specificity of a literary work can be highlight the TG "Thematic focus", which includes terms adventure literature, detective literature, science fiction, didactic literature, dystopia, fantasy, historical literature, romance novel, books about "misfits", alternative history, horror (horror novel), etc. Some thematic groups are multi-component, others may have a small number of elements. For example, to designate literature intended for readers of different ages terms children's literature, teenage literature, literature for adults; TG "Kinds of Literature" includes historically fixed the number of elements is three: epic, lyric, drama. The lexical-semantic group is the most voluminous in composition combining LFP elements. L.M. Vasiliev gives the following definition: LSG definition: "...Any semantic class of words (lexemes), combining containing at least one common lexical paradigmatic seme (or at least one common semantic factor)" [1, p. 110]. For LSG, unlike a thematic group, it is not mandatory characteristic is that all elements belong to one parts of speech. In addition, the components of LSG should not have a single hyperseme, although they naturally have common semes. In the system of terms of LFP "Literature" the most logical We imagine the selection of LSG "Literary work", "Literary criticism", "Versification", "Folklore". LSG "Literary work" includes terms, composition forming the basis of the LFP "Literature"; they can be called primary. The purpose of lexemes and phrasemes of this group is to characterize the literary work, name its basic components. Precisely literarythe work is the semantic center of the LFP "Literature", the basis and source of the gradual formation of that significant by the number of arrays of lexemes and phrasemes that make up a given LFP.

Number of components of LSG “Literary work” not very large: theme, idea, plot, hero, character, action, structure of a literary work, composition, gender, genre, method, prose, poetry, language of work, writer, poet, write etc., however, their significance for this physical therapy is very significant. Many lexemes of this LSG become semantic centers and are included in the names of thematic groups, are dominant main synonymous series. Lexemes and phrasemes of this group determine the emergence and gradual filling of members of other LSG, which we will consider below. To analyze the elements of this LSG terms are formed by LSG “Literary Studies”, highlighting in literary creativity of poetry and prose stimulates the formation LSG “Versification”, the absence of an author in folk works and the formation of an author’s layer of works in all literatures requires the appearance of LSG "Folklore". Due to the primary nature of the LSG “Literary Work” division” of the common seme of all units of a given LSG, will, it seems to us, seme ‘literature’ (or seme ‘literary work’). Lexemes and phrasemes of the LSG “Literary Studies” have a common seme ‘science’ (‘scientific’) and represent units, purpose which is the scientific understanding of literary creativity. Historically this LSG is formed later than the one described above, since presupposes a native speaker’s desire and ability to analyze literary works. The TG composition of this LSG is determined by its scientific orientation. The main TG, in our opinion, is group “Analysis of a literary work”, including terms work analysis, interpretation, literary criticism, form and content of literature, artistic detail, etc. Aspiration researcher to a deep reading of a literary work, understanding its content and form makes it necessary formation of lexemes and phrasemes of this TG. Development of literary criticism and various approaches of researchers to the analysis of literary text determine the appearance following TG: “Methods of literary criticism” (biographical method, formal method, sociological method, etc.); "Sections literary studies" (folklore, hermeneutics, poetry, source studies, comparative literature, etc.); "Schools literary studies" (phenomenological school, spiritual-historical school, etc.). The secondary nature of this LSG and the branched system terms included in it indicate a person’s desire analyze the literary process, understand the specifics literary creativity, streamline its research. Lexemes and phrasemes of the LSG “Versification” are determined the existence of prose and poetic forms in literature and are aimed at identifying phenomena related to poetic form. The specificity of the poetic form is very obvious in comparison with prose and requires its own understanding with using appropriate terms. Integral seme in seme the structure of these terms – ‘poetry’ (‘poetic’). Let's call The main TGs as part of the LSG “Versification”: TG “Poetic genres”: ballad, fable, ode, poem, sonnet, epigram, etc. TG “Poetry Studies”, in which you can observe smaller thematic groupings, subgroups: “Sections of poetry”: rhythm, phonics, stanza, metric, prosody, etc.: “Poetic sizes”: iambic, trochee, dactyl, amphibrach, anapest, disyllabic sizes, etc.; “Forms of versification”: tonic verse, accented verse, blank verse, free verse, paradise verse, etc.; "Systems versification": metric versification, tonic versification addition,

syllabic-tonic versification; "Stanzas": couplet, quatrain, quatrain, octave, Onegin stanza; "Rhymes": poor rhyme, dactylic rhyme, masculine rhyme, imprecise rhyme; "Methods of rhyming": ring rhyme, parallel rhyming, etc. The development of poetry creates conditions for replenishing these groups with new terms. The branched nature of the TGs included in the LSG "Poetry Studies" due to both the good development of theoretical issues in science versification, and the objective reason - diversity poetic forms, ways of creating poetry. Continues here there is a close connection between the LFP "Literature" and the phenomena extra-linguistic reality. Since versification differs in the literature of different countries and peoples, then this LSG presents terms with the seme, opposed to the seme 'Russian', and related to the corresponding current microfield. For example, the word *daina* means traditional Lithuanian folk song and belongs to the microfield "Lithuanian literature"; the term *dastan* denotes the epic genre in literature and folklore of the Near and Middle East and belongs to the microfields "Lezgin literature", "Persian literature", etc. In the structure of the LSG "Versification" there are also micro- groups associated with place, time and features of creation poetic works: "Ancient versification" (hexameter, pentameter, ionic, etc.), "Folk poetry" (epic verse, ditty, nursery rhyme, etc.). In addition, synonymous series and antonymous pairs, which will be discussed below. LSG "Folklore" includes lexemes and phrasemes, integral seme for which (and at the same time differential at comparing them with other terms) is the seme 'folk', opposed to the seme 'author' in linguistic units that are not included in the LSG "Folklore". Thematic groups partially coincide with LSG "Versification": "Folk genres": anecdote, epic, fairytale, proverb, etc. "Folk performers": *gusans* – 'Armenian folk singers', *agmugm* – 'creators, performers and custodians of works folk art in Azerbaijani literature', etc. "Folkloristics": wandering stories, historical-typological logical theory, etc. A number of terms are included in several LSGs mentioned above. For example, the term spoken verse can simultaneously be attributed to to LSG "Poetry", and to LSG "Folklore". Genus-species (hyper-hyponymous) group (paradigm) (RVG) is defined as "a type of lexical-semantic paradigm, in which one word (hyperonym) denotes a generic concept, and the remaining words (hyponyms) are specific concepts [2, p. 72]. RVGs are distinguished in the system of naming genres, literary methods and genera, etc. Term denoting the name of TG (genre of literature, type of literature, literary method, etc.) is a generic name, and the names of specific phenomena - species; in addition, the name TG corresponds to the archeme each of the elements included in the group – 'genre of literature', 'kind literature', etc. The vastness and diversity of literary studies terminologies determine the existence in the system of physical therapy of the birth species chains – sequences of terms, median elements of which are both generic and specific names in relation to groups of linguistic units of different degree of specificity. Most often there are chains of three terms: literature – science fiction – combat science fiction, genre – novel – gothic novel, poetic meter – two-syllable size is iambic, but longer ones

can be found chains of terms: means of expression – trope – comparison – metaphor is a personifying metaphor. Each of the following links is a term of a higher level of specificity, thus revealing the desire for concretization inherent in into the system of terms of the LFP “Literature”. The more significant a term is for physical therapy, the more general it is characterized by semantics, the more hypero- hyponymic groups it will be included as a hypernym. For example, the word writer is a hypernym, firstly, for RVG, including names of writers according to literary direction to which they belong (the writer is a realist, sentimentalist, modernist, etc.), according to the genres they create (writer - novelist, essayist, pamphleteer, essayist, short story writer and etc.), according to artistic preferences (science fiction writer, satirist, humorist, fiction writer, everyday life writer, villager, etc.). In the first case, the integral seme for hyponyms is ‘literary direction’, in the second – ‘literary genre’, in the third, the main theme is more difficult to determine, but this RVG clearly stands out based on the attention of writers to certain sides of reality or one or another way of displaying given reality. Lexico-semantic options (LSV), that is, meanings polysemantic words also represent units related paradigmatic relationships. In the structure of the LFP “Literature” they occur quite often. Usually terms have two meanings. The first may be more specific, and the second more wide (as, for example, the term gradation means ‘chain anadiplosis’ and ‘any chain of members with a gradual increase significance’ [4, p. 79]). Most often, between LSVs it is established the relationship is direct - figurative. For example, the word bard meant originally a ‘folk singer-poet of the ancient Celtic tribes’, and then as a result of metaphorization - any performer of his own songs, ranging from medieval wandering poets to Soviet bards twentieth century and modern amateur singer-songwriters. Ambiguous terms are drama, dramaturgy, and many others. etc. Some terms are included in only one of their LSVs LFP "Literature". For example, the term dialogue has a common language meaning ‘verbal communication between two or more persons’ and two special (portable) related to the LFP “Literature” – ‘part of a literary text, one of its components, reproducing the verbal communication of characters’ and ‘literary genre, predominantly philosophical and journalistic, in which the author's thought is developed in the form of an interview, an argument between two or more persons’ [4, p. 97]. The word glossa also has 3 LSVs, and only the third of them is related to the LFP “Literature”. In the first meaning of the gloss ‘in ancient terminology – archaisms, dialectisms and other “rare words”’, in the second - ‘commentaries on them’ and in the third, following from the second, figurative – ‘solid form in Spanish poetry of the 14th-17th centuries’ [4, p. 78], which became widely known thanks to Cervantes' Don Quixote. In this case, there is usually an expansion of the meaning a commonly used word due to its acquisition of a special semantics: composition, beginning, denouement, conflict, climax, etc. In explanatory dictionaries of common vocabulary, special the value will be presented under some number, starting with second, in the dictionary of literary terms it will be the only one. To

include in the circle of terms lexemes related to one of them their LSV to commonly used vocabulary, in literary studies terminology uses a method of adding an explanatory word to a word component: stylistic figures, artistic time. It is one from the ways of forming terms and phraseological units. Homonyms, like LSV, have a formal, external similarity, but Unlike the meanings of a polysemantic word, there is nothing in their semantics general. It is necessary to distinguish from the meanings of a polysemantic word homonyms, which are also externally the same, but whose meanings They are completely different and have no similarities. One such example in the structure of the LFP "Literature" is a trope term in the first meaning being the name of a form of medieval liturgical poetry, in the second, more common, stylistic and expressive means, 'transformation of language units, con- resulting in the transfer of a traditional name to another subject area' [4, p. 446]. Both of these homonyms are included in structure of the LFP "Literature", although more often one can observe one a homonym in common vocabulary, another in special vocabulary: gazelle – 'animal' and gazelle – 'a type of monorhymic lyrical poems' in oriental literature [4, p. 73]. Homonyms can be incomplete: there are homoforms of the trail - literary trails the term trope and the common word trope, coinciding in the nominative plural form. If homonyms are observed between commonly used and special word, then, as a rule, there are connections between them, which are currently lost, that is, decay is occurring for homonyms of LSV words. Homonyms can refer to different terminological areas: borrowing is a linguistic term ('transition of a word from one language to another') and borrowing – literature tourism term ('one of the forms of literary connections') [4, p. 110]; octave is a musical term ('the eighth degree of the scale, as well as interval' [6, p. 451] and octave - a poetic term (a type eight lines). A synonymous series is "a series of lexical and phraseological synonyms" [7, p. 278]. One of the founders of modern terminological school D.S. Lotte considered synonymy as a phenomenon alien to terminology and declared that synonymy has no place in terminology [5, p. 15]. However, as it turned out, prohibitive (or strictly advisory) measures in relation to language, which linguists tried to apply it in the 60-70s of the last century, do not act, even if they touch such an ordered part of the language, as terminology. Moreover, today the synonymy of the characteristics recognized by researchers as an integral property of terminology each dynamically developing science: "The higher the level development of science, the more synonymous is the thinking of a specialist" [8, p. 175]. As noted by A.A. Kislyakova, "the synonymy of the terms is enough a common phenomenon" [3, p. 131]. Our observations on LFP "Literature" confirms this. Most common two-component synonymous series with borrowed and Russian elements corresponding to it, and the Russian term often is a tracing paper of a borrowed word: distich - couplet, asyndeton – non-union and so on. Such synonyms are called doublets (if there are three of them - triplets). One of the members of this synonymous series can be a phraseme: free verse poem. In two-component

synonymous series it is difficult and even it is impossible to identify dominants - the synonym is the most common by value. Doublets of different languages and times are distinguished and areal, in the LPP "Literature" are more common multilingual. Not all researchers classify doublets as synonyms, which we cannot agree with, since there is a semantic similarity with formal difference. Rather, it is a special kind synonyms. Many linguists talk about the need to get rid of from them in all terminological systems, for example, "weed out "empty" foreign language borrowings identical to the original ones terminological units" [9, p. 298]. This is also difficult agree: prohibitive measures in the field of language are ineffective, since the processes observed here, including regular the formation of doublets reflects the effect of internal laws development of a language system independent of human will.provisions. Two phenomena denying each other at the same time flow from each other. Antinomies in literature are also prose and poetry, comic and tragic, etc. Analysis of the LFP structure is based on seme analysis, since paradigmatic relationships are based on similarities and differences semantic composition of words.

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TRANSPORT LOGISTIKASI TIZIMINI TASHKIL ETISHNING IQTISODIY AHAMIYATI

Annotatsiya. Maqolada transport logistika tizimining asosiy vazifalari va yo'nalishlari, shuningdek, tovar ishlab chiqarish uchun kerakli mahsulot va xomashyolarni tashkil etish yo'llari, ularni korxonalar va fabrikalarga yetkazib berishda transport vositalaridan foydalanishning maqsad va majburiyatlari, logistika tizimiga aloqador tashkilot turlari haqida bayon etilgan. Shuningdek, logistika kompaniyalari duch kelayotgan muammolar tahlil etildi. Logistikada joriy etilgan texnologiyalarning afzalliklari va kamchiliklari aniqlandi va ulardan foydalanish samaradorligini oshirish bo'yicha takliflar berildi.

Kalit so'zlar: logistika, yetkazib berish muddati, transport infratuzilmasi, xalqaro tashishlarni tashkil etish, samaradorlik.

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ECONOMIC SIGNIFICANCE OF TRANSPORT LOGISTICS SYSTEM

Abstract. The article states the goals and obligations of the organization to use vehicles in the establishment of the transport logistics system, as well as the use of vehicles for the production of products and raw materials, and the logistics system. The problems faced with logistics were also analyzed. The advantages and disadvantages of the technologies introduced in logistics have been identified and proposals were made to improve the efficiency of use.

Keywords: Logistics, delivery time, transport infrastructure, organization of international transportation, efficiency.

Korxonaning logistika tizimi turli elementlarni birlashtiradigan eng murakkab va ayni paytda yaxshi ishlaydigan mexanizmlardan biridir. Ushbu mexanizmning uzluksiz ishlashi, asosan, uning tarkibiy qismlarining aniq ishlashi bilan belgilanadi, unda ishlatiladigan usul va texnologiyalarning mukammalligi doimiy tarzda nazoratda bo'lib, shuning uchun har bir korxonada logistikani o'rganish zarurligi vujudga keladi. Logistika inson va moddiy resurslardan foydalanish uchun keng imkoniyatlarni ochib beruvchi muhim ishdir, bu esa o'z navbatida milliy ishlab chiqarishga ta'sir ko'rsatadi. Logistika boshqaruvi

zamonaviy bozor iqtisodiyoti sharoitida moliyaviy, iqtisodiy, shuningdek, Qonunchilik ta'minoti holatiga sezilarli ta'sir ko'rsatmoqda. Bu holat, birinchi navbatda, avtotransport xizmatlari bozoriga, omborxonalar xo'jaligi muassasalariga, vositachilik tashkilotlarida avtotransport xizmatlarini shakllantirishga taalluqli bo'lishi kerak. Shunga qaramay, logistika sohasidagi ishlar faqat ushbu tendentsiyalar bilan chegaralanmaydi. Bundan tashqari, logistika ishlari korxonaning kadrlar ta'minoti, savdo faoliyati, axborot tizimlarini tashkil etish va h.k.larni boshqarish bo'yicha faoliyatni o'z ichiga oladi. Korxonalar boshqaruvida logistika yondashuvining o'ziga xos yangiligi, bu faoliyatning barcha sohalaridagi cheklangan munosabatlar bilan bog'liqligi bo'lib, ular birgalikda tovar-o'tkazuvchan tashkiliy tizimlarni shakllantirish, boshqaruvda oson va tezkor ish samaradorligini yuqori darajada namoyon etishdir. Logistika mutaxassislarining fikriga ko'ra, logistika sohasida sanoat va transport kompaniyalari o'rtasida hamkorlikni kengaytirishga to'sqinlik qiluvchi muhim sabab yuk egasining xom ashyo va tayyor mahsulotlar harakati ustidan nazoratni yo'qotish xavfi hisoblanadi. Bu sabab, qoida tariqasida, subektiv xarakterga ega bo'lib, birgalikda ishlash tajribasi to'planib, o'zaro ishonch mustahkamlanib borishi bilan bartaraf etilishi mumkin. Buni hozirgi vaqtda logistika funksiyalarini ishlab chiqarish firmalaridan transport firmalariga o'tkazish jarayoni jadal rivojlanayotgani tasdiqlaydi. Bunga axborot texnologiyalarining jadal rivojlanishi ham yordam beradi, buning natijasida transport kompaniyalari elektron ma'lumot almashish orqali jo'natuvchilar bilan o'zaro aloqalarni kengaytiradi va yaxshilaydi. Afsuski, bugungi kunda ikkala yo'l ham bir-biridan alohida rivojlanmoqda, ularning afzalliklari va kamchiliklari mavjud. Bu vaziyatdan chiqish yo'li ularning birlashuvida va shu tufayli sinergetik samara olishida ko'rinadi, bu esa transport kompaniyalarining yanada rivojlanishiga yordam beradi hamda ishlab chiqarish korxonalarining transport xarajatlarini kamaytiradi.

Logistika korxonaning asosiy bosqichlarini samarali rejalashtirish, amalga oshirish va nazorat qilish, shuningdek, korxonalar tomonidan ishlab chiqarilgan tovarlar va mahsulotlarning saqlanishini va harakatini o'z ichiga olgan korxonalar ta'minot tizimining bir qismidir. Bundan tashqari, korxonaning logistika tizimi mijozning barcha talablarini bajarish bilan birga yetkazib berish joyidan yakuniy iste'molchiga tegishli xizmatlar va axborot oqimlarining yetkazilish yo'nalishini o'z ichiga oladi. Transport-bu korxonalar logistika tizimining asosiy tarkibiy qismlaridan biri, chunki hech bir tashkilot iste'molchilarga tayyor tovarlar va ishlab chiqarilayotgan mahsulotlarni yetkazib berish xizmatisiz to'g'ri ishlashi mumkin emas. Resurslarni boshqarish logistikasi faoliyati korxonaning yuqori darajadagi moslashuvini va tashqi ta'sir etuvchi omillarga muvofiq qayta tashkil etish jarayoni yoki ishlab chiqarish jarayoniga vaqt sarflashni ta'minlaydi. Korxonalar boshqaruvining logistika jarayoniga "o'z vaqtida" tamoyilini joriy etish, bu tejamkor ishlab chiqarishda faol qo'llaniladi, birinchi navbatda, ishlab chiqarish bosqichida yo'qotishlarni bartaraf etish, ishlab chiqarish zaxiralarining ortiqcha bo'lishi va kutish vaqti, ikkinchidan, tovarlarning qiymati va narxini

sezilarli darajada kamaytirish va nihoyat, uchinchidan, korxonaning logistika xizmati sifatini oshirish imkonini beradi. Ayni paytda, korxonalar logistika tamoyillariga muvofiq ishlab chiqarish sikli tizimini tashkil qilishdan oqilona foydalanish, kompaniya ishlab chiqarish siklida yetkazib beruvchilarni to'g'ri tanlash va mustaqil ishlab chiqarish jarayonlarini tashkil qilish, materiallar va xom ashyo xarid qilish mumkin. Ishlab chiqarish, transport va vositachilik aloqalari zanjiri orqali xom ashyoning asosiy manbalaridan yakuniy iste'molchiga o'tadigan moddiy oqimlar doimiy ravishda qimmatga tushadi. Buyuk Britaniyada olib borilgan tadqiqotlar shuni ko'rsatdiki, yakuniy iste'molchiga tushgan mahsulot narxi 70% dan ko'proq moddiy oqimni ilgari surishni ta'minlaydigan saqlash, tashish, qadoqlash va boshqa operatsiyalar bilan bog'liq xarajatlardir. Ishlab chiqarish va murojaat sohalarida logistikadan foydalanish quyidagi imkonlarni beradi: Moddiy oqimlar harakatining barcha yo'llarida xarajatlarni kamaytirish; Logistika zanjiri orqali tovarlar o'tish vaqtini qisqartirish; Transport xarajatlarini kamaytirish; Logistika faoliyatining maqsadi, agar bu oltita shart bajarilgan bo'lsa, ya'ni kerakli miqdorda kerakli sifatli mahsulotni o'z vaqtida eng kam xarajat bilan to'g'ri joyga yetkazib berilsa, maqsadga erishilgan hisoblanadi.

Logistika davlatni iqtisodiy rivojlanishida muhim o'rin egallaydi. Uning asosiy vazifasi ma'lum maqsadlarni hal qilish uchun zarur bo'lgan mablag' va xizmatlarni maqsadga muvofiq tayyorlash, foydalanish va boshqarishni tashkil etishdan iborat.

Logistika nisbatan yosh ilmdir, shuning uchun kontseptual qurilma va terminologiya bilan bog'liq ko'plab masalalar bozor munosabatlarining rivojlanishi bilan doimo yangilanib, o'zgarib, yangi mazmun bilan to'ldiriladi. Misol uchun, bugungi kunda o'zbek, rus adabiyotida uch o'nlab turli xil logistika ta'riflari mavjud. Biroq, uning asosida logistika butunlay yangi va amalda ma'lum bo'lmagan hodisa emas. Ratsionalizatsiya muammosi doimo diqqat markazida bo'lgan. Logistika yangiliklari, birinchi navbatda, korxonalarining iqtisodiy amaliyotida ustuvorliklarni o'zgartirishdan iborat. Ikkinchidan, yangilik qayta tiklash jarayonida moddiy qadriyatlar harakati masalalariga har tomonlama kompleks yondashishdan iborat. Logistika moddiy va axborot oqimlari, ishlab chiqarish, boshqarish va marketing bilan bog'liq jarayonlarni muvofiqlashtirishni o'z ichiga oladi, shuningdek, iqtisodiy amaliyotda kelishuvlardan foydalanishni nazarda tutadi. Natijada, oqimlarning harakatlanishi ko'pincha logistika zanjiri ishtirokchilarining to'g'ridan-to'g'ri qarama-qarshi maqsadlariga erishadi, bu esa logistikaning turli xil munosabatlarni muvozanatlash, optimallashtirish va muvofiqlashtirish funksiyasining bajarilishini ko'rsatadi. Bu sizga mol-mulkning turli funksiyalarini alohida boshqarishdan uzoqlashtirishga va ularni integratsiya qilishga imkon beradi. Bu faoliyatning umumiy natijasiga olib keladi, bu esa shaxsiy ta'sirlar miqdoridan bir necha barobar ko'pdir.

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TALABALARNING KASBIY KOMPETENTLIGINI RIVOJLANTIRISHNING PEDAGOGIK-PSIXOLOGIK XUSUSIYATLARI VA KASBIY YONDASHUV TAMOYILLARI

Annotatsiya. Keltirilgan maqolada shaxsning umumiy va kasbiy rivojlanishining birligi insoniyat rivojlanishining asosiy tamoyillaridan biri bo‘lib uning mohiyati nafaqat o‘quv jarayonida ta‘lim olish bilanoq, balki talabalar bilimlarni o‘zlashtirishi, ularning umumiy va maxsus qobiliyatlari, fazilatlari va malakalarini rivojlantirishida, balki shakllangan bilimlarni, fazilatlarni, qobiliyatlarni va hokazolarni kasbiylashtirish va yanada takomillashtirishda xizmat qiladigan tushuncha deb qarash mumkin. Oliy ta‘limning bugungi holatini tahlil qilishimiz ta‘limni modernizatsiyalashning quyidagi tamoyillarini ochib beradi: globallashtirish va internallashtirish; bashorat va utilizatsiya qilish; marketlashtirish; standartlashtirish; hududlashtirish; aksiologizatsiya va hokazo. Ta‘kidlash joizki, oliy ta‘lim nafaqat modernizatsiya jihatidan, balki islohotlar, innovatsion rivojlanish nuqtai-nazaridan ham muhimdir. Bu muhim omilni yanada kengaytirib tadbiq qilish yo‘llari ko‘rsatib o‘tildi.

Kalit so‘zlar: prognostik, psixologik, kasbiy, modernizatsiya, bashorat, terminalogik, metodik, dominant.

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PEDAGOGICAL-PSYCHOLOGICAL CHARACTERISTICS AND PRINCIPLES OF PROFESSIONAL APPROACH OF STUDENTS' PROFESSIONAL COMPETENCE DEVELOPMENT

Annotation. The unity of the general and professional development of the individual is one of the main principles of human development, its essence is not only in the process of education, but also in the acquisition of knowledge by students, in the development of their general and special abilities, qualities and skills, as well as in the formation of knowledge., can be considered as a concept that serves in professionalization and further improvement of qualities, abilities, etc. Our analysis of the current state of higher education reveals the following

principles of education modernization: globalization and internalization; prediction and utilization; marketing; standardization; zoning; axiologising etc. It should be noted that higher education is important not only in terms of modernization, but also in terms of reforms and innovative development. Ways to expand and apply this important factor have been shown

Key words: prognostic, psychological, professional, modernization, prediction, terminological, methodical, dominant.

Kirish: kasbiy tayyorgarlik – mehnat faoliyati yoki kasb sohasining aniq turini tanlash bilan bog'liq, aniq va ongli ravishda qabul qilinadigan qarorning ifodalanishi bo'lib, talabalar bilan amalga oshiriladigan maqsadga yo'naltirilgan ishlar bilan bevosita bog'liq bo'ladi. Shunday qilib, kasbiy moslashtirish bo'lajak mutaxassisda pedagogik faoliyatga bo'lgan ehtiyojni rivojlantiruvchi, unga nisbatan mas'uliyatli hamda ijodiy yondashuvni, ijtimoiy qadriyatlar motivatsiyasini tarbiyalovchi hamda shaxsga qaratilgan yo'nalish kasb etuvchi jarayonlar alohida tarkibiy qismlarining o'zaro integratsiyasi sifatida qarash mumkin. Kadrlarni kasbiy moslashtirishning pedagogik - psixologik jihatlari Tadqiqot muammosini nazariy jihatdan o'rganish, tahlil etish va ijtimoiy dolzarbligini asoslashda mavzu doirasidagi ahamiyatli tushunchalar, kategoriyalar mazmunini yoritish maqsadga muvofiq hisoblanadi. Shu bois, ilmiy izlanishlar davomida kasbiy moslashtirishning pedagogik - psixologik aspektlarini: motiv, kasb tanlash motivlari, kasbiy yo'nalganlik, pedagogik kasbga yo'nalganlik, pedagogik faoliyat, kasbiy bilim, ko'nikma va malakalar, kompetentlik kabi tushunchalarning mohiyati aniqlashtirish orqali yoritishga harakat qildik.

Kasb tushunchasi – bu maxsus tayyorgarlikni talab etuvchi, inson doim tajribadan o'tkazuvchi va unga yashash uchun manba bo'lib xizmat qiluvchi mashg'ulotdir. Kasb bir xil faoliyat bilan shug'ullanuvchi kishilarni birlashtiradi va bu faoliyat ichida ma'lum aloqalar va axloq normalari o'rnatiladi. E.A. Klimov tadqiqotlarida “Kasb – jamiyat uchun zarur va qadriyatli soha bo'lib bunda insondan jismoniy va ruhiy kuch talab etadi”, deya ta'kidlaydi. V.G. Makushin esa, kasb – bu shunday faoliyatki, uning yordamida shaxs jamiyat hayotida ishtirok etadi va uning yashashi uchun moddiy vositalar asosiy manbai bo'lib xizmat qiladi, deya ta'kidlaydi. Mavjud ta'riflarni umumlashtirib, quyidagicha xulosa qilish mumkin: “Kasb mehnat faoliyatining asosiy shakli bo'lib, uni bajarish uchun inson albatta ma'lum bilim, malaka va ko'nikmalarga, maxsus qobiliyatlar va rivojlangan muhim kasbiy sifatlarga ega bo'lishi kerak”.

Mutaxassislik – kasbiy ta'lim, tayyorgarlik yo'li bilan o'zlashtirilgan ish jarayonidagi maxsus bilimlar, ko'nikma va malakalar majmuasi bo'lib, ular u yoki bu kasb doirasida ma'lum faoliyat turini bajarish uchun zaruriy hisoblanadi. Shunday qilib, mutaxassislik – kasb ichidagi kasbiy faoliyat turi bo'lib, u shaxsiy yutuqlarga yoki o'ziga xos vaziyatlar orqali umumiy natijalarga erishishga yo'naltirilgan bo'ladi. Kasbiy faoliyat samaradorligining shartlaridan biri

mutaxassisning kasbiy tayyorligi hisoblanadi. Mashhur rus psixologi I.K. Platonovning fikriga ko'ra, "kasbiy tayyorgarlik – bu o'zini kerakli kasbiy faoliyatni bajarishga qodir va tayyorgarlik ko'rgan deb hisoblovchi va uni bajarishga intiluvchi shaxsning sub'ektiv holatidir". E. Seytxalilov, B. Raximov va N. Azizxodjaevalar "kasbiy tayyorgarlik – shaxsning aniq kasbiy faoliyat turi bilan shug'ullanishiga imkon beruvchi nazariy bilim, ko'nikma va malakalarni o'zlashtirish jarayonidir", deya izohlaydilar. R. Ishmuhamedov, A. Abduqodirov hamda A. Pardaevlar kasbiy tayyorgarlik negizida "bo'lajak mutaxassisning psixologik, psixofiziologik, jismoniy hamda ilmiy-nazariy va amaliy tayyorgarligi" aks etishi kerakligini ta'kidlaydilar. Mualliflarning fikrlariga tayangan holda "kasbiy tayyorgarlik" tushunchasini quyidagicha ta'riflash mumkin bo'ladi:

Kasbiy tayyorgarlik – maxsus nazariy bilim, amaliy ko'nikma va malakalar, shuningdek, ma'naviy-axloqiy sifatlarni o'zlashtirish asosida shaxsning kasbiy faoliyatni olib borishga nisbatan fiziologik, psixologik va jismoniy tayyorgarlik darajasi. Kasbiy tayyorgarlikni shakllantirish – malaka talablari asosida shaxsda maxsus nazariy bilim, amaliy ko'nikma va malakalar, shuningdek, ma'naviy axloqiy sifatlarni shakllantirish, bo'lajak mutaxassisni kasbiy faoliyatni muvaffaqiyatli olib borishga nisbatan fiziologik, psixologik va jismoniy tayyorlash jarayonidir.

Kasbiy tayyorgarlik – bo'lajak mutaxassisning kasbiy faoliyat talablarini o'zlashtirishi, individualashuvi demakdir. Ma'lumki, har bir oliy ta'lim muassasasining muhim vazifalaridan biri bu talabalarini o'qitishning yangi tizimiga, yangi ijtimoiy munosabatlarga ijobiy moslashuvini, talabalik maqomini muvaffaqiyatli o'zlashtirishlarini ta'minlashdir.

Talabalarni oliy ta'lim muassasasi sharoitiga moslashtirishda quyidagi jihatlarni alohida ko'rsatib o'tish lozim:

1) talabalarda moslashuv jarayonining kechishi murakkab dinamiklikka ega bo'lib, ijtimoiy va shaxsiy ahamiyatga ega qadriyatli tasavvurlarni o'zaro uyg'unlashuvini talab etadi;

2) talabalar uchun o'qishning birinchi va ayrim hollarda ikkinchi yili murakkab vaziyatlar bilan birga kechadi;

3) oliy ta'lim muassasasida tahsil olish jarayonida talabalarda o'z-o'zini anglash tuyg'usi rivojlanadi, atrof-olam va borliqqa doir qadriyatli munosabatlar tizimining rivojlanishi davom etadi;

4) talabalarda bazaviy o'quv ustanovkalari shakllanadi

5) talabalik yillari tashkiliy, metodik va psixologik tavsifga ega bo'lib, shaxsning kasbiy va shaxsiy moslashuvining eng muhim bosqichidir. Darhaqiqat, kasbiy tayyorgarlik murakkab va ko'p qirrali jarayon hisoblanib, uning negizida muayyan kasb bo'yicha muvaffaqiyatli ishlashni ta'minlovchi imkoniyatlar, shaxsning yo'nalganligi, kasbiy bilim, ko'nikma, malaka va kasbiy sifatlar, mehnat tajribasi ham asosiy mezonlar ko'rinishida namoyon bo'ladi. Bizga ma'lumki, shaxs ta'lim jarayonining faol ob'ekti va sub'ekti bo'lib, Bo'lajak

muhandislarni kasbiy moslashtirish jarayonidagi faolligi uning yo‘nalganligi bilan belgilanadi. Shaxs yo‘nalganligi muammosini tadqiq etar ekan, S.L. Rubinshteyn uni ehtiyojlar, qiziqishlar, ideallar, e‘tiqodlar, faoliyat va xulqning ustuvor motivlari hamda dunyoqarashlarda ifodalaydi. Psixolog olimlar L.I. Bojovich va R.S. Nemov shaxs yo‘nalganligini motivlar tizimi va yig‘indisidir, deya talqin etadilar. Kasbiy yo‘nalganlik esa shaxs yo‘nalganligining o‘ziga xos ko‘rinishi bo‘lib, motivlar, ehtiyojlar ta‘sirida aks etadi.

Pedagogik va kasb ta‘limiga doir adabiyotlarda “kasbiy yo‘nalganlik” tushunchasi quyidagi mazmuni anglatishiga e‘tibor qaratiladi:

1) “Kasbiy yo‘nalganlik” – shaxsning aniq bir faoliyat turiga bo‘lgan qobiliyati, qiziqishlari, ehtiyoji va qat‘iy ishonchi (A.B. Seyteshev);

2) “Kasbiy yo‘nalganlik” – kasb tanlash, qiziqish, qat‘iy ishonch hamda kasb tanlash motivlari o‘rtasidagi aloqaning shaxsiy sifatlarda etakchilik qilishi (N.K.Stepankova). Ayrim tadqiqotchilarning ishlarida esa bevosita shaxsning aniq kasbiy faoliyatga yo‘nalganligi e‘tiborga olingan holda “pedagogik kasbga yo‘nalganlik” tushunchasining mohiyatini ochib berishga nisbatan urinishlar ko‘zga tashlanadi. Jumladan:

1) “Pedagogik kasbga yo‘nalganlik” – shaxsning “pedagogik kasbga qiziqishi va faoliyatning ushbu turi bilan shug‘ullanishga bo‘lgan ishtiyoqi” (N.V. Kuzmina);

2) “Pedagogik kasbga yo‘nalganlik” – bolalarga bo‘lgan munosabat, pedagogik mehnatga ishtiyoq, pedagogik kuzatuvchanlik qobiliyati. Terminologik tahlillardan ko‘rinib turibdiki, “pedagogik kasbga tayyorgarlik” tushunchasi asosan kasb tanlash motivlarning faol ta‘sirida talabaning kasbiy tayyorgarligiga ta‘sir ko‘rsatishini o‘zida aks ettiradi. Motiv tushunchasi psixologik adabiyotlarda (lot. movere - harakatga keltirmoq) – ma‘lum ehtiyojlarni qondirish bilan bog‘liq faoliyatga undovchi sabab sifatida izohlanadi. Kasb tanlash murakkab va motivatsion jarayon hisoblanib, shaxsning to‘g‘ri kasb tanlashi insonning hayotdan qoniqishi, ijtimoiy mavqeini aniq belgilab olishiga sabab bo‘ladi. Tadqiqotchi olim E.S.Chugunova ish joyini va kasbni tanlash motivlari klassifikatsiyasini ishlab chiqib, istalgan kasbiy faoliyatning sabablarini o‘zida aks ettiruvchi kasb tanlash motivlarini quyidagicha belgilaydi:

- dominant (kasbga qiziqishning ustun turishi);

- vaziyat bilan bog‘liq (har doim insonni qiziqtirib kelgan shart sharoitlarni ro‘yobga chiqarish);

- komformist; boshqa kasbiy motivatsiyalar (o‘ziga yaqin ijtimoiy olamning ya‘ni yaqinlari, do‘st va tanishlarining maslahatlari bilan).

A.K. Baymetov esa, aynan pedagogik faoliyatga intilish motivlarini o‘rganib, ulardan asosiylarini birlashtiradi:

a) muqarrarlik motivi (burchli);

b) o‘qitilayotgan predmetlarning qiziqarliligi va e‘tiborni tortish;

v) bolalar bilan muloqotga kirishish.

O'rganilgan manbalarga ko'ra, motivatsiya tiplari Bo'lajak muhandislarning kasbiy tayyorgarlik yo'nalishi va xarakteriga tasir ko'rsatadi.

Bu borada N.V. Kuzmina shaxsning pedagogik kasbga yo'nalganlik motivlari uch xil holatda bo'lishini ta'kidlaydi:

- 1) haqiqiy pedagogik;
- 2) rasman pedagogik;
- 3) yolg'on pedagogik yo'nalganlik.

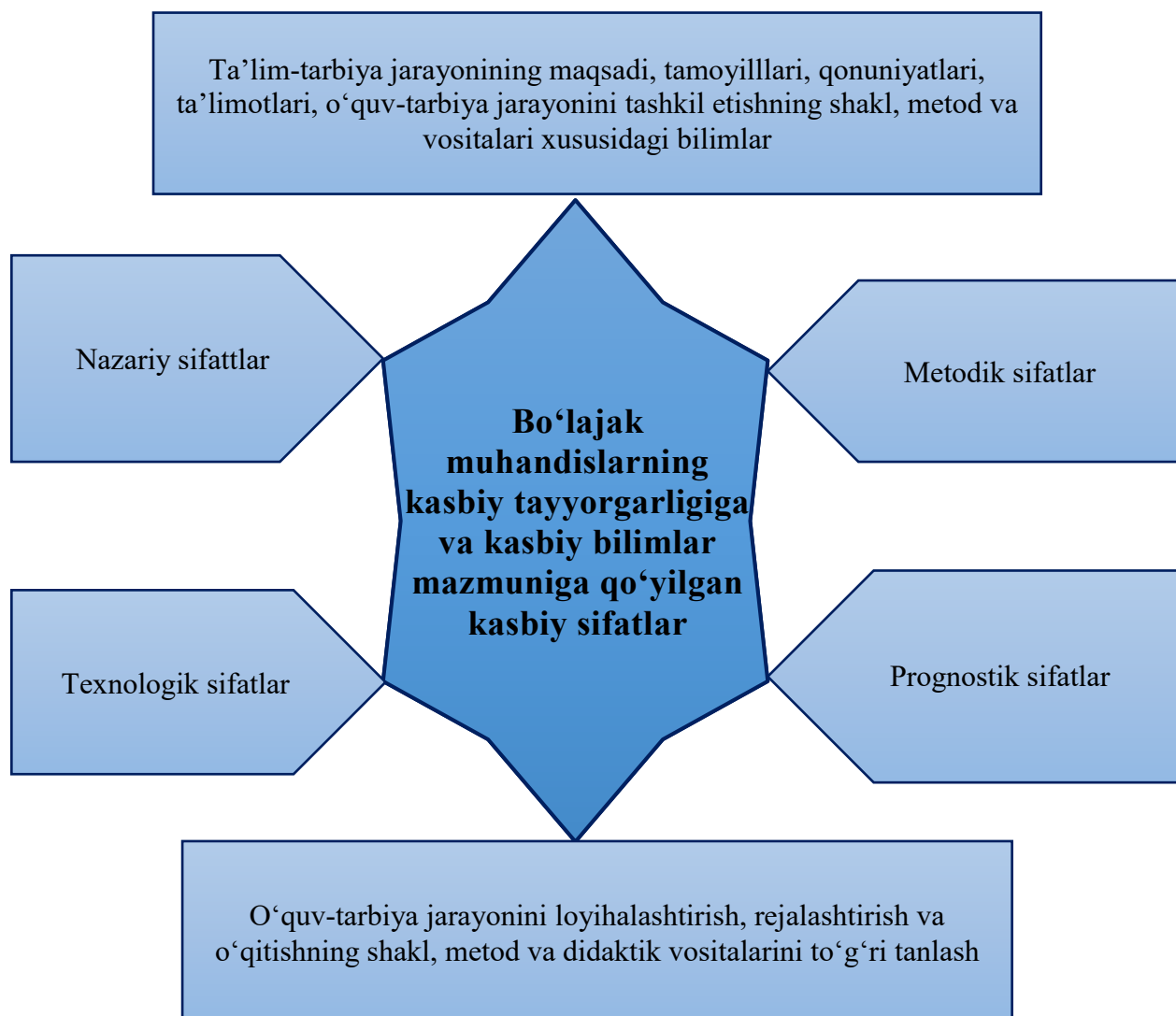
Kasbiy faoliyatga yo'naltirishda kasb tanlash motivlarining yaqqolroq namoyon bo'lishi kuzatilsa-da, faqat ularning o'zigina kasbiy tayyorgarlikning shakllanishida etakchi rol o'ynay olmasligini e'tiborga olish lozim bo'ladi. Chunki, shaxsning mavjud jismoniy, ruhiy va ma'naviy imkoniyatlari tanlangan kasbiy faoliyatning shaxsga nisbatan qo'yadigan talablari darajasi bilan mutanosib bo'lishi talabalarning kasbiy faoliyat muhitiga normal moslashishiga va refleksiyaning shakllanishiga yordam beradi.

Kasbiy imkoniyatlar – ma'lum faoliyatning shaxs irodasi bilan bog'liq ob'ektiv shart-sharoitlarini o'zida aks ettiradi. Odatda bo'lajak muhandislarni kasbiy faoliyatga moslashtirishda ularning ob'ektiv imkoniyatlaridan kelib chiqib yondashish, tanlangan kasb va faoliyat talablariga shaxs imkoniyatlarining identifikatsiyalashuvi maqsadga muvofiq sanaladi. Masalan, o'qituvchilik kasbini tanlashda nafaqat bu kasbni sevish, bolalar bilan muloqotga kirishish istagi, balki, kasbiy faoliyatning shaxsga nisbatan qo'yadigan jismoniy, psixologik va ijtimoiy talablar uning imkoniyatlari doirasida bo'lishi kasbiy bilim, malaka va ko'nikmalarni o'zlashtirishga yordam beradi. Shu bois, Bo'lajak muhandislarni kasbiy moslashtirishda masalaning mazkur jihatlarini nazariy asoslash va bo'lajak mutaxassislarining kasbiy imkoniyatlarini rivojlantirishga alohida e'tibor qaratish kerak. Bo'lajak muhandislarning kasbiy faoliyatga dastlabki salohiyatli tayyorligi ayni vaqtdagi amaliy tayyorligining asosi hisoblanadi. Shuning uchun ta'lim muassasalaridagi kasbiy tayyorgarlikni shakllantirish jarayonida talabalarda kasbiy faoliyatni amalga oshirish uchun etarli bo'lgan kasbiy bilim, malaka va ko'nikmalarni shakllantirish lozim bo'ladi.

Kasbiy bilim – aniq mehnat faoliyati doirasida bajariladigan ishlar uchun zarur bo'lgan axborotlar va o'zlashtirilgan nazariy ma'lumotlar birlashmasidir. Bo'lajak muhandislarning o'zlashtirishi lozim bo'lgan kasbiy bilimlar mutaxassis shaxsining sifat darajasiga qo'yiladigan malakaviy talablar mazmunidan kelib chiqib belgilanishi kasbiy moslashtirish jarayonining samaradorligini belgilovchi muhim mezon sanaladi.

Xulosa: Bo'lajak muhandislarga qo'yiladigan sifat talablarini o'zida mujassamlashtirgan klassifikatorda bo'lajak muhandislarning umumta'lim maktablarida, akademik litsey, kasb-hunar kollej, texnikum va OTMlarda faoliyat ko'rsatishi va ular o'z mutaxassisligi doirasida o'quv-tarbiya jarayonini tashkil etish, ta'lim oluvchilarning bilim darajasini adolatli baholash va nazorat qila olishi yuzasidan zaruriy kasbiy bilim, malaka va ko'nikmalarga ega bo'lishi lozimligi belgilanadi. Shu bois, bo'lajak muhandislarning kasbiy moslashtirishda

ixtisoslashgan tavsifnomasida ularning kasbiy tayyorgarligiga qo'yiladigan malakaviy talablardan kelib chiqib, kasbiy bilimlar mazmuni quyidagi kasbiy sifatlar bilan bog'liq holda belgilanishiga e'tibor qaratish maqsadga muvofiq sanaladi.



1.1-rasm. Bo'lajak muhandislarning kasbiy tayyorgarligiga qo'yiladigan malakaviy talablardan kelib chiqib, kasbiy bilimlar mazmuniga qo'yilgan kasbiy sifatlar.

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ALGORITHMIZATION OF CAD SYSTEMS FOR OPTIMIZATION OF SHELL STRUCTURES

Abstract. The paper presents the theoretical prerequisites and principles for constructing computer-aided design systems for solving classes of optimization problems for shell structures. Improving the methods for solving optimization problems is supposed to be the algorithmization of optimization models and algorithms for building an automated system for designing shell structures based on a systematic approach and algorithmic methods. On the basis of a systematic approach, questions of the internal organization of such systems, the functions of individual blocks and modules, end-to-end automation of the process of solving optimization problems from setting to obtaining numerical results are investigated. The results of the calculation of the optimization of a cylindrical shell, rectangular in plan, hinged along the entire contour, under a uniformly distributed normal load, are presented.

Keywords. System analysis, algorithmization, optimization, design, construction, shells, plates, model, goal function, minimization, construction weight.

Introduction. When setting optimization problems in the field of designing shell and plate structures, one can come across a twofold interpretation (understanding) of system analysis (approach): on the one hand, this is an analysis of any real-life system; on the other hand, the formation of system parameters to achieve the set goals. In real conditions, these two sides are inseparable, since it is impossible to create a system that provides the set goals without analyzing the content and determining the real processes that will lead to the desired result. System analysis provides conditions for joint optimization of both the structural parts of the system (its subsystem) and the system as a whole, as well as computer software. The ultimate goal of using systems analysis in design is to actually design the system, its subsystems, and components for optimum efficiency and economy. Despite the fact that there are no strictly defined rules in system analysis, the main features are quite fully disclosed in [5].

Research methods and principles. Taking into account the specifics of the process of designing shell and plate structures and the tasks to be solved, the main features of the system approach can be displayed in the following provisions [6]. Firstly, as an optimized designed shell and plate structure, a certain complex of elements corresponding to the performance of functions, endowed with specified properties and having abstract connections with external conditions and systems, is taken. In this complex, in the process of research, each element can be given the desired properties without taking into account the real characteristics in order to identify the possible contribution of these properties to the processes under study and, therefore, to justify the requirements for the prospective solution of this element. In practical optimization problems, it is assumed that the properties of the elements and their functional and technical characteristics are known, and therefore the functioning processes are considered in the area of admissible (taking into account the accepted restrictions) system solutions. Both in the first and in the second, as well as in the case of software (development of algorithmic complexes), the assessment of the complex under consideration is carried out taking into account the totality of known processes and phenomena and the relationship between them. All this brings to the fore such features of the model of engineering structures and structures being designed, which contribute to the elucidation of the mechanism of functioning of this complex in order to select the least weight or cost. At the same time, it should be noted that in all cases the system includes the concept of a whole, consisting of interconnected, interacting and interdependent parts. At the same time, the properties of these parts depend on the system as a whole, and the properties of the system depend on the properties of its parts.

Secondly, for a particular designed shell and plate structure, a place in the overall structure of other systems must be determined. The system approach requires a reasonable allocation of the system under study in the total composition of systems designed to maintain normalizing parameters, dividing it into subsystems.

Structures or structures are constituent or main elements, which are shells or plates, are considered as an independent object of study and optimization, but taking into account the necessary exchange of information with adjacent and external systems and within it - between subsystems.

The chosen general structure of systems should clearly outline the boundaries of the system under study and contribute to the selection (structuring) of its subsystems that are accessible for research in size and are homogeneous in description. All this ensures the organization of links at each next level of descent from the system to individual elements from top to bottom, followed by the transfer of the received aggregated information to the top (bottom to top). At the same time, both the general structure of compensation systems and the subsystems of structures and structures should be inherent in the properties of integrity:

changes that have arisen in any of their parts affect both other parts and their entirety.

Thirdly, the engineering structure or structures are presented as a model. When designing complex systems, such as engineering structures and structures such as plates and shells, knowledge is required about the quantitative and qualitative patterns of behavior of the system and its individual elements, depending on the nature of the change in numerous factors (parameters).

The model should be similar to the original, but also different from it. Its distinctive features are manifested in the fact that it undergoes such transformations in the right direction that are impossible with a direct study of the original. Mathematical modeling allows you to study only those parameters of the original that have a mathematical description that adequately reflects the behavior of the original.

When developing a model, it is very important to get rid of connections and relationships that make it difficult to know the object of research in accordance with the goals set. At the same time, it is important that ideas that are clear in their basis are not overgrown with heavy and cumbersome details.

The choice of the model is the central part of the work on the formation of the research methodology and depends on the main idea that determines the search for the extremum of the goal function.

To solve a number of optimization problems, well-known mathematical methods for finding the extremum of functions of several variables can be applied, for example, in classical mathematics this is the solution of a system of linear equations obtained by equating to zero the partial derivatives of the function under study with respect to the parameters being optimized, and the Lagrange method of indefinite multipliers. These methods are valid in the absence of restrictions on the parameters being optimized or under restrictions in the form of equality.

With restrictions in the form of inequality, methods of nonlinear mathematical programming are used, subdivided according to the basis of the organization of the search process according to the method of blind and directed search. The first of these includes the method of continuous enumeration of options with their ordering according to efficiency criteria and the method of statistical tests (Monte Carlo method). The directed search method includes gradient, steepest descent, coordinate descent, etc. There are other non-linear programming methods.

Ultimately, the choice of method is determined taking into account many considerations, not least of which is the convenience of using the algorithm, the duration of the calculation, etc. It is also obvious that problem solving requires informal actions, the ability to intervene in the counting process and obtain intermediate results for the implementation of the dialogue mode.

It is known [5] that the choice of a model largely depends on intuition, experience, skills of informal thinking, on ideas about the essence of the relationship between inputs and outputs for the system itself. In this case, first of

all, it is necessary to clarify the tasks, the solution of which should contribute to the model. When setting this problem, the model should provide: a) the possibility of generalizing any initial conditions (factors) into such a form of calculation information that greatly facilitates the targeted choice of competing options for structures and structures, the composition of subsystems and their modes of operation (SAT); b) study of the nature of the relationship between the determining parameters of systems and subsystems, depending on the conditions of the object's functioning; c) representation of the defining parameters in the form of coordinates of the state of the system, the use of which makes it possible to calculate any technical and economic indicators, both of a separate subsystem and of the system as a whole.

The model of construction and structure can be determined by the condition of the relationship of inputs and outputs for the system itself. It is practically impossible to get by with one model; a system of models is needed - a set of interrelated models of individual subsystems. The system of models should create the possibility of independent solution of individual problems without violating their subsequent coordination, taking into account all the links between subsystems.

Fourth, a set of indicators is selected to assess the quality of solutions for the designed structures and facilities. As a rule, the goal of system analysis is to achieve the best (optimal) solution of the designed structures and structures for all possible characteristics of external relations in terms of their design, economic and other indicators. However, optimum and optimality are not absolute concepts; they require a precise definition of optimality criteria, i.e. the main features on the basis of which the comparison of the effectiveness of various solutions is made.

A solution that is best under one set of conditions and according to one criterion may not be the best under other conditions and according to another criterion. Optimization by one criterion (sub-optimization) is most often performed for technical systems at reduced costs and (in this study, the weight of the structure is taken as the objective function).

Fifthly, the results of analysis on models of structures and structures should be transferred to real systems. To transfer solutions to a real object, confidence in the adequacy of the solution is required. Adequacy is assessed by analogy of the properties of the real object and the model according to the main features.

Adequacy is achieved if the model fully reflects the stress-strain state (SSS) of actually existing designed structures and structures such as plates and shells.

The main provisions of the systematic approach listed and accepted for execution characterize only the initial basis of the method, however, the effectiveness of its use depends entirely on the chosen method of their implementation.

To systematize and generalize information about the main features of system analysis, which contribute to the presentation of disparate data in an orderly manner with a smaller number of significant variables, it is necessary to:

systematize the relationship between systems designed to maintain normalized parameters; analyze numerous initial conditions, find a form of their generalization; suitable for classifying the defining conditions of the VAT system; identify an appropriate classification of a structure or structure that contributes to the targeted choice of their competing options; to determine the principles of decomposition of systems, based on the analysis of their totality as a whole; formulate the initial basis for constructing a mathematical model of a structure or structure; classify optimization problems arising in the practice of research and design.

Problem statements. Optimization and design of engineering structures is one of the most complex and urgent tasks of mechanics. When optimizing structures, the weight of the structure, cost, vibration frequency, etc. are taken as the objective function. The most widely posed is the task of designing structures of minimum weight, which are widely used in such sectors of the national economy as construction, rocket science, aircraft building, shipbuilding, etc. Solving a number of practically important problems in the calculation and optimization of shell and plate structures allows you to get a significant national economic effect. The results obtained can be successfully applied in the construction of subways in a seismically active zone, as well as in the construction of important surface and underground structures [2].

Weight optimization of engineering structures such as plates and shells provides for minimizing the weight of these structures when exposed to given systems of external forces, while maintaining the necessary strength, stability, and rigidity of structures.

The task in general is written as follows:

$$\left. \begin{array}{l} F(x) = G \rightarrow \min; \\ \sigma_{\max} \leq [\sigma]; \\ P_{\max} \leq P_{kr}; \\ U_{\max} \leq [U]; \end{array} \right\} (1)$$

where G is the weight of the structure; σ_{\max} is the maximum stresses in the structure; $[\sigma]$ - allowable stresses; P_{\max} - maximum compressive force; P_{kr} - critical force; U_{\max} - maximum displacements in the structure; $[U]$ - allowable displacements.

Verification of constraints (1) is possible only after solving the system of differential equations of equilibrium or motion of the structures under consideration with the corresponding initial or boundary conditions. Let us consider in more detail the methods for solving the direct problem of calculation.

It is known that the equations of equilibrium, vibration and stability of anisotropic plates with respect to moments, respectively, have the form [1]:

Известно, что уравнения равновесия, колебания и устойчивости анизотропных пластин относительно моментов соответственно имеют вид [1]:

$$\frac{\partial^2 M_1}{\partial x^2} + 2 \frac{\partial^2 M_{12}}{\partial x \partial y} + \frac{\partial^2 M_2}{\partial y^2} = q_1(x, y) \quad (2)$$

$$\frac{\partial^2 M_1}{\partial x^2} + 2 \frac{\partial^2 M_{12}}{\partial x \partial y} + \frac{\partial^2 M_2}{\partial y^2} + h(\sigma_x \frac{\partial^2 W}{\partial x^2} + \sigma_y \frac{\partial^2 W}{\partial y^2} + 2\sigma_{xy} \frac{\partial^2 W}{\partial x \partial y}) = 0 \quad (3)$$

$$\frac{\partial^2 M_1}{\partial x^2} + 2 \frac{\partial^2 M_{12}}{\partial x \partial y} + \frac{\partial^2 M_2}{\partial y^2} + m \frac{\partial^2 W}{\partial t^2} = q_2(x, y, t) \quad (4)$$

Here W is the deflection of the plate, M_1 , M_{12} , M_2 are the bending and torque moments, $m = \gamma h/g$, γ is the weight of a unit volume, g is the acceleration of attraction of the plate, h is the thickness.

The relations for M_1 , M_{12} , M_2 in cases where the plates are isotropic, orthotropic and anisotropic are given in [1]. Substituting into (2), (3) the relations M_1 , M_{12} , M_2 in the case when the plate is isotropic, orthotropic or in other cases of anisotropy, one can obtain the corresponding equations. These equations are given in many manuals on the theory of elasticity. Therefore, it is not necessary to present their form here.

In this regard, to solve the direct problem of the statistical calculation of arches and axisymmetric conical shells, we used the finite difference method. To calculate an open cylindrical shell, the Ritz method was used, since the finite difference method in this case leads to an overly cumbersome system of algebraic equations, which causes serious difficulties both in solving the direct problem and in optimizing open cylindrical shells [2,3].

Purpose function:

$$F(x) = \int \int_{\alpha \beta} h(\alpha, \beta) R d\alpha d\beta \quad (5)$$

For non-closed shells of the vault type, the following are considered given: a) boundary conditions; b) the length of the overlap - a ; c) overlap width - b ; d) shell material: E - modulus of elasticity; ν - Poisson's ratio; γ - specific gravity; $[\sigma]$ - allowable stresses; $[U]$ - allowable displacements (if it is required to comply with restrictions on strength and rigidity); e) system of external loads; f) other restrictions (for example: design, technological, etc.), if their satisfaction is required.

Results and discussion. Let us present the results of the calculation of the problem of optimizing a cylindrical shell, rectangular in plan, hinged along the entire contour, under a uniformly distributed normal load of intensity q . The shell thickness is constant $h=const$. Physical characteristics of the shell material:

$$E = 2 \cdot 10^6 \text{ kg/sm}^2;$$

$$[\sigma] = 2000 \text{ kg/sm}^2;$$

$$\nu = 0,5.$$

Geometric characteristics of the shell: $a=150 \text{ sm}$; $h=100 \text{ sm}$, load $q=1 \text{ kg/sm}^2$. Optimized parameters h , β_0 . Parameter restrictions:

$$0,1 \text{ см} \leq h \leq 3 \text{ см}$$

$$\frac{\pi}{10} \leq \beta_0 \leq \pi$$

The function to be minimized is the cross-sectional area

$$S = R \cdot h \cdot \beta_0$$

There are restrictions on the design:

$$\sigma_i \leq [\sigma],$$

where σ_i is the stress intensity determined by the (6)

$$\sigma_i = \sqrt{(\sigma_{11} - \sigma_{12})^2 + (\sigma_{22} - \sigma_{33})^2 + (\sigma_{33} - \sigma_{11})^2 + 6\tau_{23}^2} \quad (6)$$

Voltages σ_{11} , σ_{22} , σ_{33} , σ_{23} , σ_{32} are determined after solving equations (6) by the Ritz method. Beam functions are chosen as coordinate functions, which in the case of hinged support of the shell have the form

$$U_{nm} = \cos \frac{n\pi\alpha}{\alpha_0} \sin \frac{m\pi\beta}{\beta_0};$$

$$V_{nm} = \sin \frac{n\pi\alpha}{\alpha_0} \cos \frac{m\pi\beta}{\beta_0};$$

$$W_{nm} = \sin \frac{n\pi\alpha}{\alpha_0} \cos \frac{m\pi\beta}{\beta_0} \quad (7)$$

Optimization is carried out using the GP-3 algorithm with an accuracy of $\varepsilon \approx 2\%$ [4]. The calculation results are given in Table. 1 one.

Table 1

Optimization Calculation Results

In lok. min.	S, sm^3	h, sm	$\beta_0, radian$	$\sigma_i, kg/sm^2$	Steps
1	125,0179	0,956369	2,467197	1990	52
2	126,6418	1,125607	1,662033	1977	28
3	114,072	0,8343	2,6613	1989	39
4	165,1633	1,53425	1,320312	1993	42

Fig. 1 shows the curves $\sigma_i(\alpha, \beta)$ corresponding to the obtained minima.

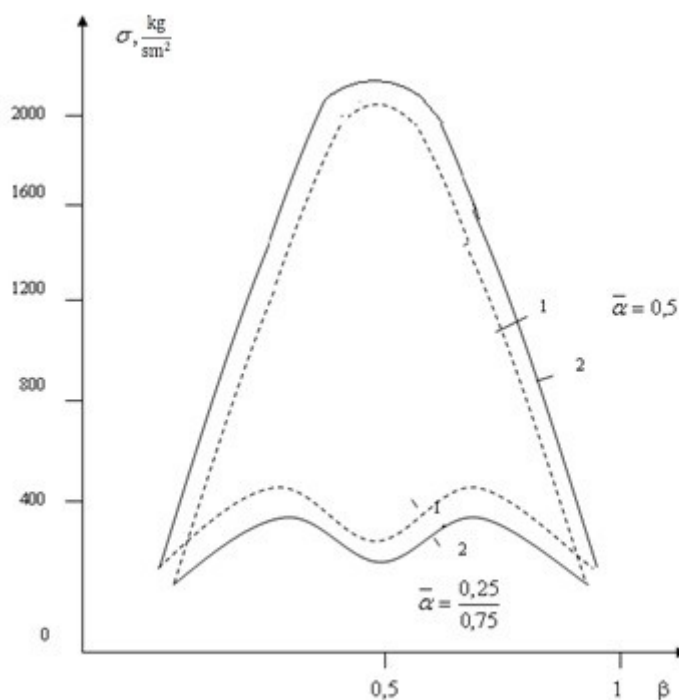


Fig. 1. Curves $\sigma_i(\alpha, \beta)$ corresponding to the obtained minima

Based on the results of solving the problem, it can be seen that the use of cylindrical shells of variable thickness makes it possible to reduce the weight of the structure by about 14%, hence the conclusion that there is weight optimization, i.e. significant reduction in the weight of the structure. The need to optimize designs is clearly seen in the results of solving the above problems. While in all found minima the structures under consideration were on the borderline of strength or stability, the values of their weights differed significantly, both structures, having the same margin of safety, differ in weight by almost 20%. For example, the application for shells of variable thickness (in the form of different laws $h(\beta)$ - for cylindrical shells made it possible in some cases to reduce the weight of the structure by ~14% (for cylindrical shells) compared to shells of constant thickness, which indicates optimization - the feasibility of using the variable thickness, formulation and solution of optimization problems in the design of special shells of minimum weight [7].

Conclusion. The problems of optimization of engineering structures such as plates and shells are complex. It is especially difficult to take into account the limitations due to their diversity. Here are the simplest restrictions on parameters, such as $Q_i \leq x_i \leq b_i$, and functional ones (in terms of strength, stability, rigidity). Moreover, in most cases, to calculate a single number G_{max} , it is necessary to solve a system of partial differential equations with appropriate boundary conditions, which presents certain difficulties. Optimized parameters can vary both continuously and discretely. The objective function can also be used implicitly.

In the case of weight optimization of structures, the time required to check constraints is mainly several orders of magnitude longer than to calculate the

objective function - the weight of the structure, which predetermines the need for a differentiated approach to these calculations in order to minimize the number of constraint checks while maintaining the necessary reliability and accuracy of finding optimum. The multi-extremality of design optimization problems, as stated by a number of scientists, is once again confirmed by the results obtained: when solving problems, several minima were found.

The work was carried out in accordance with the priority areas for the development of science and technology: SSTP -17 - "Development of modern information systems, intelligent controls and training, scientific and technical databases and software products that ensure the widespread development and implementation of information and telecommunication technologies."

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INFLUENCE OF PERFUMES ON THE HUMAN BODY

Abstract. Perfumery is a set of products used to scent the human body, clothing, linen and indoor air. Perfumery not only serves an independent aesthetic purpose, but is also part of many other products: cosmetics, personal hygiene products and household chemicals.

Keywords: Perfumes, aldehydes, musk, patchouli, citruses.

Perfumery is an important aspect of maintaining calm and good mood. The market offers many options for perfumes for women and men, including three well-known brands - Chanel No. 5, Dolce & Gabbana Parfum and Giorgio Armani. This project will focus on the key factors that differentiate these products, allowing consumers to better understand their composition and benefits.

Chanel is a French company producing expensive fashion clothing, luxury perfumes and cosmetics, jewelry and other luxury items. Founded by fashion designer Coco Chanel in Paris at the beginning of the 20th century. The first and most famous perfume, Chanel No. 5, was born in 1921, after Coco met and collaborated with the famous perfumer of Russian origin, Ernest Beaux.

Dolce&Gabbana is an Italian fashion house founded by designers Domenico Dolce and Stefano Gabbana.

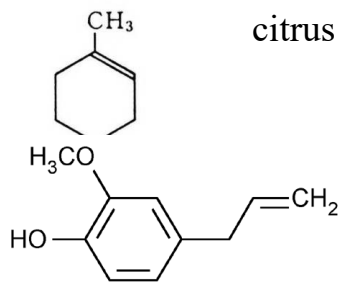
The history of the world-famous fashion house began with the meeting in 1980 of Domenico Dolce and Stefano Gabbana. In 1982 they opened a small design studio in Milan.

Dolce&Gabbana perfumes gained real popularity in the 2000s after the release of The One, Light Blue and L'Imperatrice 3. Today, the brand's perfume collection consists of more than 80 original men's and women's fragrances.

Giorgio Armani is an Italian company specializing in the production of clothing and various accessories. The first perfume of the Giorgio Armani brand, called Giorgio Armani for Men, was released in 1982. In total, the Italian brand released about 70 fragrances, and many of them became real hits that have not lost their relevance to this day.

Chemical composition. Chanel No. 5 Parfum Chanel is a fragrance for women, it belongs to the group of floral, aldehydic.

This perfume contains: Neroli (neroli) - oil of bitter orange flowers from Grasse, contains:

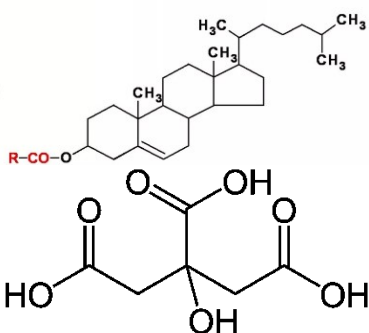


Limonene. This component is responsible for the fresh citrus aroma and has antiseptic properties.

Ylang-Ylang - a yellow flower with long petals, supplied from the Comoros Islands, contains:

Eugenol. It improves blood flow in the scalp, helping nutrients reach the roots faster.

Musk is a strong-smelling substance produced by the glands of some animals (musk deer, muskrat, musk duck) or obtained from some plants and used in perfumery. Contains:



Cholesterol esters. Used to fix aromas. It makes scents more sensual and warm.

Dolce & Gabbana. This perfume contains: Lemon plant; species of the genus Citrus. It includes:

Citric acid. They inspire a feeling of freshness and lightness, they lift your spirits and enliven your consciousness.

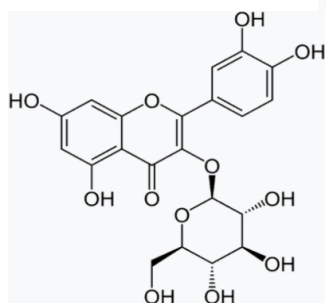
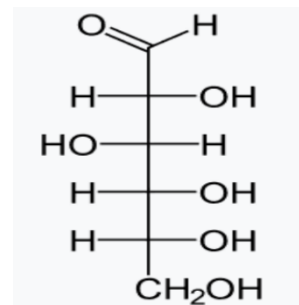
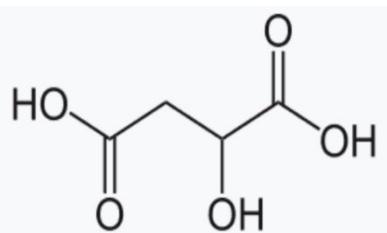
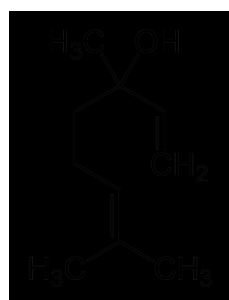
Lavender is an herbaceous plant, a species of the genus Lavender, which includes:

Linalool. Colorless liquid with the smell of lavender. It has a calming effect on the nervous and cardiovascular systems.

This perfume also contains substances such as Citrus, Patchouli, Blood Orange, Juniper Berries, Geranium, Hot Pepper, Clary Sage and Cedar.

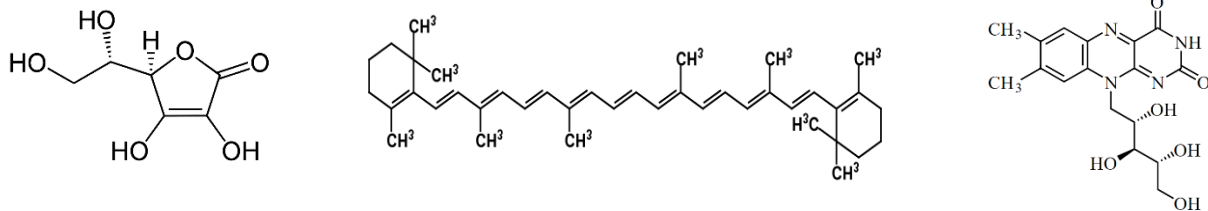
Giorgio Armani. This perfume contains:

Black currant leaf has a fresh, herbaceous, woody-minty, tart aroma that helps relieve stress and relieve nervous tension. It includes:



Malic acid Glucose Glycosides

Rose de May combines honey and floral notes that give the perfume unrivaled subtlety. Sometimes it can take on animal features and reveal leathery sides that are very elegant. It contains:



Ascorbic acid β-carotene Riboflavin

This perfume also contains Patchouli, Ambroxan and Vanilla. Useful and harmful properties of perfumes. Everyday benefits of musk.

Powerful antioxidant - it contains natural compounds that act as antioxidants to help fight free radicals responsible for cell aging.

To relieve stress and anxiety – the subtle aroma of musk is known for its calming effect on the mind.

Improving sleep quality - Musk may also play a role in improving sleep quality. Its relaxing effects can help calm the mind before bed, promoting deeper, more restful sleep.

For several years now, allergists and dermatologists have been paying attention to the increasing incidence of painful reactions to various aromatic substances.

In severe cases, seemingly pleasant smells of perfume, cologne, and eau de toilette can cause inflammation of the mucous membranes, runny nose, nausea, difficulty breathing, sudden fatigue and other painful symptoms. Perfume aromas are especially dangerous for asthmatics and those suffering from other diseases of the respiratory system. Studies have shown that synthetic substances with the smell of musk, which are introduced into perfumes, accumulate in the blood, and in nursing mothers pass into the milk. It has been proven in fish, frogs and rodents that synthetic analogues of musk disrupt the hormonal balance in the body and thereby disrupt reproduction.

Conclusion: From my article I would like to conclude that perfumes, from a medical point of view, have both beneficial and harmful properties. When comparing them, you can understand that each perfume brand has its own individuality and uniqueness, and has its own chemical composition. And when choosing a perfume, you must pay attention to whether a person has a tolerance to the components of this perfume, and whether there are any allergic reactions or effects.

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**NEFROLITIAZ VA SIYDIK YO‘LLARI INFEKSIYASINI
DAVOLASHDA VA METAFILAKTİKASIDA KANEFRON H
PREPARATINI QO‘LLASH SAMARADORLIGINI BAHOLASH**

Annotatsiya. Ayrish sistemasi yo‘llarining infeksiyalari (SYI) aholini umri davomida ko‘p uchraydigan buyraklar funktsional holatining pasayishiga va urolitiazga sabab bo‘ladigan kasalliklarning paydo bo‘lishiga olib keluvchi asosiy xavf omili bo‘lib hisoblanadi. Siydik yo‘llarida kasallik keltirib chiqaruvchi patogen mikroorganizmlarning antibakterial dori vositalariga chidamliligi ortib borayotgani sayyoramizning ko‘plab mamlakatlaridagi tibbiy muammolar ichidagi eng dolzarbidir. Urolitiaz, siydik yo‘llarining yuqumli va yallig‘lanish kasalliklaridan keyingi ikkinchi o‘rinda turadi, dunyodagi keng tarqalgan kasalliklardan biri bo‘lib, juda ko‘p hollarda takrorlanish xarakteriga ega. Urolitiazning samarali metafilitikasini qoidalarga asosan bajarish yana bir bor siydik yo‘llarida tosh hosil bo‘lishini sezilarli darajada ozayishiga sabab bo‘ladi.

Kalit so‘zlar: sistit, siydik tosh kasalligi, tabiiy preparatlar, metafilitika.

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**EVALUATION OF THE EFFECTIVENESS OF KANEFRON H IN THE
TREATMENT AND METAPHYLAXIS OF NEPHROLITHIASIS AND
URINARY TRACT INFECTION**

Abstract. Urinary tract infections (UTI) are a major risk factor for the development of diseases that cause kidney failure and urolithiasis. The increasing resistance of pathogenic microorganisms that cause diseases in the urinary tract to antibacterial drugs is one of the most urgent medical problems in many countries of the planet. Urolithiasis ranks second after infectious and inflammatory diseases of the urinary tract, one of the most common diseases in the world, and in many cases it is recurrent. Effective treatment of urolithiasis in accordance with the rules will again significantly reduce the formation of stones in the urinary tract.

Key words: cystitis, urinary stone disease, natural preparations, metaphylaxis.

Dolzarliligi. Siydik yo'llarining infeksiyalari (SYI), antibiotik dori vositalari va zamonaviy profilaktikasi bo'yicha amaliy tavsiyalar topilganligiga qaramay, inson umri davomida eng keng tarqalgan xastaliklardan biri bo'lib kelmoqda. Ayollarning taxminan 33% qismi 25 yoshga kirgunicha bu xastalikni boshdan kechiradi, bu bemorlarning taxminan 50% ida keyingi 2-marta uchrash xolati bor va ularning 1/5-1/3 qismida takroriy SYI, ya'ni 6 oy ichida 2 ta o'tkir qaytalanish yoki bir yil ichida 3 ta ushbu xastalik bilan og'rish kuzatilgan[1].

Sayyoramizning turli davlatlarida SYI tibbiyot xodimlari qabuliga tashrif buyurishning 2-6 foizini tashkil qiladi, bu bemorlarning 80-90 foizi ayollardan iborat[2]. Rossiyada siydik yo'llari infeksiyasi bilan xastalanish bir yilda 36 million yetadi.

Davolanishni talab qilmaydigan belgilsiz bakteriuriya bilan kasallanish xastalanganlar yoshi ortishi bilan ortadi, u sog'lom menopauzadan keyingi holdagi ayollarda (1-5%), katta yoshi erkaklar va ayollarda (4-19%), qandli diabet bilan xastalanganlarda (7-29%), qariyalarning 15-50% va spinal jarohatlangan bemorlarning 89% gacha[3]. Biroq, SYI va xamroh xastaliklar uchun xavf omillari bor bo'lsa, bakteriyalarga qarshi davolash amalga oshiriladi. Ba'zan, simptomsiz kechuvchi bakteriuriya homilador ayollarning 2-10 foizida kuzatiladi, ularga esa davolash profilaktika amalga oshiriladi.

Epidemiologik tadqiqotlar shuni ko'rsatdiki, SYI uchragan bemorlarning 75,6 foizi Escherichia coli, qolganlari har xil turdagi gramm-manfiy va gramm-musbat mikroorganizmlarning ba'zi turlaridan kelib chiqadi. Qisqa muddatli antibiotiklar bilan davolash kasallikni klinik belgilarini samarali tarzda yo'q qiladi[4].

Siydik ayrish yo'llarining infeksiyasi boshqa har xil turdagi urologik xastaliklarning paydo bo'lishi uchun asosiy xatarli omilidir, shu jumladan buyraklar filtratsion funktsiyasining pasayishi va urolitiazni xam xavfini oshiradi. Siydik tosh kasalligi xastaligining dolzarbligi uning tarqalishi va kasallikning qaytalanish xavfi yuqoriligi bilan isbotlangan[5]. Shunday qilib, turli mualliflarning fikriga ko'ra, nefrolitiaz barcha urologik kasalliklar orasida tarqalishi bo'yicha ikkinchi o'rinda turadi va sayyoramiz aholisining 1-20 foizida uchraydi. Kasallikning qaytalanish xavfi to'g'ridan-to'g'ri kasallikning davomiyligiga bog'liq va 10 yil ichida 50-80% ga yetishi mumkin[6].

Hozirgi vaqtda SYIning davolash uchun ishlatiladigan antibiotikning asosiy talabi siydik tanosil tizimining zararlangan organlariga tezda kirib borish va siydikda terapevtik samarali kontsentratsiyalarni yaratish qobiliyati bo'lib qolmoqda. Biroq, dunyoning aksariyat mamlakatlarida eng dolzarb tibbiy muammolardan biriga aylangan bakteriyalarning antibakterial dorilarga rezistentligi oshishi sababli antibakterial dorilar samaradorligi pasayib bormoqda[7].

SYI bilan xastalangan bemorlar uchun o'tkir davrni samarali davolash yetarli emas, antibiotiklar bilan davolash uning rivojlanishiga to'sqinlik qilmasligini hisobga olish kerak. Takroriy xastalanishlar ehtiyotkorlik va uzoq

muddatli davolanishni talab qiladi. Tez-tez qayta davolashlar bilan turli xildagi sxemalar yordamida antibiotik profilaktikasini qo'llash mumkin. Yevropa urologiya assotsiatsiyasi (EUA) tavsiyalariga ko'ra, antibiotik profilaktikasi faqat ikkita holatda ko'rsatiladi: antibiotiklarsiz terapiyaning samaradorligini baholagandan so'ng va faqat antibiotiklardan foydalanmasdan profilaktika choralari samarasiz bo'lgan bemorlarda[8].

Takroriy SYI bilan og'riqan bemorlar uchun profilaktika choralariga qinga shamchalar ko'rinishida va og'iz orqali probiotiklar bilan davolash, immunoprofilaktika, siydikni pHni o'zgartirish, o'simlik preparatlari va pol-pola choyi iste'mol qilish kiradi. Probiotiklar bifidobakteriyalar va laktobakteriyalar yoki mikroorganizmlarning past virulentli shtammlari kabi patogen bo'lmagan bakteriyalarning suspenziyalari bo'lib, ular siydik yo'llari epiteliysini kolonizatsiya qilish va patogen florani siqib chiqarish uchun ishlatiladi. EAU tavsiyalariga asoslanib, bu usul siydik yo'llarining takroriy infeksiyalarining oldini olish uchun tavsiya etilishi mumkin. Profilaktikaning eng samarali usuli siydik yo'llarining mahalliy immunitetini oshirish maqsadida faol immunoprofilaktika bo'lib qolmoqda[9].

So'nggi o'n yilliklarda urologik kasalliklarni davolashda, shu jumladan takroriy SYIning oldini olish uchun o'simlik preparatlaridan foydalanishga qiziqish sezilarli darajada oshdi. O'simliklarning bakteritsid ta'siri uzoq vaqtdan beri ma'lum. O'simliklar insoniyat paydo bo'lganidan beri hamroh bo'lib kelgan. O'simlik dunyosi haqidagi bilimlar odamga istemol qilish mumkin bo'lgan o'simliklarni zaharli o'simliklardan ajratishga, shuningdek, turli o'simliklarning organizmga ta'siri haqida tushunchaga ega bo'lishga o'rgatdi. Dorivor o'tlar bilan davolash insoniyatga beshikdan beri hamroh bo'lib va uzoq vaqt davomida o'simliklar deyarli yagona dori darmon usullari bo'lib xizmat qilgan. 19-asrda dorivor o'simliklarga qiziqish sezilarli darajada zaiflashdi. Ammo kimyoviy dori-darmonlarni qabul qilishdan kelib chiqadigan asoratlarning juda yuqori bo'lishi o'simlik preparatlariga bo'lgan munosabatning yana qaytadan aktivlashishiga asosiy sababi bo'ldi. Endi o'simlik xomashyosi asosidagi dori vositalari bilan davolash yana zamonaviy meditsinaning asosiy o'rinlariga qaytmoqda, dalillarga asoslangan tibbiyotga asoslangan holda uning foydali tomonlarini yoritilib kelinmoqda[10].

Bugungi kunda dorivor o'simliklardan foydalanish samaradorligi nafaqat qadimiy, balki ilmiy asoslangan usullar - biokimyoviy, biologik (molekulyar va hujayra darajasida), shuningdek, strukturaviy va analitik usullar yordamida ham isbotlangan. To'plangan ilmiy tadqiqot bazasi o'simlik preparatlarining yuqori samaradorligini ko'rsatadi va dorivor o'simlik ekstraktleri samaradorligi bo'yicha sintetik kimyoviy moddalardan ko'ra ancha samarali ekanligini isbotlanib kelmoqda. O'simliklardan tayyorlanadigan dori-darmonlarining yuqori samaradorligi JSST ekspertlarining xulosalari bilan ham tasdiqlanadi, ular ijobiy natijalarning 75 foiziga erishildi, bu allaqachon tabiiy o'simliklar bilan davolashni

ikkinchi darajali emas balki asosiy davo choralari sifatida ko‘rib chiqishga imkon beradi.

Hozirgi vaqtda ko‘plab o‘simlik preparatlari mavjud bo‘lib, ulardan uzoq muddatli foydalanish mumkinligi va ularning samaradorligini isbotladi. Ularning organizmga ta‘sir qilish mexanizmlari va zamonaviy tibbiyot kutgan ta‘sirga anchagina o‘xshash. Ular buyraklarda qon oqimini kuchaytiradi, bu esa buyrak funksiyasining yaxshilanishiga olib keladi, diurezni oshiradi va yuqori siydik yo‘llarining urokinamikasini yaxshilashga yordam beradi, shu bilan u yoki bu usul bilan yo‘q qilinganidan keyin siydik yo‘llaridan toshlarni yoki ularni ayrim parchalar chiqarilishini yengillashtiradi, yallig‘lanishga qarshi, mikroorganizmlarga qarshi ta‘sirga ega, antispazmoliti ta‘sirga ega, buyrak sanchig‘i paytida og‘riqni kamaytiradi, dizurik belgilarning yengillashtiradi, siydikning himoya kolloid xususiyatlarini oshiradi va ularning ba‘zilari siydikning pH darajasiga ta‘sir qilib, uni u yoki bu yo‘nalishda o‘zgartiradi.

Ushbu dorilardan biri O‘zbekiston urologlari orasida uzoq vaqtdan beri ma‘lum bo‘lgan Kanefron H dir. Preparat diuretik, antispazmolitik va litolitik ta‘sirga ega bo‘lgan o‘simlik preparatlarining klinik-farmakologik guruhiga kiradi. Mahsulot tarkibida: Centaurii herba, Levistici radix, Rosmarini folium, yordamchi moddalar: laktoza monogidrat, magniy stearati, makkajo‘xori kraxmal, povidon K30, kolloid suvsiz kremniy oksidi. Antispazmolitik ta‘sir preparatning flavonoidlari ta‘siriga bog‘liq. O‘simliklardan tayyorlanadigan diuretik. Preparat diuretik, antispazmolitik, yallig‘lanishga qarshi va antibakterial ta‘sirga ega.

Qo‘llash uchun ko‘rsatmalar davolash uchun kompleks terapiyada:

- siydik pufagi (sistit) va buyraklarning surunkali infeksiyalari (piyelonefrit);
- buyraklarning yuqumli bo‘lmagan surunkali yallig‘lanishi (glomerulonefrit, interstitsial nefrit).

Siydik toshlarining shakllanishiga yo‘l qo‘ymaslik uchun vosita sifatida (shuningdek, siydik toshlarini olib tashlashdan keyingi holatda). Preparat to‘q sariq rangli plyonka bilan qoplangan, dumaloq, ikki tomoni qavariq, silliq yuzasiga ega tabletkalar, og‘iz orqali yuborish uchun.

Preparatni qo‘llashga qarshi ko‘rsatmalar:

- preparatning tarkibiy qismlariga yuqori sezuvchanlik;
- o‘n ikki barmoqli ichak va oshqozon yarasi o‘tkir bosqichida;
- laktaza yetishmovchiligi, glyukoza-galaktoza malabsorbtsiyasi;
- saxaroza/izomaltaza yetishmovchiligi, fruktozani ko‘tara olmaslik;
- 6 yoshgacha bo‘lgan bolalar.

Preparat og‘iz orqali, chaynamasdan, suv bilan yutish uchun. Kattalar - 2 tabletkaga. kuniga 3 marta, maktab yoshidagi bolalar - 1 tabletkaga kuniga 3 marta. Kasallikning og‘irligi pasayganidan so‘ng, preparat bilan davolash 2-4 hafta davom etishi kerak. Preparat bilan davolanish paytida ko‘p suyuqlik iste‘mol qilish tavsiya etiladi.

SYI kompleks davolashda va urolitiaz metafilyaktikasini amalga oshirishda o'simliklardan tayyorlangan Kanefron H samaradorligini baholash tadqiqot maqsadi hisoblanadi.

Materiallar va usullar. Respublika shoshilinch tibbiy yordam ilmiy markazi Farg'ona filiali urologiya bo'limi, Farg'ona shahar ko'p tarmoqli poliklinikasiga surunkali sistit kasalligining kuchayishi davrida bo'lgan 20 ayol va urolitiazning operatsiyadan keyingi metafilyaktikasi davrida turli jinsdagi 20 bemor uchun Kanefron H tabletkasining samaradorligini barcha jabhalarda tekshiruvlar amalga oshirildi. Bemorlarning yoshi 25 dan 50 yoshgacha (o'rtacha yoshi 35).

Qaytalanuvchi paski siydik yo'llarining yallig'lanishi zo'rayishi bilan xastalangan bemorlarning eng ko'p uchraydigan shikoyatlari siydik pufagi sohasida og'riq, tez-tez, og'riqli, oz-ozdan siyish va uretrada noqulaylik hissi paydo bo'ladi. Urolitiaz bilan xastalanganlar ko'pincha bel sohasida noqulaylik va og'riqdan shikoyat qiladilar. Barcha guruhlardagi xastalanganlar tekshiruvdan o'tkazilganda buyraklarning filtratsion va chiqarish funksiyasi va qonning umumiy tahlili ko'rsatkichlari normal korsatkichlar chegarasidan oshmagan. Bemorlarning 75 foizida umumiy siydik tahlilida umumiy leykotsitlar miqdori 10 dan ortiq bo'lgan. O'tkir asoratlar bermagan sistit bilan xastalangan xamma bemorlarda va urolitiaz guruhidagi 10 (50%) bemorda bakteriuriya aniqlangan.

Barcha xastalanganlar 4 ta kichik guruhlariga ajratildi.

Surunkali sistitning kuchayishi bilan og'riq bemorlar, ko'rsatilgan davolash turiga qarab, har biri 10 kishidan iborat ikkita kichik guruhga bo'lingan. Asosiy kichik guruh ayollari kompleksda 1 tabletkadan 2 maxal 5 kun davomida Biseptol 480 (sulfametoksazol va trimetoprim) va 3 oy davomida kuniga 3 marta Kanefron H 1 tabletkadan 3 maxal, nazorat kichik guruhi esa faqat Biseptol 480 tabletkasini qabul qildi. Tadqiqot guruhlarida kasallikning davomiyligi 10 oydan 10 yilgacha davom etgan. Kasallikning klinik ko'rinishlarini o'zgarib borishini monitoring qilish, peshobning umumiy va bakteriologik tahlil natijalarini antibiotik bilan davolash boshlanganidan kundan keyin 15 kun, 1 va 2 oy o'tgach amalga oshirildi.

Buyrakda xosil bo'lgan toshlar tarkibidagi oksalat va urat tuzlari borligiga qarab yigirma nafar xastalanganlar har birida 10 kishidan bemorlar bo'lgan ikkita kichik guruhga (asosiy va nazorat) ajratilgan. Bu bemorlarda xastalanishning davomiyligi 2 yildan 10 yilgacha davom etib kelgan. Yuqoridagi xamma bemorlar takroriy tosh shakllanishi xavfi yuqori bo'lganlar sifatida tasniflangan. Dastlabki metabolik baholash o'tkazildi, uning natijalariga ko'ra dori metafilyaktikasi buyurildi.

Barcha bemorlar leykotsituriya, siydikning bakteriologik tekshiruvi, siydik pH darajasining kunlik dinamikasi va kunlik diurez uchun baholandi. Bundan tashqari, toshning kimyoviy tarkibi, qon zardobida (kreatinin, kalsiy, ionlashtirilgan kalsiy, siydik kislotasi, magniy, kaliy, natriy) va siydikda (kreatinin, kalsiy, siydik kislotasi, magniy, kaliy, natriy, oksalat) baholandi. Bakteriologik tekshiruvlar xulosalariga ko'ra mikrofloraning sezgirligiga mos

ravishda antibakterial davo chora tadbirlari o'tkazildi. Ikkala guruhda ham tekshiruv natijalariga ko'ra, 3 oy davomida aniqlangan metabolik kasalliklarni tegishli dori-darmonlar bilan tuzatish ishlari olib borildi. Asosiy guruhdagi bemorlarga qo'shimcha ravishda Kanefron H, 1 tabletkadan 3 marta kunlik dozada 3 oy davomida buyurildi. Ikkala guruhdagi bemorlarning qon va siydik biokimyoviy parametrlarini nazorat qilish tadqiqotlari 30 kun va 90 kundan keyin o'tkazildi.

Kanefron H preparatini qo'llash samaradorligini baholash mezonlari kasallikni klinik belgilarini kamayishini, leykotsituriya, bakteriuriya darajasini va kasallikning qaytalanish chastotasini aniqlashdan tashkil topgan edi. Bundan tashqari, kundalik diurez miqdorining ko'payishi, siydikdagi vodorod ionlari konsentratsiyasini o'zgarishi, qon plazmasi tarkibida va siydikda tosh hosil qiluvchi moddalarning miqdorini o'zgarishlarini nazorat qilish edi. SYI bilan og'riqan bemorlarda asosiy kichik guruhda 15 kunlarda umumiy peshob tahlilida leykosit mavjud emasligi 17 (85%) holatda, nazorat guruhida esa 14 (70%) holatda qayd etilgan. 1 oydan so'ng kuzatuv davrida asosiy kichik guruhdagi bemorlarda umumiy peshob tahlilida leykotsitlar sonining kamayishi, mikrofloraning yo'qolishi va kasallikning qaytalanmasligi ayollarni 90 foizida kuzatildi, ikkinchi kichik nazorat guruhida esa antibiotiklar bilan davolanishni navbatdagi kursini talab qiladigan 4 (40%) bemorda kasallikning qayta namoyon bo'lishi kuzatildi.

Siydikni bakteriologik tekshirish natijalariga ko'ra: E. coli - asosiy kichik guruhning 1 bemorida, ikkinchi guruhda esa E. coli 2 nafar va Enterobacter. spp 1 nafar bemorda mikroflora aniqlandi. 2 oydan so'ng nazorat tekshiruviga ko'ra, Kanefron H qabul qilgan asosiy guruh bemorlarida kasallikning qaytalanishi qayd etilmagan. Nazorat guruhida 2 nafar bemorda kasallikning qaytalanishi kuzatildi. Shu bilan birga, kunlik siydik ajralish miqdorining taxminan 35% ga ortishi kuzatildi. Yuqorida keltirilgan ma'lumotlarga asoslangan xolda urolitiaz va SYIning kompleks terapiyasida Kanefron H preparatidan foydalanib davo choralari ko'rish ayollarda bu xastalikning qaytalanish chastotasini kamaytirish natijalariga erishish uchun samarali xisoblanadi.

Kanefron H qabul qilishning kichik guruhidagi urolitiaz bilan xastalanganlarda 3 oylik davo choralari ko'rilgandan so'ng peshob tahlilida vodorod ionlari konsentratsiyasi darajasining barqaror o'sishi kuzatildi, u 6,3-6,9 oraliq'ida ushlanib turildi, sutkalik diurez 2.2-2,6 l gacha ko'paydi, bemorlardan anamnez yig'ilganda ulardagi holatni yengillashishi ancha yaxshilangani, peshob ajralish yaqqol ko'payganligi kuzatildi. Xar ikki guruhdagi xastalanganlarning umumiy qon va peshobning klinik va biokimyoviy tahlilida aytarli darajadagi o'zgarishlar kuzatilmadi.

Bizning xulosalarimiz shuki, peshobning biokimyoviy parametrlarining o'zgarishi, ularni normaga keltirish uchun ko'rilgan chora tadbirlar asosida sodir bo'ldi. Bizning tekshiruvlarimiz natijasi shunday bo'ldiki, Kanefron H ni qabul qilish boshqa qo'shimcha dori-darmonlarni miqdoriy ravishda kamaytirishga

imkon beradi, bu bilvosita dori-darmonlarni (tiazid diuretiklari, sitrat aralashmalari) minimal terapevtik dozalarda qo'llash va siydik pH ni maqsadli qiymatlarda osonroq yaxshilashi mumkin. 5 oylik nazorat tadqiqoti davri tugagandan keyin, tekshiriluvchilarning umumiy qon va siydikning biokimyoviy ko'rsatkichlari oldingi xolat bilan bir xil ko'rinishga keldi. Biz erishgan natijalarimizdan xulosa qilib aytadigan bo'lsak ushbu preparat bilan davolanish olib borilayotgan paytda peshobning tosh hosil qiluvchi moddalar bilan to'yinishi kamayishiga va takroran tuz kristallari va buyrak toshlari shakllanishi kuzatilmasligiga olib keluvchi preparatning samaralli natijasini namoyon etadi.

Tadqiqot guruhlaridagi bemorlarning 1 tasida yengil dispeptik o'zgarishlar kuzatildi va biroz vaqt o'tgandan keyin o'z-o'zidan bu belgilar yo'qolib ketdi, boshqa hech kimda salbiy ta'sirlar qayd etilmadi.

Yuqorida keltirilganlarga asoslangan xolda, takroriy pastki siydik yo'llari infeksiyasi bilan xastalangan bemorlar va buyrak tosh kasalligini metafilaktikasi uchun umumiy davo choralarini bir qismi sifatida Kanefron H ni ishlatish xastalikning klinik belgilarining kamayishiga va kasallik paytida kelib chiqadigan dizurik belgilar paydo bolganda bemor ahvolini yaxshilanishiga sabab bo'ladi. Tekshiruvlar davomida, Kanefron H preparatidan foydalanilganda, hech qaysi kasalda mikroblarga qarshi dorilar bilan davolanganda salbiy ta'sirlar yoki o'zaro nomutanosiblik belgilari uchramadi. Yuqoridagi natijalaga asoslangan xolda, Kanefron H preparatini istemol qilish sutkalik siydik miqdorini ko'paytirishga, siydik tarkibidagi vodorod ionlari miqdori darajasini oshirishga, uni normallashtirishga va shu xolda ushlab turishga xizmat qiladi. O'tkazilgan tekshiruvlar asosida umumiy qonning biokimyoviy tahlilida va umumiy peshob tahlili tekshiruvlarida tosh hosil bo'lishiga olib keluvchi moddalar miqdori darajasida sezilarli o'zgarishlar aniqlanmadi. Kanefron H ni urolitiazni metafilaktikasida uzoq vaqtlar mobaynida foydalanish tosh hosil bo'lishining redsidivlanishlar sonini qisqartiradi, shunga asoslanib preparatni buyrak toshlarining kimyoviy tarkibi turlicha bo'lgan nefrolitiazning barcha ko'rinishlari bilan xastalangan bemorlarni davolash va metafilaktika maqsadida ishlatish samaraliroq natijalar beradi.

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MAKTABDAN TASHQARI JISMONIY TARBIYA VA SPORT ISHLARI

Annotatsiya. O‘quvchilar uylari va saroylari bolalar vaqtli mashg‘ulotlar, o‘yinlar, gimnastika o‘tkazadilar, lekin ko‘ngil ochishlar va maktabda tashkil qilish qiyin bo‘lgan sport turlari bo‘yicha sport shu‘balari tashkil qiladilar, tennis, suzish, badiiy gimnastika va boshqalar.

Kalit so‘zlar: Badantarbiya, bolalar oromgohi, sport, yengil atletika, suzish mashg‘ulotlari, oromgoh spartakiadasi, sayrlar, ekskursiyalar.

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EXTRA CURRICULAR PHYSICAL EDUCATION AND SPORTS ACTIVITIES

Abstract. Student houses and palaces organize children's time activities, games, gymnastics, but organize entertainments and sports clubs for sports that are difficult to organize at school, such as tennis, swimming, rhythmic gymnastics, etc.

Keywords: Physical education, children's camp, sports, athletics, swimming lessons, camp spartakiade, walks, excursions.

Ular, shuningdek, badantarbiya chiqishlari va bayramlari, sport ustalari bilan uchrashuvlar o‘tkazadilar. Bu ishga jumhuriyatlik qilish uchun malakali mutaxassislar jalb etiladi.

O‘quvchilar uylari va saroylari bolalar bilan ish olib boradigan boshqa maktabdan tashqari muassasalarga uslubiy yordam uyushtirish uchun katta o‘rin tutadi. Buning uchun konsultatsiya, ma‘ruzalar va seminar mashg‘ulotlari o‘tkaziladi, ularni yoshlar qo‘mitasi hamda xalq ta’limi organlari bilan birgalikda tashkil qiladilar va o‘tkazadilar.

Jismoniy tarbiyaga oid juda muhim ishni xalq ta’limi organlari va ko‘ngilli sport jamiyatlari tomonidan tashkil etiladigan bolalar sport maktablari olib boradilar.

Bu maktablarning asosiy vazifasi o‘quvchilarning sport mahoratini oshirishdan iborat. Bolalar sport maktabining barcha ishlari shunday tashkil etilishi kerakki, yosh sportchilar o‘z maktablari jamoalaridan ajralib qolmasinlar va sport bilan shug‘ullanishni maktabda fanlarni yuqori o‘zlashtirish bilan birga qo‘shib olib borsinlar.

Bolalar sport maktablari o'quvchilarning bayramlari, ertaliklari va o'quvchilar yig'inlaridan chiqishlarini uyushtiradilar hamda badantarbiya faollari va badantarbiya ishi jumhuriyatlari bilan yo'l-yo'riq, mashg'ulotlar o'tkazadilar.

Bolalar sport maktablari maktabdan tashqari ta'lim muassasa sifatida umumta'lim maktablari mustahkam aloqada ishlashi lozim, bolalar sport maktablarining o'quvchilari esa o'z maktablarida faol bo'lishlari, jismoniy tarbiya va sportga oid sinfdan tashqari ishlarni o'tkazishda o'qituvchilarga yordam berishlari kerak.

Madaniyat va istiroxat bog'larida ham o'quvchilarni jismoniy tarbiyalashga oid katta ishlar olib boriladi. Bog'larning bolalar sektorlarida sport maydonchalari va gimnastika shaharchalari barpo etiladi.

Ularda bolalarning individual va jamoa o'yinlari uchun jihozlar bo'ladi. Odatda, bunday bog'larda bolalar turli jihozlar inventarlardan foydalanish va uynash imkoniyatiga ega bo'libgina qolmay, balki ular uchun guruhli mashg'ulotlar, o'yinlar, raqslar ham uyushtiriladi.

Bolalar o'rtasida olib boriladigan maktabdan tashqari jismoniy tarbiya ishlarini uy-joy boshqarmalarida ham o'tkazadilar. Ota-onalar bolalar bilan birgalikda uy-joy boshqarmasi xodimlarining ko'magida doimo ishlab turuvchi sport maydonlari barpo qiladilar «yozda ko'kalamzorlashtiradilar va ularni mashg'ulotlar, o'yin va ko'ngil ochishlar uchun moslaydilar». Bu ishda ko'ngilli sport jamiyatlari, yoshlar tashkilotlari, kasaba uyushmalari, maktab katta yordam ko'rsatishi mumkin.

Turar joylarda quyidagilar tashkil etilishi mumkin: ertalabki badantarbiya mashg'ulotlari, sportning har xil turlari bo'yicha guruh, shu'ba yoki mashg'ulotlari; sport musobaqalari «bir uy bolalar o'rtasida, bir uy-joy boshqarmasiga qarashli bir necha uy komandalari o'rtasida, shuningdek, bir uy-joy boshqarmasi bilan ikkinchi uy-joy boshqarmasi komandasi tuman, shuhar musobaqalarida qatnashuvchi uy-joy boshqarmasi komandalari o'rtasida; turistik safar, sayrlar, suv xavzalariga borish.

Turar joylardagi jismoniy tarbiya va sport ishlariga jumhuriyatlik qilish uchun jismoniy tarbiya kengashi tuziladi yoki saylanadi. Kengash tarkibiga yoshlar qo'mitasidan vakillar, sportchilar, ota - onalar kiritilishi kerak.

Turar joydagi ishning uslubiy markazi maktab bo'lmog'i lozim. Shu'balar, guruhlar, komandalariga jumhuriyatlik qilishga tajribali va bilimdon va ota-onalar, sportchi - razryadchilar, sportchi instruktor «yo'riqchi»lar jalb etilishi kerak.

Yozda yozgi maydonlar va o'quvchilar oromgohlaridashahardan tashqarida va shaharda bolalar bilan katta ishlar olib boriladi.

Yozgi maydonlarda turli kundalik ommaviy badantarbiya va sport tadbirlar o'tkaziladi. Kundalik tadbirga o'yinlar, sayrlar, cho'milish yoki dush qabul qilish, ekskursiya, safarga chiqish, badantarbiya chiqishlari va sport musobaqalariga tayyorgarliklari kiradi.

Yozgi maydonlarda badantarbiya ishi yetakchi o‘rin egallaydi. Chunki yozda sog‘lomlashtirish vazifalari asosiy hisoblanadi. Bu ish har xil ishlar bilan qo‘shib olib borilishi kerak.

O‘quvchilar oromgohi: bolalar o‘rtasida jismoniy tarbiya va sport ishlarini olib borish uchun eng qulay sharoit shahar yoki tuman tashqarisidagi o‘quvchilar oromgohlarida yaratiladi. Oromgohlar bolalarning yozgi dam olishning tashkil etishning eng yaxshi shaklidir. Ochiq havoda deyarli kecha-kunduz bo‘lish, kundalik rejimga qat‘iy rioya qilish, batartib ovqatlanish, jismoniy mehnat va badantarbiya mashg‘ulotlari, o‘yinlar, qo‘shiq aytish, quyosh va havo vannalarini qabul qilish, suvda cho‘milish - bolalarning sog‘ligini saqlash ular organizmni chiqiktirish va jamoaning jipishlashuviga yordam beruvchi omillardir.

O‘quvchilar oromgohlarida ommaviy badantarbiya va sport ishlarining vazifalari quyidagilardan iborat:

a) O‘quvchilarni kundalik, badantarbiya mashg‘ulotlariga jalb qilish.

b) maktabdagi badantarbiya darslarida olingan malaka va ko‘nikmalarni takomillashtirish.

v) zalda yoki uncha katta bo‘lmagan sport maydonida berib bo‘lmay digan, xususan, suzish, o‘yinlar, joylarda bajariladigan mashqlarga doir va malakalarni singdirish.

g) o‘quvchilarning badantarbiya va sport bilan muntazam shug‘ullanishga qiziqishlarini oshirish

d) O‘quvchilarda gigiyenik malakalarning tarbiyalagnishga yordam berish.

Bolalarning o‘quvchilar oromgohlarida nisbatan qisqa vaqtda bo‘lishi barcha jumhuriyatlarga oromgohdagi ishni tayyorlashga alohida mas‘uliyat bilan qarash majburiyatini yuklaydi.

Ish rejasi oromgohga borilgunicha tayyorlanishi kerak. Birinchi navbatda oromgoh xududiga yetib badantarbiya yo‘riqchisi va o‘quvchilar sardori jumhuriyatligida katta tayyorgarlik ishlari amalga oshirishlari lozim. Badantarbiya uchun harkatli va sport o‘yinlari, yengil atletika mashg‘ulotlari uchun joy tanlanadi va jihozlanadi. Cho‘milish joyi belgilanadi va tartibga keltiriladi.

Yozgi paytda shaharda qolgan o‘quvchilar uchun maxsus oromgohlar tashkil qilinadi. Shahar oromgohidagi ish barcha oromgohlardagi kabi bo‘ladi, tartib - lineyka, bayroq ko‘tarish. rejali ish olib borish, ikki yoki uch mahal ovqatlanish. Shahar oromgohlari istiroxot bog‘larida, o‘yingoxlarda, maktablarda joylashadi. Oromgohga borilgunga qadar o‘quvchilarning tarkibi ularning jismoniy tayyorgarligi. Sportga qiziqishlari, chumila olish ko‘nikmalari aniqlanadi. Har bir novbat uchun tuzilgan ish reja bu navbat 2-3 ta bo‘ladi. Kundalik ertalabki badantarbiya, zvino va otriyaalarda o‘yin, badantarbiya, yengil atletika va suzish mashg‘ulotlarini, oromgoh spartakiadasi, sayrlar, ekskursiyalar, safarlar, o‘quvchilar oromgohining ochilishi va yopilishi paytidagi jismoniy tarbiya taldbirlarini tashkil etish va o‘tkazish albatta ko‘zda tutiladi. Kun tartibida har kuni havo va quyosh vannasini qabul qilish belgilangan.

Jismoniy tarbiya jumhuriyati o‘z ish rejasida bolalar bilan jismoniy tarbiyaning ahamiyati, respublikamiz sportchilari yutuqlari haqida suhbat o‘tkazishni belgilaydi. Oromgohdagi ko‘rgazmali chiqishlarga iloji bo‘lsa sport ustalari, razryadli sportchilar, sport maktablari o‘quvchilarini jalb etish kerak. Bunda o‘quvchilar oromgohini otaliqqa olgan kasaba uyushmasining ko‘ngilli sport jamiyati kengashi yordam ko‘rsatishi kerak.

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JIZZAX SHAXRI VA UNI ATROFIDA SUV RESURSLARINI IFLOSLANISHI

Annotatsiya. Maqolada Jizzax shaxri va uni sanoat zonasidagi sanoat korxonalarini viloyatdagi ekologik keskinlikni oshirishiga sabab bo'layotganligi bayon etilgan. Chunki er osti grunt suvlari Cd, Pb, Al, Se kabi og'ir metallar bilan ifloslangan, suvni sho'rli va qattiqligini oshgan.

Kalit so'zlar: grunt suv, og'ir metall, suvni sho'rli, suvning qattiqligi, oqava suv, suv olish inshooti, ifloslanish, suv sifat ko'rsatkichlari.

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POLLUTION OF WATER RESOURCES IN THE CITY OF JIZZAKH AND ITS SURROUNDINGS

Abstract. The article states that the city of Jizzakh and industrial enterprises in its industrial zone are the cause of the growing environmental tension in the region. Due to the pollution of underground groundwater with heavy metals such as Cd, Pb, Al, Se, the mineralization and hardness of water has increased.

Key words. groundwater, heavy metals, water salinity, water hardness, wastewater, water intake, pollution, water quality indicators.

Keyingi yillarda Sangzor daryosining o'zanida ko'plab shaxsiy uylar va oshxonalar, bozorlar, avtomobillarga yonilg'i quyish shahobchalari, texnik xizmat ko'rsatish punktlari, dam olish maskanlari paydo bo'ldi. Ulardan chiqadigan oqava suvlar va chiqindilar tozalanmasdan daryoga tashlanmoqda. Buning natijasida Sangzor daryosini suviga kelib tushadigan oqava suvlarning miqdori yildan-yilga oshib, sifati esa yomonlashib bormoqda[1]. Mutaxassislar tomonidan olib borilgan izlanishlar shuni ko'rsatdiki, grunt er osti suvlarining sho'rli va umumiy qattiqligi ruxsat etilgan me'yordan oshib ketgan. Sangzor daryosining o'zanidagi grunt er osti suvlarini toksik og'ir metallar bilan ifloslangani ma'lum bo'ldi. Keltirilgan ma'lumotlarga ko'ra, A.Temur suv olish

inshootida suvlardagi tuzlar miqdori 1,8 g/l. Umumiy qattiqligi 11,9 mg.ekv/g tengdir. Suv tarkibidagi toksik og'ir metallar miqdor ruxsat etilgan me'yordan yuqori ya'ni, kadmiy me'yordan 1,5, qo'rg'oshin 1,1, alyuminiy 1,5 marta kattadir [2].

Ma'lumki, Sangzor daryosini xavzasidagi grunt er osti suvlarini shakllanishida va uning sifatiga er usti oqar suvlari (daryo, kanal, ariq) ta'sir etadi. Sangzor daryosiga Eskituyatortar kanali suvini qo'shilishi natijasida, ayniqsa bahor paytida, grunt er osti suvlarini sifati me'yorgacha yaxshilanadi va ayrim xollarda uning qiymati suv sifat ko'rsatkichlarining normatividan kam bo'ladi [3].

Jizzax shaxrini ichimlik suv bilan ta'minlab kelayotgan Sangzor (shaxar) suv olish inshootida suvning minerallashuvi 0,89-1,28 g/l tashkil etadi. Bu maydonda er osti suvlarining minerallashuvi va qattiqligi A. Temur suv olish inshootiga nisbatan kamayganligini kuzatish mumkin. Bunga Sangzor daryosining o'zanida shag'al qatlamini kattaligi va ularni sizish xususiyati yaxshiligi sababdir, lekin suvdagi ayrim og'ir metallar miqdori suv sifat ko'rsatkichlarining normatividan yuqori bo'lib, qo'rg'oshin 0,05 mg/l, kadmiy 0,002 mg/l ga teng [4].

Sangzor daryosining konus yoyilmasi bosh qismida joylashgan O'zbekiston suv olish inshootida suvning minerallashuvi 0,66-1,00 g/l, umumiy qattiqligi 7,3-10,0 mg.ekv/l tashkil etadi. Suv tarkibidagi qo'rg'oshin miqdori me'yordan 1,0, kadmiy esa 1,1 marta oshgan, qolgan komponentlar miqdori meyoriy ko'rsatkichlarning miqdoridan kamdir. O'zbekiston suv olish inshootida suv sifati A.Temur va Sangzor suv inshootlariga nisbatan kam o'zgarishiga bu xududda ko'proq maishiy xo'jalik ob'ektlari borligi sabab bo'lmoqda.

Toshloq suv olish inshooti Sangzor daryosining konus yoyilmasi bosh qismida O'zbekiston suv olish ob'ektidan 3,5 km shimolda joylashgan. Bu maydonda suvning minerallashuvi (0,68-0,85 g/l), qattiqligi (7,6-8.1 mg.ekv/l) belgilangan miqdorga yaqin, lekin suv tarkibidagi allyuminiy miqdori 0,24 mg/l, qo'rg'oshin 0,036 mg/l, kadmiy 0,002 mg/l oshgan. Chunki bu erda suv resurslarini ifloslantiruvchi manbalar: Sangzor daryosi, V-ishlab chiqarish zonasining janubiy qismidan chiqqan oqava suvlar, maishiy-xo'jalik ob'ektlarining tozalanmagan suvlari mavjud bo'lib, ular CHo'lmo'liklik arig'ida er ostiga sizib o'tadi va suv sifat ko'rsatkichlarini o'zgartiradi.

KMK-1 suv olish inshooti ham Sangzor daryosining konus yoyilmasi bosh qismida V-ishlab chiqarish zonasi shimolida joylashgan. Suv olish inshootida suv kimyoviy tarkibi salbiy tomonga o'zgargan. Suv tarkibida 0,002 mg/l Cd, 0,01 mg/l Se, 0,004 mg/l Pb uchraydi. Suvning minerallashuvi 0.75-0,98 mg.ekv/l teng. Bu erda er osti suv resurslarini ifloslanishi V-ishlab chiqarish zonasi janubiy qismida joylashgan ishlab chiqarish ob'ektlaridan oqib chiqqan oqava suvlarini daryoning konus yoyilmasi bosh qismida oqar suvlarga tushishi natijasida xosil bo'lgan suv tarkibiga bog'liqdir.

Bundan tashqari daryoning konus yoyilmasi bosh qismida bir nechta quduqlar joylashgan. Ular ichida plastmassa zavodi xududida ishlayotgan

quduqda suvning fizik-kimyoviy tarkibi ko'proq salbiy tomonga o'zgargan. Suv tarkibidagi Al miqdori 0,74 mg/l, Pb va Cd tutgan kimyoviy birikmalar ishlatiladi, lekin zavoddan chiqqan oqava suvlar to'liq tozalanmaydi. Ayniqsa zavoddagi texnologik jarayonning mukammal emasligi, texnik jixozlarning eskirganligi kimyoviy moddalarni suv resurslariga qo'shilishiga olib kelmoqda. Bu maydonda er osti suvlarini yo'nalishi bo'ylab ular tarkibida ifloslantiruvchi komponentlarni ko'payib borishi kuzatildi.

O'rda suv olish inshooti daryoning konus yoyilmasi markaziy qismida joylashgan bo'lib, suvning minerallashuvi 0,85-1,45 g/l, umumiy qattiqligi 5,3-11,6 mg·ekv/l teng. Suv tarkibidagi og'ir metallar - Al, Pb va Cd miqdori suv sifati ko'rsatkichlarining normatividan 1,9; 1,07 va 2,2 marta ko'pdir. Suvning minerallashuvi, qattiqligi va og'ir metallar miqdorini oshishiga er osti suvlarini shakllanishida muhim o'rin egallagan oqar suv tarkibi va ariqlardagi oqova suvlarning sizilishi hamda maishiy-xo'jalik chiqindilari bilan ifloslanishi sabab bo'lmoqda.

Sangzor (qishloq) suv olish inshooti sharqiy qismining shimoliy-sharqiy chekka maydonlarida joylashgan. Er osti suvlarining kimyoviy tarkibi quyidagicha: minerallashuvi 1,0-1,6 g/l, umumiy qattiqligi 6,8-15,9 mg·ekv/l, alyuminiy 0,87 mg/l, qo'rg'oshin 0,035 mg/l, selen 0,033 mg/l, kadmiy 0,003 mg/l.

Er osti suvlarini ifloslanishi alohida iqtisodiyotda suvdan foydalanish sifatida ishlatiladigan quduqlarda va ifloslanish jarayonini o'rganish maqsadida kovlangan quduqlarda o'rganib chiqildi. Bu erda er osti suvlari asosan og'ir metallar bilan ifloslangan. Og'ir metallar miqdori (Cd, Pb, Al, Se) Qo'shchinor masjidi qudug'ida eng yuqori ko'rsatkichga ega: Cd-0,0024 mg/l, Pb-0,655 mg/l, Al-0,65 mg/l, lekin Jizzax akkumulyator zavodidagi quduqlarda Se miqdori yuqori (Se-0,014 mg/l). Ayniqsa, suv tarkibida rux (0,236 mg/l) ko'p miqdorda uchraydi.

Shunday qilib, grunt er osti suv namunalarini ma'lumotlar taxlilini shu narsani ko'rsatadiki, Saribozor suv olish inshootidan pastda daryo o'zanida grunt er osti suvlarini kimyoviy tarkibi me'yoriy ko'rsatkichlarning normatividan pastdir. Daryo o'zani A.Temur darasiga kirgandan so'ng Kukgumbazda uchta kollektor suvi quyiladi. Shurbuloq kollektorini daryoga qo'shilish paytdagi suvini minerallashuvi normativdan 1,5 dan 2,0 martagacha, umumiy qattiqligi 2,5 dan 3,0 martagacha, og'ir metallar: Cd-2,7 marta, Al-1,4 marta, Se-1,5-2,0 marta kattadir. Sangzor daryosiga Shurbuloq suvini qo'shilganidan so'ng oqar suvni minerallashuvi 1,0-1,7 g/l, umumiy qattiqligi esa 11,8-12,0 mg·ekv/l teng bo'ladi. Og'ir metall - kadmiy miqdori 0,002 mg/l o'zgaradi. Kollektor suvi qo'shilgan nuqtadan pastda oqim bo'yicha suvni minerallashuvi (0,5-1,0 g/l) va umumiy qattiqligi me'yor darajasiga kamayadi, lekin suv tarkibidagi kadmiy miqdori 0,003-0,005 mg/l, allyuminiy 0,22 mg/l oshadi. Suvni minerallashuvi va qattiqligini kamayishi shu narsa bilan isbotlanadiki, Sangzor (shaxar) suv olish inshootidan yuqorida daryoga kollektorlar suvi qo'shilmagan parallel beton kanal

suvi qo'yiladi. Kanal suvini kimyoviy tarkibi me'yoriy ko'rsatkichlardan past ekanligi tufayli daryo suvini sifati yaxshilanadi.

Shunday qilib, G'allaorol sanoat zonasidagi ishlab chiqarish korxonalari shu erdagi geoeologik muhitni o'zgarishiga birinchi bo'lib ta'sir qiladi. Er osti grunt suvlarini Cd, Pb, Al, Se kabi og'ir metallar bilan ifloslantiradi, suvni sho'rli va qattiqligini oshiradi. Jizzax shaxri va uni sanoat zonasidagi sanoat korxonalari viloyatda ekologik keskinlikni oshirishiga sabab bo'ladi. Bunday salbiy xolatlarni yanada keskinligi oshmasligi uchun boshlangan kompleks geoeologik tadqiqot ishlarni bajarishni taqozo etadi. Kelgusidagi bajariladigan kompleks ishlarda har bir ifloslantiruvchi manbalarni aniqlash va ular ta'sirida suv sifatini kimyoviy o'zgarishini bashorat qilinishi maqsadga muvofiq bo'lar edi.

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QISHLOQ XO’JALIGIDA YERGA ISHLOV BERISHNING ASOSIY TEXNOLOGIK KO’RSATGICHLARI

Annotatsiya. Yerga ishlov berish ekinlarning o‘sishi uchun eng qulay sharoit yaratish va unumdorligini oshirish maqsadida tuproqqa mexanik ta’sir ko‘rsatish usullaridir. Yerga ishlov berishdan asosiy maqsad o‘simliklar ildizining yaxshi rivojlanishi uchun yerning haydalma qatlam tuzilishini va tuproqning tuzilma xossalarini o‘zgartirish, tuproqning yuza qatlamidagi oziq moddalarni o‘simlik ildizi tarqaladigan qatlamlarga tushirish yo‘li bilan oziq moddalarning aylanishini tezlashtirishdan va tuproqdagi mikrobiologik jarayonlarga ta’sir etishdan iborat.

Kalit so‘zlar: mexanik ta’sir, maxsus, asosiy, yuza, unumdorlik, zig-zag, boronalash, ang‘iz, shudgorlash.

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MAIN TECHNOLOGICAL INDICATORS OF LAND WORKING IN AGRICULTURE

Abstract. Tillage is a method of mechanical impact on the soil in order to create the most favorable conditions for the growth of agricultural crops and increase its productivity. The main purpose of tillage is to change the structure of the arable layer of soil and the structural properties of the soil for better development of plant roots, to accelerate the cycle of nutrients by reducing nutrients from the surface layer of soil. soil to the layers where plant roots spread, and influence microbiological processes in the soil.

Key words: mechanical impact, special, main, surface, productivity, zigzag, harrowing, harrowing, plowing.

Ekinlarning o'sishi uchun eng qulay sharoit yaratish va unumdorligini oshirish maqsadida tuproqqa mexanik ta'sir ko'rsatish usullariga yerga ishlov berish deb ataladi. Yer yaxshi ishlansa, begona o'tlar, kasallik qo'zg'atuvchilar va zararkunandalar yo'qoladi, o'simliklar qoldig'i va o'g'it tuproqqa aralashadi, eroziya jarayonlarining oldi olinadi va tuproqdan nam va oziq moddalar isrof bo'lishi kamayadi, ekin urug'ining me'yordagi chuqurlikka ko'milishi uchun qulay sharoit yaratiladi. Yerga ishlov berishdan asosiy maqsad o'simliklar ildizining yaxshi rivojlanishi uchun yerning haydalma qatlam tuzilishini va tuproqning tuzilma xossalarini o'zgartirish, tuproqning yuza qatlamidagi oziq moddalarni o'simlik ildizi tarqaladigan qatlamlarga tushirish yo'li bilan oziq moddalarning aylanishini tezlashtirishdan va tuproqdagi mikrobiologik jarayonlarga ta'sir etishdan iborat. Qurg'oqchil rayonlarda yerga ishlov berishdagi asosiy vazifa tuproqda nam to'plash bilan birga uning behuda bug'lanib ketishiga ham yo'l qo'ymaslikdan iborat.

Tuproq unumdorligi - tuproqning suv, oziq moddalar va boshqa bilan ta'minlash xususiyati. Tuproq tog' jinslaridan unumdorligi bilan farq qiladi. Unumdor tuproqlarda insonga asosiy oziqovqat mahsulotlarini beruvchi qishloq xo'jaligi. o'simliklari o'stiriladi. Yer faqat unumdorlik xususiyati tufayli qishloq xo'jaligi da ishlab chiqarish vositasiga aylangan. Tuproq unumdorligi tuproq hosil qiluvchi omillar: iqlim, relyef, tuproq hosil qiluvchi jinslar, tabiiy va madaniy o'simliklar bilan uzviy bog'lik, ammo unumdorlik darajasida, ayniqsa, yerdan foydalanish xarakteri katta ahamiyatga ega.

Tuproq unumdorligining eng muhim omillar: o'simlik rivojlanishi uchun zarur oziq moddalar va ular turining yetarli miqdorda bo'lishi; o'simlik o'zlashtirishi mumkin bo'lgan namning mavjudligi; yaxshi tuproq, aeratsiyasi; tuproqning granulometrik tarkibi, struktura holati va tuzilishi; zaharli moddalar (kislota, ishqor, tuz va boshqalar) miqdori; tuproq reaksiyasi va boshqalardan iborat. Bu xususiyatlar yigindisi tuproqning madaniylashganlik holati darajasini belgilaydi. Unumdorlikning barcha elementlari bir-biri bilan chambarchas bog'liq. Bu elementlardan birortasining o'zgarishi boshqalariga ham ta'sir ko'rsatadi. Har xil o'simliklarning Tuproq unumdorligiga talabi turlicha bo'lganligi sababli va o'simlik biologiyasiga bog'liq holda bir tur o'simlik uchun unumdor hisoblangan tuproq boshqa tur uchun unumdor bo'lmasligi mumkin.

Yerni **asosiy**, **maxsus** va **yuza** ishlash usullari bor. Yerni asosiy ishlash deganda, oldingi ekin yig'ib olingandan keyingi dastlabki eng chuqur haydash tushuniladi. Eroziyaga uchramagan yerlarda bu, odatda, qatlamni ag'darib haydashdir. Yerni maxsus ishlashning usullari frezerli, plantajli, qatlamlab haydash (mas, qo'sh yarusli)dan iborat. Yuza ishlashda yumshatish chuqurligi ba'zan 12—14 sm yuza yumshatish, kultivatsiyalash, boronalash, shleyflash usullaridan foydalaniladi.

Yerni ishlashning alohida olingan har bir usuli bir yoki bir nechta texnologik operatsiyani o'z ichiga oladi va yerni ishlashdagi barcha vazifalarni ta'minlay olmaydi. Shu sababli yerga ishlov berishda bir necha usuldan foydalanish zarurati kelib chiqadi. Tuproq-iqlim sharoitiga mos keladigan, izchillik bilan bajarilgan va asosiy vazifalarni amalga oshirishga mo'ljallangan yerga ishlov berishusullarining majmui yerga ishlov berishtizimi deyiladi. U asosiy, ekish oldidan va ekishdan keyingi ishlov berishni o'z ichiga oladi.

Yerga ishlov berishning texnologik operatsiyalari: qatlamni ag'darish, yumshatish, aralashtirish, zichlash, tekislash, begona o'tlar ildizini kesish, egat, ariq, jo'yak olish, qatlam yuzasida ang'izni saqlash va b.dan iborat.

Qatlamni ag'darish, ya'ni tuproq qatlamlarini almashtirish agronomik xossalari bilan farq qiladigan qatlamlarini aralashtirishdan iborat.

Ang'iz qoldiqlarini, chim, o'g'itlarni, begona o'tlar urug'ini, kasallik qo'zg'atuvchilar va zararkunandalarni dastlabki rivojlanish davridayoq tuproqqa ko'mib yuborish uchun ham qatlamni ag'darish zarur. Buning uchun dalalar ag'dargichli plugda haydaladi.

Yerni qo'sh yarusli plugda 35—40 sm yoki chimqirqarli plugda 30—40 sm chuqurlikda ag'darib haydash yaxshi Samara beradi. Yerni yumshatish dalada traktor va mexanizmlar ko'p marta yurib o'tishi, kuzqishda va bahorda ko'p yog'in yog'ishi, vegetatsion va sho'r yuvishdagi sug'orish natijasida tuproqning haydalma qatlami va haydalma qatlam osti juda zichlashib ketganda amalga oshiriladi. Bu ish alohida yoki boshqa operatsiyalar (ag'darish, aralashtirish) bilan birga bajariladi. Yerni yuza 6—8 sm chuqurlikda yumshatishda "zigzag" boronadan, aylanuvchi motigadan, 12—16 sm chuqurlikda yumshatishda diskli borona, chizel kultivatordan; 20 sm va undan ortiq chuqurlikda yumshatishda ag'dargichi olingan plugdan, chuqur yumshatkichli plugdan, yassi keskich — chuqur yumshatkichli qurollar va b.dan foydalaniladi.

Tuproqni aralashtirish natijasida haydalma qatlam birxillashadi, organik moddalarning parchalanishidan hosil bo'ladigan mahsulotlar, mineral o'g'itlar bir tekis taqsimlanadi. Tuproqni zichlashda tuproq uvoqlari bir-biriga yanada zich joylashishi ta'minlanadi, kesaklar maydalanadi, haydalgan yer tuprog'i birmuncha o'tiradi; bunda tuproqni shamol kam uchiradi, urug' unishi uchun qulay sharoit vujudga keladi va h.k. Yer yuzasini tekislash sho'r yuvish ishlari sifatli bo'lishini ta'minlaydi, shudgorlangan yerni ekin ekish oldidan joriy tekislash natijasida ekish, ekinlarni parvarish qilish va hosilni yig'ib olish uchun qulay sharoit yaratiladi. Yerni joriy tekislash ishlari boronalash va mola bostirish bilan qisman qo'lda bajariladi.

Yerga ishlov berishning umumiy qoidalariga rioya qilingan taqdirda ham unumdor qatlamga uzoq vaqt mexanik ta'sir ko'rsatish bilan uning qurib ketish xavfi saqlanib qoladi. Bundan tashqari, tuproq eroziyasi va uning jismoniy tanazzulga uchrashi ehtimoli ortadi, bunga qarshi gumusni o'zlashtirish qobiliyati ham kamayadi. Mexanik ishlov berish texnikasi va usullarining ushbu va boshqa salbiy omillari qishloq xo'jaligi asboblarning erga minimalistik ta'sir qilish

tamoyillarini joriy etish mavzusining dolzarbligini aniqladi. Amalda bu quyidagi tamoyillarda ifodalanadi:

✓ Yuzaki qatlam sozlamalarisiz chuqur ishlov berish chastotasini kamaytiring.

✓ Optimal holatdagi tuproqlar kam ishlov beriladi.

✓ Bir texnologik operatsiya doirasida bir nechta ish protseduralari bajariladi.

Ulanish bilan bog‘liq operatsiyalar sonini kamaytirishg‘ildirakli va g‘ildirakli transport vositalari. Bu chora tuproqdagi bosimni pasaytiradi.

Bu mantiqiy ravishda optimallashtirilgan ishlov berish usullarini qo‘llash, masalan, hosildorlikning pasayishi xavfi haqida savol tug‘diradi. Darhaqiqat,erning unumdor xususiyatlarini aks ettiruvchi ko‘rsatkichlarning bir qismi mexanik ta‘sirning u yoki bu shaklda intensivligining pasayishi fonida kamayadi. Ammo, boshqa tomondan, bu zarar ozuqa moddalari va mikroorganizmlarni tartibga solish bilan bog‘liq ijobiy tuproq jarayonlarini umumiy rag‘batlantirish bilan to‘liq qoplanadi. Ferment almashinuvining biokimyoviy jarayonlarida va turli organik birikmalarning transformatsiyasida ayniqsa qulay ta‘sirlar kuzatiladi.

Xulosa. Yerga ishlov berishni to‘g‘ri amalga oshirish Qishloq xo‘jaligida fermerlik harakatining rivoj topishi, yer resurslaridan samarali foydalanish agrotexnik jarayonlarni bajarishda bo‘layotgan sarf-xarajatlarni kamayishini ta‘minlaydi. Qishloq xo‘jaligida ishlatilayotgan traktorlar va qishloq xo‘jaligi mashinalarining takomillashib borishi ham texnologik jarayonlarga bir qator yangiliklarni kiritishni taqozo etmoqda.

Qishloq xo‘jaligi sohasiga oid chiqarilgan mamlakat Prezidentining farmonlari va Vazirlar Mahkamasining qarorlarini [1,2,3] hayotga tatbiq etilishi natijasida qishloq xo‘jalik ishlab chiqarishiga e‘tibor yanada kuchaydi va mahsulot yetishtirish obyektlarining zamonaviy mashina va mexanizmlar bilan qurollanishi yana bir bosqichga ko‘tarildi. Albatta, agrar sohada energetik imkoniyatlarning kengayishi, modernizatsiyalanishi, yetishtirilayotgan mahsulotlarning turi va hajmini ko‘paytirishga, pirovardida, xalq farovonligini yanada oshirishga zamin yaratadi. Aynan shunday murakkab masalalarni eng qulay va energiya tejamkor texnika va texnologiyalardan foydalanib amalga oshirish mutaxassisdan chuqur nazariy bilim va malakaviy ko‘nikmalarni talab etadi. [4]

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TA'LIMDA NETSUPPORT SCHOOL DASTURIDAN FOYDALANISHNING SAMARADORLIGI

Annotatsiya. Ushbu maqola informatika va boshqa fanlarni o'qitishda yuqori natijaga erishish uchun NetSupport School dasturidan foydalanishning samaradorligiga bag'ishlanadi.

Kalit so'zlar. Raqamli texnologiya, NetSupport School, audio, video, interaktiv vositalar, monitoring, internet, konsol, modul.

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THE EFFECTIVENESS OF USING NETSUPPORT SCHOOL IN EDUCATION

Annotation. This article focuses on the effectiveness of using NetSupport School to achieve high performance in computer science and other subjects.

Keywords. Digital technology, NetSupport School, audio, video, interactive tools, monitoring, internet, console, module.

KIRISH. Hozirgi kunda axborot kommunikatsion texnologiyalarining barcha sohalarida qo'llanilishi natijasida yuqori ko'rsatkichlarga erishish imkoniyatini beryapti. Xususan, ta'lim tizimida ham raqamli texnologiyalar hamda zamonaviy dasturiy vositalarni qo'llash o'zining foydali jihatlarini ko'rsatmoqda. O'zbekiston Respublikasi oliy ta'lim tizimini 2030-yilgacha rivojlantirish konsepsiyasida O'zbekiston Respublikasida oliy ta'limni tizimli isloh qilishning ustuvor yo'nalishlarini belgilash, zamonaviy bilim va yuksak ma'naviy-axloqiy fazilatlariga ega, mustaqil fikrlaydigan yuqori malakali kadrlar tayyorlash jarayonini sifat jihatidan yangi bosqichga ko'tarish, oliy ta'limni modernizatsiya qilish, ilg'or ta'lim texnologiyalariga asoslangan holda ijtimoiy soha va iqtisodiyot tarmoqlarini rivojlantirish maqsad qilib qo'yilgan.

ADABIYOTLAR TAHLILI. S.A.Akbarov, D.Sh.Toshpo'latov, R.Jo'raqulovlar matematika fanlarini o'qitishda amaliy mashg'ulotlarda darslarning samaradorligini oshirish maqsadida zamonaviy axborot texnologiyalari (MS Excel, Geogebra dasturlari) vositalaridan maqsadli foydalanishga doir tavsiyalarini berib o'tishgan [3].

TADQIQOT METODOLOGIYASI. Tadqiqot ishida informatika va boshqa fanlardan amaliy mashg'ulotlarda NetSupport School dasturi imkoniyatlari o'rganilgan.

MUHOKAMA VA NATIJALAR. Netsupport School dasturi kompyuterlarni boshqarish va o'qitish uchun, monitoring, nazorat, hamkorlik va baholashning ko'plab funksiyalarini ta'minlaydi. Bu esa talabalarga audio, video, interaktiv vositalar, gamifikatsiya va boshqalar orqali o'qitish jarayonida yordam berish orqali texnologiyaga asoslangan ta'limdan maksimal darajada foydalanishga yordam beradi.

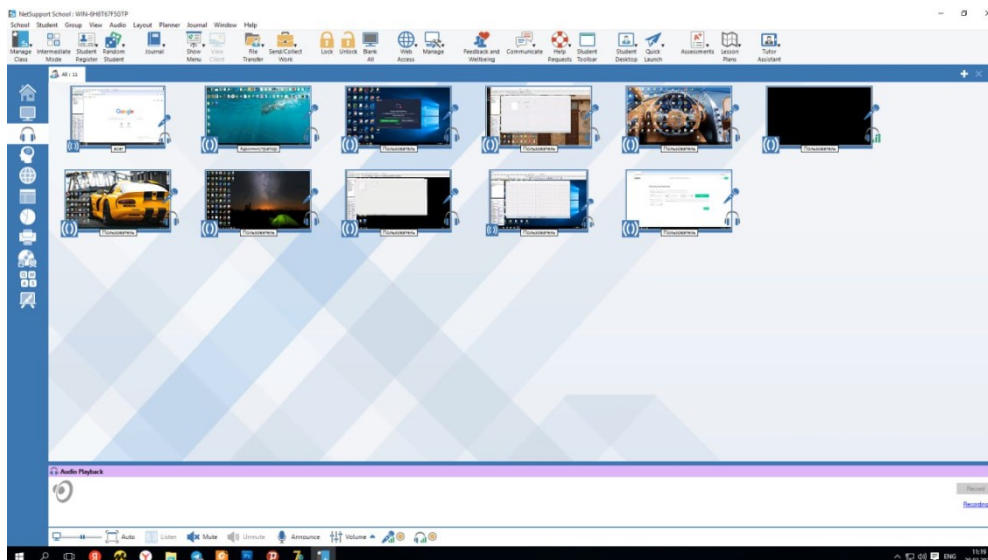
Ushbu dastur o'qituvchiga markazlashtirilgan ta'lim samaradorligini oshirish, talabalar e'tiborini jamlash, ilovalar va internetdan foydalanishni nazorat qilish, onlayn muloqot jarayonini yaxshilash va vaqtni tejash, sinfni tezda so'roq qilish va natijalarni darhol ko'rsatish imkonini beradi. Dastur barcha dars jarayonlarini boshqarish, talabalar bilan o'qitish va o'zaro aloqalar, monitoring va nazorat, sinov, dasturdan foydalanish xavfsizligini o'z ichiga olgan keng ko'lamli xususiyatlarni taqdim etadi. Barcha turdagi platformalar va qurilmalarda ishlash imkoniyati tufayli o'qituvchilar bilan maslahatlashib, ularning ehtiyojlarini hisobga olgan holda maxsus ishlab chiqilgan. Netsupport School dasturi o'quv sinfini boshqarishni to'liq hal qilish uchun eng yaxshi tanlovdir.

ASOSIY XUSUSIYATLAR:

Boshqaruv

- ✓ O'qituvchi kompyuteridan ishlaydigan kompyuterlar sonining ko'payishi yoki kamayishi.
- ✓ Diqqatni kuchaytirish uchun talabalar monitorlarini boshqarish.
- ✓ Qayta ishga tushirilganda talabalar kompyuterlariga avtomatik ulanish.
- ✓ Kerakli xususiyatlarni olish uchun o'qituvchining individual parametrlaridan foydalanish.
- ✓ Printerni boshqarish.

O'qishni boshlashda talabalarni ro'yxatdan o'tkazish.



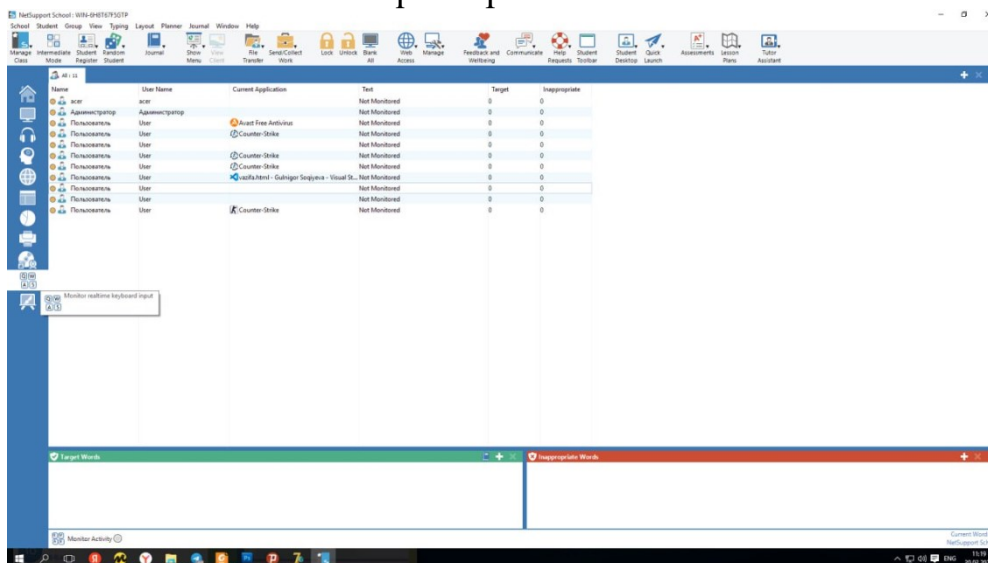
1-rasm. Tyutor konsoli

O'rganish va o'zaro ta'sir

- ✓ Interaktiv ta'lim.
- ✓ Hamkorlikdagi Internet-brauzer.
- ✓ Barcha taqdimotlarda audio qo'llab-quvvatlash.
- ✓ Yaxshilangan auditoriya hamkorligi uchun "oq doska".

Monitoring va nazorat

- ✓ Talabalar ekranlarini ko'rib chiqish.
- ✓ Tezkor xabarlarini boshqarish (jonli chat faoliyati va mazmunini ko'rib chiqish).
- ✓ Klaviatura nazorati talabalar faoliyati to'g'risida tushuncha beradi.
- ✓ Ilovalarni, Internet-resurslarni cheklash va boshqarish.
- ✓ Kuchli masofadan boshqarish pulti.



2-rasm. Monitoring va nazorat

XULOSA

NetSupport School o'qituvchilarga eng yaxshi amaliyotlardan foydalangan holda texnologiyaga asoslangan o'qitish hamda o'qitishdan to'liq foydalanish uchun maxsus baholash, hamkorlik va monitoring funksiyalarini taqdim etadi. NetSupport School o'qituvchining o'quvchilar ekranlarini, ular foydalanadigan ilovalarni, tashrif buyurgan veb-saytlarni, nima yozayotganini va kim bilan hamkorlik qilayotganini osongina nazorat qilishini ta'minlaydi.

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BANAX FAZOLARIDA QIYMAT QABUL QILUVCHI MIQDORLAR UCHUN BOG'LIQLIK SHARTLARI

Annotatsiya. Ushbu maqolada Banax fazolarida qiymat qabul qiluvchi miqdorlar uchun bog'liqlik shartlari keltirilgan va yoritib berilgan.

Kalit so'zlar: banax fazosi, tasodifiy miqdor, ketma-ketlik, limit teorema, qorishmalilik koeffitsiyentlari, qorishmalilik shartlari, sigma algebra.

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CONNECTION CONDITIONS FOR VALUABLE QUANTITIES IN BANAX SPACES

Annotation. In this article, the dependence conditions for value-accepting quantities in Banach spaces are presented and explained.

Keywords: banach space, random variables, sequence, limit theorem, mixing coefficients, mixing conditions, sigma algebra.

Biz bu maqolada qorishmalilik shartlarini ko'rib chiqamiz. Bu shartlar va ularni qanoatlantiruvchi ketma-ketliklar uchun limit teoremlar, xususan, [1],[2],[3] larda ko'rilgan. B separabel Banax fazosida aniqlangan tasodifiy elementlar ketma-ketligi berilgan bo'lsin. Bu ketma-ketlik uchun quyidagi qorishmalilik koeffitsiyentlarni ko'rib chiqamiz:

$$\alpha(n) = \sup\{|P(AB) - P(A)P(B)| : A \in F_1^k, B \in F_{k+n}^\infty, k \in \mathbb{N}\}, (1.1)$$

$$\beta(n) = \sup\left\{E\left(\sup_{B \in F_{k+n}^\infty} |P(B|F_1^k) - P(B)|\right) : k \in \mathbb{N}\right\}, (1.2)$$

$$\varphi(n) = \sup\{|P(B|A) - P(B)| : A \in F_1^k, B \in F_{k+n}^\infty, k \in \mathbb{N}\}, (1.3)$$

$$\rho(n) = \sup\left\{\frac{|E(\xi - E\xi)(\eta - E\eta)|}{E^{\frac{1}{2}}(\xi - E\xi)^2 E^{\frac{1}{2}}(\eta - E\eta)^2} : \xi \in L_2(F_{k+n}^\infty), \eta \in L_2(F_1^k), k \in \mathbb{N}\right\}, (1.4)$$

$$\psi(n) = \sup\left\{\frac{|P(AB) - P(A)P(B)|}{P(A)P(B)} : A \in F_1^k, B \in F_{k+n}^\infty, k \in \mathbb{N}\right\}. (1.5)$$

Bunda F_a^b — X_a, X_{a+1}, \dots, X_b tasodifiy elementlar hosil qilgan σ — algebrani bildiradi.

$L_2(F_a^b) - F_a^b$ ga nisbatan o'lchovli kvadrati bilan integrallanuvchi tasodifiy miqdorlar oilasi.

Ta'rif 1.1. Biz $\{X_n, n \geq 1\}$ ketma-ketlik α – qorishmalilik (β – qorishmalilik, φ – qorishmalilik, ρ – qorishmalilik, ψ – qorishmalilik) shartini qanoatlantiradi deb aytamiz, agar mos ravishda quyidagi shartlar bajarilsa

$$\lim_{n \rightarrow \infty} \alpha(n) = 0(1.6)$$

$$\lim_{n \rightarrow \infty} \beta(n) = 0(1.7)$$

$$\lim_{n \rightarrow \infty} \varphi(n) = 0(1.8)$$

$$\lim_{n \rightarrow \infty} \rho(n) = 0(1.9)$$

$$\lim_{n \rightarrow \infty} \psi(n) = 0(1.10)$$

Yuqoridagi barcha qorishmalilik koeffitsiyentlariga “o‘tmish” (F_1^k ko‘rinishida) va “kelajak” (F_{k+n}^∞ ko‘rinishida) o‘rtasidagi munosabatlarning o‘lchovi sifatida qarashimiz mumkin. (1.6)-(1.10) shartlar “o‘tmish” va “kelajak” orasidagi bog‘liqlikning kamayib ketayotganini bildiradi. Shu narsaga e‘tibor berishimiz kerakki, $\{X_n, n \geq 1\}$ bog‘liqsiz tasodifiy miqdorlar ketma-ketligi uchun quyidagi barcha qorishmalilik koeffitsiyentlari nolga tengdir: $\alpha(n) = 0, \beta(n) = 0, \varphi(n) = 0, \rho(n) = 0, \psi(n) = 0$.

Qorishmalilik koeffitsiyentlarining ta‘rifidan esa quyidagi tengsizlikning o‘rinli ekanligi kelib chiqadi: $\alpha(n) \leq \varphi(n) \leq \psi(n)$

Barchamizga ma‘lumki, (1.10) dan barcha (1.6) – (1.9) munosabatlar kelib chiqadi va (1.7) – (1.9) munosabatlarning har biridan (1.6) kelib chiqadi. Bundan tashqari, (1.8) formuladan (1.7) kelib chiqadi va (1.8) tenglikdan (1.9) kelib chiqadi.. (1.6) – (1.10) lar orasida boshqa munosabatlar esa umuman olganda yo‘q.

Ta'rif 1.2. $\{X_n, n \geq 1\}$ ketma-ketlik m – bog‘liqlik shartini qanoatlantiradi deyiladi, agar F_1^n va F_{m+n+1}^∞ barcha $n \geq 1$ larda bog‘liqliz σ – algabralar bo‘lsa.

m – bog‘liq ketma-ketliklar (1.6) – (1.10) munosabatlarni qanoatlantiradi. m – bog‘liq tasodifiy elementlar ketma-ketliklari barcha $n > m$ uchun quyidagi tenglikni qanoatlantiradi:

$$\alpha(n) = 0, (1.11)$$

$$\beta(n) = 0, (1.12)$$

$$\varphi(n) = 0, (1.13)$$

$$\rho(n) = 0, (1.14)$$

$$\psi(n) = 0. (1.15)$$

(1.1) – (1.5) qorishmalilik koeffitsiyentlari barcha bir o‘lchovli tasodifiy miqdorlar ketma-ketligi uchun ko‘rilgan. Keyinchalik ular Banax fazolarida qiymat qabul qiladigan tasodifiy miqdorlar ketma-ketliklari uchun hech qanday o‘zgarishsiz ishlatilgan.

Endi biz Banax fazolarining cheksiz o‘lchovlilikini hisobga oluvchi qorishmalilik koeffitsiyentlari ta‘rifini ko‘rib chiqamiz. $\{X_n, n \geq 1\}$ tasodifiy miqdorlar ketma-ketligi uchun quyidagi o‘rinli hisoblanadi:

$$\varphi_m(n) = \sup_{R^m} \{ |P(B|A) - P(B)| : A \in \sigma^{(m)}(F_1^k), B \in \sigma^{(m)}(F_{k+n}^\infty), k \in N \}, (1.16)$$

bunda $\sigma^{(m)}(F_1^k) - \prod_m X_a, \dots, \prod_m X_b$ lar hosil qilgan sigma algebra, $\prod_m -B$ dan $m - o'lchamli$ fazo $R^m \subset B$ ga proyeksiyalash operatori.

Ta'rif 1.3. $\{X_n, n \geq 1\}$ ketma-ketlik $\varphi_m - qorishmalilik$ shartini qanoatlantiradi deyiladi, agar $\lim_{n \rightarrow \infty} \varphi_m(n) = 0$, bunda $m = 1, 2, \dots$ (1.17)

Bundan quyidagi natijalar bizga ma'lum bo'ladi:

Teorema 1.1. Agar $\{X_n, n \geq 1\}$ ketma-ketlik (1.6) - (1.10) shartlardan birortasini qanoatlantirsa, u holda $\phi\{X_n, n \geq 1\}$ ketma-ketlik ham bu shart qanoatlantiradi, bunda $\phi(\cdot)$ o'lchovli (Borel) funksiyasi hisoblanadi.

Teorema 1.2. Agar $\{X_n, n \geq 1\}$ ketma-ketlik (1.8) shartni qanoatlantirsa, bundan u (1.17) ni ham qanoatlantirishi kelib chiqadi.

Teorema 1.2 bizga shuni bildiradiki, (1.8) shart (1.17) shartga nisbatan kuchliroq ekan. Buni esa (1.17) shartni qanoatlantiradigan va (1.8) shartni qanoatlantirmaydigan Gilbert fazosida qiymatlari bo'lgan tasodifiy miqdorlar ketma-ketligi mavjudligi tasdiqlaydi.

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BIOO'G'ITLAR: O'SIMLIKLARNING O'SISHI VA TUPROQ UNUMDORLIGINI YAXSHILASH UCHUN MIKROORGANIZMLARNING AHAMIYATI

Annotatsiya. Hozirgi davrda ekinlar hosildorligi va tuproq unumdorligini yaxshilashning ekologik toza va barqaror usullari zarur. Qishloq xo'jaligi mahsuldorligini oshirish zaruriy shartdir, ammo kimyoviy o'g'itlashning keng tarqalishi atrof – muhitga salbiy ta'sir qiladi va inson salomatligi bilan bog'liq turli muammolarni keltirib chiqaradi. Shuning uchun bioo'g'it texnologiyasi qishloq xo'jaligida muhim mikroorganizmlarni mos tashuvchi materiallar bilan ekspluatatsiya qilish orqali ekinlar hosildorligini oshirish uchun xavfsizroq va atrof – muhitga zarar yetkazmaydigan yondashuvni taqdim etadi.

Kalit so'zlar: Qishloq xo'jaligi, hosildorlik, rizosfera, bioo'g'it, barqarorlik

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BIOFERTILIZERS: THE IMPORTANCE OF MICROORGANISMS FOR IMPROVING PLANT GROWTH AND SOIL FERTILITY

Abstract. There is now a need for environmentally friendly and sustainable methods to improve crop yields and soil fertility. Increasing agricultural productivity is a prerequisite, but the widespread use of chemical fertilizers has a negative impact on the environment and causes various problems related to human health. Thus, biofertilizer technology provides a safer and more environmentally friendly approach to increase crop yields by harnessing important crop microorganisms using suitable carrier materials.

Key words: Agriculture, crop productivity, rhizosphere, biofertilizers, sustainability.

Aholining uzluksiz o'sib borayotgani va qishloq xo'jaligining yomonlashayotgan tizimi tuproq unumdorligi va ekinlar hosildorligini oshirish uchun barqaror, ekologik toza va samarali yondashuvni talab qiladi. Hozirgi tadqiqotlar asosan o'simliklarning o'sishi va mahsuldorligini oshirishga va foydali mikroorganizmlar tomonidan tuproq unumdorligini saqlashga qaratilgan.

Bunda mikroorganizmlar turli xil o'simliklarning o'sishini kuchaytiruvchi xususiyatlarga ega, ya'ni fosfat eruvchanligi va azot fiksatsiyasini oshiruvchi fitogormonlar hamda ekzopolisaxaridlarni ishlab chiqarish xususiyatlariga ega.

Tuproq unumdorligini saqlash mikroorganizmlarning yana bir foydali xususiyatidir, chunki ular tuproqdagi organik moddalarni ko'paytiradi va ozuqa elementlarni aylanishini muvozanatlash orqali tuproqdagi ozuqaviy moddalarni saqlaydi.

Bioo'g'itlar, asosan, ishonchli, tejamkor, ishlatishda qulay, ekologik toza va qishloq xo'jaligi dalalarida yuqori hosil olish uchun samarali hisoblanadi. Bioo'g'itlar bitta bakterial shtamm yoki bir nechta mikroorganizm shtammi yordamida tayyorlanishi mumkin. [1]

Bioo'g'itlar o'simliklarning ozuqaviy holatini muhim makro va mikroelementlar bilan ta'minlash orqali hosildorlikni oshirishning muhim bo'lgan usuli hisoblanadi. Bioo'g'itlar o'simliklarda azot, fosfor va kaliy kabi makroelementlarning mavjudligini oshiradi. Bundan tashqari, bu o'simliklarning turli qismlarida rux, temir, mis va selen kontsentratsiyasini oshirish orqali o'simliklarda mikroelementlar bilan bog'liq yetishmovchilikni bartaraf etishni ta'minlaydi. [2]

Mikroorganizmlar tomonidan sintezlangan fermentlar va boshqa metabolitlar tuproq unumdorligini saqlaydi va o'simliklarni doimiy oziq moddalar bilan ta'minlaydi. Bundan tashqari, bioo'g'itlar tuproqning foydali mikroorganizmlar populyatsiyasini qo'llab-quvvatlaydi va o'simliklarni kasallik qo'zg'atuvchi mikroorganizmlar hujumidan himoya qiladi.

Bioo'g'it nima? Bioo'g'itlar, birinchi navbatda, qishloq xo'jaligi uchun muhim foydali mikroorganizmlarni o'z ichiga olgan foydalanishga tayyor mahsulotlardir. Boshqacha qilib aytganda, bioo'g'it - bu foydali mikroorganizmlarni o'z ichiga olgan organik o'g'itning modernizatsiya qilingan shakli.

Bioo'g'itlar azotni biriktirish, fosfat, kaliy va ruxni eritish orqali o'simliklarning o'sishini tartibga soluvchi moddalar (gormonlar va vitaminlar) sekretsiyasi va organik moddalarning biologik parchalanishi, tuproq muhitini makro va mikroelementlarga boy bo'lishida muhim ahamiyat kasb etadi. [3] Bioo'g'itlar o'simliklar uchun ozuqa moddalarining o'zlashtirilishini oshirishdan tashqari, o'simliklarning boshqa fiziologik vazifalarini ham bajaradi, masalan, suvni o'zlashtirish va o'simliklarning fotosintez tezligini oshirish. Bioo'g'itlarning ta'siri kimyoviy o'g'itlarga nisbatan uzoq davom etadi, chunki mikroorganizmlar faoliyati orqali ozuqa moddalari sekin ajralib chiqadi. Bioo'g'itlar fermerlar uchun xavfsiz va iqtisodiy jihatdan foydali bo'lib, ular organik dehqonchilik bo'yicha tadqiqotlar uchun keng imkoniyatlar yaratadi. Bioo'g'itlar tuproq unumdorligini saqlash uchun oziq moddalarning qayta tiklanadigan manbai bo'lib, ularni barqaror qishloq xo'jaligi mahsuldorligi va ekologik toza muhit uchun integratsiyalashgan ozuqaviy boshqaruv tizimining muhim tarkibiy qismiga aylantiradi. [4]

Yaxshi bioo'g'itning xususiyatlari quyidagilardan iborat: (1) ekologik toza bo'lishi kerak, (2) bioo'g'it tayyorlash uchun ishlatiladigan mikroorganizmlari patogen bo'lmagan bo'lishi kerak, (3) ekinlarni yaxshi oziq moddalar bilan ta'minlay olishi kerak va (4) saqlash muddati uzoq bo'lishi kerak. Bioo'g'it ishlab chiqarish uchun kerakli xususiyatlarga ega mikroorganizmlarni tanlash eng muhim jihatdir.

Bioo'g'itni ishlab chiqish murakkab jarayon bo'lib, bioo'g'it standartlariga javob berish uchun bir necha baholashdan o'tadi. Eng muhim masalalardan biri bu mikroorganizmlarning hayotiyiligi. Bioo'g'itlar shunday shakllantirilishi kerakki, mikroblar yashovchan bo'lib qolishi va qadoqlashdan keyin ham uzoq vaqt davomida tuproq unumdorligini oshirishga qodir bo'lishi kerak. Biologik o'g'itlarni shakllantirish quritilgan kukun shaklida, donador shaklda yoki birlashtirilgan mikroblarning o'sishini va ularni samarali etkazib berishni qo'llab-quvvatlaydigan turli xil tashuvchi materiallardan foydalangan holda suyuq shaklda tayyorlanishi mumkin. [5]

Xulosa. Ushbu tadqiqotning asosiy yo'nalishi o'sib borayotgan dunyo aholisi uchun qishloq xo'jaligi samaradorligini oshirishdir. Foydali mikroorganizmlarni o'z ichiga olgan bioo'g'itlardan foydalanish o'simliklarning mahsuldorligini va tuproq unumdorligini yaxshilash, kimyoviy o'g'itlarga bo'lgan katta qaramlikni kamaytirish uchun juda muhimdir. Ozuqa moddalarini erituvchi va azot fiksatorlari kabi bioo'g'itlar qishloq xo'jaligi hosildorligida o'z samaradorligini ko'rsatdi. Ishonchliligi, samaradorligi va iqtisodiy maqsadga muvofiqligi tufayli bioo'g'itlar fermerlarning daromadini oshirishi mumkin. Bioo'g'itlar bir nechta funktsiyalarni bajaradi, ammo bioo'g'itlar texnologiyasida hali ko'p muammolarni hal qilish kerak. Tashuvchi materiallarning arzon manbalarini doimiy ravishda o'rganish ham muhim ahamiyatga ega.

Foydalanilgan adabiyotlar ro'yxati:

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MAISHIY VA ORGANIK CHIQINDILARDAN BIOCHAR OLIISH TEXNOLOGIYASI

Annotatsiya. Bugungi kunda dunyoda ko'plab xomashyolardan biochar tayyorlanadi. Maqolada mahalliy xomashyolardan foydalangan holda biochar olishga urg'u berilgan. Shu nuqtai nazardan O'zbekiston sharoitida dastlabki biochar xomashyosi sifatida maishiy chiqindilar, bug'doy somoni, parranda go'ngi tanlab olingan. Biochar – ko'p funksional guruhli, yuqori sirt maydoni, yuqori ozuqa tarkibiga ega sekin ta'sir qiladigan o'g'it hisoblanadi.

Kalit so'zlar. Biochar, parranda go'ngi, somon, maishiy chiqindilar, biochar hosili.

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TECHNOLOGY OF BIOCHAR RECOVERY FROM DOMESTIC AND ORGANIC WASTE

Abstract. Today biochar is produced from many types of raw materials in the world. The article focuses on the production of biochar using local raw materials. In this regard, household waste, wheat straw, and bird droppings were selected as the main raw materials for the production of biochar in Uzbekistan. Biochar is a slow-acting fertilizer with a multifunctional group, large surface area and high nutrient content.

Keywords. Biochar, bird droppings, straw, household waste, biochar harvest.

Kirish. Dunyo bo'yicha maishiy chiqindilar va oziq-ovqat sanoatlari hamda qishloq xo'jalik chiqindilarining 70% qismi qayta ishlanmaydi va ikkilamchi boshqa mahsulot olinmaydi, jumladan, O'zbekistonda qattiq maishiy chiqindilarning hosil bo'lishi, yiliga 14-14,5 mln tonna atrofida, aholining o'rtacha 1,5 foizga ko'payish sur'ati hisobiga ushbu ko'rsatkich 2028 yilda 16-16,7 mln tonnani tashkil etadi, ularning 22% qismi qayta ishlanadi yoki boshqa maqsadlarda foydalaniladi xolos. Aksariyat qismi ko'miladi va yoqib yuboriladi, maishiy chiqindilarning ko'milishi yoki yoqib yuborilishi atrof-muhitga katta ijtimoiy-iqtisodiy muammolarni olib keladi. Shu nuqtai nazardan maishiy va

boshqa chiqindilardan boshqa mahsulot olish bugungi kunda nafaqat O'zbekistonda, balki dunyo bo'yicha dolzarb masalalardan hisoblanadi. Bugungi kunda biomassalardan samarali foydalanish masalasi yil sayin ahamiyati ortib bermoqda, jumladan, turli biomassalardan olinadigan biochar qishloq xo'jaligida o'g'itlardan samarali foydalanishga katta yordam bermoqda [1]. Har qanday organik moddalardan, jumladan, chiqindilardan ham turli piroliz jarayoni orqali biochar olish mumkin [2, 3].

Mavzuga oid adabiyotlar tahlili. Biochar – bu uglerodga boy bo'lgan modda bo'lib, maishiy chiqindi, yog'och, o'simlik qoldiqlari, barglari, go'ng, kanalizatsiya cho'kindi loyi, parranda go'nglari, oziq-ovqat, vino sanoati chiqindilari va boshqa organik chiqindilarni kam kislorodli yoki kislorodsiz yopiq sharoitda qizdirishdan olinadigan mahsulot hisoblanadi [4, 5]. Biocharni olishda bir necha xom ashyoni qo'shib piroliz qilinishi, bir xom ashyoni pirolizidan olingan biocharga nisbatan samaraliroq ekanligi asoslangan, bunda kulning kamayishi, biocharni ifloslovchi moddalarni adsorbtsiya qilish xususiyati ortadi [6]. Biocharning olinishi harorat ko'rsatkichi, xom ashyo tarkibi, piroliz vaqti, davomiyligi va boshqa ko'rsatkichlarga bog'liq bo'lib, bu biocharning tarkibiga ham ta'sir qiladi [7]. Piroliz xaroratini biocharning fizik-kimyoviy xossalari korrelyatsiyasi o'rganilgan, bunda 3 ta xom ashyo – bug'doy somoni, makkajo'xori poyasi, raps va sholi somoni ishlatilgan va ularni 300, 400, 500 va 600°C haroratda 1 soatda piroliz qilingan. Natijalar shuni ko'rsatganki haroratning ortishi bilan biocharning xossalari yomonlashgan, 400°C dan ortganda bu yaqqol ko'ringan. Piroliz haroratining ortishi H, O, H / C, O / C, (O + N) / C va funktsional guruxlarga salbiy ta'sir qilgan. Biroq, yuqori harorati asosida piroliz natijasida olingan biochar strukturasi va shakli barqaror bo'lgan [8].

Organik biomassani 275°C dan 1100°C gacha piroliz qilinganda C, H, O, S va N miqdorida o'zgarish bo'ladi, bunda azotning yo'qotilishi kuzatiladi. Biocharning miqdor tarkibi u olingan xomashyo va olinish sharoitiga ko'ra farq qiladi, yangi tayyorlangan biocharda kationlar nisbatan kam bo'ladi [9], piroliz jarayonida haroratning ortishi bilan uglerod miqdorining ortishi, vodorod va kislorodning kamayishi, biocharning esa turg'unligi hamda gidrofobligi, adsorbtsionligi ortishi kuzatiladi [10].

Biochar sho'rlangan, qurg'oqchilik ketayotgan tuproqlarda qo'llanilganda tuproqdagi mikroorganizmlarga va qishloq xo'jaligi ekinlariga ijobiy ta'sir qilib ularning yashovchanligini oshiradi [11].

Tadqiqot metodologiyasi. Biocharni turli xomashyolardan olish uchun tajriba sxemasi ishlab chiqildi. Ma'lumotlar 1 – jadvalda keltirilgan. Bunda ochiq xavoda quritilgan xomashyolar 15-20 mm kattalikda maydalandi. Biochar xomashyolarini 60 minut davomida 200, 300, 400, 500, 600°C haroratda olinishini tadqiq qilindi. Ilmiy manbalarda (Norebtherm 30-3000°C) ham tasdiqlangan.

Biochar xom ashyolarining dastlabki sinov piroliz qilish haroratlari

<i>Xom ashyolar o'lchami</i>	<i>Harorat</i>	<i>Maishiy chiqindilar</i>	<i>Parranda go'ngi</i>	<i>Bug'doy somoni</i>
15-20 mm	200° C	+	+	+
	300° C	+	+	+
	400° C	+	+	+
	500° C	+	+	+
	600° C	+	+	+

Tahlil va natijalar. Yuqoridagi tadqiqot natijalarini o'rganish asosida va O'zbekistondagi potensial xomashyo zaxirasi ko'p bo'lgan organik chiqindilar tanlab olinib, ulardan biochar olish uchun tadqiqotlar o'tkazildi.

Tadqiqotlar davomida biochar olish uchun xom ashyo sifatida potensial xom ashyo miqdori ko'p va xalq xo'jaligida ehtiyoj uncha yuqori bo'lmagan xom ashyolar – maishiy chiqindilar, parranda go'ngi, bug'doy somoni, tanlandi (1 – rasm).

**Maishiy chiqindi****Parranda go'ngi (tovuq)****Somon****1 – rasm.** Tanlangan xom ashyolar

Tanlangan xom ashyolar dastlab ochiq xavoda quritildi, so'ngra 0,0000 aniqlikdagi tarozida (Ohaus Traveler, Swiss made) tortib olingan namunalar 150°C haroratda 1 soat quritildi va namlik farqi aniqlandi (2 – jadval).

Pirolizdan avval biochar olish uchun tanlangan xom ashyolarning namligi,

Biochar olish xom ashyo turlari	%			
	350 °C (60')	400 °C (40')	500 °C (40')	600 °C (30')
Parranda go'ngi, yangi	7,88	9,8	9,5	9,9
Parranda go'ngi eski	9,73	7	19,38	9,91
Bug'doy somoni	8,18	7	6,82	6,68
Maishiy chiqindi	11,54	7,34	9,13	2,55

So'ngra ochiq havoda quritilgan xom ashyolar 15-20 mm kattalikda maydalandi va ular uchun haroratlari belgilandi.

Dastlab tanlangan xom ashyolar yuqorida ko'rsatilgan haroratlarda (1 – jadval) piroliz qilindi (Norebtherm 30-3000°C), biroq, 200°C va 300°C haroratlarda xom ashyolarning biocharga aylanishi to'liq bo'lmadi, ya'ni

haroratlar orasida farqlar vujudga keldi (2 – rasm). Piroliz jarayonining haroratga bog‘liqligini inobatga olib, xom ashyolar bo‘yicha haroratning optimal ko‘rsatkichi aniqlandi (3 – jadval).



2 – rasm. Xom ashyolarning turli piroliz haroratlaridagi farqi

3 – jadval

Biochar xom ashyolarining tanlangan piroliz qilish haroratlari				
Xom ashyolar o‘lchami	Harorat	Maishiy chiqindilar	Parranda go‘ngi	Bug‘doy Somoni
15-20 mm	200° C	x	x	X
	300° C	+	x	X
	400° C	+	+	+
	500° C	++	+	++
	600° C	+	++	+

Izox: “x” - harorat yetarli emas, “+” - yetarli harorat, “++” – optimal harorat

Xulosa. Natijalarga ko‘ra 200°C harorati barcha xom ashyolar pirolizi uchun yetarli emas, ya’ni xom ashyolardan biochar olish uchun yetarli emas, 300°C haroratda esa faqat maishiy chiqindilar pirolizi kuzatildi va biochar hosil bo‘ldi, qolgan parranda go‘ngi, bug‘doy somoni 300°C haroratda piroliz jarayoni to‘liq kechmadi, ya’ni biochar hosil bo‘lmadi. Pirolizning keyingi haroratlari 400°C va 500°C da barcha xom ashyolarida biochar hosil bo‘ldi, 600°C haroratda esa somon, maishiy chiqindi xomashyolari juda kuchli darajada kuyib ketdi, shuning uchun ularga 500°C harorat yetarli hisoblanadi. Hozirgi kunda olingan biochar namunalari pH muhiti, tarkibidagi uglerod, kaliy, magniy, fosfor miqdori va ularning fizik xossalari o‘rganilmoqda, olinadigan natijalarga qarab, sho‘rlangan, ifloslangan tuproqlarda qo‘llash va ularga ta’sir etish mexanizmlari o‘rganiladi.

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PARALLELIZATION OF DIGITAL PROCESSING PROCESSES FOR COLOR IMAGES

Abstract. In this article The parallelization of digital workflows to color images is an important area of research in modern computer graphics and image processing. These processes include various tasks such as image sharpening, color transformation, segmentation and filtering. High-resolution and large-scale color images require computing power, which is aimed at using parallel computing technologies to increase the efficiency of processes.

Keywords: Color image, digital processing, parallelization, GPU, MPI, image sharpening, color transformation, segmentation, filtering, multi-core processor, computing speed, efficiency, scalability.

Enter

Attention to the development of information and telecommunication technologies and science began to increase from the moment our country gained independence. According to the Law of the Republic of Uzbekistan "On Informatization" [1], the task of the state policy in the field of informatization is to regulate products, services and information technologies in the information market, to stimulate the production of software products, to train specialized personnel and it consisted of improving their quality and, of course, stimulating the requirements for scientific research.

In the decision of the President of the Republic of Uzbekistan "On measures for the wider introduction and development of modern information and communication technologies" [2] normative documents for the use of modern information technologies, the introduction of computer equipment and telecommunication tools to the economic and vital public was determined.

Currently, the policy of our state in the field of informatization should organize the information technology and system, taking into account the current state of the computer technology development trend in the creation of the national information system.

Intellectualization of the process of digital processing of images by foreign scientists, including R. Agrawal, T. Imielinski, A. Swami, R. Srikant. A. Savasere, E. Omiecinski, and S. Navathe, JS Park, M. –S. Chen, and SY Philip, J. Hipp, U. Guntzer, and G. Nakaeizadeh. many results are given in their works.

Research methodology

Digital processing of color images is now of great importance in many fields, including medicine, artificial intelligence, video processing, and many others. With the help of parallel computing technologies, in particular, GPU

(Graphic Processors) and MPI (Message Parallel Computing), image processing processes can be significantly accelerated. GPUs are capable of processing large amounts of data simultaneously with their multi-core architecture. MPI, on the other hand, allows you to distribute the computing load among several processors or computers, which is very useful when working with large images.

By using parallel computing technologies, operations such as image sharpening, color transformation, segmentation and filtering can be performed efficiently and quickly. The implementation of these technologies not only increases the speed of calculation, but also allows the maximum use of resources. As a result, it will be possible to make significant advances in medical diagnostic imaging, artificial intelligence image processing algorithms, and many other areas.

Analysis results

A color model is a calculated method used to identify colors. The CMYK model is used in the printing industry. Computer monitors, graphics packages for the Internet use the RGB model. It is very important to choose the right model for the job. Today, there are many color models, including RGB, CMYK, GrayScale, HSV, HIS, HSB, HSL, YUV, Lab models.

Based on the DSP processing algorithm, a parallel spectral analysis application was developed. The program was created using the "Single Dual Core Application" method. The single application dual base approach produces one application with one build process. The program is divided into three components: Two separate cores and shared memory. (for some purposes (b treats all shared memory as one.) Only the application dual approach base (known as single / binary) allows more complex applications to be created. Three main components work in one process. This process data cores from data elements or functions which allows to use, code and allows to insert kernels from the shared memory network.

This sharing process is typically used for single-core applications, or in high-demand high-end devices. These additional functions can provide a direct learning experience for those new to the cross-system content. Therefore, a / idual approach adopted a number of contracts to help in the development of two-core prilozeny..ldf files Visual DSP ++, for the sake of simplicity, relies on their contract. An alternative approach can be chosen using fully dedicated.ldf files for improved developers. The following are accepted:

- As shown in Figure 1, Applications are placed as the last application in the top-level project, such as the target hierarchy. This is a high-level target of type "DSP executable".
- There are four types of high-level targets: Core A, Core V shared internal l2 memory, and shared external memory space. These are the "DSP library" types.
- Partial massads corea. dlb, coreb.dlb sml2. dlb and sml3. create separate files named dlb.

- High-level target libraries allow all symbols through the entire system, merge against the generated targets and produce three output files: r0.dxe, p1. dxe and L2_and_L3_common_memory.sm. These files can be placed inside the Blackfin CPU.

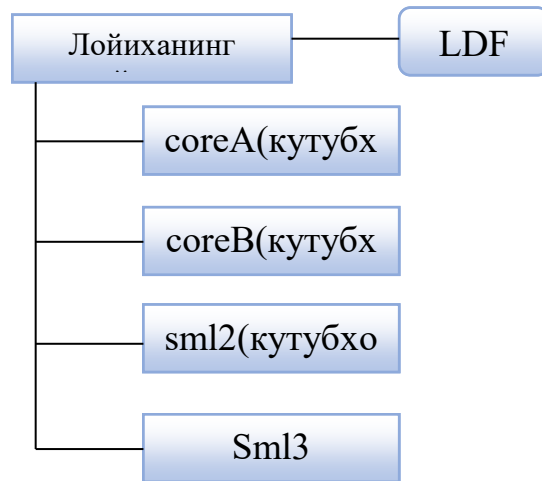


Figure 1. Applications are arranged like target hierarchies.

With applications partitioned into separate libraries, part of the application resides within a specific core within a specific or shared memory framework. It means that you can use am.ldf to produce a mass in a mass by setting a proportionality for file names (p0.dxe, sml2.dlb, etc.).

If File, New, Project... is selected, you can create these projects using the Master project. Select Dual Core on binary bases: use one application using both cores. Project master special. ldf file, and run the code.

Each core processor defines separate and shared memory (internal memory and floating memory L2) two locations, the COMMON_MEMORY pointer. Plot area COMMON_MEMORY is a dual-processor instruction area for external references through COMMON_MEMORY, processor directives can be combined against libraries with COMMON_MEMORY.

The PLibs library is directly mapped to the PROCESSOR directive. If this resource is allowed to use libraries, one private memory main core A or V is displayed. Libraries specified as CLibs are displayed in the COMMON_MEMORY field. A one-time binary base implementation is guaranteed to have library execution time using correct synchronization using a multi-threaded switch.

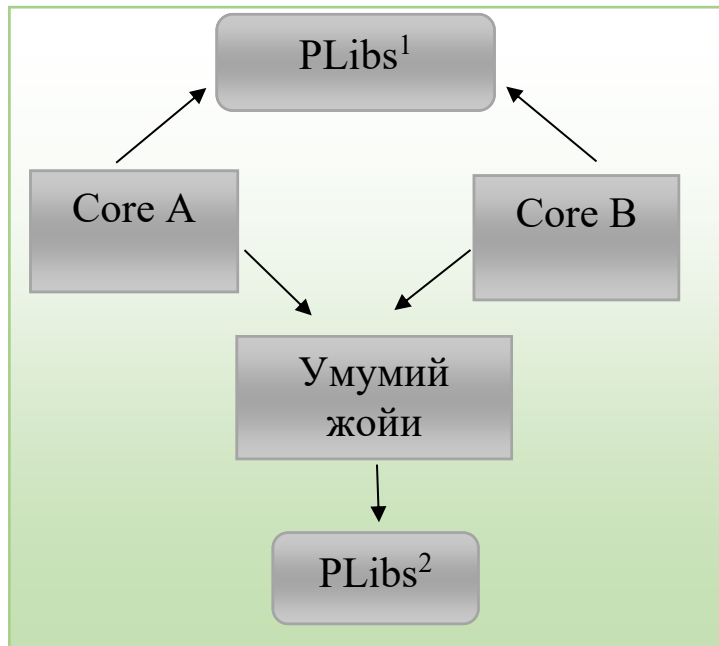


Figure 2 Two-wire base connection.

Create a.ldf file.

The.ldf file requires a single two-way approach. Because this.ldf file is designed for dual-core Blackfin processor single-valued, more robust and simple approaches. There is no need to modify the.ldf file file that was ever created. There is no need for.ldf files under Projects. The easiest way to create a user.ldf file is to use the Project Wizard:

File, New, Project... Under Dual-core Settings, select Dual core:

Single application using both cores. A custom.ldf file is created along with the project project hierarchy. Alternatively, you can create a user file.ldf through the top-level design project Options, which will run code/LDF. Make sure that kernel A and operation B are selected in the LDF setup.

Shared memory (SharedMemory). Code and data are represented in L2 internal memory, and the sml2..ldf part file places them and merges the COMMON_MEMORY area against the library from which the part file was created. Common parts (program, data, etc.) are represented as l2_sram.

The code and data are mirrored in the external memory and the sml3 part is mirrored in the target.

Shared Data (SharedData). To share data elements between two cores, do the following:

- Define initial module shared elements that contain only shared elements (ie, do not contain code or data belonging to one of the cores);
- Accept the part project sml2 or sml3 module input as the corresponding part.

- Within the initial module, specify the attribute to be used with the MustShare value of the file attribute, that is, #pragma file_attr ("sharing=MustShare")

Sharing Code (SharingCode). The program code can be used in conjunction with the following two cores. If the runtime needs to use the library functions together, the library containing them must be included in the CLibs library list (as shown in Figure 16). In other words, they don't need to be in the library list to match against compatible processor libraries. The program performs forward and reverse permutations of the eight reports of the input signal based on a parallel algorithm. This is where sawtooth substitutions are used and calculation errors are detected.

- Declare that these data elements are energy dependent.

Blackfin ADSP-BF561 processor

Table 1. Screen results of the program execution:

N o. N o	Basic function	Work and work			
		Parallel case		Consecutive status	
		That 's right	The opposite	right	The opposite
1 1	People	0.619mil	0.778 mil	0.643 mil	0.860 mil
2 2	Haara	0.630 mil	0.758 mil	0.664 mil	0.822 mil
2 3	Saw-shaped	0.594 mil	0.754 mil	0.624 mil	0.837 mil
4 4	Wavelet	0.524 mil	0.724 mil	0.552 mil	0.702 mil

2. Results of the program

Sharq ADSP -21062 processor

No	Basis function	Working time	
		right	The opposite
1	People	0.859 mil	1,314 mil
2	Haara	0.869 mil	1,323 mil
3	Saw-shaped	849 mix	1,304 mil
4	Wavelet	860 mix	1,314 mil

*Table 3. Results of the program
TargerSharc ADSP-201 processor*

No	Basic function	Work and work	
		right	The opposite
1	People	0.105 mil	0.160 mil
2	Haara	0.105 mil	0.160 mil
3	Saw-shaped	0.105 mil	0.160 mil
4	Wavelet	0.106 mil	0.161 mil

*Table 4. Results of the program
Sharc ADSP -21062 processor*

No	Basic function	Work and work	
		right	The opposite
1	People	2,881 mil	3,197 mil
2	Haara	2,849 mil	5,661 mil
3	Saw-shaped	2,896 mil	5,687 mil
4	Wavelet	2,867 mil	3,156 mil

*5. Results of the program
TargerSharc ADSP -201 processor*

No	Basic function	Work and work	
		right	The opposite
1	People	0.374 mil	0.727 mil
2	Haara	0.370 mil	0.721 mil
3	Saw-shaped	0.367 mil	0.718 mil
4	Wavelet	0.364 mil	0.708 mil

The program performs forward and reverse transformations of the original signal eight times based on a parallel algorithm. This is where sawtooth transformations are used and miscalculations are detected.

Conclusions and suggestions

This article, the structure of color images and algorithms for their processing, image formats, spaces and their models, areas of application, methods and algorithms used in mastering digital images were analyzed.

In obtaining spectral values of images, parallelization algorithms were created on multi-core signal processors and practical results were obtained on them. As a result of the use of different spectral transformation algorithms, image spectra were parallelized based on mathematical algorithms.

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BREAK THE CYCLE OF MIGRATION DEPENDENCE: INVESTMENT IN HUMAN CAPITAL THROUGH QUALITY EDUCATION IN UZBEKISTAN

Abstract. For several decades, Uzbekistan has faced a serious problem as a migration dependence, when a significant proportion of the country's population, in particular young people, are looking for labor opportunities abroad. This dependence on external sources of income greatly impedes economic development and economic diversification in the long term. In this study, the potential for investment in human capital, especially in high-quality education, is seen as a strategy that will break this vicious circle and contribute to the country's sustainable economic growth. The article considers the experience of Finland as a successful example of expanding the ability of the Uzbek labor force and reducing dependence on the migration of low-skilled labor by prioritizing equal access to education, high-quality training of teachers, student-oriented education, and lifelong learning opportunities. In addition, the study also includes topical studies conducted by local Uzbek scientists.

Keywords: human capital, education, migration dependence, Uzbekistan, Finland, economic development, education reforms, skills gap, student-oriented training, lifelong learning.

INTRODUCTION

The Republic of Uzbekistan, a state in Central Asia, faces a serious economic problem as migration dependency. According to the International Organization for Migration (IOM), the number of Uzbek labor migrants working abroad reached approximately 2.1 million. The majority of registered labor migrants from Uzbekistan were in the Russian Federation (62%, 1 million 300 thousand people), followed by Kazakhstan - 223 thousand (11%), the Republic of Turkey - 113.1 thousand (6%), the Republic of Korea - 66.8 thousand (3%) and other countries - 379 thousand people (18%). (Figure 1.) [1]

Low incomes and wages are believed to be the main drivers of migration from the country, forcing many to seek labor migration opportunities abroad.[2] Although remittances from these migrants contribute to the national economy (\$16.9 billion in 2022) [3], this dependence on external sources of income hinders the long-term development and diversification of Uzbekistan's economy. In

addition, a significant part of the migrating labor force belongs to the category of low-skilled labor. Most migrant workers abroad were employed in the construction sector (52.7%).[4] This dependence on cheap labor constrains economic growth and innovation in Uzbekistan by limiting the creation of higher-value jobs domestically. This study explores the potential of investing in high-quality education as a strategy to address this problem and empower the Uzbek labor force with the skills and knowledge needed for high-skilled domestic employment, ultimately reducing reliance on low-skilled migrant labor.

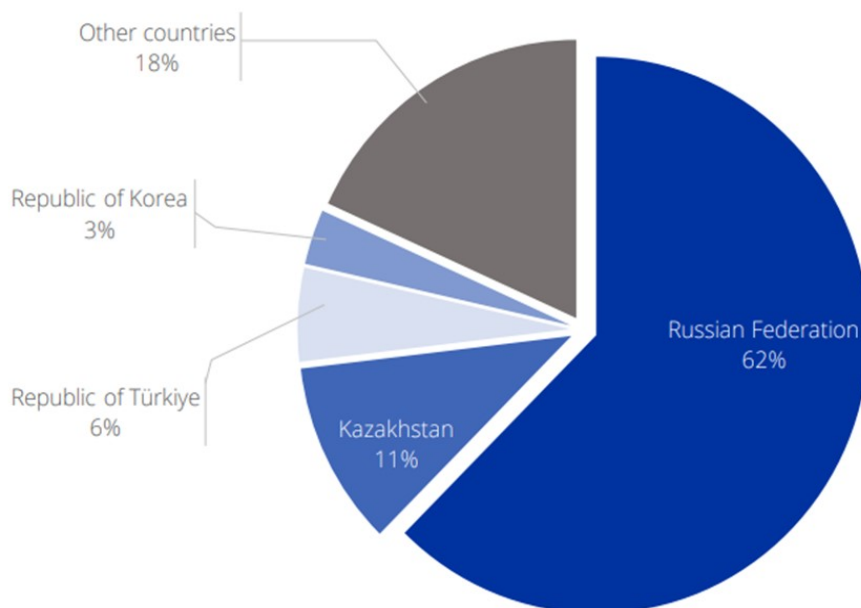


Figure 1: Share of Uzbek labor migrants abroad by country of destination, September 2023 (in percent)

Source: Agency for External Labor Migration of the Republic of Uzbekistan, 2023

THEORETICAL BACKGROUND

The human capital theory put forward by American economist G. Becker forms the basis for understanding how education can solve the problem of Uzbekistan's migration dependency. [5] It emphasizes that an important link in the path of productivity, innovation and economic growth is a well-educated workforce with the necessary skills and knowledge that drive a progressive economy. But it is worth noting the fact that if there is an overemphasis on education, ignoring inequality issues, the country will ultimately fail to achieve sustainable development. For a more holistic perspective, it is worth including additional views such as Romer's theory of endogenous growth and Coleman's theory of social capital.[6] [7] Only a comprehensive approach combining investment in education, stimulating innovation and strengthening social ties will allow Uzbekistan to truly address the problem of migration dependency and achieve sustainable development. In turn, it is worth noting the research

conducted by local scholar Mamadalieva H., which will undoubtedly be important in analyzing this issue. She emphasizes in her research the skills gap in the majority of the country's labor force. For a multifaceted understanding of how Uzbekistan can use investments in education to empower its citizens, stimulate innovation and transition to a highly skilled labor force, which will ultimately make it possible to reduce dependence on migration and achieve sustainable economic development, along with the existing skills gap, it is also worth considering such modern approaches as the learning society theory put forward by UNESCO and the human capabilities approach of Indian economist A. Sen, which is based on the human capabilities of the labor force.

Case: Unlocking the secrets of success in Finnish education

In this study, due to its global leadership in education, highly skilled labor force and low dependence on migration, Finland emerges as a successful model that can serve as an excellent example for Uzbekistan in addressing migration dependency through investment in human capital. The study will look at key areas of the Finnish approach to education that would support borrowing and implementing them in the Uzbek context, such as equity and accessibility, strong teacher training, student-centered learning, and lifelong learning opportunities. Analysis of these aspects aims to develop strategies to improve and empower the country's working-age population, stimulate innovation, and reduce dependence on low-skilled migrant labor.

Uzbekistan can borrow valuable lessons from Finland as a world leader in education. Its consistently high rankings in assessments such as PISA [10] and skilled, adaptable workforce attest to the effectiveness of its education system. This case study examines the main principles of the Finnish approach, which can be adapted to the Uzbek context.

Finland prioritizes equal access to quality education for all students, regardless of their background. The literacy rate in Finland is 100%, which indicates a high level of education. In addition, Finland has targeted programs to support students from disadvantaged families, ensuring inclusiveness. Finland's enrolment rate for students with disabilities is also higher than the OECD average, ensuring equal opportunities for all. By ensuring equal access to quality education, Finland contributes to a fairer society and makes full use of its human potential. This widens the pool of talent and promotes social mobility. Targeted support programs remove potential barriers to education for disadvantaged groups, and strong inclusive education practices enable all students to succeed. Finland invests heavily in high quality teachers. This is evidenced by the fact that all teachers in Finland have a master's degree, which guarantees in-depth knowledge of the subjects. [11] Teachers' salaries are considered one of the highest in the OECD (Figure 2.), which in turn helps to attract and retain high quality professionals. In addition, for the continuous professional development of teachers, Finland offers nationwide career-long professional development programs. It is investment in teachers that has a powerful contribution to student success. Highly qualified

teachers with access to continuous professional development will provide engaging, innovative and effective teaching. Along with this, competitive salaries attract and retain talent in the profession.

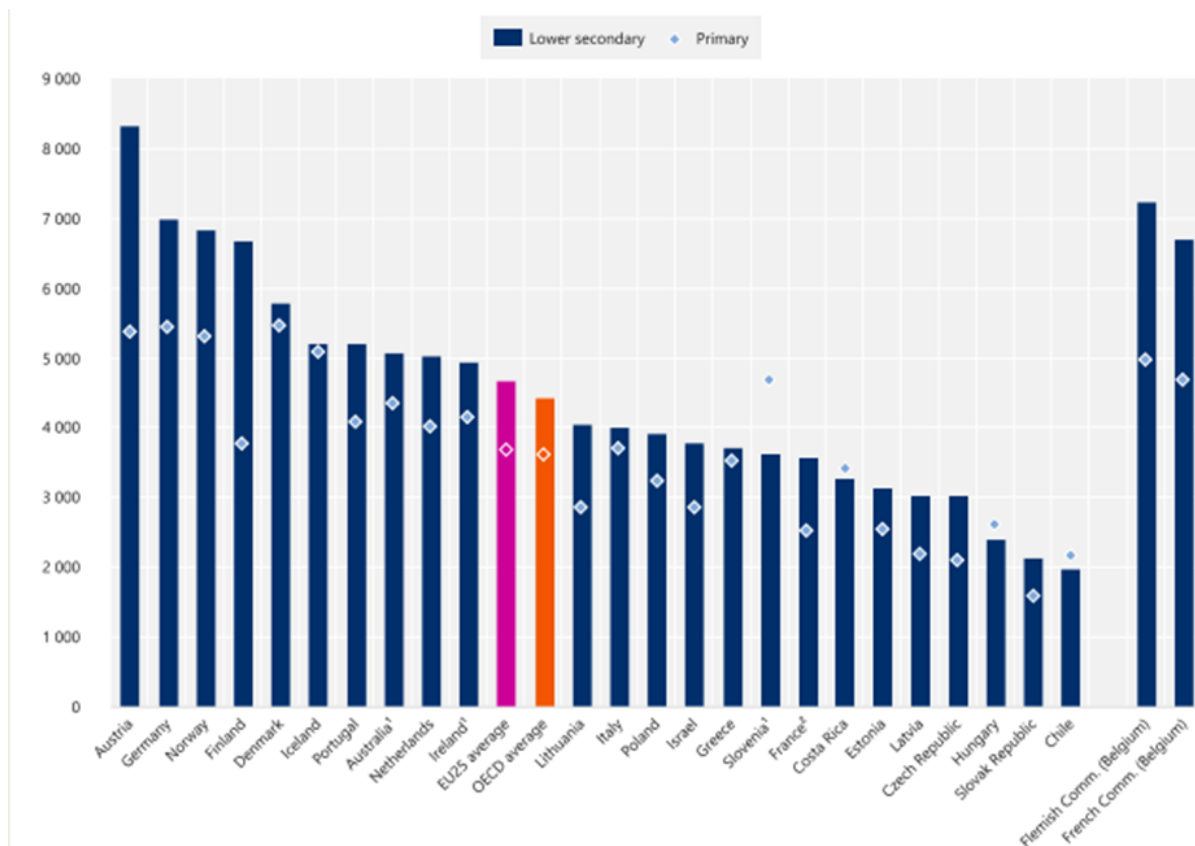


Figure 2: Value of annual teacher salaries per student in public institutions by level of education (2021) *US dollar converted using PPP for private consumption

Source: Education at a Glance. OECD Indicators, 2023

Students' classroom activities develop basic skills through student-centered approaches, otherwise known as student-centered learning approach. Finnish education emphasizes project-based learning, which allows students to engage in applying knowledge in the real world.[12] An important factor in the increased effectiveness of Finnish classes is that Finland has 15 students per full-time equivalent teacher in general secondary education programs (the OECD average is 14 students per teacher) and 18 students per teacher in vocational secondary education programs (the OECD average is 15 students per teacher). Finally, Finnish classes promote critical thinking and communication skills in students through group work and discussions.[12] Finnish methods of student-centered learning, promote skills such as active participation, critical thinking and communication skills, which are essential for employment in the 21st century. Project-based learning helps students to apply knowledge in practice. Relatively small class sizes enable educators to provide individualized support and encourage active participation.

One of the successes of Finland's education system is that the country encourages a culture of lifelong learning. The country's education system has a wide range of vocational training programs offering specializations that can meet a variety of skill needs. There are also flexible learning options such as online courses and evening classes, which in turn make learning universally accessible. [11] It is worth noting the fact that Finland shows a high participation rate of adults aged 25-64 (25.2% of the population) in continuing education programs, which is higher than the EU average (11.9% of the population). (Figure 3.)

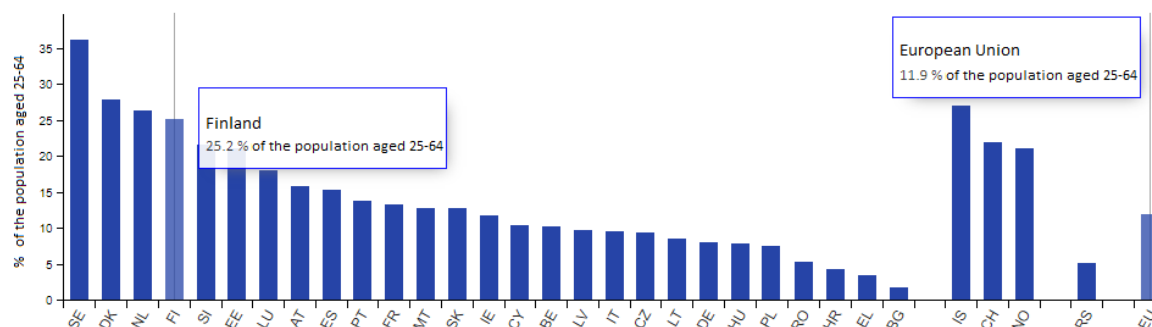


Figure 3: Participation rate in education and training of the population aged 25-64 years (previous 4 weeks), 2022.

Source: Eurostat, 2023, www.ec.europa.eu

Finland allows people to adapt and improve their skills throughout their careers, developing lifelong learning, which in turn enables them to remain competitive in an ever-evolving labor market. A variety of vocational training programs develop students' job-specific skills, and flexible training options make them universally accessible to the country's working adult generation as well. Importantly, the high level of adult participation is indicative of a strong national culture of lifelong learning.

Adaptation of Finnish practices to the conditions of Uzbekistan: Challenges and Opportunities.

Although the Finnish approach to education is exemplary, in order to implement it in Uzbekistan, it is worth keeping in mind the contextual differences that need to be overcome for successful implementation of this approach. One of the first obstacles is resource constraints, as current expenditures on education in Uzbekistan lag behind those in Finland. (Figure 4.)

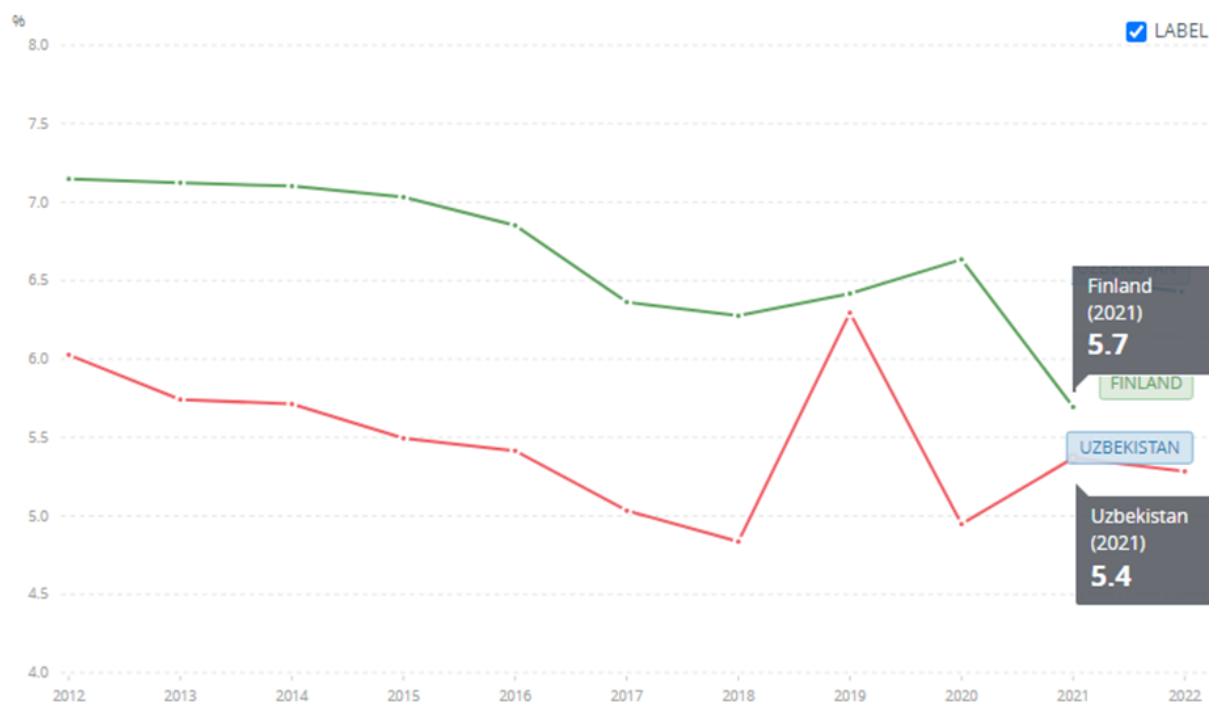


Figure 4: Public expenditure on education, total (% of GDP)

Source: World Bank, 2023, www.worldbank.org

This gap can be bridged by exploring innovative solutions such as public-private partnerships (PPPs) and attracting international grants to the education system. Another important factor is the culture of citizens' mindset, while they tend to resist the transition from traditional methods of education to student-centered learning because they are used to the existing system. By conducting community consultations involving educators, parents, and community leaders, consensus can be reached. In addition, pilot programs in selected schools can demonstrate the effectiveness of student-centered learning approaches.

Moreover, local scholar Mamadalieva H. has found in her research that the skills of the Uzbek labor force are lagging far behind the needs of employers. [14] This trend is particularly noticeable in STEM fields, which in turn points to the urgent need to adapt Finnish vocational and project-based learning programs to address the identified gaps. By selecting vocational training programs through partnerships with companies and industry sector leaders, maximum relevance to current and future labour market needs can be achieved.

A special point is that the teacher-to-student ratio in Uzbekistan is increasing year after year. According to the World Bank, in 2018, the ratio in elementary school was 1 to 22. [15] Despite efforts by the national government to reduce the ratio, there are concerns about the quality and capacity of teachers, not only in terms of their subject knowledge, but also in terms of their pedagogical skills and competencies, particularly to deliver competency-based curricula and lessons that are comparable to those of Finland. To address this gap, the Government of Uzbekistan should develop and implement comprehensive programs for Uzbek teachers, focusing on pedagogy, assessment of student knowledge, and integration of innovative technologies into the teaching process, which is a feature of the Finnish education system.

Uzbekistan's young and growing population can be a great asset to the country if young people have access to quality education. The country's population has doubled since 1980 and is approaching 36 million (35.65 million according to World Bank data for 2022), providing an opportunity for a period of high and sustained growth that will increase prosperity and reduce poverty and inequality. However, as the working-age population ages, the labor force is projected to shrink by 2048 (Figure 5), with an inevitable change in the age dependency ratio, with the percentage of older people rising and the percentage of young dependents declining (Figure 6).

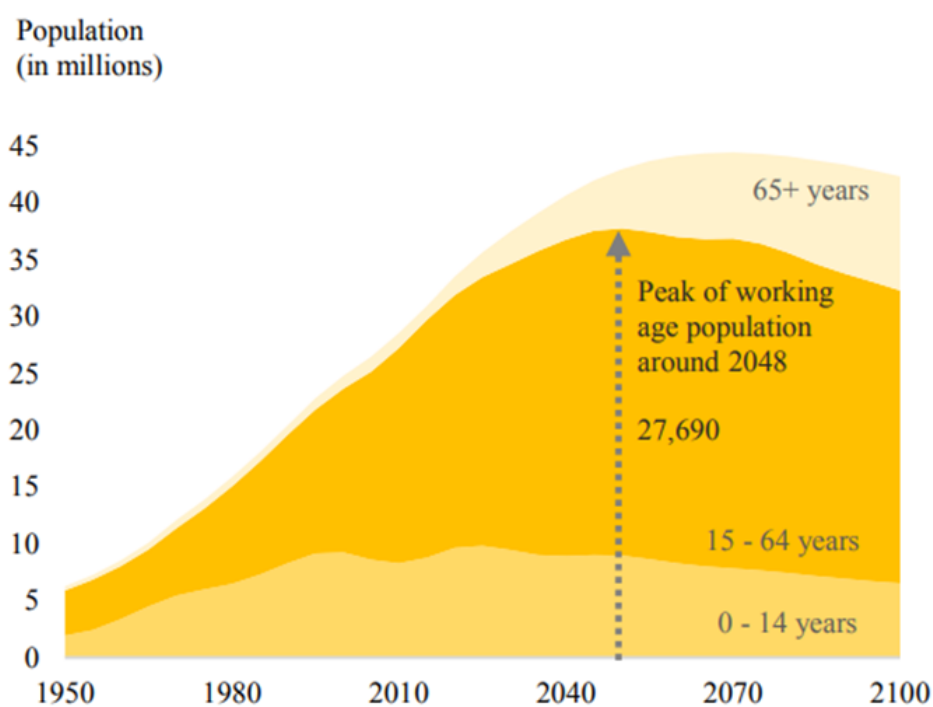


Figure 5: Population growth, 1950-2100.

Source: <https://www.unicef.org>

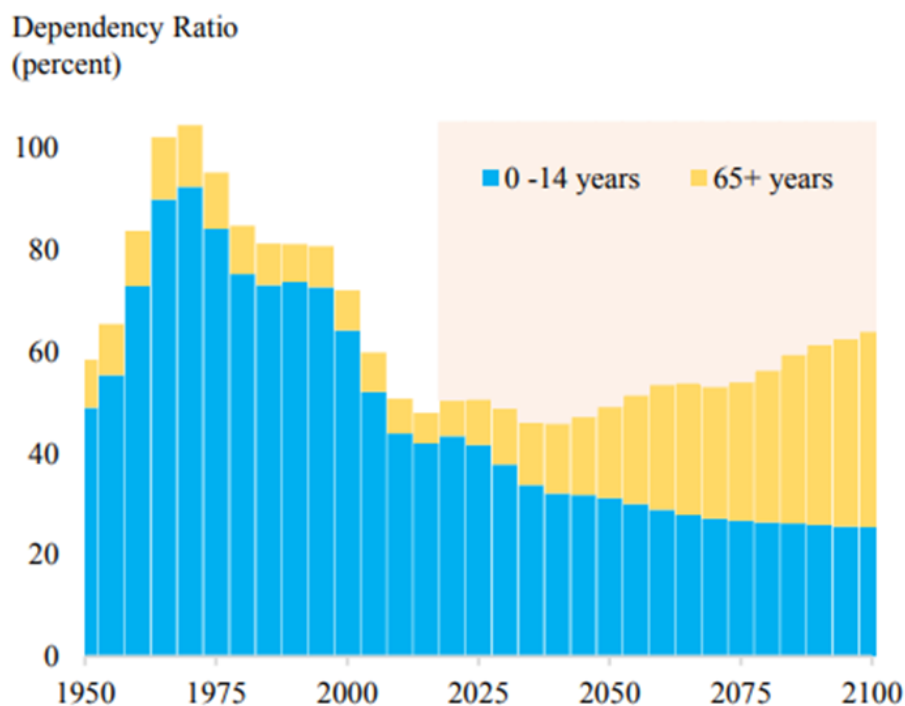


Figure 6: Total dependency ratio, 1950-2100.

Source: <https://www.unicef.org>

This change is increasing the burden on the economically active population. Only by investing in education to increase productivity can a country continue to grow its economy and improve its quality of life, as investment in human capital is the foundation for a more productive, innovative, inclusive and stable society.

Conclusion: Investing in Uzbekistan's Skilled Future

Uzbekistan can use human capital development through high-quality education to address its dependence on migration. Inspired by Finland's success, this study suggests adapting four key strategies: ensuring equitable access, investing in strong teacher training with ongoing support, promoting student-centered learning, to develop essential 21st century skills, and fostering a culture of lifelong learning. Taking into account the specificities of Uzbekistan, the study addresses potential challenges such as limited resources and cultural resistance, proposing solutions such as public-private partnerships, community participation, and adapting professional learning programs. Implementing these strategic adaptations together will allow Uzbekistan to empower its workforce, foster innovation, and move toward a skilled population, ultimately leading to reduced dependence on migration and sustainable economic development.

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CHARACTERISTICS OF WATER EXCHANGE IN SOYBEAN VARIETIES (IN THE CASE OF SURKHANDARYA REGION)

Annotation. The article presents data obtained from the study of the daily intensity of transpiration during the flowering stage of soybean varieties. According to the data on the diurnal variation of transpiration intensity, this process was accelerated in Vilana and Ustoz MM-60 varieties of soybeans, and a relative decrease in intensity was observed in Baraka and Tomaris man-60 varieties. Different variations in the intensity of transpiration in the cross section of the studied varieties may depend on the biological characteristics of the varieties as well as the air temperature and its relative humidity level.

Keywords: Soybean varieties, transpiration rate, temperature, humidity, water exchange, productivity.

Introduction. Water is a major part of plants and they play an important role in life activities. The role of water in plant life is extremely important, as 70-95% of the composition of plant tissues consists of water, the amount of which in the seeds decreases sharply and ranges from 5 to 15%. Water is the main mass in all organs of the plant: 90% in the leaf, 70-80% in the branch, 50-60% in the root, 10% in the seed, 98% in the vacuole, 80% in the cytoplasm, 50% in the bark. Some wet fruits contain a lot of water: tomatoes - up to 94%, watermelons-up to 92% [1].

To increase plant biomass to 1 gram, approximately 500 g of water must be absorbed by the root system, assimilated by the plant, and released into the atmosphere from the surface of its vegetative organs. Due to its unique properties, water is of great importance in all processes of cell life. Even a slight violation of the water regime causes significant changes in metabolic processes [2].

It is known that transpiration is one of the most important and necessary physiological processes in plants, protecting plants from overheating and dehydration in dry and hot weather, as well as the movement of water and water-soluble substances throughout the plant body, gas exchange [3]. The temperature of a highly transpired leaf is about 7 °C lower than that of a non-transpired withered leaf [4].

Research results and its discussion. In the early stages of growth, evaporation from the soil surface predominates, after which most of the water is assimilated by plants for transpiration. The soybean consumed during the flowering, legume formation and ripening stages accounted for 60-70% of the water consumed during the entire growing season. Violation of the water regime

during this period leads to the shedding of buds, flowers and fruits, especially in the period of gross flowering drought leads to a decrease in soybean yield by 50% or more.

According to information scientists, transpiration rates are lower in drought-tolerant varieties than in non-drought-tolerant varieties. Increased water supply to plants also increases water consumption through transpiration. Lack of water in the soil reduces the rate of transpiration in plants. In plants with moderate humidity, transpiration rates are higher than in water-deficient environments, and transpiration productivity is also higher [14].

In contrast to other crops in the shade plant, the plant is characterized by long flowering and ripening of legumes. From the data obtained, it was observed that the transpiration intensity of soybean varieties varies depending on the variety characteristics and air temperature. In all shade varieties studied, transpiration rates were low in the morning, highest in the afternoon, and low again in the evening. Studies have shown that the intensity of transpiration of soybean leaves depends significantly on the phases of plant development, with development being maximized during the period of formation of generative organs, i.e., periods of gross flowering and fruiting (Table 1).

Table 1.

Daily variation of transpiration intensity in leaves of different soybean varieties, g/m² h

		8:00	10:00	12:00	14:00	16:00	18:00	20:00	Average
№	Air temperature, °C	26 °C	32 °C	34 °C	36 °C	37 °C	36 °C	30 °C	33°C
	Air humidity, %	27 %	20 %	14 %	10 %	9 %	14 %	17 %	16%
1	Baraka	82,6	114,3	140,6	162,6	189,3	126,2	115,2	132,97
2	<u>Tomaris</u> man-60	57,6	100,6	125,8	146,5	164,8	118,2	98,5	116,0
3	<u>Ustoz</u> MM-60	78,5	110,5	133,4	158,4	171,6	120,7	108,4	141,45
4	<u>Vilana</u>	86,4	125,4	168,9	177,3	197,4	136,5	125,8	145,38

According to the data obtained, 145.38 grams of water evaporated in 1 hour at the level of 1 m² of leaves of Vilana variety, while 116 grams of water evaporated from the leaves of Tomaris man-60 variety during this period, that is, during this period, Vilana evaporated 29.38 grams less water than Tomaris man-60 navigator. The remaining varieties also took intermediate positions, evaporating less water than the Vilana navigator, that is, Baraka variety evaporated 12.41 grams, Master MM-60 variety evaporated 3.93 g less water. It was noted that this indicator differs sharply from each other in terms of transpiration intensity of varieties.

As the level of water supply increases, so does the rate of transpiration and water consumption of plants. Decreasing the soil moisture level from optimal to minimum sharply reduces the transpiration rate, resulting in reduced plant growth and productivity [15,16].

The change in transpiration intensity during the day is affected not only by air temperature but also by the activity of the leaf axils, which open at sunrise, are open during the day and close again only at sunset, so transpiration occurs several times weaker at night than during the day. It was observed that air temperature and relative humidity varied during the measurement of transpiration during the day in different years and periods of the growth period, which affected the intensity of transpiration. Therefore, it was noted that the process of transpiration in the leaves of the studied soybean varieties varies depending on the conditions of their cultivation.

Hence, based on the above data, the transpiration process will be one of the important physiological indicators of plant life, it is one of the main criteria in determining the level of water exchange and resistance of plants to stressors.

Conclusion. Thus, the research conducted is the basis for our conclusion in soybean crops as well as in other agricultural crops. The transpiration intensity of the studied varieties was mainly directly related to the location of the leaves on the plant, the time of day, the increase in temperature, and the relative humidity.

The maximum point of the curve representing the intensity of transpiration occurred in all varieties between 14-16 hours. The intensity of transpiration in the leaves of local varieties of shade was 189.3 in Baraka variety at 1400-1600 hours; 164.8 in Tomaris man-60 variety; Teacher MM-60 navida 171.6; in the foreign Vilana variety 197.4 g/m² h, minimum at 800 in the morning: 82.6, respectively; 57.6; 78.5 and 86.4 g/m² per hour.

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MAKTABLARDA BIOLOGIYA FANINI O`QITISHNING MUAMMOLI IZLANISH METODLARIDAN FOYDALANISH TEXNOLOGIYASI VA SAMARADORLIGI

Annotatsiya. Ushbu maqolada maktab biologiya darslarida o`qitishning muammoli izlanish metodlaridan foydalanish texnologiyasi va samaradorligi haqidagi ma`lumotlar bayon etilgan.

Kalit so`zlar: muammoli izlanish metodlari subyekt–obyekt, rolli o`yinlar, konferensiya, sud darslari, aqliy hujum, klaster metodi, muammoli vaziyat, muammoli ta`lim mashg`ulotlari.

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TECHNOLOGY AND EFFICIENCY OF USING PROBLEM RESEARCH METHODS OF TEACHING BIOLOGY IN SCHOOLS

Abstract. This article describes the technology and effectiveness of using problem-based research methods of teaching in school biology lessons.

Keywords: methods of subject-object problem research, role-playing games, conference, court exercises, brainstorming, cluster method, problem situation, problem-based learning.

KIRISH

Inson qayerda bo`lmasin hayvonot va o`simliklar dunyosi bilan o`ralgan. Biologiya juda murakkab fan bo`lib, ular nafaqat o`simlik va hayvonot dunyosining tur tarkibini, balki ko`plab tushunchalar, ta`riflar, qonuniyatlarni tajriba asosida o`rganadi. Bunday tushunchalarni o`quvchilarga yetkazish o`qituvchidan pedagogik mahoratni talab qiladi. Har bir fanni o`qitishning o`ziga xos xususiyatlari bo`lib, ilg`or pedagogik texnologiyani ham shu fanga moslashtirish kerak bo`ladi.

Hozirgi kunda muammoli ta`lim metodlaridan biologiya fanini o`qitishda qo`llash yaxshi natija berayotganligini aytish mumkin

Muammoli ta`lim deb, o`qituvchi tomonidan pedagogik ta`sir ko`rsatishning eng muqobil varianti yordamida, fikr yuritish qonuniyatlariga tayangan holda, o`quvchilarning bilimlami o`zlashtirish jarayonida fikrlash qobiliyatini rivojlantirish va bilish ehtiyojini qondirish maqsadiga yo`naltirilgan,

shaxsning umumiy va maxsus rivojlanishiga zamin tayyorlaydigan jarayonga aytiladi. Muammoli ta'lim jarayonida o'qituvchi rahbarligida muammoli vaziyat vujudga keltirilib, mazkur muammo o'quvchilarning faol mustaqil faoliyati natijasida bilim, ko'nikma va malakalarni ijodiy o'zlashtirish va aqliy faoliyatini rivojlantirishga imkon beradi. Muammoli ta'lim texnologiyalari o'quvchilarning bilimlarni o'zlashtirish darajasini orttirish, ko'nikmalarni malaka darajasiga yetkazish maqsadida qo'llanilib, unda o'quvchi o'quv materialini tahlil qiladi, taqqoslaydi, sintezlaydi, ma'lumotlarni umumlashtirib, yangi axborot oladi. Boshqacha aytganda, avval o'zlashtirgan bilim va ko'nikmalarini yangi vaziyatlarda qo'llab, bilimlarni chuqurlashtiradi, kengaytiradi.

Masalan, «Tabiiy ekosistemalar va sun'iy ekosistemalarning bir-biridan farqini toping?» degan savolga javob topishi uchun o'quvchilar avval tabiiy ekosistemalarga nimalar misol bo'lishini, sun'iy ekosistemalarga nimalar kirishini eslashi, ular o'rasidagi farqni belgilashi, to'plangan ma'lumotlar asosida xulosa yasab, fikrini dalillashi lozim. Savolning bu tarzda muammoli qo'yilishi o'quvchilarda tahliliy va mantiqiy fikr yuritish ko'nikmalarini egallashga imkon beradi.

Muammoli ta'limning muvaffaqiyati quyidagi omillarga bog'liq:

- muayyan mavzuga oid o'quv materialini muammolashtirish;
- muammoli vaziyatlarni vujudga keltirish orqali o'quvchilarning bilish faoliyatini faollashtirish;
- ta'lim jarayonini o'yin, mehnat faoliyati bilan uyg'unlashtirish;
- o'qituvchi tomonidan muammoli metodlardan o'z o'rnida va samarali foydalanish ko'nikmasiga ega bo'lish;
- muammoli vaziyatni hal etish yuzasidan muammoli savollar zanjirini tuzish va mantiqiy ketma-ketlikda o'quvchilarga bayon etish

MUHOKAMA VA NATIJALAR

Biologiyani o'qitishda foydalaniladigan faol metodlar guruhiga o'qitishning muammoli - izlanish metodlari, mantiqiy metodlar, mustaqil ishlash metodlari, o'quvchilar faoliyatini rag'batlantirish va asoslash metodlari, nazorat va o'z-o'zini nazorat qilish metodlari kiradi. Faol metodlar muammoli vaziyatlarni vujudga keltirib, o'quvchilarning kichik guruhlarida hamkorlikda ishlab, muammoni hal etish, murakkab savollarga javob topish jarayonida alohida ob'ekt, hodisa va qonunlarni tahlil qilish ko'nikmalari va bilimlarni faollashtirishga asoslangan faol bilish faoliyatini taqozo etadi. Shu sababli, biologiyani o'qitishda o'qitishning repro duktiv metodlari bo'lgan og'zaki bayon, ko'rgazmali va amaliy metodlar bilan birgalikda muammoli izlanish va mantiqiy metodlardan foydalanish muhim ahamiyat kasb etadi. Buning uchun o'qituvchi mazkur metodlarning o'ziga xos xusu siyatlari, ular tarkibiga kiradigan metodik uslublarni to'g'ri anglashi va o'z o'rnida samarali foydalanish ko'nikmalarini egallagan bo'lishi lozim. Muammoli izlanish metodlari dars davomida izchil va maqsadga yo'naltirilgan holda vujudga keltirilgan muammoli vaziyatlarni o'quvchilar avval o'zlashtirgan bilim va ko'nikmalarini yangi vaziyatlarda

qo'llashi orqali o'quv materialini faol o'zlashtirishiga xizmat qiladi. Bu metodlar guruhi o'quv chilarning aqliy rivojlanishi, ijodiy va mustaqil fikr yuritish ko'nikmalarini rivojlantirish, muammoli vaziyatlarni tahlil qilish va undan chiqishning eng maqbul yo'lini topishi, mo'ljalni to'g'ri olishiga zamin tayyorlaydi. Muammoli izlanish metodlari guruhiga mansub muammoli izlanish xarakteridagi suhbat metodidan foydalanganda, avval muammoli vaziyatlar yaratiladi, avvaldan tayyorlangan muammoli savollar zanjiri bayon etiladi, o'quvchilarning o'qituvchi bilan birgalikda mantiqiy mulohaza yuritishiga, o'quv farazlarini hosil qilish va isbotlash, suhbat jarayonida muammoli savollarga javob topishiga imkon yaratiladi. Muammoli hikoya metodida, o'qituvchi yangi mavzuni o'rganish jarayonida muammoli vaziyatlarni yaratadi, o'quv chilar bilan hamkorlikda hikoya jarayonida muammoli savollarga javob topishga, o'quv farazlarini hosil qilish va dalillashga imkon yaratiladi, o'quvchilarning javoblari asosida muammolar hal etiladi. Muammoli - amaliy metoddan foydalanganda muammoli topshiriqlar tuziladi, shu asosda tajribalar o'tkaziladi, muammoli vaziyatlarni hal etish yuzasidan o'quv farazlarini hosil qilinadi va o'quv-tadqiqot tajribalari o'tkazilib, o'quv xulo salari va umumlashmalarini ta'riflab muammolar hal etiladi. Muammoli metodlardan foydalaniladigan darslarni keyingi yillarda yangi nom bilan ("Tafakkur bo'roni" B.R.Qodirov), ("Miyaga hujum", "Fikrlar to'qnashuvi", "Fikrlar jangi" V.M.Karimova, F.A.Akramova), ("Aqliy hujum" J.G'.Yo'ldo shev) nomlash rasm bo'ldi. Muammoli metoddan foydalanilgan dars ("Aqliy hujum") quyidagi bosqich asosida tashkil etiladi:

I – bosqich. Psixologik jihatdan bir-biriga yaqin bo'lgan o'quvchilardan teng sonli kichik guruhlarni shakllantirish.

II – bosqich. Kichik guruhlarga muammoli savollardan iborat bo'lgan o'quv topshiriqlarini tarqatish va ularni topshiriqning didaktik maqsadi bilan tanishtirish. III – bosqich. O'quvchilarning bilish faoliyatini o'quv muammolarini hal etishga yo'naltirish.

IV – bosqich. O'quvchilarning muammoli vaziyatlarni hal etish bo'yicha axborotlarini tinglash.

V – bosqich. Kichik guruhlar o'rtasida o'quv bahsi va munozara o'tkazish.

VI – bosqich. Umumiy xulosa yasash. "Aqliy hujum"da o'quvchilar avval o'zlashtirgan bilimlarini yangi vaziyatlarda qo'llab, bilimlarini kengaytiradi, chuqurlashtiradi, aqliy faoliyat usullarini egallaydi.

Xulosa. Xulosa qilib aytganda muammoli metodlar o'quvchilarning faoliyati muammoli vaziyatlarni idrok etish, hal qilish usullarini izlash, muammoni tahlil qilib, taxminlarni ilgari surish, taxminlarni ilmiy va mantiqiy nuqtayi nazardan asoslash, isbotlash, tekshirish va xulosa chiqarishdan iborat bo'ladi. Muammoli izlanish metodlari o'quvchilarning mustaqil fikrlashi va ijodiy izlanishiga zamin tayyorlaydi, shuningdek bilim samaradorligini takomillashtirishda muhim ahamiyatga ega.

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PROBLEMS OF ASSESSING THE RELIABILITY OF INPUT DATA IN INFORMATION SYSTEMS

Abstract. In the modern digital landscape, the reliability of input data is crucial for the effective functioning of information systems, which are integral to various sectors such as finance, healthcare, and logistics. This study investigates the challenges associated with assessing the reliability of input data in these systems. Employing a mixed-methods approach, the research combines quantitative surveys of IT professionals, data scientists, and system users with qualitative in-depth interviews and focus groups. Additionally, a systematic review of existing literature on data reliability and integrity was conducted. The findings reveal significant problems, including data quality issues such as incompleteness, inconsistency, and inaccuracy; challenges in source verification and provenance; issues with

Keywords: Data reliability, Information systems, Data quality, Source verification, Real-time data, Human error, Technological limitations, Data integrity, Data provenance, Cybersecurity

Introduction

In the digital age, information systems are crucial for decision-making processes across various sectors, including finance, healthcare, and logistics. The reliability of input data is fundamental to the effectiveness and accuracy of these systems. However, assessing the reliability of input data presents significant challenges. This article explores these challenges within the IMRAD framework (Introduction, Methods, Results, and Discussion).

Methods

To investigate the problems associated with assessing the reliability of input data in information systems, this study employs a mixed-methods approach. Quantitative data was gathered through surveys distributed to IT professionals, data scientists, and system users. Qualitative data was collected via in-depth interviews and focus groups. The study also involved a systematic review of existing literature on data reliability and integrity in information systems.

Results

The analysis reveals several key problems in assessing the reliability of input data:

1. Data Quality Issues:

- Incompleteness: Missing values in datasets can lead to incomplete analyses, affecting the decision-making process.

- Inconsistency: Inconsistent data formats and units can cause significant errors in data interpretation.

- Accuracy: Errors during data entry can result in inaccurate datasets, leading to faulty outputs.

2. Source Verification:

- Authenticity: Verifying the authenticity of data sources is challenging, especially with the proliferation of data from various digital platforms.

- Provenance: Tracking the origin and history of data can be complex, making it difficult to ascertain its reliability.

3. Timeliness:

- Outdated Information: Data that is not updated regularly can become obsolete, reducing its relevance and reliability.

- Real-time Data Integration: Integrating real-time data from multiple sources while ensuring its accuracy is a significant challenge.

4. Human Factors:

- Human Error: Data entry and processing are prone to human errors, which can compromise data reliability.

- Bias: Personal biases of those entering or interpreting data can affect its reliability.

5. Technological Limitations:

- System Failures: Hardware and software failures can lead to data loss or corruption.

- Security Breaches: Cyberattacks and data breaches can compromise data integrity and reliability.

Discussion

The findings indicate that ensuring the reliability of input data in information systems requires a multifaceted approach. Addressing data quality issues involves implementing rigorous data validation and cleansing processes. Developing robust mechanisms for source verification and establishing clear data provenance trails are essential. Regular updates and effective integration strategies for real-time data can enhance timeliness.

Human factors must be mitigated through comprehensive training and the implementation of automated data entry and processing systems to reduce errors and biases. Technological advancements should focus on improving system resilience to prevent failures and protect against security breaches.

The study highlights the need for ongoing research and development in data reliability assessment methods. Collaborative efforts between technologists, data scientists, and end-users are crucial for developing innovative solutions that enhance the reliability of input data in information systems.

Conclusion

Assessing the reliability of input data in information systems is a complex but critical task. The challenges identified in this study underscore the importance of adopting a comprehensive and systematic approach to ensure data reliability.

By addressing data quality issues, improving source verification, enhancing timeliness, mitigating human factors, and overcoming technological limitations, organizations can significantly improve the reliability of their information systems and the quality of decisions derived from them.

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ENHANCING THE PRODUCTIVITY OF DEPOSITARY FUNCTIONS IN CORPORATE BANKING INSTITUTIONS

Abstract. This article focuses on enhancing the effectiveness of deposit operations as the primary objective for guaranteeing the stability and competitiveness of commercial banks. It examines the key challenges that banks may encounter while striving to improve the efficiency of deposit operations.

Keywords: commercial banking, deposit operations, startup, deposit market, hazards.

Introduction.

Commercial banks, as well as central banks, have a strong and inherent interest in maintaining their financial stability in both international and local banking practices. Nevertheless, the recurring financial and economic crises in international financial institutions every 5-10 years pose several challenges in the financial interactions among banks worldwide. Specifically, prior to the global financial crisis, there were 117 systemic and over 50 severe financial issues in financial institutions across 93 nations during a span of 25 years [1]. These crisis scenarios necessitate specific measures at both the national and international levels to guarantee the financial viability of commercial banks and enhance their available resources. Financial institutions, including central banks of industrialized nations, big commercial banks, the Basel Committee, and the International Monetary Fund, do scientific research to enhance the effectiveness of deposit operations in commercial banks. This research study examines the problems associated with the establishment of commercial banks using financial resources, financial market instruments, and dependable deposit sources. Nevertheless, research has not uncovered sufficient issues regarding the ability of commercial banks to attract and expand term deposits. This includes the inadequate level of interest payments offered to depositors, the adequacy of banks' resources, and the relatively low proportion of deposits in relation to the country's GDP. Commercial banks prioritize the effective mobilization of idle funds from the public to maintain the stability of their deposit base, ensuring the principal amount of term deposits and timely repayment of accrued interest. Commercial banks must engage in scientific research to enhance the efficiency of deposit operations.

The President of the Republic of Uzbekistan has issued Decree N, PF-158 in 2023, which aims to expedite reforms in the banking system by expanding the banking services market and fostering competition in the industry. The decree also seeks to raise the annual lending volume in the banking and financial system to \$40 billion and increase the volume of bank deposits. Examination of existing literature.

Literature review.

According to foreign economists E.F. Zhukova and N.D. Eriashvili, a significant portion of the cash borrowed by many banks come from deposits made by individuals. In the banking industry, the term "deposit" refers to two things. Firstly, it is the money that individuals and legal entities put into the bank according to the specific circumstances outlined in the Bank Deposit Agreement. Secondly, it is the documentation in the bank's records that confirms the monetary claims of deposit holders, which is also recorded in the bank's books [2].

N.M. Rozanova observed that deposits or depositors constitute a substantial portion of the bank's obligations. Deposits refer to the funds that individuals and businesses move to a bank account, according to specific criteria and within a defined timeframe [3]. A. from renowned international economists. In the field of global banking, I.Lavrushin and N.I.Valentseva define a deposit as a sum of money or a highly valued representation of money in physical form, which is entrusted to a bank or other financial institutions for the purpose of safekeeping [4].

According to V.L. In Kireeva, an international scientist, a deposit refers to a sum of money that is sent by a fund firm to a bank for protection. It is then maintained in a separate account, as specified by its rules.

E. is recognized as one of the exceptional economists internationally. According to Zhukov, a deposit is a financial amount that a client transfers to a bank, without considering the duration or registration requirements.

Sh. Saipnazarov's research primarily examined the theoretical underpinnings of interbank rivalry. Specifically, within the financial services industry, the economic interactions that occur when resources are obtained, monies are placed, and all other sorts of banking services are performed have been identified as the foundation of interbank competition [7]. Hence, a comprehensive examination of the theoretical and practical elements of deposit operations conducted by commercial banks, together with the analysis and derivation of pertinent conclusions, plays a crucial role in influencing the stability of these institutions.

Study approach. The article discusses the techniques employed by commercial banks to carry out depository activities, which have an impact on banking services and products. It also explores the use of statistical approaches in this context. Examination and discourse on the outcomes.

The population's deposits play a significant role in the composition of banking resources. They might be supplied in their whole or separately. The

issuing of a savings book serves as confirmation of the relationship between the depositor and the bank during fund transfers. Banks accept a range of specific deposits, including those that are urgent or may be withdrawn immediately, with the possibility of charging a charge for withdrawals.

Based on the economic makeup, deposits may be categorized into three distinct groups:

1. Term deposits refer to funds that are held at a financial institution for a fixed period of time, typically earning a higher interest rate than other types of deposits

2. Demand deposits are funds that can be withdrawn by the depositor at any time without prior notice, such as checking accounts.

3. Savings deposits are funds that are typically held in a savings account and earn interest over time, often with restrictions on the number of withdrawals allowed.

Our dissertation research aimed to enhance the deposit base of commercial banks in our country. As a result, we identified the following issues with the deposit operations of commercial banks in our Republic:

1. There is a decreasing trend in deposit funds as a proportion of the obligations of commercial banks in our country.

The research undertaken in the second chapter of our study reveals a significant decline in the proportion of deposits in the liabilities of commercial banks in our country. From 2019 to 2023, there was a noticeable decline in the proportion of deposits in the overall composition of bank liabilities, dropping from 53 percent to 37 percent. This scenario is shown by the absence of a practice among commercial banks to solicit deposits. International data indicates that the proportion of deposits in the composition of bank liabilities in developed nations worldwide ranges from 50 to 70 percent.

The analysis conducted in the second chapter of the research demonstrates that the decline in the deposit base of commercial banks in our country is influenced by the following factors: - Excessive engagement of commercial banks in funding government programs; - Commercial banks utilizing transactional deposits as a direct source of funding; - Insufficient alignment between the efforts of commercial banks to enhance the quantity and quality of financial services and the level of demand.

When deposits from commercial banks decrease in the structure of liabilities, it leads to several negative situations for the banks: - The bank's sustainable sources of financing decrease significantly. - Commercial banks are compelled to utilize deposits as resources until they are needed. - Liquidity problems in banks increase. - The volume of bank income decreases. - This has a negative impact on the bank's competitiveness in the resource market. - The level of development and availability of new banking services to customers decreases.

Presently, the lack of complete utilization of contemporary lending methods in our nation's banking practices hinders the bank's ability to

significantly augment the proportion of credit investments in the country's GDP. Due to the resolution of these issues, there is a growing need for more financing from commercial banks.

2. There is a significant disparity between the amount of deposits and loans acquired from commercial banks in our nation during a period beyond one year. In our country's banking industry, around 90-95% of loans provided by commercial banks to economic entities are classified as long-term, meaning that these loans have a duration of over 1 year. Our banks only attract 20-25% of long-term loans as deposits that last for more than 1 year. Based on the 2023 data, commercial banks allocated a total of 167 trillion in loans to economic organizations. The aggregate amount of bank deposits throughout this era was just 70 trillion. Unknown abbreviation.

As our country undergoes a fundamental economic change, there is a growing need among economic entities for long-term financing. Consequently, this also intensifies the need for enduring and environmentally-friendly financial assets from commercial banks.3. Commercial banks pay an interest rate on deposits from individuals and businesses that is lower than the country's inflation rate. Although banks in general produce over 50% of their credit resources from deposits, state-owned banks only rely on deposits for around 10% of their credit resources. Furthermore, almost 50% of the loan portfolio held by state-owned banks is attributed to the involvement of 5 prominent state-owned firms. Due to the utilization of obsolete software, the financial services' quality fails to meet the current level of demand. The state's involvement in the activities of banks is steadily reducing in order to foster a healthy competitive environment within the system [9].

Furthermore, the underdeveloped state of our country's capital market limits the potential for acquiring funds through means other than deposits for commercial banks. Consequently, there are instances where smaller banks are able to attract resources by offering higher interest rates, which comes at the expense of larger banks with greater resource potential. While this has a beneficial impact on the liquidity of banks, commercial banks in our nation fail to enhance the degree of safeguarding the deposit base.

Conclusions and suggestions.

It is important to augment the proportion of deposits in the liability structure of commercial banks in the Republic. To safeguard the deposit operations of commercial banks in our country:

- To effectively manage banking operations in Uzbekistan, it is necessary to impose rigorous limitations on the utilization of deposits as financial resources.

- It is imperative to ensure that the growth rate of long-term deposits in commercial banks keeps pace with the growth rate of credit investments. - Given the increasing real incomes of our population, it is crucial to establish a marketing system that attracts available funds to appealing savings options offered by commercial banks.

- The increasing prevalence of digital technologies and innovations, such as mobile and internet banking, provide significant opportunity to attract new depositors. The convenience of digital services contributes to the growth in the amount of deposits.

- Customization and enhancement of client service: Banks may use data and analysis to provide tailored savings and deposit management propositions that can allure a larger customer base and guarantee the retention of current ones.

- Enhanced deposit rates and terms: Providing advantageous rates and adaptable deposit conditions might effectively allure more cash from clients, particularly in a burgeoning competitive market.

- Allocating resources towards marketing efforts and acquiring new clientele: formulating a comprehensive marketing plan aimed at enticing fresh clients and endorsing deposit items will significantly bolster the expansion of the deposit base.

- Risk and interest rate management: using contemporary techniques in risk and interest rate management enables banks to efficiently handle deposits, ensuring stability and profitability.

- Investments that are ecologically and socially responsible: the growing interest in sustainable and socially responsible investments creates potential to expand the deposit base by providing deposit products that are focused on environmental and social concerns.

The user did not provide any text. The deposit base of commercial banks is directly linked to their risky assets. Any disruption or imbalance in this connection results in the appearance of transformation risk. By aligning long-term loans and term deposits of banks, it is feasible to mitigate the risks associated with bank transformation.

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USING ICT IN THE FIELD OF ARCHITECTURE AND CONSTRUCTION

Abstract. The article is devoted to the use of information and communication technologies (ICT) in the field of architecture and construction. The key aspects of using ICT to improve the efficiency of the design, construction and management of real estate are considered.

Key words: information technology, communication technology, architecture, construction, design, property management.

Introduction: The modern world demands high speed and accuracy in design and construction of real estate objects from architects and builders. Information and communication technologies (ICT) play a crucial role in achieving these goals by providing new opportunities to increase the efficiency of design, construction, and property management processes. This article discusses the application of ICT in architecture and construction.

Scientific research: There are many ways ICT can be used in architecture and construction. For example, computer modeling allows for the creation of detailed three-dimensional models of buildings before construction begins, which helps avoid errors at early stages of the project. ICT is also used for automating property management processes, including cost accounting for building maintenance, access control to rooms, and security monitoring.

Computer modeling plays an increasingly important role in contemporary architecture and construction. It allows for the creation of detailed three-dimensional models of buildings even before construction starts. This means that architects and engineers can visualize their ideas and test them in practice before embarking on actual construction.

This modeling may include various aspects of the building such as its appearance, interior layout, functionality, and even energy efficiency. This

enables designers and builders to see how the building will look and function before it is built.

One of the main advantages of computer modeling is that it allows for the detection and correction of errors and shortcomings at early stages of design. This can significantly reduce the time and cost of construction since any problems can be resolved before they become serious.

Furthermore, computer modeling can be used to create virtual tours of the building, allowing clients and stakeholders to better understand how the building will look and function.

Conclusions: The use of ICT in architecture and construction is essential for successful work in this industry. Using new technologies increases the efficiency of design, construction, and property management processes, while reducing costs associated with implementing projects.

Information and Communication Technologies (ICT) play an important role in enhancing the efficiency of design, construction, and property management processes. Let's examine the key aspects of using ICT in these areas:

1. **Design:** ICT allow for the creation of detailed three-dimensional models of buildings, helping to avoid errors during the early stages of the project. Such models may incorporate various aspects of the building, such as its appearance, internal layout, functionality, and even energy efficiency. This enables designers and builders to see how the building will look and function prior to its construction.

2. **Construction:** ICT are used for automating property management processes, including cost accounting for building maintenance, access control to rooms, and security monitoring. They also help expedite the construction process due to the ability to quickly exchange information between project participants.

3. **Property Management:** ICT enable the optimization of property management processes, including cost accounting for building maintenance, access control to rooms, and security monitoring. They also help improve interaction between tenants and the property management company thanks to the possibility of quick information exchange via the internet.

In general, the use of ICT in the fields of design, construction, and property management allows for increased efficiency in processes, faster task completion, and reduced costs associated with project implementation.

Information and Communication Technologies (ICT) play an important role in creating detailed three-dimensional models of buildings. These models allow architects and engineers to visualize their ideas and test them in practice before starting the actual construction.

Creating three-dimensional models of buildings using ICT has several advantages. Firstly, it helps to avoid mistakes in the early stages of design, which can significantly reduce the time and cost of construction. Secondly, such models can include various aspects of the building, such as its appearance, internal layout,

functionality, and even energy efficiency. This allows designers and builders to see how the building will look and function before it is actually built.

Moreover, creating three-dimensional models of buildings using ICT allows for virtual tours of the building, which helps clients and interested parties better understand how the building will look and function.

Thus, using ICT to create detailed three-dimensional models of buildings is an important tool in modern architecture and construction.

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PUSHKIN ASARLARIDA DINIY MOTIVLAR

Annotatsiya. Mazkur maqolada rus shoiri Pushkin ijodida diniy motivlar qay darajada aks etganligi haqida fikr yuritilgan.

Kalit so'zlar: Qur'on, iqtibos, Muhammad, sharq she'riyati, sharqona voqelik va g'arbona lirik marom, suralar.

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RELIGIOUS MOTIVES IN PUSHKIN'S WORKS

Annotation. This article dicusses the extent to which religious motives are reflected in the work of the Russian poet Pushkin

Keywords: Koran, quotation, Mohammad, Oriental poetry, oriental events and western lyrical marble, suras.

Islom dini bugungi kunda keng tarqalgan dinlardan biridir. U barcha millatlarni birlashtirib, teng, yor-u birodar bo'lib, tinch yashashlarini o'rgatadi. Qur'oni karim va hadislar dinimizning asosini tashkil qiladi. Islom paydo bo'lganidan beri uni qanchadan-qancha olimlar o'rganmoqdalar hamda u Sharq va G'arb shoir-u yozuvchilari ijodiga ham o'z ta'sirini o'tkazgan. Buyuk rus adibi Lev Tolstoy nafaqat Qur'onni, balki hadislarni ham o'rganishga katta qiziqish bildirgan. Buyuk Tolstoy hattoki islom dinini qabul qilganligi ma'lum. Yana bir mashhur rus shoiri Aleksandr Sergeyevich Pushkin ham islom diniga qiziqqan. Bu uning Shimoliy Kavkaz, Qrim va Bessarabiya bo'ylab sayohatlari paytida sodir bo'lgan. U musulmonlarning madaniy yodgorliklarini ko'rdi, duolarini tinglab, kuzatdi va ular haqida fikr yuritdi. Shu sababli ham uning "Kavkaz asiri", "Bog'chasaroy fontani" kabi she'rlari paydo bo'ldi, keyinchalik esa "Qur'onga iqtibos" asarini yozdi. Pushkinning Sharqqa, Islomga va payg'ambarimiz Muhammad (s.a.v.) ga bo'lgan yorqin munosabati zamondoshlarini ham lol qoldirgan. Do'stlari, tanishlari uni "Muhammadning havoriysi" deb atashgan.

Abdulla Oripov Pushkinning "Tanlangan asarlar"i so'zboshisida quyidagi fikrlarni aytib o'tgan: "Pushkin she'riyati har jihatdan- shaklan, ruhan va ma'nan sharq she'riyatiga yaqin. Uning ayrim to'rtliklari teranligi, ma'nosining chuqurligi, falsafiyliги bilan bizning ruboiylarni eslatib turadi. Uning she'riyati sharq ruhi bilan chuqur sug'orilgan, desak mubolag'a bo'lmaydi. Hassos shoirimiz Usmon Nosir ona tilimizga o'g'irgan "Bog'chasaroy fontani" dostoni

mazmun-mohiyati bilan sharqdan olingan. Doston sahnida ikki kuch-sharqona voqelik va g'arbona lirik marom baqamti kelib, yaxlit bir butunlik hosil qilgan. "Qur'onga iqtibos" she'riy turkumi esa musulmon olamining muqaddas kitobidagi suralar mag'zidagi buyuk poeziyani ilg'ab olib, boshqa bir tilda ulug' she'riyatga aylantirish jihatidan shoyon diqqatga sazovor. Pushkin bu turkumda bobolari ruhi bilan uchrashganini his qilgan, erkin nafas olgan. Shundan ikki yil keyin yozilgan mashhur "Payg'ambar" asarida hozirgacha kim haqida gap borayotganligi ustida bahs ketadi, ba'zilar uni faqat Bibliyaga bog'lashsa, boshqa bironlar unda Qur'on va payg'ambarimiz Muhammad alayhissalom haqida so'z yuritilgan, deyishadi. Bizningcha, ikkinchi fikr haqiqatga yaqin va shoir hamma payg'ambarlar, ayniqsa, bizning Muhammad alayhissalomga tayanib, odamlarga ezgu xabar, yoniq so'z olib kelgan payg'ambarning yig'ma obrazini yaratgan deyish mumkin.

Dashtda yotar edim murda misoli,

Vahiy tushdi ko'kdan- tangri maqoli:

"Qo'zg'al, ey payg'ambar, menga quloq sol,

Irodam-la to'lib haqlik taratgil,

Dengizda, tuproqda aylan, ayt maqol,

So'z aytib insonlar qalbin yoqa bil".

("Payg'ambar" she'ridan, 1826-yil.)

Bizga ma'lumki, dinimizda payg'ambarimizga vahiy tushgan va u kishiga adolatni qaror toptirish, dinni yoyish yuklatilgan. Buni esa o'z-o'zidan yuqoridagi fikrning isboti deyishimiz mumkin.

Shu o'rinda Aleksandr Pushkinning Sharqqa nisbatan qiziqishi uning Rossiya janubi – Shimoliy Kavkaz va Qrimga amalga oshirgan sayohatlari paytida tug'ilganini aytib o'tish mumkin. Mazkur safarlari mobaynida ana shu hududlardagi masjidlarga kirib ko'rgan shoir u yerda ibodat qilayotgan musulmonlarni kuzatdi, ularning tilovatlarini eshitdi, turmush tarzlarini o'rgandi. Ayna o'sha paytlarda ijodkor qalbida «Kavkaz asiri», «Bog'chasaroy fontani», shuningdek, «Qur'onga iqtibos» she'riy asarlarni yozish fikri uyg'ongan bo'lsa, ajabmas.

Pushkinning Sharqqa bog'lanib qolgani, Islom diniga, Rasulluloh solallohu alayhi vassallamga maftunligi uning zamondoshlarini befarq qoldirmadi, albatta. «Sharq kalomi men uchun andozaga aylandi, – deya e'tirof qilgan edi u shoir Denis Davidovga yozgan maktubida. - Bundan biz - ehtiyotkor va sovuqqon ovrupaliklar qanchalik foydalanishimiz mumkinligini bilsangiz edi». Do'stu birodarlar Pushkinni «Muhammadning havoriysi» deb atab, shoirning ajdodlari arablariga borib taqalishi bejiz emas ekanligi haqida yozishardi. O'z navbatida, Pushkin arab bobosiga mansub ajdodlar shajarasining to'rtinchi bo'g'ini bo'lganini ta'kidlab o'tish joiz. YA'ni Pushkinning onasi Nadejda, Nadejdaning otasi Osip, Osipning otasi Ibrohim ibn Hanbal (Gannibal)* edi.

Pushkin Mixaylovskoye qishlog'ida yashagan davrida (1824-yil) Ibrohim Hanbalning Pyotr ismli ikkinchi o'g'li tirik bo'lgan. Aleksandr katta buvasi bilan

bog'liq ma'lumotlarni mana shu kekxa amaki-bobosidan olgan. Pushkinning tomirlarida oqib turgan habash qoni uni hamisha Sharq o'lkalariga tortar, hatto u janubda surgunda yurgan paytlarida Sharqqa qochib ketishni ham xayolidan o'tkazgan. Shu vaqtda u Konstantinopolni ko'rishni, Afrika osmoni ostida sayr qilishni orzu qilgan. Shoirning raqiblari uni masharalab, «Iskandar Afrikaviy» deb atashardi.

Adabiyotshunos olim Dilbar Qambarova «Qur'on baxsh etgan ilhom» degan kitobida ta'kidlashicha, Pushkin Qur'on ta'limoti haqidagi dastlabki ma'lumotlarni litseyda tahsil olib yurgan paytida, ta'lim maskani mudarrisi, sharqshunos olim I.Kaydanov ma'ruzalari va darsliklaridan olgan. Lekin 1824-yilga kelibgina, ya'ni Mixaylovskoye qishlog'iga surgun qilingan paytda Qur'onni mustaqil o'rganish va ilmiy jihatdan o'zlashtirishga muvaffaq bo'lgan. Bu vaqtda Pushkin bu ulug' kitobning M.Veryovkin tarjimasidan foydalangan. Qur'ondagi mo'jizaviy ilohiy qudrat shoirning she'riy tafakkuri lavhiga muborak so'zlarni naqsh o'ygandek o'chmas qilib chizadi. Natijada «Qur'ondan iqtibos» asari dunyoga keladi. Asar Pushkinning juda teran mulohazalari asosida tuzilgan.

She'riy turkum to'qqiz iqtibos – bo'limdan iborat bo'lib, ushbu maqolada ularning ayrimlarini tahlil qilishga harakat qilamiz.

Masalan, shoir asarning birinchi iqtibosida Rasululloh sollallohu alayhi vassalam hayotlarining boshlang'ich davri haqida ma'lumot beradi va she'rni yozish davomida Qur'onning bir nechta suralardagi oyatlardan foydalanadi:

Клянус четой и нечетой,

Клянус мечом и правой битвой,

Клянус я утренней звездой,

Клянус вечернею молитвой.

Клянус четой и нечетой...

(Qasamyod etaman) juft va toq narsalarga (Fajr surasi, 3-oyat).

Клянус я утренней звездой...

(Nuri o'tkir yulduz bilan (qasamyod etaman) (Toriq surasi, 3-oyat).

Клянус вечернею молитвой...

(Asr (namozi)ga qasamki (Asr surasi, 1-oyat).

Birinchi bo'limning ikkinchi bandidan boshlab bevosita «Zuho» surasining mazmuni bayon qilinadi. Ma'lumki, «Alaq» surasining dastlabki besh oyati nozil bo'lganidan keyin vahiy uzilib qolgan.

Jabroil alayhissalom Qur'on oyatlarini xabar qilmay qo'ygan. Ushbu oyati karima Qur'onning birinchi oyatlari nozil bo'lganidan keyin Payg'ambarimiz sollallohu alayhi vasallamga bir muddat vahiy tushmay qolib, u zot alayhissalom mahzun bo'lganlarida, mushriklar «Muhammadning Robbisi unga g'azab qildi, uni tark etdi», deb gap tarqatganlarida raddiya sifatida tushgan. Alloh taolo O'zining maxluqotlaridan bo'lmish choshgoh va tun bilan qasam ichib, Payg'ambari Muhammad sollallohu alayhi vasallamga g'azab qilmaganini va u zotni tark ham etmaganini ta'kidlamoqda. Vahiyning bir muddat uzilib qolishi esa

Payg'ambar sollallohu alayhi vasallamning unga shavqlarini yana ham oshirish uchun bo'lgan, xolos:

Aytchi, seni qachon tark etdim,
Men go'shai taskin ichra ayt,
Boshin silab kimni berkitdim,
Sinchil nigoh ta'qib etgan payt.
Men emasmi, sen tashna uchun
Sahro suvin yo'qdan bor qilgan?
Men emasmi, tilingni butun
Aqllarga hukmdor qilgan?
Mardona bo'l, yov bilan yolg'onni
Haq yo'lidan dadil yur marg'ub
Yetimlarni suyub, Qur'onni
Qullaringa aylagil targ'ib.

Uchinchi iqtibosning bir bandini shoir «Baqara» surasining 256-oyatiga bag'ishlaydi. Mazkur oyatda Alloh taolo: «Dinga majburlash yo'q», deb ta'kidlaydi. Pushkin bu qur'oniy qoidani quyidagicha yozadi:

С небесной книги список дан
Тебе, Пророк, не для строптивих;
Спокойно возвешай Коран,
Не пробуждая нечестивих!
Kalomulloh, senga, payg'ambar,
Berilmagan shakkoklar uchun.
Targ'ib ayla Qur'onni magar
Osiylarni zo'r'lamoq nechun.

Uchinchi iqtibosning keyingi bandlarani yozishda Pushkin «Abasa» surasining 17 - 31 oyatlarini asos qilib olgan. Mazkur oyatlarda Alloh in'om etgan rizq-ro'z uchun Rabbiga shukrona keltirish o'rniga o'zini yaratgan - yo'qdan bor qilib, so'ng o'ldiruvchi, qiyomat kuni qayta tiriltiruvchi Xoliqni tan olmaydigan darajada tug'yonga ketgan kishilarning itob etilishi batafsil bayon etilgan:

«Insonga la'nat bo'lsin, buncha ham kofir bo'ldi-ya! U Zot uni qaysi narsadan yaratdi? Uni nutfadan yaratdi va uni o'lchovli qildi. So'ngra (chiqish uchun) yo'lni oson qildi. So'ngra uni o'ldirdi va qabrga kiritdi. So'ngra qachon xohlasa, uni qayta tiriltiradi. Yo'q! U (U Zot) unga buyurgan amrni bajarmadi.

Inson taomiga bir nazar solsin. Biz suvni rosa quyib qo'ydik. So'ngra yerni o'ziga xos yordik. Unda donni o'stirdik va uzum va ko'katlarni va zaytun va xurmolarini va quyuc, qalin bog'u bo'stonlarni va meva-chevayu o'to'lanlarni...»

Kekkayadi nechun inson ziyoda?
Bu olamga odam yalong'och kelib,
Besh kungina yashab foniyy dunyoda,
O'lgani uchunmi ojiz, ojiz tug'ilib?
Avval solib o'lim girdobiga,

So‘ng jon ato etganigami?
Quvonch, g‘amin yozib arsh kitobiga
Qismatiga jo etganigami?
YO bergani uchunmi rizq-ro‘z,
Zaytunni ham, xurmo, nonni ham,
Mehnatni olqishlab beso‘z,
Tokzorni ham, paykal donni ham.

«Abasa» surasining 33 - 42-oyatlarida qiyomat kuni Isrofil alayhisalom surni (ikki marta) chalishlari, ikkinchi sur chalinganidan keyingi sodir bo‘ladigan manzaralar haqida bayon etiladi:

«Vaqtiki kar qiluvchi ovoz kelsa, u Kunda kishi o‘z aka-ukasidan qochadi va onasi va otasidan va xotini va bola-chaqasidan. U Kunda ulardan har bir kishini ovora qiluvchi o‘z ishi bor. U Kunda porloq chehralar bor – kuluvchilardir, xushxabardan xursandlar. U Kunda g‘ubor bosgan chehralar bor – ustini zulmat qoplagan. Ular – ana o‘shalar kofirlar va fojirlardir».

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PRODUCTION COSTS AND WAYS TO REDUCE THEM

Abstract. This article analyzes strategies for reducing production costs, which are necessary to increase the profitability of enterprises. Through this, cost components such as direct and indirect costs are studied to optimize these processes and improve quality control. He stressed the importance of continuous improvement and innovation for long-term business success.

Key words: Business operations, efficiency improvement, cost drivers, indirect costs, process optimization, predictive analytics, digitization, supply chain management.

In the dynamic landscape of modern business, maintaining profitability is paramount for sustainable growth and success. One of the key factors influencing profitability is production costs. Whether a company manufactures goods or provides services, optimizing production processes and minimizing costs are essential for remaining competitive and maximizing profits. This comprehensive guide explores various strategies and tactics that businesses can implement to reduce production costs effectively.

Understanding Production Costs. Defining Production Costs: This section delves into the various components that make up production costs, including direct costs (such as raw materials and labor) and indirect costs (such as overhead expenses and administrative costs). Understanding the breakdown of production costs is the first step in identifying areas for potential cost reduction.

Analyzing Cost Drivers: Businesses must analyze the factors driving production costs, such as inefficiencies in processes, waste, excess inventory, and fluctuations in raw material prices. By identifying and addressing these cost drivers, companies can implement targeted strategies to reduce production costs.

Strategies for Reducing Production Costs. Implementing Lean Manufacturing: Lean principles focus on eliminating waste and optimizing processes to improve efficiency and reduce costs. This section explores how businesses can apply lean principles, such as value stream mapping and continuous improvement, to streamline production processes.

- **Automation and Technology:** Automation technologies, including robotics, artificial intelligence, and advanced manufacturing software, can significantly reduce labor costs and improve productivity. This section discusses the benefits of investing in automation and technology to streamline operations and reduce production costs.

Optimizing Supply Chain Management:

- **Supplier Negotiation:** Negotiating favorable terms with suppliers, including pricing, payment terms, and volume discounts, can lead to significant cost savings. This section provides practical tips for effective supplier negotiation and strategic supplier relationship management.

- **Just-in-Time Inventory Management:** Just-in-time (JIT) inventory management minimizes inventory holding costs by ensuring that materials are ordered and delivered only when needed for production. This section explores the benefits and challenges of implementing JIT inventory management and provides best practices for optimizing inventory levels.

Enhancing Quality Control:

- **Quality Management Systems:** Implementing robust quality management systems and processes can reduce defects, rework, and warranty claims, thereby lowering production costs. This section discusses the importance of quality control and provides strategies for improving product quality and consistency.

- **Continuous Improvement:** Embracing a culture of continuous improvement encourages employees to identify and address quality issues proactively. This section explores methodologies such as Six Sigma and Total Quality Management (TQM) and their application in reducing production costs through quality improvement initiatives.

Investing in Sustainable Practices:

- **Energy Efficiency:** Energy consumption is a significant contributor to production costs. Investing in energy-efficient technologies and practices can lower utility bills and reduce environmental impact. This section discusses the benefits of energy efficiency initiatives and provides examples of sustainable practices for reducing production costs.

- **Waste Reduction and Recycling:** Minimizing waste through recycling, reuse, and waste reduction initiatives can lead to cost savings and environmental benefits. This section explores strategies for implementing waste reduction programs and highlights the financial and environmental advantages of sustainable waste management practices.

Leveraging Data Analytics:

- **Predictive Analytics:** Leveraging data analytics and predictive modeling can help businesses forecast demand, optimize production schedules, and identify cost-saving opportunities. This section explores the role of data analytics in reducing production costs and provides examples of predictive analytics applications in manufacturing and supply chain management.

Case Study: Company A - Implementing Lean Manufacturing

- **Overview:** This case study examines how Company A implemented lean manufacturing principles to streamline production processes and reduce costs.

- **Challenges Faced:** Company A faced challenges such as inefficient workflows, excess inventory, and high labor costs.

- Strategies Implemented: Company A implemented value stream mapping, standardized work processes, and cross-training initiatives to improve efficiency and reduce costs.

- Results Achieved: By implementing lean manufacturing, Company A achieved significant cost savings, improved productivity, and enhanced product quality.

Best Practices: Supplier Negotiation Techniques

- Establishing Long-Term Relationships: Building trust and collaboration with suppliers can lead to mutually beneficial partnerships and cost-saving opportunities.

- Benchmarking and Market Research: Conducting benchmarking studies and market research can provide valuable insights into supplier pricing and negotiation leverage.

- Contract Negotiation Strategies: Developing negotiation strategies, including setting negotiation objectives, understanding supplier cost structures, and identifying alternative suppliers, can help businesses negotiate favorable terms and pricing.

Summary of Key Points: This section summarizes the key strategies and tactics discussed in the guide for reducing production costs.

Future Trends and Opportunities: The conclusion explores emerging trends and technologies that may further impact production cost reduction efforts, such as Industry 4.0, digitalization, and supply chain optimization.

Final Thoughts: The guide concludes with a call to action for businesses to prioritize production cost reduction initiatives and embrace innovation to remain competitive in an evolving business landscape.

Reducing production costs is essential for businesses seeking to improve profitability, enhance competitiveness, and achieve long-term success. By implementing strategies such as streamlining processes, optimizing supply chain management, enhancing quality control, investing in sustainable practices, and leveraging data analytics, businesses can effectively reduce production costs while maintaining product quality and customer satisfaction. Through continuous improvement and innovation, companies can navigate challenges, capitalize on opportunities, and maximize profitability in today's dynamic business environment.

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INTENSITY OF DISLOCATION MODELS FOR THE FORMATION OF TECHNOLOGICAL RESIDUAL STRESS IN MACHINE PARTS

Annotation. A dislocation model of the formation of technological residual stresses and an assessment of its intensity through the energy criterion of the quality of the surface layer of machine parts - the latent (stored) energy of deformation - are presented.

Keywords. Residual micro- and macrostresses, dislocation, dislocation density, plastic deformation, structural elements, structural-energy model, latent energy, strain hardening, stress intensity.

Analytical studies of the quality parameters of the surface layer, in particular the most important parameter - residual stresses, and the construction of adequate models that describe the real process of elastoplastic deformation of metals during machining of parts, are relevant along with experimental studies. The importance of experimental research lies in proving the adequacy or inconsistency of theoretical solutions, as well as in identifying particular patterns that correspond to given experimental conditions.

The value of analytical studies, carried out taking into account reasonable assumptions and mathematical models, as well as confirmed experimentally, lies in the possibility of developing a universal approach for revealing the mechanism of formation of the quality of the surface layer of parts. This direction covers knowledge of related and interconnected disciplines (dislocation theory of solid state physics, theory of elasticity and plasticity, thermodynamics of irreversible processes, thermophysics) and aims to synthesize micro and macro ideas about plastic deformation of a metal, which is a continuous process of generation, movement and annihilation of linear imperfections crystal structure - dislocations.

All changes in physical and mechanical parameters in the surface layer of parts during contact interaction with a cutting or hardening tool occur as a result of the transformation of energy relationships in accordance with the laws of thermodynamics.

A non-uniform deformed state of the surface layer of a part can occur after non-uniform plastic deformation as a result of processing the metal or workpiece by pressure (drawing, rolling, forging), cutting (turning, grinding), surface plastic deformation (PPD - rolling with a ball or roller, shot blasting), as well as due to non-uniform plastic deformation during heating and cooling; due to inhomogeneous changes in volume during phase transformations both in the solid state (quenching, aging, carburization of steel with a solid carburizer and other

physical and chemical processes), and during the inhomogeneous occurrence of phase transformations from liquid to solid state and vice versa.

Technological residual stresses arise under the simultaneous action of various factors: mechanical, thermal, and physicochemical [1,2,3]. The formation and distribution of residual macrostresses in the surface layer of parts after cutting is explained in a first approximation by the action of two factors - force (plastic deformation), which ensures the occurrence of compressive stresses, and thermal (heating of the surface layer), which causes the formation of tensile residual stresses.

During cutting and SPD processing, due to friction between the contact surfaces of the tool and the machined surface of the part, its outer surface layer is subjected to plastic tensile deformation, and the layer of material located below is stretched elastically. After the tool passes the working area, the elastically stretched inner layer tends to compress, but this is prevented by the outer plastically deformed layer. As a result, compressive stress is formed in the outer layer, and tensile stress is formed in the inner layer.

As a result of the heating that accompanies any process of plastic deformation, the outer layer of the metal tends to elongate, but this is prevented by the colder inner layer. Consequently, the first layer is subjected to compression, and the second – to tension. When the process is intensified (intense heating), the stresses on the surface can exceed the yield strength σ_T of the material being processed, which will cause plastic deformation of the compressed outer layer of the metal. During subsequent cooling, the outer layer tends to shrink to a size smaller than the original one by the amount of plastic compressive strain. However, this is prevented by the elastically stressed inner layer and, as a result, residual tensile stress is formed in the outer layer, and compressive stress is formed in the inner layer.

Thus, depending on the conditions and processing modes that create the temperature-force intensity of the process, the prevailing factor can be mechanical (force), and then compressive macrostresses will appear on the surface, or thermal, then tensile macrostresses will form on the surface. This scheme will be violated if the mechanical processing process is accompanied by phase transformations leading to irreversible volumetric changes in the structural components of steels and alloys, which are sometimes a more powerful source of the formation of technological macrostresses in the surface layer than mechanical and thermal factors.

The disadvantage of the considered model of the formation of macrostresses is the conventionality of separating simultaneously acting mechanical and thermal factors, and also the fact that they do not take into account the direction of the force load on the surface layer of the part. The direction of the force load will certainly affect both the intensity of deformation and its direction, thereby causing the occurrence of both tensile and compressive residual stresses in the surface layer of the part.

Residual microstresses are caused by the presence of various structural defects in the metal, primarily linear imperfections in the form of dislocations, dislocation walls (edges of blocks and cells), which cause deformation and stress. The reason for the formation of microstresses is also the inevitable interaction of grains with each other. A real polycrystalline body (steels and alloys) has anisotropy of mechanical properties and arbitrary grain orientation, which initiates an unequal degree of deformation of neighboring grains (crystallites) and the appearance of residual microstresses in them under the influence of an external load. An increase in deformation heterogeneity is possible if neighboring grains represent different phases characterized by different physical and mechanical properties. Therefore, the occurrence of interfacial microstresses is characteristic of multiphase alloys.

Residual stresses of the third kind are balanced in even smaller volumes, comparable to a group of atoms in the vicinity of dislocations, and characterize the magnitude of static displacements of atoms from lattice sites caused by a point defect. In continuum mechanics it is shown that a point defect causes elastic deformation $\varepsilon \cong r^{-3}$ (r – is the distance to the defect).

Thus, at the grain (block) boundary, the deformation and stress from such a defect have a finite value proportional to R^{-3} (R is the size of the grain or block). Static distortions are significant only at distances comparable to interatomic distances. The deformation of the crystal lattice (displacement of atoms) in the immediate vicinity of the defect can no longer be determined by the methods of continuum mechanics, which calls into question the term “3rd kind stress” and it is more correct to speak of “static lattice distortions”.

According to academician N.N. Davidenkov, there is no physical difference between residual stresses of the first and second kind, and the stress of the first kind is the resultant of the residual stresses of the second kind. Consequently, it can be argued that residual stresses of the second kind, in turn, are the resultant stresses of the third kind.

Thus, such a consideration of technological residual stresses reflects the hierarchy of structural levels of residual stresses by analogy with the structural levels of deformations [4]. Consideration of the structural levels of deformation (stress) provides the key to describing the unified physical essence of the mechanism of plastic flow of a crystalline body. The essence of the hierarchy of structural levels (stresses) is that each structural level experiences macrodeformation (macrostress) relative to the lower level, and microdeformation (microstress) relative to the higher level.

Although significant progress has been made in describing the general picture of plastic deformation (flow theory), it nevertheless needs to be improved, both in order to bring together theoretical and experimental data in relation to the prediction of the deformation path under a given loading condition, and in order to study microdeformations and corresponding microstresses that arise in bodies during elastic-plastic deformation. The appearance of microstrains and

microstresses is a consequence of the microscopic heterogeneity of the elastic and plastic properties of a polycrystal, and is also caused by imperfections in the structure of its crystal grains, that is, dislocations. In the theory of elasticity and the theory of plasticity, stresses and strains are usually averaged within elementary volumes containing a fairly large number of crystalline grains and relationships are established between the average values of stresses and strains, which are considered macroscopic.

When establishing the law of this connection, it is necessary to take into account the microscopic inhomogeneity of the field of stresses and deformations, since the work is estimated by self-balanced microstresses on their corresponding microstrains, comparable to the work of averaged stresses on averaged deformations. This conclusion is supported by numerous experiments on measuring the heat released during macroscopic uniform deformation [5]. It turned out that the mechanical equivalent of the released heat is always less than the work expended within 5–8%, depending on the degree of deformation. Consequently, in a uniformly deformed elastic-plastic body, after removing all loads, an elastic deformation field and a corresponding field of residual stresses are formed in it, the appearance of which is explained by the microscopic heterogeneity of the mechanical properties of the crystalline body.

Let us also add to the above that with homogeneity of macrodeformations and macrostresses in the sample beyond the yield point, not only elastic, but also plastic inhomogeneous microdeformations arise, which are not detected in the experiments [5], but for which, however, work is spent, apparently comparable in magnitude with the work spent on elastic residual microdeformations. Therefore, in reality, of all the work required for plastic deformation of a body, it seems that at least 10–15% should be attributed to self-balanced microstresses and corresponding microstrains.

Let's consider the structural elements (Fig.1) and the simplest diagram (Fig.2)

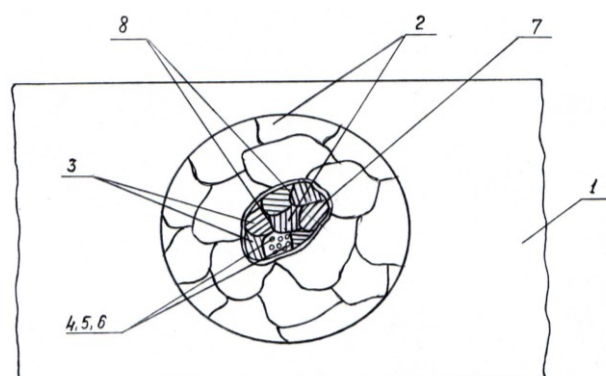


Fig.1. Structural elements of a crystalline body (metal or alloy):
 1- sample; 2 – grains (crystallites); 3 – mosaic blocks;
 4,5,6 – dislocations, atoms, electrons, respectively;
 7 – grain boundaries; 8 – borders of mosaic blocks

In solid state physics [6], mechanical stresses in a metal or alloy, regardless of the causes that cause them (forces, temperature, high-energy particles and other factors), are considered as a consequence of distortion of the crystal lattice. Consequently, both for technological residual macrostresses and for submicroscopic ones, there can only be a single physical model of the mechanism for the formation of these stresses - the atomic or dislocation model. In other words, in order to understand and describe the nature of the plastic flow of a metal, it is necessary to analyze the dislocation structural level of the surface layer of deformable crystalline bodies during mechanical processing.

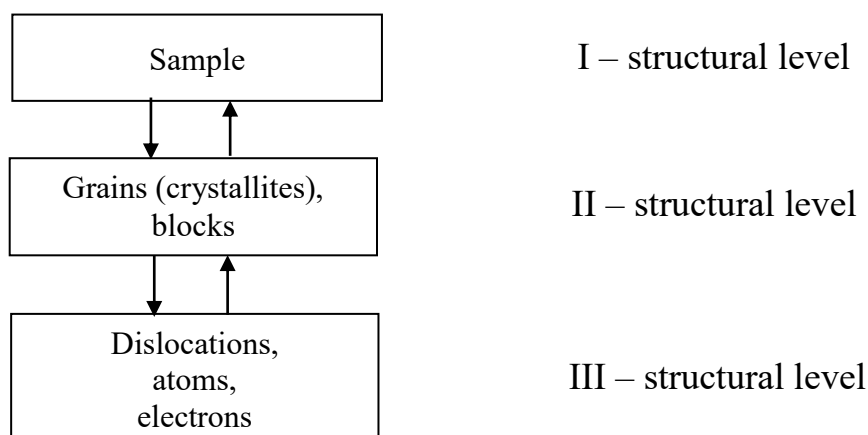


Fig.2. Hierarchy of structural levels of deformation for a polycrystalline solid

It is quite obvious that the magnitude and sign of residual macrostresses depends on the dislocation structure, characterized by the density and distribution law of dislocations, as well as other imperfections of the crystal lattice. A large accumulation of homogeneous (positive or negative) dislocations on parallel slip planes causes deformation (curvature) of the crystal lattice, leading to the formation of residual macrostresses in a given volume of the surface layer of the metal.

Residual stresses considered according to the structural-energy model [7], based on dislocation concepts of plastic deformation and the thermodynamics of contact processes during mechanical processing, should be called structural residual stresses. This name reflects the real picture of the formation of stresses from unified physical concepts based on consideration of the structural levels of deformation, and the choice of the dislocation level serves as a reliable means for synthesizing micro and macro ideas about the kinetics of the formation of residual stresses.

According to L. Klebro, D. McLean, J. Martin and other authors [8], almost all the energy stored in a crystal during its plastic deformation is accounted for by the deformation energy caused by the formed linear defects of the crystal lattice - dislocations, that is, deformation. The strengthening of metals and alloys is mainly due to dislocations. The energy of point defects in the form of vacancies and interstitial atoms formed as a result of the intersection of dislocations constitutes

a small fraction of the total accumulated energy. Point defects, being small in number and highly mobile, do not play a significant role in the strain hardening of metals. According to D. McLean, the relative contribution of dislocations, vacancies and interstitial atoms corresponds to the ratio 4.5: 2: 1.

Thus, the main source of latent energy accumulation is linear imperfections in the crystalline structure of the metal - a network of dislocation lines that lead to elastic distortions and, consequently, to the creation of residual stresses. Of course, there must be a correlation between residual stresses and the main parameter of dislocations—dislocation density ρ .

It should be noted that any attempts to estimate the fraction of stored energy U_s for which dislocations are responsible are possible only if information about the density and distribution of dislocations is available. Experimentally, these characteristics of the fine crystal structure are directly determined by etch pits and electron microscopy methods [9].

On the basis of numerous experimental and analytical studies, V.K. Starkov [10] proposed to consider the latent energy U_s of deformation as a complex energy quality criterion for cutting. He established the influence of the level and nature of the distribution of latent energy of deformation on such physical and mechanical parameters of the state of the surface layer as microhardness, degree of strain hardening, as well as the accuracy and roughness of the treated surface. However, there is no data on residual stresses, and only hypothetically indicates a possible correlation between residual stresses and dislocation density.

The latent energy U_s is not created by elastic deformation, since after removing the deforming forces, instantaneous relaxation occurs and the internal energy returns to its original value. And only residual stresses arising as a result of plastic deformation of the metal contribute their share to the latent energy of hardening.

To study the relationship between the latent energy U_s and residual stresses σ_{res} it is necessary to rely on data on the value and distribution of dislocations in annealed and plastically deformed metal. To study the relationship between latent energy U_s and residual stresses, it is necessary to rely on data on the value and distribution of dislocations in annealed and plastically deformed metal. It has been established that annealed metals contain from 10^6 to 10^8 dislocations/ sm^2 , and in deformed metals the dislocation density is higher and their probable number reaches $10^{11} - 10^{12}$ per $1 sm^2$. Their distribution depends on the metal and its purity, as well as on the type, degree and temperature of deformation. Their distribution depends on the metal and its purity, as well as on the type, degree and temperature of deformation.

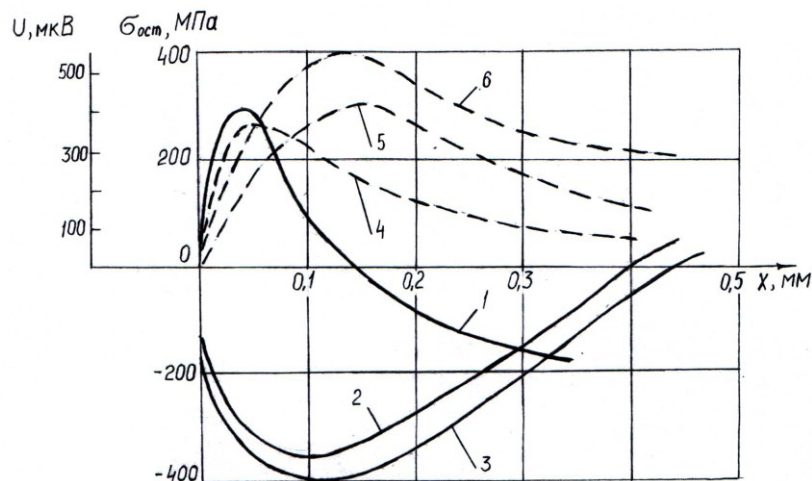


Fig.3. The influence of various methods of mechanical processing on the energy state and residual stresses in the surface layer of parts: 1.4 – turning; 2.5 – ultrasonic hardening; 3.6 – ultrasonic hardening with greater static load on the tool; _____ diagrams of residual stresses; ----- curves characterizing the level of stored (hidden) energy

The data from experimental studies by B.A. are interesting and important. Kravchenko and M.S. Nerubaya [11] to determine the latent energy of deformation in the surface layer of samples made of steel 45 after various mechanical treatments: turning, ultrasonic hardening, hardening with microballs. It has been established (Fig. 3) that the nature of the change in latent energy U_s along the depth of the surface layer is in good correlation with the level of residual stresses (macro stresses).

They also discovered a similar correlation when studying the energy state of the surface layer of a metal using exoelectronic emission methods. Since the intensity of exoelectronic emission is also associated with defects in the structure of the surface layer after strain hardening, this coincidence is apparently not accidental. It is characteristic that the maximum value of latent energy (Fig. 3) and exoelectronic emission is located at a certain depth corresponding to the maximum residual stresses.

Thus, the data presented indicate the possibility of using the latent energy U_s of deformation as an integral indicator of the quality of the surface layer of products and a scientifically grounded link in synthesizing micro- and macro-representations about the formation of technological residual stresses.

Based on comprehensive X-ray studies, J. Friedel [12] obtained an experimental relationship between stored energy and strain hardening in the form:

$$U_s \cong \frac{1}{2} \cdot \frac{E^*}{G^2} \cdot \sigma^2, (1)$$

where E^* is an elastic constant, the average value of which lies between the shear modulus G and the bulk compression modulus (the value of Young's modulus $E^* = E$ is often taken); σ – average internal stress (residual stress).

Let us transform formula (1) taking into account the relationship between the shear modulus of elasticity G (modulus of elasticity of the second kind) and Young's modulus (longitudinal elasticity E):

$$G = \frac{E}{2(1 + \mu)}, (2)$$

where μ is Poisson's ratio.

As a result of transformations we get

$$U_s = \frac{2(1 + \mu)^2}{E} \sigma^2, (3)$$

where instead of the average internal stress σ we introduce the intensity of residual stresses σ_{res}

$$U_s = \frac{2(1 + \mu)^2}{E} \sigma_{ires}^2, (3,a)$$

from where we get the expression for it:

$$\sigma_{ires} = \frac{1}{1 + \mu} \sqrt{\frac{E}{2}} \cdot \sqrt{U_s} (4)$$

or taking into account the coefficient K_σ , which takes into account the elastic properties of the deformable material:

$$\sigma_{ires} = K_\sigma \cdot \sqrt{U_s}, \quad K_\sigma = \frac{1}{1 + \mu} \sqrt{\frac{E}{2}} (4,a)$$

The transition in formula (1) from the average residual stress σ to the residual stress intensity σ_{ires} [13] is justified by the fact that it is the stress intensity σ_i that characterizes the stressed (including residual) state and is used in equations describing plasticity conditions, in particular, energy condition of plasticity:

$$\sigma_i = \frac{1}{\sqrt{2}} \sqrt{(\sigma_1 - \sigma_2)^2 + (\sigma_2 - \sigma_3)^2 + (\sigma_3 - \sigma_1)^2} = \sigma_s, (5)$$

Where $\sigma_1, \sigma_2, \sigma_3$ are the main normal stresses; σ_s – yield stress (not conditional, but true stress in a linear plastically stressed state).

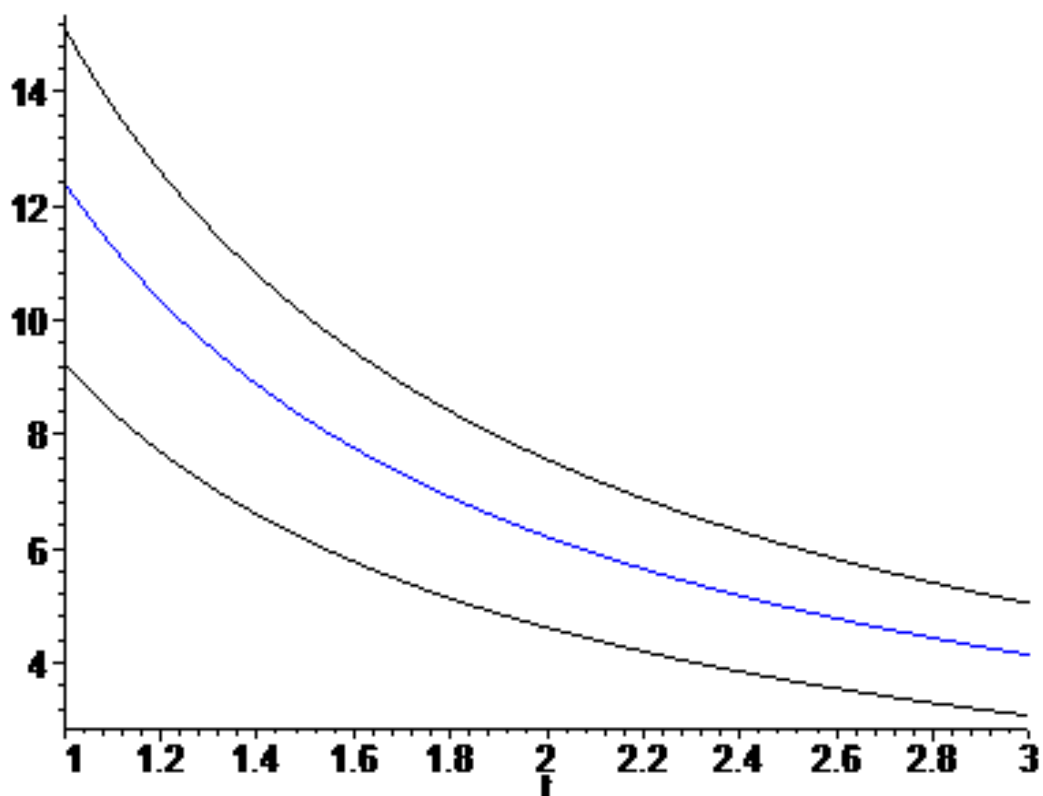
Under cold deformation conditions, plastic deformation begins at $\sigma_i = \sigma_{0,2}$ (if the yield strength $\sigma_{0,2}$ is taken as the true stress). In the process of further deformation, with an increase in the degree of deformation, the yield stress σ_s due to hardening will increase, and, consequently, σ_i will increase to the required level to maintain the plastic state.

Based on the foregoing, we can conclude that knowing the nature of the distribution and the magnitude of the latent energy U_s of deformation along the depth of the surface layer and the elastic constants E and μ , it becomes possible to calculate the corresponding values of the intensity of structural residual stresses σ_{ires} , without specifying the scale of their distribution in the deformable volume

of the body. Next, through the main residual stresses σ_{1res} , σ_{2res} , σ_{3res} it is necessary to determine the degree of their influence on the fatigue (endurance) of the samples for a given number of cycles of their loading.

The latent energy of deformation U_s can be determined experimentally or by less labor-intensive analytical methods, including: thermodynamic (based on the first law of thermodynamics); method based on dislocation theory; energy analysis of deformation diagrams of the processed material.

U



The intensity of residual stresses σ_{ires} during shot-impact strengthening of teeth of saw blades made of tool carbon steel U8G (tensile strength $\sigma_T = 1150$ MPa) was determined under the processing mode: shot speed $v=40$ m/s shot diameter $D=1$ mm, shot consumption $q=(0.75...12) \cdot 10^{-3}$ kgf/($sm^2 \cdot s$). The calculation of the intensity of residual stresses was carried out according to the method [14], based on the structural-energy model we developed for the formation of technological residual stresses during machining of machine parts. In accordance with this technique, the following were calculated: the radius of the plastic imprint; static indentation force; normal blood pressure; velocity recovery coefficient upon impact; specific impact energy; thermal energy; stored (hidden) energy; intensity of residual stresses.

The intensity of residual stresses, depending on the mechanical properties of the material being processed and the stored energy, was determined using the modified Friedel formula, the level of which was, depending on the depth of the surface layer z :

$\sigma_{ires}=1094 \text{ N/mm}^2$, $z=0,05 \text{ mm}$; $\sigma_{ires}=1082 \text{ N/mm}^2$, $z=0,1 \text{ mm}$; $\sigma_{iocr}=933 \text{ N/mm}^2$, $z=0,2 \text{ mm}$;

The intensity values of residual stresses calculated using the above method are in good agreement with the results of experimental studies of residual stresses [15] during shot peening of cemented steel with shots with a diameter of 0.8...1 mm. Therefore, the analytical method for determining the intensity of residual stresses, taking into account the level of latent strain energy in the surface layer of parts, is a reliable means of assessing the residual stress state.

Thus, the calculation method for determining the latent energy of deformation, based on dislocation representations of the process of plastic deformation of metals during mechanical processing, creates a scientifically sound basis for establishing the relationship between the micro- and macroscopic scales of the formation of technological residual stresses in the surface layer of machine parts. Considering that among the quality parameters of the surface layer of parts that bear variable loads, residual stresses are the most important, the relevance of the proposed approach for their assessment becomes quite obvious. Data from analytical studies, confirmed experimentally, are valuable material for the development of methods for calculating and predicting the durability of critical machine parts based on the level of technological residual stresses and should contribute to the effective development of mechanical engineering technology at the present stage.

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MURAKKAB NPK-O'G'ITLARNING FIZIK-MEXANIK VA TOVAR XOSSALARI

Annotatsiya. Murakkab NPK-o'g'itlarning fizik-mexanik va tovar xossalari haqida ma'lumot berilgan. Sanoat miqyosida murakkab NPK-o'g'itlar ishlab chiqarishda kerakli bo'lgan moddalar haqida malumotlar berilgan.

Kalit so'zlar: NPK-o'g'it, zichlik, qovushqoqlik, pH, fosfokonsentrat, ammoniy nitrat, karbamid, kaliy sulfat.

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PHYSICAL-MECHANICAL AND PRODUCT PROPERTIES OF COMPOUND NPK FERTILIZERS

Abstract. Information is provided on the physical-mechanical and commodity properties of complex NPK-fertilizers. Information is provided on the substances required for the production of complex NPK fertilizers on an industrial scale.

Key words: NPK-fertilizer, density, viscosity, pH, phosphoconcentrate, ammonium nitrate, urea, potassium sulfate.

Kirish. Sanoat miqyosida murakkab NPK-o'g'itlar ishlab chiqarishda hamda omborlarda saqlash, tashish va ularni qo'llash jarayonida tuproqqa solishda teng taqsimlanishi va o'g'it bilan bog'liq boshqa ishlarni tashkil etishda masulotlarning fizik-mexanik va tovar xossalari muhim ahamiyat kasb etadi.

Tadqiqot ob'yekti va usullari. Qattiq namunalardagi suvning miqdorini 100-105°C haroratda quritish shkafida doimiy og'irlikgacha quritish orqali aniqlandi [1; 5 s.].

Homashyo, oraliq mahsulotlarning fizik-kimyoviy xossalari ya'ni, zichlik, qovushqoqlik, pH donadorlarning mustahkamligi, sochiluvchanlik, namlik sig'imi, oquvchanlik, gigroskopik nuqtasi va xokazolar o'rganildi.

Eritma va bo'tqalarning zichligi piknometr PJ-2 yordamida [2; 4 s.] ularning kinematik qovushqokligi shishali kapillyarli viskozimetrlar VPJ-1 va VPJ-2 yordamida aniqlandi [3; 13 s.]. Ularning rN ko'rsatgichlari esa METTLER TOLEDO FE20/EL20 pH meter quick guide uskunasiida aniqlandi [4; 5 s.].

O'g'it donalarining statik mustahkamligi IPG-1 turdagi jihozda aniqlandi [5; 4 s.]. Usul ikki sirt orasidagi bir o'qli siqishdagi sinalayotgan fraksiya donador o'g'itning buzilishi uchun sarf bo'lgan kuchni aniqlashga asoslangan.

Sochiluvchanlik [6; 7 s.] adabiyotda berilgan usul bo'yicha tekis kattiq sirtga 1m balandlikdan bir martali tashlab yuborish va sochilishdan keyin elakda qolgan o'g'it og'irligini aniqlashga asoslangan.

Donalar o'lchami 2-3mm bo'lgan o'g'it namunalarning namlik sig'imi va gigroskopligi 25°S da eksikatorli (Pestov) usulda aniqlandi [7; 239-b].

O'g'itlarning oquvchanligini aniqlash uchun turli xil usullardan foydalaniladi. O'g'itlarning oquvchanligi tubining o'lchami 15 mm, ichki burchagi 60°li voronka (Mering voronkasi)dan aniq vaqt davomida massasi 500 gramm bo'lgan o'g'itning oqib o'tishi uchun sarflangan vaqtni o'lchash orqali aniqlanadi. O'g'itlarning belgilangan oquvchanlik qiymatlarini oqib o'tishi uchun sarflangan vaqtni o'lchash orqali 10 balli shkalada 3 ta sinfga sinflanadi. Agar o'g'it voronka orqali 0-15 sekund vaqtda o'tsa 10 ball, 20-30 sekund vaqt ichida o'tsa to'kiluvchanlik 9-8 ball, vaqtning 30 sekund qiymatida 8-6 ballni tashkil qiladi.

Tadqiqot natijalari va muhokamasi. Fosfokonsentrat, ammoniy nitrat, karbamid, va kaliy sulfat asosida olingan murakkab NPK-o'g'itlarni donadorlab, quritildi va ularning donadorlik tarkibi o'rganildi (1- va 2-jadvalar).

1-jadval

Fosfokonsentrat, ammoniy nitrat va kaliy sulfat asosida olingan murakkab NPK-o'g'itlar donadorlik tarkibi, %

N:P ₂ O ₅ :K ₂ O	Fraksiyalar o'lchami, mm				
	-6 ÷ +5	-5 ÷ +3	-3 ÷ +2	-2 ÷ +1	-1 ≥
kislota me'yori 45% bo'lganda					
1:2:1	9,83	50,34	30,60	8,50	0,73
1:1:2	10,29	51,08	31,52	6,25	0,86
1:1:1	10,56	53,13	32,14	3,17	1,00
1:0,7:0,5	11,15	53,56	32,40	1,66	1,23
2:1:1	11,74	53,99	32,66	0,15	1,46
kislota stexiometrik me'yori 55% bo'lganda					
1:2:1	7,94	53,39	34,59	3,37	0,71
1:1:2	8,20	53,71	35,18	2,09	0,82
1:1:1	8,48	54,09	36,01	0,46	0,96
1:0,7:0,5	8,53	54,20	36,26	0,36	1,07
2:1:1	8,58	54,31	36,31	0,26	1,24
kislota stexiometrik me'yori 65% bo'lganda					
1:2:1	7,28	54,14	35,22	2,66	0,68
1:1:2	7,50	54,24	35,67	1,80	0,79
1:1:1	7,73	54,71	36,20	0,45	0,91
1:0,7:0,5	8,02	54,75	36,36	0,32	1,14

2:1:1	8,07	54,79	37,00	0,21	1,37
kislota stexiometrik me'yorini 75% bo'lganda					
1:2:1	7,21	54,19	35,27	2,66	0,67
1:1:2	7,47	54,37	35,63	1,86	0,67
1:1:1	7,58	54,85	36,21	0,47	0,89
1:0,7:0,5	7,61	55,11	36,47	0,28	0,91
2:1:1	7,64	55,57	37,53	0,19	0,93

Laboratoriya natijalari fosfokonsentrat, ammoniy nitrat va kaliy sulfat asosida olingan o'g'itlarda 1 mm va undan kichik o'lchamli fraksiyalar 1,5% dan ortmaydi. 6-5 mm o'lchamli fraksiyalar kislota me'yoriga qarab 7 dan 12% gachani tashkil etadi. O'g'itlar tarkibida ammoniy nitrat ortib borishi bilan 5-6 mm li va 1 mm va undan kichik fraksiyalar miqdori 0,5-2 % gacha ortib boradi.

Shuningdek, fosfokonsentrat, karbamid va kaliy xlorid asosida olingan o'g'itlarda 5-3 mm o'lchamli fraksiyalar kislota me'yoriga qarab 51,5-56% ni tashkil etadi, 3-2 mm o'lchamli fraksiyalar kislota me'yoriga qarab 31% dan 36 % gachani tashkil etadi 5-6 mm o'lchamli fraksiyalar esa 7-11% ni tashkil etadi.

2-jadval

Fosfokonsentrat, karbamid va kaliy sulfat asosida olingan murakkab NPK-o'g'itlar donadorlik tarkibi, %

N:P ₂ O ₅ :K ₂ O	Fraksiyalar o'lchami, mm				
	-6 ÷ +5	-5 ÷ +3	-3 ÷ +2	-2 ÷ +1	-1 ≥
kislota me'yorini 45% bo'lganda					
1:2:1	9,17	51,45	31,01	7,53	0,84
1:1:2	9,67	52,23	31,98	5,17	0,95
1:1:1	9,98	54,31	32,64	2,13	0,94
1:0,7:0,5	10,61	54,77	32,94	0,66	1,02
2:1:1	11,24	55,23	33,24	0,30	1,15
kislota stexiometrik me'yorini 55% bo'lganda					
1:2:1	7,28	54,50	35,00	2,40	0,82
1:1:2	7,58	54,86	35,64	1,01	0,91
1:1:1	7,90	55,27	35,35	0,58	0,90
1:0,7:0,5	7,99	55,41	35,46	0,38	0,86
2:1:1	8,08	55,55	36,18	0,26	0,93
kislota stexiometrik me'yorini 65% bo'lganda					
1:2:1	6,62	55,25	35,63	1,71	0,79
1:1:2	6,88	55,39	36,13	0,72	0,88
1:1:1	7,15	55,59	35,84	0,57	0,85
1:0,7:0,5	7,48	55,76	35,71	0,32	0,93
2:1:1	7,57	55,79	35,38	0,22	1,06
kislota stexiometrik me'yorini 75% bo'lganda					
1:2:1	6,55	55,30	35,68	1,69	0,78
1:1:2	6,85	55,52	36,19	0,58	0,86
1:1:1	7,00	55,64	36,06	0,55	0,83
1:0,7:0,5	7,07	55,86	36,08	0,30	0,94

2:1:1	7,14	55,97	36,19	0,11	1,10
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Mineral o'g'itlarni qishloq xo'jaligida qo'llashda uning fizik-mexanik xossalarini roldan kelib chiqib, laboratoriyada NPK-o'g'itlarning o'rtacha fizik-mexanik va tovar xossalari o'rganildi (4.5-jadval).

Fosfokonsentrat, ammoniy nitrat, karbamid, kaliy sulfat asosida olingan o'g'itlar sochiluvchanligi 100% ga, kislota me'yorini 45% ni tashkil etganda gigroskopik nuqtasi mos ravishda 49 dan 53% gacha, donadorligi esa 88,20 dan 88,64 %gacha bo'lishi aniqlandi. Kislota me'yorini ortib borishi bilan o'g'itlarning oquvchanligi, qiyalik burchagi va gigroskopik nuqtasi yaxshilanib borishi aniqlandi. Masalan, fosfokonsentrat, ammoniy nitrat va kaliy xlorid asosida olingan o'g'itlarda kislota me'yorini ortganda o'g'itlarning gigroskopikligi 42% gacha kamayib borishi bilan birga uning qiyalik burchagi 39,0 dan 30,5° ga kamayadi shuningdek oquvchanligi 10,8 dan 9,1 soniyaga kamayadi.

3-jadval

Azot-fosfor-kaliyli murakkab NPK-o'g'itlarning fizik-mexanik xossalari

Kislota me'yorini, %	Nam-ligi, %	Xajmiy og'irligi, g/sm ³	Mustaxkamligi, mPa	Sochiluvchanligi, %	Qiyalik burchagi, °	Oquvchanligi, sek	Gigroskopik nuqtasi, %	Donadorligi, %
Fosfokonsentrat, ammoniy nitrat va kaliy xlorid asosida								
45	1,58	1,24	3,16	100	38	10,2	59	88,50
55	1,60	1,20	3,05	100	35	10	57	91,30
65	1,83	1,18	2,78	100	32	9,1	55	92,20
75	1,05	1,14	2,76	100	31	8,5	52	92,70
Fosfokonsentrat, karbamid va kaliy xlorid asosida								
45	1,62	1,25	3,08	100	39	10,4	71	89,67
55	1,62	1,22	2,96	100	35	10,1	69	92,13
65	1,88	1,20	2,81	100	31	9,4	66	93,11
75	1,13	1,19	2,63	100	30	9,1	64	93,31

Bu qonuniyatlar fosfokonsentrat, karbamid, kaliy sulfat asosida olingan o'g'itlarda ham takrorlanadi.

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TERMOKONSENTRATDAN OLINGAN FOSFOKONSENTRAT, KARBAMID VA KALIY SULFAT ASOSIDA NPK-O'G'ITLAR OLISH

Annotatsiya. Maqolada termokonsentratdan olingan fosfokonsentrat, karbamid va kaliy sulfat asosida NPK-o'g'itlar olish haqida ma'lumot berilgan.

Kalit so'zlar: azot, fosfor va kaliyli o'g'itlar, kalsiyftorapatit, NP- va NPK-o'g'it, termokonsentrat.

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PRODUCTION OF NPK FERTILIZERS BASED ON PHOSPHOCONCENTRATE, UREA AND POTASSIUM SULPHATE FROM THERMOCONCENTRATE

Abstract. The article provides information on the production of NPK-fertilizers based on phosphoconcentrate, urea and potassium sulfate obtained from thermoconcentrate.

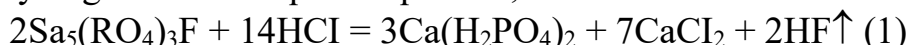
Key words: nitrogen, phosphorus and potassium fertilizers, calciforapatite, NP- and NPK-fertilizer, thermoconcentrate.

Kirish. Dunyo aholisining yuqori sur'atlarda o'sishi, ekinga yaroqli yer resurslari va suv zahiralari qisqarib borayotgan bir paytda aholini yetarli darajada oziq-ovqat mahsulotlari bilan ta'minlash lozim. Bu holatda qishloq xo'jaligi ekinlaridan qisqa muddatlarda yuqori va sifatli hosil yetishtirishda muhim omillardan biri bo'lgan kimyoviy vositalardan, jumladan yangi turdagi mineral o'g'itlar va defoliantlardan samarali foydalanish zarurdir. Bunda mineral o'g'itlardan unumli foydalanish va defoliatsiya tadbirlarini o'z muddatida o'tkazish muhim ahamiyat kasb etadi. Bu yo'nalishda samarador azot, fosfor va kaliyli o'g'itlar hamda defoliantlar ishlab chiqarish hajmi va turini ko'paytirish, ularni olish texnologiyasini ishlab chiqish muhim ahamiyatga ega hisoblanadi.

Dunyoda azot, fosfor va kaliyli o'g'itlar hamda defoliantlar ishlab chiqarishga xizmat qiladigan sifatli xom ashyolarni izlash, ularni o'rnini bosuvchi xom ashyo zahiralarni topish bo'yicha ilmiy izlanishlar olib borilmoqda. Bu borada fosfat xom ashyolari va xlorid kislotasi asosida turli xil tarkibga ega bo'lgan samarali azot, fosfor va kaliyli o'g'itlar olish jarayonlarini o'rganish, fosfat xom

ashyosini xlorid kislotada parchalab olingan mahsulot, ammoniy nitrat va karbamid eritmalari hamda KAS eritmalari asosida murakkab NP- va NPK-o'g'itlar olish jarayonlarini tadqiq qilish; olingan murakkab o'g'itlarning reologik va tovar xossalarini aniqlash; kaltsiy xloridi-natriy xlorati-suv, kaltsiy xlorati – natriy xlorati-suv sistemasini o'rganish; NP- va NPK-o'g'itlar hamdedefoliantlarni agrokimyoviy sinovlardan o'tkazishga alohida e'tibor berilmoqda.

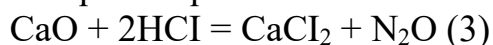
Tadqiqot ob'yekti va usullari. Murakkab o'g'itlar namunalarini olish uchun Markaziy Qizilqum fosforitlarini xlorid kislotasi bilan parchalandi. Kalsiyftorapatitni $-Ca_5(PO_4)_3F$ parchalash uchun zarur bo'lgan xlorid kislota miqdori quyidagi formula orqali aniqlanadi.;



Kalsit mineralini parchalash uchun xlorid kislota massasi quyidagi formula orqali aniqlanadi:

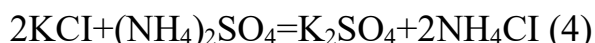


Termokonsentrat tarkibidagi erkin CaOni parchalash uchun xlorid kislota massasi quyidagi formula orqali aniqlanadi:



Xlorid kislota miqdorini hisoblashda termokonsentrat tarkibidagi fosfat, erkin kalsiy oksidi va kalsit minerallarini parchalab, monokalsiyfosfat va kalsiy xlorid tuzlari hosil bo'lishi asos qilib olindi.(1-,2- va 3-reaksiya). Kislota me'yori stexiometriyaga nisbatan 45, 55, 65 va 75% olindi.

Konversiya asosida kaliy sulfat olish jarayoni quyidagi formula asosida kechadi:



Laboratoriya sharoitida konversiya jarayonlarini o'tkazish uchun kaliy xlor va ammoniy sulfatlar miqdorini hisoblashda (4-reaksiyaga asosan) ularning o'zaro nisbatlari 1:1,1 qilib olindi.

“DEHQONOBOD KALIY ZAVODI” AJda ishlab chiqarilgan kaliy xlor va ammoniy sulfat tuzlari orasidagi konversiya jarayonlarini olib borish uchun ammoniy sulfatni suv bilan 1:1 nisbatda, kaliy xlorid esa suv bilan 1:2 nisbatda 70-80°S oralig'ida 25-30 daqiqa davomida eritilib, so'ng 50-60 daqiqa konversiya jarayoni olib borildi. Hosil bo'lgan kaliy sulfat cho'kmasi ammoniy xlorid eritmasidan vakuum filtr qurilmasi orqali filtrlab olindi. Nam kaliy sulfat tarkibidagi ammoniy xloridni yanada chuqurroq tozalash maqsadida kaliy sulfatning 10% eritmasi bilan 1:1 nisbatda 10 daqiqa ishlov berib, vakuum filtrda filtrlandi. Olingan nam xoldagi kaliy sulfat NPK-o'g'itlar olish uchun xomashyo sifatida ishlatiladi.

Murakkab o'g'itlar – fosfat xom ashyosi (termokonsentrat) ni xlorid kislota bilan parchalab olingan xlorfosforkislotali bo'tqaga absorbsion suyuqlik, ammoniy nitrat, karbamid va kaliy sulfat ishtirokida olindi. Bunday sharoitda fosfat hom ashyosining parchalanish jarayoni ko'piklanish kuzatilmadi.

Homashyo, olingan oraliq va tayyor mahsulotlar tarkibidagi turli shakldagi

azot, fosfor, kalsiy, magniy, oltingugurt, alyuminiy, temir ftor, karbonatlar, eriyamaydigan qoldiq, suv va boshqalar tahlil qilindi.

Umumiy azot [1; 218 s., 106; 8 s.] adabiyotlarda berilgan usul bo'yicha aniqlandi. Ushbu usul Devard qotishmasi yordamida nitratli azotning ammiakli azotgacha tiklash va keyinchalik ammiakni haydash va uni titrometrik aniqlashga asoslangan. Ammiakli azot [1; 218 s., 2; 6 s.] adabiyotlarda berilgan usul bo'yicha aniqlangan. Ushbu usulda ammiakli azotning elementar azotgacha bromli kaliy va pH 6,7 bo'lgan fosfatli bufer eritmasi ishtirokida xloramin bilan oksidlashga asoslangan; xloraminning ortib qolish miqdorini yodometrik usul orqali aniqlanadi.

Kalsiy va magniy kompleksometrik usul orqali aniqlandi [3; 218 s., 110; 3 s.]. Usul kalsiy va magniy ionlari trilon B eritmasi bilan o'zaro ta'sirlashuvi natijasida indikator rangining o'zgarishiga asoslangan. Sulfatlar tortma (vesovoy) usulida aniqlandi [3; 4 s.]. Usul nordon muhitda bariy xlorid bilan sulfatlarni cho'ktirish va cho'kmani tarozida tortishga asoslangan. Temir va alyuminiy tarkibi kompleksometrik usulda aniqlandi [4; 218 s., 112; 18 s.]. Xlor Mor usuli bilan aniqlandi. Tajriba ishlarida xlorfosforkislotali bo'tqani filtrlash jarayoni KSL-1206-5 markali vakuum nasosda olib borildi.

Ftor miqdorini namunalarni nitrat kislotasi bilan parchalashdan keyin ionometrik usulda aniqlandi. [5; 218 s., 6; 5 s.]. Usul ftorni dastlab chiqarib yuborilmasdan ftor-selektiv elektrodidan foydalangan holda eritmadagi ftorni konsentrasiyasini o'lchashga asoslangan.

Karbonatlardagi karbonat anhidridning miqdori tezkor hajmiy usulda aniqlandi [7; 11 s.]. Usul karbonatlarni xlorid kislotasi bilan parchalash va bunda ajralib chiqqan uglerod anhidridning hajmini aniqlashga asoslangan.

Qattiq namunalardagi suvning miqdorini 100-105°C haroratda quritish shkafida doimiy og'irlikgacha quritish orqali aniqlandi [8; 5 s.].

Tadqiqot natijalari va muhokamasi. Murakkab NPK-o'g'itlarga bo'lgan talabni qondirish uchun uning assortimentini ko'paytirish maqsadida xlorid kislotasi va termokonsentrat asosida olingan fosfokonsentratga karbamid (yoki karbamidning 70-72 %li eritmasi) va kaliy sulfati ta'sir ettirildi.

Kislotasi me'yori 45% va azot, fosfor va kaliyning nisbati N:P₂O₅:K₂O=1:1:1 bo'lganda murakkab NPK-o'g'itning tarkibida N_{umum.} – 13,82%, P₂O_{5umum.} – 13,82%, P₂O_{5o'zl.} – 7,18%, K₂O – 13,82%, CaO_{umum.} – 18,98% va CaO_{o'zl.} – 5,75%ni hamda ozuqa moddalarining yig'indisi $\sum NPSa_{o'zl.}=47,21\%$ ni tashkil qiladi (1-jadval).

1-jadval

Fosfokonsentrat, karbamid va kaliy sulfat asosida olingan murakkab NPK-o'g'itlar kimyoviy tarkibi, %

N:P ₂ O ₅ :K ₂ O	N			P ₂ O ₅			CaO			K ₂ O	H ₂ O
	umum.	amid.	nit.	umum.	o'zl.	suv.yer.	umum.	o'zl.	suv.er.		
kislotasi stexiometrik me'yori 45% bo'lganda											
1:2:1	10,00	9,62	0,37	19,25	9,76		26,45	7,85	0,11	10,00	1,74

1:1:2	10,73	10,52	0,21	10,73	5,63		14,73	4,52	0,09	21,45	1,40
1:1:1	13,82	13,54	0,27	13,82	7,18		18,98	5,75	0,09	13,82	1,58
1:0,7:0,5	18,86	18,60	0,26	13,20	6,99		18,14	5,59	0,08	9,42	1,63
2:1:1	21,25	21,04	0,21	10,62	5,63		14,59	4,58	0,06	10,63	1,56
kislota stexiometrik me'yorini 55% bo'lganda											
1:2:1	10,04	9,42	0,60	20,09	12,25		24,03	9,79	0,12	10,04	1,74
1:1:2	10,88	10,56	0,32	10,88	6,80		13,01	5,45	0,09	21,76	1,39
1:1:1	14,07	13,65	0,42	14,07	8,72		16,83	6,97	0,09	14,07	1,57
1:0,7:0,5	19,19	18,79	0,40	13,43	8,46		16,07	6,75	0,08	9,59	1,62
2:1:1	21,55	21,22	0,32	10,77	6,89		12,88	5,50	0,07	10,77	1,55
kislota stexiometrik me'yorini 65% bo'lganda											
1:2:1	10,46	9,49	0,95	20,93	14,85	1,25	21,25	12,39	0,68	10,46	2,12
1:1:2	11,12	10,62	0,51	11,12	8,06	0,67	11,30	6,75	0,39	22,25	1,58
1:1:1	14,48	13,81	0,65	14,48	10,43	0,86	14,71	8,01	0,48	14,48	1,81
1:0,7:0,5	19,72	19,08	0,63	13,80	10,07	0,82	14,02	7,73	0,44	9,85	1,86
2:1:1	22,02	21,52	0,50	11,01	16,30	0,66	11,18	6,78	0,36	11,01	1,75
kislota stexiometrik me'yorini 75% bo'lganda											
1:2:1	10,81	9,56	1,24	21,62	17,51	1,73	17,25	14,73	0,92	10,81	2,46
1:1:2	11,31	10,66	0,65	11,31	9,32	0,91	9,03	7,89	0,53	22,63	1,76
1:1:1	14,81	13,95	0,85	14,81	12,14	1,18	11,81	9,28	0,64	14,81	2,05
1:0,7:0,5	20,15	19,33	0,81	14,10	11,71	1,13	11,25	8,93	0,60	10,07	2,09
2:1:1	22,40	21,75	0,64	11,20	9,41	0,90	8,93	7,89	0,47	11,20	1,92

Kislota me'yorini 45%ni tashkil etganda, o'g'it tarkibidagi karbamid miqdorini ortib borishi bilan ya'ni, azot, fosfor va kaliyning nisbati ($N:P_2O_5:K_2O$) 1:2:1 dan 2:1:1 gacha o'zgarganda fosfokonsentratning parchalanish darajasi 50,70 dan 53,02% gacha ortib boradi. Bundan tashqari azotning ozuqasini barcha shakllari ham mos ravishda ortib boradi. Kislota me'yorini 45% ozuqa moddalari nisbati $N:P_2O_5:K_2O$ nisbati 2:1:1 bo'lganda o'simlik o'zlashtiradigan fosfor va kalsiy miqdorlari mos ravishda 5,63 % va 4,58% ni tashkil etadi. 55 dan 75%ga ortganda ($N:P_2O_5:K_2O$ nisbati 2:1:1 bo'lganda) o'simlik o'zlashtiradigan fosfor va kalsiy miqdorlari mos ravishda 6,89 dan 9,41% gacha va 5,50 dan 7,89% gacha ortadi. Termokonsentratni parchalanish darajasi esa 63,97 dan 84,01% gacha ortadi. Fosfokonsentratga karbamid qo'shib olingan NP-o'g'itlarga kaliy sulfati ta'sir ettirib nafaqat yangi turdagi NPK-o'g'itlar olish uning tarkibidagi o'simlik o'zlashtiradigan shakldagi fosfor va kalsiyning miqdorini 3-5%gacha ortganligi aniqlandi.

Olingan ma'lumotlardan tasdiqladiki, kislota me'yorining 45 dan 75%gacha ortishi umumiy fosfor P_2O_5 miqdorini ortishiga va umumiy kalsiy CaO miqdorini esa kamayishiga olib keladi. Masalan, kislota me'yorini 45% $N:P_2O_5:K_2O$ nisbati 1:2:1 bo'lganda umumiy fosfor miqdori 19,25% umumiy kalsiy esa 26,45%ni tashkil etadi. Xuddi shu nisbatda kislota me'yorini 75% bo'lganda esa umumiy fosfor 21,62% umumiy kalsiy miqdori esa 17,25%ni tashkil qiladi. Huddi shu holatlarda o'g'it tarkibidagi kaliyning miqdori 1-2% oralig'ida ortishini kuzatish mumkin.

Termokonsentratni kislotaning yuqori stexiometrik me'yorlarida parchalash va uni filtrlashdan olingan kalsiy xlorid eritmasi konsentratsiyasi yuqori bo'lishini ko'rsatdi.

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O‘QUVCHILAR BILIMINI BAHOLASHNING SHAKL VA METODLARI

Annotatsiya. Ta’lim tizimida o‘quvchilarning bilimini baholash muhim o‘rin tutadi. Ushbu jarayon o‘quvchilarning o‘zlashtirish darajasini aniqlash, ularning bilim, ko‘nikma va malakalarini rivojlantirishga yo‘naltirilgan. Shuningdek, bu o‘qituvchilarga ta’lim metodlarini takomillashtirish va o‘quv jarayonini samarali boshqarishda yordam beradi. Ushbu maqolada o‘quvchilar bilimini baholashning turli metodikalariga to‘xtalamiz.

Kalit so‘zlar: ta’lim, tarbiya, texnologiya, pedagogik texnologiya, metod, veb-testlar, laboratoriya, elektron, kvizlar, portfellar, gamifikatsiya, motivatsiya, simulyatsiyalar, PISA, xalqaro, onlayn baholash, politika.

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FORM AND METHODS OF STUDENTS' KNOWLEDGE ASSESSMENT

Annotation. Assessment of students' knowledge plays an important role in the educational system. This process is aimed at determining the level of learning of students, developing their knowledge, skills and abilities. It also helps teachers to improve teaching methods and effectively manage the learning process. In this article, we will focus on different methods of assessing students' knowledge.

Keywords: education, education, technology, pedagogical technology, method, web tests, laboratory, electronic, quizzes, portfolios, gamification, motivation, simulations, PISA, international, online assessment, policy.

O‘quvchilar bilimini baholash metodikasi xilma-xil va boydir. Har bir metodning o‘z afzallik va kamchiliklari mavjud bo‘lib, ularni to‘g‘ri tanlash va kombinatsiyalash orqali ta’lim jarayonini samarali tashkil etish mumkin. O‘qituvchilar ushbu metodlardan foydalanib, o‘quvchilarning bilimlarini to‘g‘ri va adolatli baholashlari, shuningdek, ularni o‘zlashtirish jarayonini yaxshilashlari mumkin.

Baholashning asosiy metodlari

Yozma baholash:

Test sinovlari: Testlar o‘quvchilarning nazariy bilimlarini tez va samarali baholash uchun keng qo‘llaniladi. Test savollari yopiq (bir yoki bir necha to‘g‘ri javobni tanlash) yoki ochiq (javobni yozma ravishda ifodalash) bo‘lishi mumkin.

Imtihonlar: An'anaviy yozma imtihonlar, o'quvchilarning kengroq bilim doirasini baholashga imkon beradi. Bu metod o'quvchilarni mustaqil fikrlash va o'z bilimlarini kengroq ifodalashga undaydi.

Og'zaki baholash:

Suhbat va savol-javob: Og'zaki baholash metodlari o'quvchilarning tushunish darajasini va fikrlash qobiliyatini aniqlashda samarali. Savol-javob va suhbatlar o'qituvchilarga o'quvchilarning chuqurroq bilimlarini o'rganish imkonini beradi.

Prezentatsiyalar: O'quvchilar o'z mavzularini tayyorlash va prezentatsiya qilish orqali bilimlarini namoyish etishadi. Bu metod o'quvchilarning nutq madaniyati va taqdimot qobiliyatlarini rivojlantiradi.

Amaliy baholash:

Loyihalar: O'quvchilarning ijodiy va amaliy ko'nikmalarini rivojlantirish maqsadida loyihalar tayyorlash va himoya qilish orqali baholash usuli qo'llaniladi. Bu metod o'quvchilarga mustaqil ish yuritish va jamoaviy ishlash qobiliyatlarini rivojlantirishga yordam beradi.

Laboratoriya ishlari: Aniq fanlar bo'yicha laboratoriya mashg'ulotlari o'quvchilarning amaliy bilimlarini sinashda muhim rol o'ynaydi. Laboratoriya ishlari o'quvchilarning eksperimentlarni bajarish va natijalarni tahlil qilish qobiliyatlarini oshiradi.

Baholashning innovatsion metodlari

Onlayn baholash:

Veb-testlar va kvizlar: Raqamli texnologiyalar yordamida onlayn testlar va kvizlar orqali o'quvchilarning bilimlarini tez va samarali baholash mumkin. Bu metod o'quvchilarning qiziqishini oshiradi va baholash jarayonini avtomatlashtiradi.

Elektron portfellar: O'quvchilarning o'zlashtirish jarayonini kuzatish va baholashda elektron portfellar yordamida ularning turli ishlarini yig'ish va tahlil qilish imkoniyati mavjud.

O'yinli baholash:

Gamifikatsiya: O'quv jarayonida o'yin elementlarini qo'llash orqali o'quvchilarni motivatsiya qilish va ularning bilimlarini baholash usuli. Bu metod o'quvchilarning qiziqishini oshiradi va o'quv jarayonini yanada qiziqarli qiladi.

Simulyatsiyalar: Simulyatsiya dasturlari orqali o'quvchilarning amaliy bilimlarini va qaror qabul qilish qobiliyatlarini baholash mumkin.

"Kreativ chiziqlar" metodi

Ushbu metodda - A4 format qog'ozga raqamlarni 0 dan 10 gacha yoziladi. Shu raqamlarni kreativlik bilan shakllarga aylantirish topshirig'i beriladi. O'quvchilar antiqa narsalarni simvol qilib olishadi. Bu metod orqali bolalarda tasavvur olami kengaytiriladi. Hayotga kritik nazarda qarash tushunchalari shakllantiriladi.

Xalqaro o'quvchilar yutuqlarini baholash dasturi (PISA, Program for International Student Assessment) – bu uch yilda bir marta OECD (Iqtisodiy

hamkorlik va taraqqiyot tashkiloti) tomonidan tashkil etiladigan xalqaro tadqiqot bo‘lib, uning maqsadi 15 yoshli o‘quvchilarning asosiy bilim va ko‘nikmalarini baholashdir. Dastur o‘quvchilarning o‘qish, matematika va tabiiy fanlar bo‘yicha tayyorgarligini, shuningdek, ularning zamonaviy jamiyatda samarali faoliyat yuritish qobiliyatini o‘lchaydi.

PISA ning maqsadi va vazifalari:

PISA ning asosiy maqsadi – ta‘lim tizimlarining samaradorligini oshirish uchun ishonchli va nufuzli ma‘lumotlarni taqdim etishdir. Bu dastur:

1. O‘quvchilarning tayyorgarlik darajasini o‘lchash: PISA o‘quvchilarning bilimlarini aniq fanlar bo‘yicha emas, balki ularning kundalik hayotda duch keladigan muammolarni hal qilish qobiliyatini baholaydi.

2. Xalqaro solishtirish: Turli davlatlarning ta‘lim tizimlarini solishtirish imkoniyatini beradi. Bu orqali mamlakatlar o‘zlarining zaif va kuchli tomonlarini aniqlashlari mumkin.

3. Politika tavsiyalari: Olingan ma‘lumotlar asosida ta‘lim siyosatini shakllantirish va rivojlantirish uchun tavsiyalar beriladi.

PISA ning tadqiqot yo‘nalishlari

PISA tadqiqotlari uch asosiy yo‘nalishda olib boriladi:

1. O‘qish savodxonligi: O‘quvchilarning matnni tushunish, tahlil qilish va foydalanish qobiliyatlarini o‘lchaydi. Bu o‘qish savodxonligi nafaqat adabiy matnlar bilan ishlashni, balki axborotli, ilmiy va boshqa turdagi matnlarni ham qamrab oladi.

2. Matematika savodxonligi: O‘quvchilarning matematik tushunchalarni tushunish, qo‘llash va tahlil qilish qobiliyatlarini o‘lchaydi. Bu yo‘nalish matematik muammolarni hal qilish va kundalik hayotda matematik bilimlarni qo‘llashni o‘z ichiga oladi.

3. Tabiiy fanlar savodxonligi: O‘quvchilarning ilmiy bilimlarni tushunish va ulardan foydalanish, ilmiy tadqiqotlarni tushunish va ilmiy fikrlash qobiliyatlarini o‘lchaydi.

PISA ning ahamiyati

PISA natijalari butun dunyo bo‘ylab ta‘lim tizimlarini tahlil qilish va ularni yaxshilash uchun asos bo‘lib xizmat qiladi. PISA orqali:

1. Ta‘lim tizimlarining zaif va kuchli tomonlari aniqlanadi.

2. Davlatlar o‘rtasida tajriba almashish imkoniyati paydo bo‘ladi.

3. Ta‘lim siyosatini shakllantirish va rivojlantirish uchun ishonchli ma‘lumotlar taqdim etiladi.

4. O‘quvchilarning hayotiy ko‘nikmalarini rivojlantirishga qaratilgan yondashuvlarni ishlab chiqish imkoniyati yaratadi.

O‘zbekistonning PISAdagi ishtiroki

O‘zbekiston ham PISA tadqiqotlarida ishtirok etib, o‘z ta‘lim tizimini xalqaro darajada tahlil qilish va rivojlantirish uchun zarur bo‘lgan ma‘lumotlarga ega bo‘lish imkoniyatiga ega bo‘ldi. Bu mamlakatda ta‘lim sifati va

samaradorligini oshirishga, shuningdek, xalqaro maydonda o'z o'rnini aniqlashga yordam beradi.

Xalqaro baholash dasturi (PISA) – bu 15 yoshli o'quvchilarning asosiy bilim va ko'nikmalarini baholashga qaratilgan muhim xalqaro tadqiqotdir. Bu dastur orqali ta'lim tizimlarining samaradorligi oshiriladi, davlatlar o'z zaif va kuchli tomonlarini aniqlaydilar va ta'lim siyosatini shakllantirish uchun ishonchli ma'lumotlarga ega bo'ladilar.

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SHAHARLARDA YO'L HARAKATINI SAMARALI TASHKIL ETISH YO'NALISHLARI

Anotatsiya. Yirik shaharlarda transportni rivojlantirish strategiyasi jamoat avtomobil transportining shaxsiy avtomobil transportiga nisbatan imtiyozini ta'minlashga va shaharda avtomobil transportidan foydalanishni kamaytirishga qaratilgan. Shundan kelib chiqqan holda ushbu maqolada yirik shaharlarda, jumladan, Andijon shahrida yo'l harakatini tashkil etishdagi muammolar va ularning yechimi bo'yicha takliflar ko'rib chiqilgan.

Tayanch so'zlar: yo'l harakat; transport oqimi; xavfsiz harakat, jamoat transporti.

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DIRECTIONS FOR EFFECTIVE TRAFFIC ORGANIZATION IN CITIES

Annotation. The strategy for the development of transport in large cities is aimed at ensuring the preference of public car transport over private car transport and reducing the use of car transport in the city. Based on this, this article examines the problems of traffic management in large cities, including Andijan, and suggestions for their solution.

Key words: road, movement; traffic flow; safe movement, public transport.

Yo‘l harakatini tashkil etish - transport vositalari oqimini maksimal darajada yo‘lning geometrik o‘lcham imkoniyatlaridan foydalanib, uning har xil bo‘laklarida xavfsiz harakat tartibini va yuqori o‘tkazish qobiliyatini ta‘minlashga qaratilgan tadbirlar tizimidan iborat. Yo‘l harakatini tashkil etish tamoyillari transport oqimini to‘g‘ri yo‘naltirishga, kerak hollarda ulami tezliklar bo‘yicha guruhlarga ajratishga, har bir yo‘l bo‘lagi uchun ratsional tezliklarni belgilashga, haydovchilarga o‘z vaqtida harakat marshruti va yo‘l sharoiti to‘g‘risida axborot berishga qaratilgan. Yo‘l harakatini tashkil etish tamoyillari transport oqimini to‘g‘ri yo‘naltirishga, kerak hollarda ularni tezliklar bo‘yicha guruhlarga ajratishga, har bir yo‘l bo‘lagi uchun ratsional tezliklarni belgilashga, haydovchilarga o‘z vaqtida harakat marshruti va yo‘l sharoiti to‘g‘risida axborot berishga qaratilgan.

O‘zbekiston Respublikasi mustaqillikka erishgandan so‘ng iqtisodiy o‘zgarishlar hayotga izchil joriy etila boshlandi. Chunonchi, avtomobil ishlab chiqarish sanoati yo‘lga qo‘yildi, yo‘l qurilishi sohasi jadallashtirildi, shuningdek, chet davlatlar bilan savdo aloqalari yuqori darajaga ko‘tarildi. Bu esa, tabiiy ravishda respublika avtomobil yo‘llarida harakat miqdori yildan-yilga ortishiga olib keldi. Hozirgi va istiqboldagi asosiy masalalardan biri - avtomobil yo‘llarida harakat xavfsizligini ta‘minlashdan iborat bo‘lib, unda yo‘l-transport hodisalari, ularda halok bo‘luvchilar va tan jarohati oluvchilar sonini, ko‘riladigan umumiy ijtimoiy-iqtisodiy zararlarni kamaytirishga qaratilishi zarur.

Namangan viloyat maydoni bo‘yicha Farg‘ona viloyatidan 1,5 marta Buxoro viloyatidan 9,4 marta, Navoiy viloyatidan 25,8 marta kichik bo‘lib, respublika hududida maydon jihatidan eng kichik viloyat hisoblanadi. Yana shuni aytish kerakki, viloyat hududi Farg‘ona vodiysidan o‘tgan va kesishgan magistral yo‘llar ustida joylashgandir. Viloyat hududidan Qirg‘iziston va boshqa tomonlarga boradigan yo‘llar o‘tgan. Namangan viloyati respublika hududida kichik maydonni egallashiga qaramay, respublikaning 9% ortiq aholisi yashaydi. Yana shuni aytish o‘rinliki, Andijon viloyati aholisining zichligi bo‘yicha nafaqat respublikada, balki MDH bo‘yicha eng zich viloyat bo‘lib, 1 km.kv. ga 1.01.2018 yilgi ma‘lumotga ko‘ra 698 kishi to‘g‘ri keladi.

Keyingi yillarda shaharda olib borilayotgan yirik qurilishlar uning transport va infrastrukturasi qayta ko‘rib chiqishni taqozo qiladi. Shunday ekan, yangi ko‘rinishdagi poytaxtimizning ko‘chalaridagi yo‘l harakatini tashkil etishni ko‘rib chiqish maqsadga muvofiq bo‘lar edi.

Yo‘l harakatini tashkil etish-yo‘l-transport harakati xavfsizligini ta‘minlashga qaratilgan tashkiliy-huquqiy, tashkiliy-texnik tadbirlar va avtomobil yo‘llarida boshqarish bo‘yicha taqsimlovchi harakatlar kompleksidir. Yo‘l harakatini tashkil etishning asosiy ko‘rinishi avtomobil transport vositasi va piyodalarning yo‘l harakatini optimal tashkil etish va takomillashtirish bo‘yicha loyihalashtirishga qaratilgan.

Yirik shaharlarda transportni rivojlantirish strategiyasi jamoat avtomobil transportining shaxsiy avtomobil transportiga nisbatan imtiyozini ta'minlashga va shaharda avtomobil transportidan foydalanishni kamaytirishga qaratilgan.

Namangan shahri ko'chalarida shahar arxitekturasidan kelib chiqib, asosan radial ko'rinishda joylashgan. Bungi kunda shahar ko'chalarida yo'l harakatini tashkil etish ilmiy-tadqiqot natijalari asosida zamonaviy tashkiliy-texnik vositalar yordamida tashkil etilgan. Andijon shahridagi hozirgi transport va infratransport o'zgarishlarini e'tiborga olib, yo'l harakatini tashkil etishdagi quyidagi takliflar to'g'risida aytib o'tishimiz mumkin:

- shahar hududini ayrim hududlarga ajratib chiqish;
- aholi zich yashash hududlari (bu hudud ichida avtomobil harakati uchun ma'lum cheklolarning o'rnatilishi lozim)ga ajratib chiqish mumkin. Masalan, Parijda "Avtomobilsiz markaz" dasturi joriy qilingan;

- shaxsiy avtomobillarda shahar markaziga kirish uchun to'lov tizimini joriy etish. Kirish masofasining shahar markazida turish joy masofasiga bog'liq ravishda shaharga kirish uchun belgilangan miqdorda to'lovlarni amalga oshirish yoki avtomobillarni to'xtab turish joyida qoldirish (parkovka qilish) kabi tadbirlar xorij tajribasida amalga oshirilgan. Lekin mazkur tadbirlar bir qancha muammolarni ham yuzaga keltirib chiqaradi. Masalan, shaharga kirish hududlarida keng avtomobil to'xtab turish joylarini tashkil etish, shahar jamoat transportiga o'tib o'tirish uchun marshrutlarni qayta ko'rib chiqish, barchasi uchun to'lov tizimini ishlab chiqish va h.k.;

- shahar jamoat yo'lovchi transportini rivojlantirish. Shahar jamoat yo'lovchi transporti harakatini xavfsiz tashkil etish usullarini joriy etish. Masalan, shahar jamoat yo'lovchi transporti harakati uchun alohida harakatlanish yo'lakchasini tashkil etish. Bunday tajribani London, Berlin, Los-Anjelos, Sofiya va Moskva shahar ko'chalarida amalga oshirilganini aytib o'tish joiz;

- shahar ko'chalarini takomillashtirish. Yuqori transport zichligiga ega bo'lgan shahar ko'chalarida tezlik yuqori bo'lgan magistrallarni tashkil etish. Lekin bunday shahar ko'chalarini tashkil qilish juda katta ilmiy-loyihaviy ishlarni amalga oshirishni taqozo qiladi;

- yo'l-transport harakati ishtirokchilarini yo'l-transport holatlari to'g'risida axborotlar bilan ta'minlash. Bunday axborot ma'lumotlari avtomobil yo'lining holati, undagi transport vositalarining zichlik holati (tirbandlik), shahar jamoat transporti marshrutlari to'g'risidagi ma'lumotlar va h.k.larni o'z ichiga olishi mumkin. Keltirib o'tilgan axborot ma'lumotlarini uzatish va undan foydalanish bo'yicha qator innovatsiyalar ishlab chiqilgan va joriy etilgan.

Harakat xavfsizligini ta'minlash keng qamrovli tadbirlarni ishlab chiqishni taqozo etar ekan, yuqorida shaharlarda yo'l harakatini tashkil etish bo'yicha qayd etilgan takliflar Namangan shahridagi muammolarning yechimiga ham hissa qo'shadi, deb umid qilamiz.

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SHUKUR XOLMIRZAYEV HIKOYALARIDA RUHIY-PSIXOLOGIK HOLAT IFODASIDA DETALNING O'RNI

Annotatsiya. Ushbu maqolada adib Shukur Xolmirzayev ijodida qahramon ruhiyatining yoritilishida detalning o'rni yozuvchi hikoyalari asosida tahlil qilinadi.

Kalit so'zlar: ruhiyat, hikoya, detal, badiiy obraz, qahramon, poetik mahorat.

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THE ROLE OF DETAIL IN THE EXPRESSION OF MENTAL AND PSYCHOLOGICAL STATE IN SHUKUR KOLMIRZAYEV'S STORIES

Abstract. In this article, the role of detail in the illumination of the psyche of the hero in the work of writer Shukur Kholmirzayev is analyzed based on his stories.

Key words: spirit, story, detail, artistic image, hero, poetic skill.

Shukur Xolmirzayevning adabiyotdagi o'rni o'zbek nasrida hikoyachilik taraqqiyotiga qo'shgan hissasi bilan belgilanadi. Adib o'z hikoyalarida Surxon vohasining tabiatini, ayniqsa, o'zi tug'ilib o'sgan yurt – so'lim Boysun manzaralari, unda yashayotgan insonlar hayotini tasvirlaydi. Aytish mumkinki, Shukur Xolmirzaev o'zbek adabiyotiga birinchilardan bo'lib, Surxon mavzusini, Surxonning zahmatkash kishilarini qahramon sifatida olib kirdi. Bu haqida yozuvchi ijodining ilk tadqiqotchisi atoqli adabiyotshunos olim Matyoqub Qo'shjonov o'z davrida shunday yozgandi: “Uning asarlarining materiali ko'proq o'zi tug'ilib o'sgan joylari – Boysun tog'lari, Surxon bo'ylari bilan bog'liq. U Boysun tog'i go'zalliklarini, Surxon ko'rkamliklarini adabiyotga olib kirayapti. Faqat tabiatini emas, balki u Boysun va Surxon odamlarini ularning o'ziga xos xarakter xususyatlarini boshqa joylardan bir oz farq qiladigan hayot kechirish yo'llari bilan adabiyotga olib kirayapti” [1:355]. Darhaqiqat, yozuvchi asarlaridagi qahramonlar tabiatga chin qalbdan oshufta bo'lgan oddiy qishloq kishilari, yoshlar va qalbi pok bolalardan tortib, turli rahbar lavozimidagi kishilar hayoti, turmush tarzi, kechinmalari – bularning barchasida ana shu vohada istiqomat qilayotgan insonlar tasvirlanadi, xalqimizning hayoti, turmush madaniyati ular hayoti misolida aks ettiriladi. Asar badiiy mazmuni va g'oyasiga

ko‘ra yozuvchi bevosita qahramonlar taqdiri orqali o‘zining mavjud davr va hayot haqiqatlariga munosabatini bildirib o‘tadi.

Shukur Xolmirzaev adabiyotga, xususan, o‘zbek nasriga juda katta yangi yangi tamoyillarni olib kirdi. Adib hikoyalarida tabiat va undagi unsurlarning badiiy detal vazifasini bajarishi, ulardagi o‘ziga xoslik ham ana shu tamoyillardan biri sanaladi. U asosan hikoyalarida tabiatdagi bir qator unsurlaridan tortib, ko‘z ilg‘amas go‘zal, eng kichik mavjudotlardan badiiy detal sifatida foydalanadi. Bu esa har bir o‘quvchida makon va vaqt, qahramon ruhiy holati va asar voqealarini tasavvurida jonlantirish bilan birga hissiy-emotsional ta’sirlanishga xizmat qiladi. Shukur Xolmirzaev qahramonlari o‘z hayotlarini tabiat bilan uyg‘unlikda bilib, tabiatni asrab avaylash uchun jon dili bilan kurashadi. Bularning barchasi isde‘dodli yovuvchining badiiy mahorati, hayotiy va ijodiy salohiyatining yuksak ekanligini namoyon ettiradi. Adib hikoyalarida qahramon ruhiyatidagi psixologik holatlar asosan, tabiat manzaralari orqali ifodalanadi.

Adibning qator hikoyalarida shaxs va uning tuyg‘ulari, taqdiri, qismati haqida o‘ylari, qahramonning ichki kechinmalari, ruhiy iztiroblari hayot bilan moddiylashgan holda aks ettiriladi. Shu jihatdan u qo‘llagan badiiy detal vositalari qahramon ruhiyatini yoritishda muhim o‘rin tutadi. Zero, "... detal badiiy voqelikni yaratish vositasi – ashyosi bo‘lib, u tasvirlanayotgan narsa-hodisani konkretlashtiradi, uni hissiy idrok qilish mumkin bo‘lgan tarzda gavalantiradi"[2:88].

Yozuvchining 1987-yilda yozilgan "Xumor" hikoyasidagi asosiy qahramonning nafasini bevosita his qilish, xatti-harakatlarini yaqqol ko‘rish, kechinmalarini his qilish mumkin. Ushbu hikoya haqida munaqqid Qozoqboy Yo‘ldoshev shunday deydi: "Hikoya qahramoni – lavozimdor shovvozlar vujudga keltirgan nosog‘lom vaziyat qurboni... Alohida bir kishi uchun ham, butun bir millat uchun ham yanglish e‘tiqoddan xavfliroq narsa yo‘q. Bu qahramonda o‘zbekning tantiligi, o‘zini o‘ylamasligi, adoqsiz sabru toqati namoyon bo‘ladi. Hikoyada u orqali xalq timsoli yaratilgan, deyish mumkin"[3:353].

Hikoya qahramoni – romantik tabiatli, mehnatsevar, kasal bo‘lsa-da, o‘z manfaatini deyarli o‘ylamaydigan do‘lvor yigit. Hikoya ana shu qahramonning tilidan aytilib, bevosita kitobxon ham uning yaqin suhbatdoshiga aylanadi. Hikoya qahramonning shofyor bilan suhbatidan iborat. Shofyorning ishtirokini kitobxon hikoya oxirida anglaydi. Butun hikoya davomida qahramon o‘zining hayotini so‘zlab beradi. "U o‘zining nochordan-nochor turmushidan mamnun, boshqacha tuzukroq hayot bo‘lishini tasavvur ham qilolmaydi. Yigit yoshligiga qaramay, tuzalmas dardga muhtalo bo‘lgan, rangi zahil, odam qo‘rqulik, sochi to‘kilib ketgan, tishi qolmagan, pushti kuyib ketgani bois farzand ko‘ra olmaydi. Uning bu ko‘rguliklariga sabab o‘zining toksikomaniyaga yo‘liqqanligi, ya’ni paxtaga ishlatiladigan doridan zaharlangani va endilikda usiz turolmasligida edi. Paxta dalalariga sepiladigan dori – butifos hidisiz uning uchun butun olam o‘z tarovatini yo‘qotadi. U o‘zining bu ahvolini ijtimoiy jihatdan asoslaydi ham: "...paxta davlatimizning tirgaklaridan, ustunlaridan! Biz uni yetishtirishimiz

kerak ekan, sal ziyon ko'rsak nima qipti?"). Hikoya qahramoni – mustabid tuzum yuritgan paxta siyosatining qurboni. Hikoya boshlanmasida o'quvchida vaqt haqida tasavvur uyg'onadi. Qahramon suhbatdoshiga "...Kuz tushib qoldi-ya. Ah qanday yaxshi fasl!" – deydi. Dastlabki o'rinda peyzaj manzarasi tasvirida kuz detali qo'llanilib, hikoyani ochqich kaliti sifatida ko'ramiz. O'quvchi anglyadiki, voqealar asosan kuzda kechadi. Ikkinchi detal kuz bilan bog'liq hikoya boshlanmasida keltirilgan: "Paxta terganmisiz? Paxta termagan o'zbek bolasi bor ekanmi?" Uchinchi detal paxta bilan bog'liq hikoya qahramonning suhbatdoshiga savol-berib, o'zi javob bergan o'rnida keltirilgan: "...paxta naq ochilganda dalaga kirganingizda dastlab dimog'ingizda nimaning hidi urilgan? Do-ri-ning!" O'quvchiga ayon bo'ladiki, qahramon kasalligining asl sababchisi kuzdagi paxta dalasi va unga sepiladigan dori. Hikoya qahramonining "...dori mening tarjimai holimga singib ketgan axir! Tushunyapsizmi? Mening butun quvonchlarim, zavqlarim, hayotimning ma'nosi, Vatan oldidagi burch, ilk muhabbatim ham... o'sha bilan bog'liq. Usiz o'tmishim yo'q"[4:94], – deb bejiz aytmaydi. Bu – e'tiqod. Alohida bir kishi uchun ham, butun bir millat uchun ham yolg'on e'tiqoddan xavfliroq narsa yo'q. Bu qahramon kechinmalarida qanchadan-qancha o'zbekning kuzgi paxtazorlarda zararli dorilardan umri xazon bo'lgan, turmushi vayron bo'lgan yoshlari taqdiri, fojeasi namoyon bo'ladi. Ma'lumki, yil fasllari orasida "kuz – alohida badiiy obraz sifatida muhim o'rin tutadi"[5:537]. Kuz manzaralari ijodkor badiiy niyatini yuzaga chiqarishda muhim vositab voqealar boshlanishi yoki qahramonlar ruhiyatini yorituvchi asosiy tasvir vositasidir. Hikoyadagi mazkur tasvir haqida munaqqid olim N.Yo'ldoshev shunday fikrlarni aytadi: "Davr nuqtai nazaridan tahlil qilinadigan bo'lsa yozuvchi nihoyatda katta jasorat bilan totalitar tuzum vujudga keltirgan nosog'lom muhitni tanqid ostiga olgan. Hikoyada kuz tasviriga alohida urg'u berilgan. Qahramon ham kuzni yaxshi ko'radi, kuzda paxta terimi boshlanadi, dorilar serob. Xohlagancha xumordan chiqish mumkin. Bundan tashqari adib kuz tasvirida millatni muqarrar holatga olib boradigan illatlarga ishora qilgan"[6:30].

Paxta – hikoyaning markazida turuvchi detaldir. Qahramonning tashqi tuzilishi sariqligi, kasalligi, hattoki e'tiqodida ham paxta asosiy o'rin tutadi. Hikoya qahramoni shu jihatdan Tog'ay Murodning "Dehqonqul"iga o'xshaydi. Sodda, tanti va fidoiy. Umrining zavol bo'layotganini bilsa ham, o'zini ovutadi: "U yog'ini so'rasangiz, zararsiz narsaning o'zi yo'q! Shu nafas olayotgan havoningizdayam zararli mikroblar bor. Mashinaning orqasidan chiqayotgan tutun ham – koni ziyon... E, hamma narsani o'ylab, har narsadan hadiksirab yashasang, yashashning qizig'i qolmaydi...". Qahramon ruhan ezilsa-da, o'ziga yuqtirmaslikka urinadi, aldaydi. Zero, inson hech qachon o'zidan qochib qutula olmaydi. Butun hikoyani o'qish davomida kitobxon og'ir iztirobga tushadi. Hikoyada oddiy bir mehnatkash insonning qalb kechinmalarida keltirilgan kuz, paxta, dori – bir-biriga bog'liq qo'llanilgan detallarda millatning tuzumga aldangan erksiz va ojiz insonlari fojeasi beriladi.

Xulosa qilib aytganda, yozuvchi Shukur Xolmirzayevning hikoyalarida tabiat va inson tasviri yetakchi bo‘lib, yozuvchi qahramon ruhiyatini yoritishda badiiy detal sifatida tabiat unsurlaridan keng foydalanadi. Uning asarlarida inson ruhiyati, ichki kechinmalarini ifodalash, ichki ziddiyatlarni ifodalashda detallar muhim o‘rin tutadi. Shukur Xolmirzayev asarlari xalqimiz badiiy madaniyatini yuksaltirishda va ma’naviy ehtiyojini qondirishda o‘ziga xos vazifani o‘taydi.

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SHAHAR HAVO MUHITINING HOLATINI KUZATISH REJASINI SHAKLLANTIRISH USULLARI

Annotatsiya. Ushbu maqolada atmosfera havosining ekologik monitoringi bo'yicha mobil laboratoriyalar uchun kuzatuv rejasini tuzishda havo ifloslanishini prognozlashda xatolikni kamaytirish, shuningdek o'lchash joylarini tanlashda qaror qabul qilishni qo'llab-quvvatlashda noaniqlikni kamaytirish, havo muhiti holatini kuzatish rejasini shakllantirish usullari yoritilgan.

Kalit so'zlar: Atmosfera havosi, havo ifloslanishi, o'lchash joylari, mobil laboratoriya, qabul qilishni qo'llab-quvvatlash.

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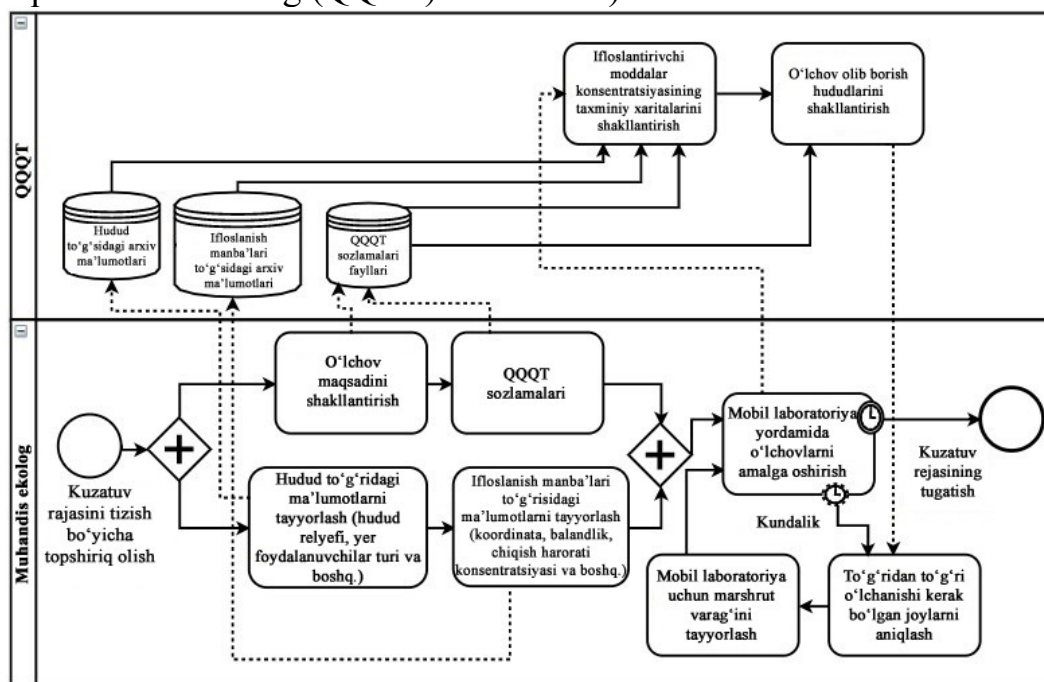
METHODS OF FORMING A PLAN FOR MONITORING THE STATE OF THE CITY AIR ENVIRONMENT

Abstract. This article describes the ways to reduce the error in forecasting air pollution when creating a monitoring plan for mobile laboratories for ecological monitoring of atmospheric air, as well as reducing uncertainty in supporting decision-making in the selection of measurement sites, and methods of forming a plan for monitoring the state of the air environment.

Key words: Atmospheric air, air pollution, measurement sites, mobile laboratory, reception support.

Bugungi kunga kelib, havo ifloslanishi bo'yicha asosiy ma'lumotlar stasionar atrof-muhit monitoringi postlaridan olingan. Mobil postlar sanoat korxonalarida yaqinidagi ifloslanishni baholash uchun ishlatiladi va fuqarolardan kelayotgan xabarlarini tekshirish.

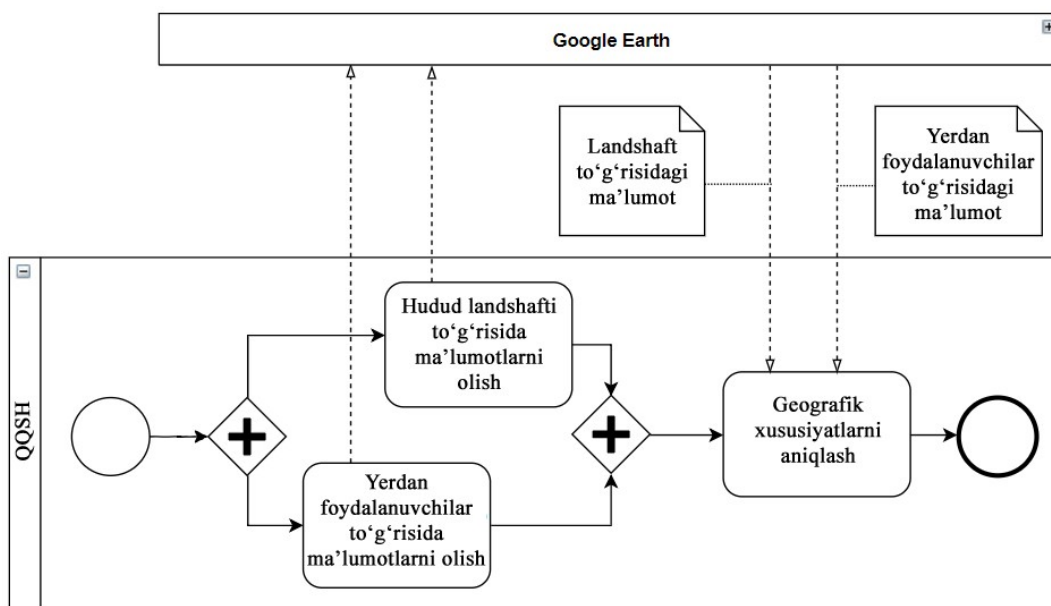
Hozirgi yondashuvdan farqli o'laroq, muhandis-ekolog uzoq vaqt davomida oldindan aniqlangan statik er uchastkalari to'plamidan o'lchash joyini tanlaganida, taqdim etilgan usul butun o'rganilayotgan hudud uchun ifloslanishni bashorat qiladi va o'lchov ob'ektini to'g'ridan-to'g'ri tanlash qaror qabul qilishni qo'llab-quvvatlash tizimi (QQQT) tomonidan tanlangan yer uchastkalari to'plamidan amalga oshiriladi. maqsad asosida o'lchovlarni o'tkazish (qaror qabul qiluvchi shaxsning (QQSH) afzalliklari).



1-rasm. Kuzatish rejasining shakllantirish usuli

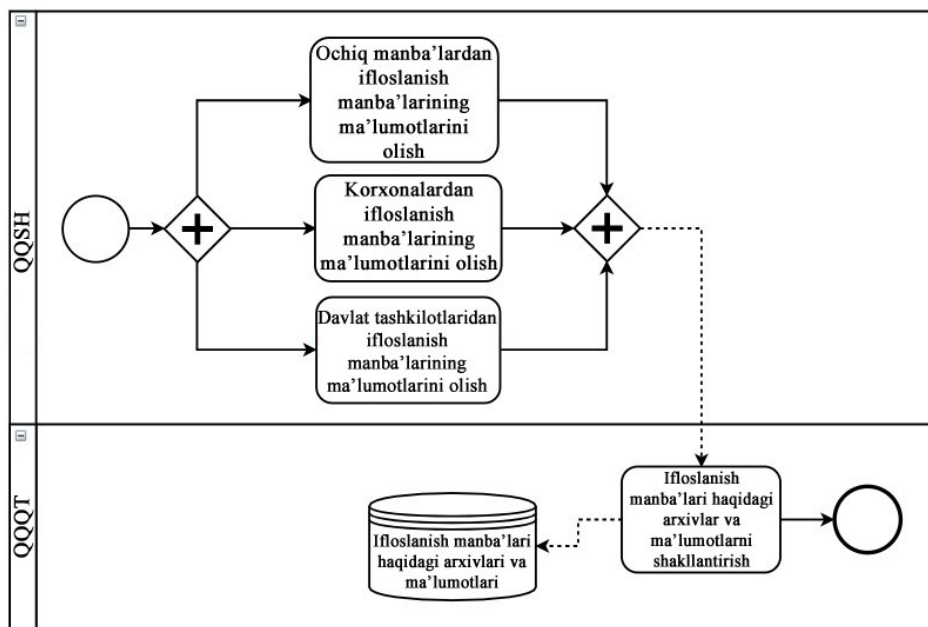
Usulni ifloslantiruvchi moddalarning taqsimlanishini modellashtirish bo'yicha dasturiy ta'minot majmuasi, shuningdek, qarorlarni qo'llab-quvvatlash tizimi asosida amalga oshirish taklif etiladi.

1-qadam - "Relief ma'lumotlarini tayyorlash" (2-rasm). Ushbu bosqichda o'rganilayotgan hudud uchun relief va yerdan foydalanish turlari bo'yicha ma'lumotlarni olish kerak. Muayyan hudud uchun ushbu ma'lumotlar bir marta olinadi.



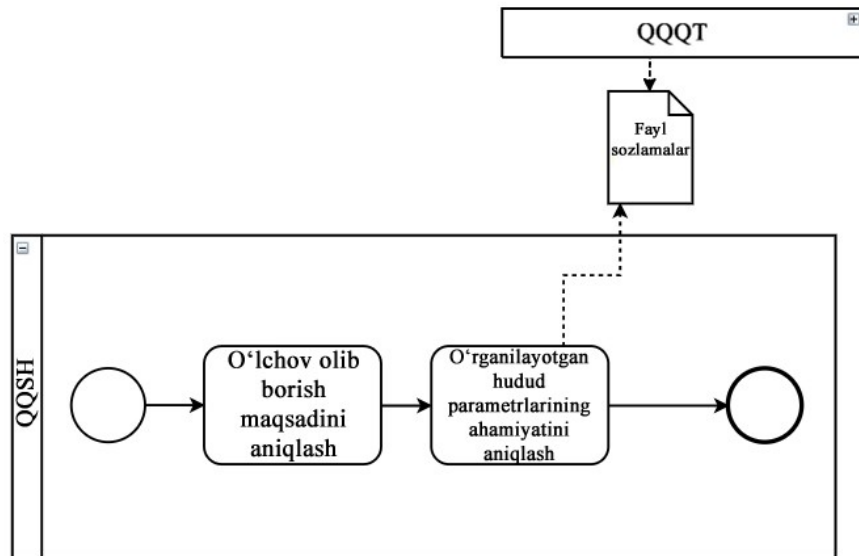
2-rasm. Hudud ma'lumotlarini tayyorlash jarayoni.

2-qadam - "Ifloslanish manbalari to'g'risida ma'lumotlarni tayyorlash" (3-rasm). Bu jarayonda ekolog-muhandis ifloslanish manbalarining parametrlari bo'yicha ma'lumotlarni to'playdi va ular asosida arxiv tuziladi. Olingan ma'lumotlar ifloslantiruvchi moddalarning tarqalishini modellashtirish tizimi orqali atmosfera havosini ifloslantiruvchi moddalar kontsentratsiyasini bashorat qilish uchun ishlatiladi.



3-rasm. Ifloslanish manbalari bo'yicha ma'lumotlarni tayyorlash jarayoni.

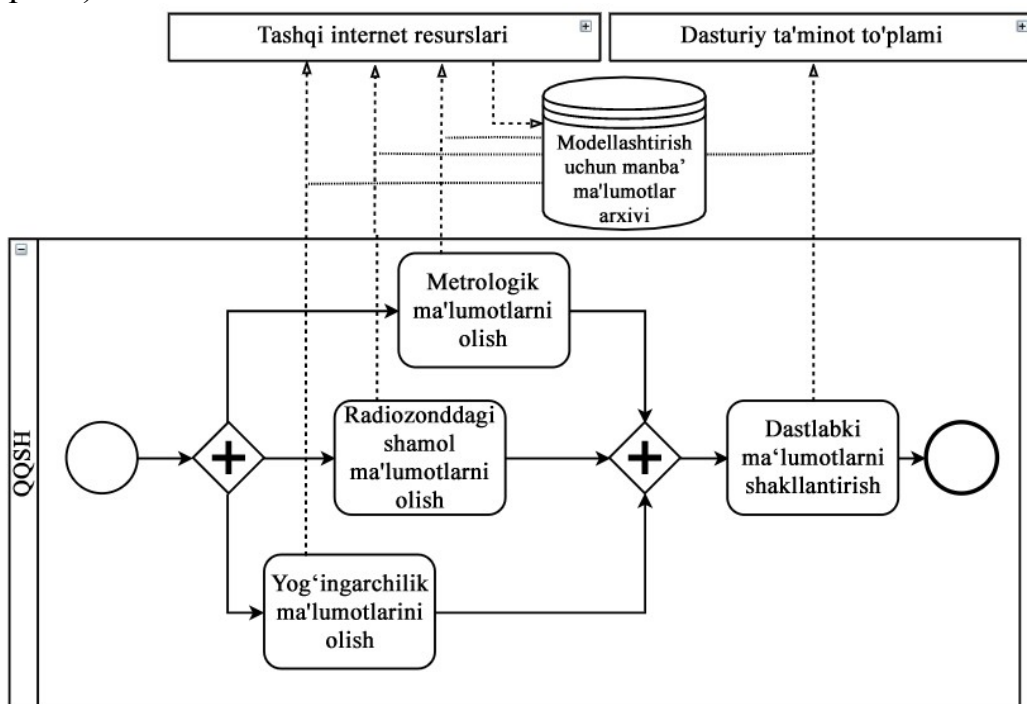
3-qadam - "O'zgarishlar maqsadini shakllantirish." Mobil laboratoriya tomonidan o'lchovlarni amalga oshirish maqsadi qo'yiladi (4-rasm). Ushbu bosqichda qaror qabul qiluvchi shaxs afzalliklarga asoslanib, o'lchovlarning maqsadini aniqlaydi.



4-rasm. O'zgarishlar maqsadini shakllantirish jarayoni

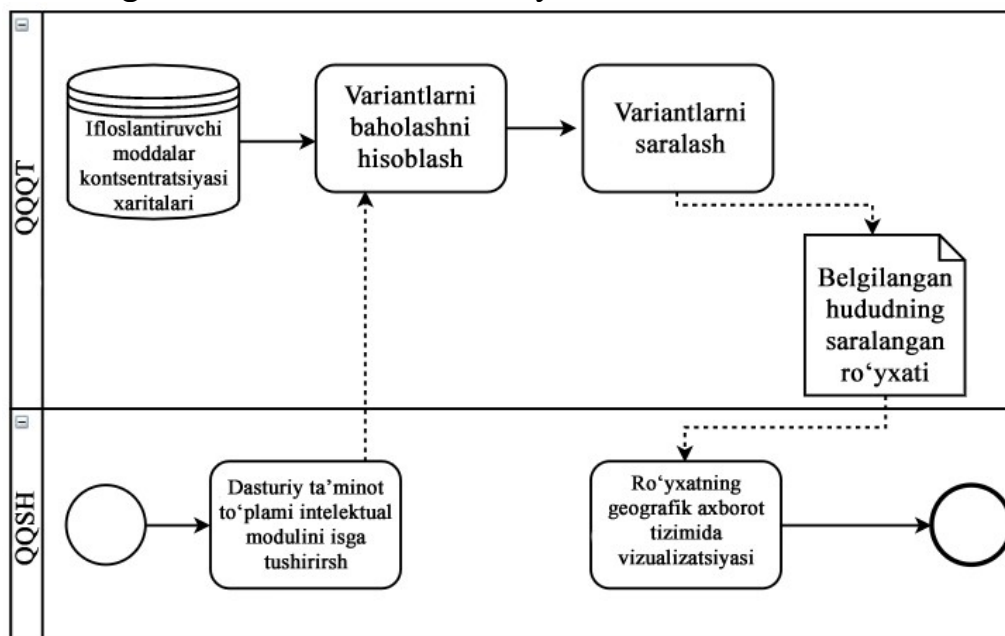
4-qadam - "QQQT-ni sozlash". Ushbu bosqichda qaror qabul qiluvchi o'lchovlarning maqsadiga qarab QQQT ni sozlaydi.

5-qadam - "Ifloslovchi moddalar konsentratsiyasining bashorat qilingan xaritalarini yaratish". Dinamik o'zgaruvchan ma'lumotlar tayyorlanmoqda (5-rasm). Bunday ma'lumotlarga quyidagilar kiradi: meteorologik ma'lumotlar (havo harorati, namlik, bosim, shamol tezligi va turli balandliklarda yo'nalishi hamda boshqalar.).



5-rasm. Ifloslantiruvchi moddalar konsentratsiyasining bashorat qilingan xaritalarini yaratish jarayoni.

6-qadam - "O'lchov joylari to'plamini yaratish." Bu jarayonda qarorlarni qo'llab-quvvatlash tizimi ishga tushiriladi (6-rasm). Ifloslantiruvchi moddalarning bashorat qilingan kontsentratsiyasi va foydalanuvchilarning xohish-istaklari xaritalari asosida hududning alohida hududlari baholanadi. Natijada, o'lchovlarning mo'ljallangan maqsadiga qarab, ko'chma postni jo'natish zarurati bo'yicha tartiblangan o'nta hudud zonalari ro'yxati shakllantiriladi.



6-rasm. O'lchov joylari to'plamini shakllantirish jarayoni

Havo sifatini ta'minlash bo'yicha ishlarni tashkil qilishda boshqaruv qarorlarini qabul qilish zarur bo'lgan ko'plab vaziyatlar yuzaga keladi.

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MEDICINAL AND BIOECOLOGICAL PROPERTIES OF WEEDS

Abstract. As you know, weeds grow among agricultural crops and cause damage, that is, they share sources of moisture and nutrients with cultivated plants, and together with shading of cultivated plants during the growing season, they are not only a source of diseases and pests, but their role in human health is incomparable.

Key words: Botany, weed, plant, pharmaceutical, medicinal, medicinal, chemical, treatment, family, vitamin.

Scientific research on weeds has been going on for a long time. As a result of joint botanical, chemical and pharmaceutical research, the medicinal properties of many weeds have been identified and medicines are produced. They are widely used in folk medicine and modern medicine for medicinal purposes.

In this area, the merits of the scientific staff of the Botany research center of the Academy of Sciences of the Republic of Uzbekistan and the Research Institute of Chemistry of Plant Substances are unparalleled. Thanks to the results of their effective scientific research, the ecology and chemical composition of not only weeds, but also all plants, have been studied, their medicinal properties have been determined, and they are widely used in various sectors of production and the national economy.

Tribulus terrestris L) is a medicinal weed belonging to the Zygophyllaceae family. It grows in Central Asia, the Caucasus, Altai and Eastern Siberia, in deserts, on plains, along the sides of roads and railways, along the banks of rivers and streams, in cultivated fields. In Uzbekistan, milk thistle is more often found along railway tracks, roadsides, along the banks of streams and rivers, as well as on gravel and small stone areas.

Not very sensitive to moisture, grows well in dry conditions. The sea buckthorn plant has been used in folk medicine for many years. Until now, its aspects are manifested in scientific medicine, and in the pharmaceutical industry, necessary medicines are prepared from it. The aerial part of the sea buckthorn plant contains steroid saponins, harman alkaloid, up to 0.6% flavonoids, coumarins, up to 160 mg% vitamin C, resins, dyes, astringents and a number of other biologically active substances and high-molecular compounds.

The drug tribasaponin was developed on the basis of saponins isolated from the aerial parts of the plant. This drug in tablet form is used in the treatment of atherosclerosis. A drug called diosgenin is extracted from the surface of the earth, and in the pharmaceutical industry progesterone, cortisone and other hormonal drugs are synthesized from it.

As mentioned above, the *Tribulus terrestris* plant was used by people in ancient times to treat various diseases. The famous physician and scientist Abu Ali ibn Sina used this plant to treat tumors, wounds, especially purulent gum ulcers, and also as a diuretic to remove kidney and bladder stones.

Purslane - *Portulaca oleraceae* L. representatives of the genus *Portulaca* are very common plants in the world, and there are many species of them. As a weed, Purslane is common in crop fields, especially in fields where melons and melons are grown. Warm spring rains make it easier for them to hatch.

Purslane is an annual plant (of the *Portulaca* family) about 30-35 cm high. The stem is fleshy, hairless, the stems are branched or semi-recumbent. The leaves at the bottom of the stem are arranged in a row, and the leaves at the top are opposite. Purslane contains a large amount of vitamin C (300 mg), vitamin K, glucose, alkaloids, glycosides, phosphorus, calcium, elements.

The fenugreek plant has been used as a medicinal plant in folk medicine since ancient times.

Abu Ali ibn Sina used the sap of the fatty tree to stop internal bleeding, to treat hemoptysis, and also as a medicine for pain in patients suffering from eye and liver diseases.

The great scientist reported that oil mixed with wine can treat head wounds, and a tincture prepared on its basis stops pain in the kidneys and bladder, colds and uterine bleeding. In folk medicine, the oil is recommended as an antipyretic, and the powder as a remedy for intestinal ulcers and bloody diarrhea.

The juice of the leaves is used to treat hemorrhoids. As mentioned above, *Portulaca* contains vitamins C and K, as well as elements of phosphorus and calcium, so people eat it by adding it to various salads and soups. The consumption of this plant can be continued throughout the year.

Black nightshade (*Solanum nigrum* L.) is one of the annual medicinal weeds widely distributed in natural and cultivated areas. The genus *Solanum nigrum* L is one of the largest genera of flowering plants, with more than 1,300 species worldwide. Its representatives grow mainly in Central America, South America, Africa, partly in Eurasia and in temperate regions of America.

There are 7 species of Black Nightshade in Uzbekistan. Some of their species are widely used in agriculture in our republic. In addition, there are representatives of this generation that are found like weeds.

Black nightshade is one such species. Black nightshade is considered a medicinal plant, long used in folk medicine. The plant is a weed found in almost all irrigated areas of Uzbekistan. The stem, leaves and fruits of the plant are used in folk medicine.

The aboveground part of the vine is harvested when the plant blooms and the fruits ripen. The top part of the soil is dried in the shade, and the fruits are dried in the open air.

The unripe fruits and aerial parts of Black Nightshade contain glycoalkaloids, vitamins, organic acids, flavorings and other substances. In folk medicine, a tincture of its leaves and fruits or ripe fruits was used to remove worms in children, to treat sore throat and gout. A tincture of its flowers is used for gout, as a diuretic and expectorant. Freshly picked leaves are used to relieve headaches and heal wounds. To do this, the leaf is crushed and applied to a headache or wound. The juice of the leaves is dropped into the ears and nose to treat earaches, chronic flu and nasal ulcers.

Datura common or Datura stinking Datura - *Datura stramonium* L. is an annual or perennial medicinal alkaloid plant belonging to the nightshade family. The plant is distributed in almost all regions of Uzbekistan. The Datura plant is found mainly along roadsides, along ditches, near residential areas, as a weed in fields, gardens and other cultivated areas.

Datura is found as a weed on abandoned land, around residential areas, along roads and ditches, and in fields and gardens. All parts of Datura are poisonous, so the plant is used for various medicinal purposes. The leaves and fruits of the plant are widely used for medicinal purposes. Its leaves are collected from the moment the plant blooms until the autumn frosts.

The collected leaves are dried in the shade and dry place. The fruits are collected after ripening. The collected fruits are dried, crushed and sifted to remove seeds. The plant *Datura vulgaris* occupies an important place among alkaloid-containing plants.

Some alkaloids, such as hyoscyamine, atropine, scopolamine, are found in various organs of the plant.

In addition to them, the plant, especially in the leaves, contains some essential oils, carotene, flavorings and other unidentified substances. Oil obtained from the seeds of the *Datura vulgaris* plant is applied to swollen areas of the large intestine to relieve pain due to colon disease. In scientific medicine, the leaf of the plant is part of the asthmatol powder, which is smoked by patients with respiratory diseases.

In conclusion, it should be noted that, as is known, weeds grow among agricultural crops and cause damage, that is, they share sources of moisture and nutrients with cultivated plants and, together with shading of cultivated plants during the growing season, are not only a source of diseases and pests, but also their role in human health is incomparable.

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MAIN FACTORS INFLUENCING THE DURATION, METHODOLOGY AND DEPTH OF COTTON CULTIVATION

Abstract. The duration, methods and depth of the main tillage have a serious impact on the agrophysical and water properties of the soil, and when the main tillage is carried out in the fall, on the contrary, cotton flowering slows down. accelerates by 2-3 days, since the agrophysical and water properties of the soil are relatively good compared to summer Hyde, the plant grows quickly and develops well, and an additional cotton crop is grown.

Key words: Agriculture, tillage, technology, cotton, grain, re-seeding, soil fertility, crop rotation, weeds.

Relevance of the topic. In subsequent years, the republic pays special attention to the rational placement of agricultural crops, taking into account the specialization of regions, soil and climatic conditions and water supply of regions, as well as other factors.

In particular, in the Action Strategy of the Republic of Uzbekistan on 2017-2021 “3.3...consistent development of agricultural production, further strengthening of the country’s food security, introduction of intensive methods, especially modern agricultural technologies, into the production sector” are identified as important strategic objectives.

In the republic in 2021, in order to further improve the system of placement of agricultural crops depending on the soil and climatic conditions of the regions, increase the efficiency of use of land and water resources, ensure the fulfillment of contractual obligations, sustainable enrichment of the domestic market, expand the supply of products to processing enterprises and for export to In order to timely and effectively carry out a complex of works on the care and cultivation of agricultural products, high-quality transfer was noted.

Supporting measures to improve the agricultural culture of our country, basic methods of soil cultivation, the introduction of new technologies, while at the same time reducing manual labor in agriculture, reducing production costs, introducing new, economical, beneficial effects on soil fertility and water, physical, agrochemical properties cotton, grains and recurring crops, helping to increase crop yields. it is necessary to develop a system of new agricultural technologies that ensure harvesting.

Consequently, plowing occupies a special place in agricultural technology of cotton growing. Tillage or basic plowing radically changes the physical and mechanical properties of the arable layer, the soil is turned over, crushed, putted, plant residues, fertilizers, various preparations used to protect plants are buried in the soil, and favorable conditions for plant growth are created.

The degree of knowledge of the problem. Through agrotechnical measures to combat the spread of weeds on cotton in various soil and climatic conditions of irrigated agriculture in our republic, B. Sobirov, I. N. Libershtein, V. Kondratyuk, Z. Nasyrov, A. Zhurakulov, Z. Tursunkhodzhaev, M. Mukhamedzhanov, G. Mirzajonov, B. Bakhromov, F. Gasanova and chemist B. Aliyev, M. Lazovskaya, R. Tillaev, A. Sagdullaev, N. Khalilov, Y. Buriev, B. Kholmanov, M. Shodmanov, A. Yuldashev, N. Turdieva, S. Sullieva, Sh. Scientific research on the development of control measures was also carried out by the Rizaevs.

However, in the conditions of light gray soils of the Andijan region, when obtaining high and high-quality grain yields in a cotton rotation system, sufficient scientific research has not been carried out on the influence and subsequent impact of combined weed control (the use of herbicides in combination with basic soil cultivation methods).

Germination of seeds. The germination time of acorns corresponds to April in spring, when climatic conditions are extremely unstable. At this time, their uniform germination is also positively influenced by the agrophysical and water properties of the soil, as well as the temperature of the soil in the layer in which the seeds are planted. Based on the above data from our research, it can be noted that in all six options a special soil environment was created.

In particular, in options 1-4 a simple drive was carried out, where the layer was not completely turned over. In options 2-5, the two-tier drive was moved to a depth of 30-32 cm. In options 3-6, a two-tier drive was sealed to a depth of 38-40 cm. Equal half of the options were mixed in the summer, and the other half in the fall, as a result of which a special mikit was formed by soil mass, porosity and water properties of each option.

Judging by the research data, this affected the germination of soil fungi. In the case of options 1-4, when the soil layer is laid in a simple way at 30-32 cm, the seeds germinate most quickly in a relatively dense soil layer. It was observed that the soil layer germinated 1-4 days after the usual method in 2-5 variants, which were mixed in a double layer of 30-32 cm. It was taken into account that seed germination in the main processed 3-6 variants was at a depth of 38-40 cm happened relatively slowly. These differences in germination occurred due to the weight, porosity of the soil and the moisture content of the layer in which the seeds were planted.

Growth and development of the acorn. The growth of agricultural crops, including acorns, is accompanied by quantitative changes. Rooting of plants is associated with the development of the root system, which is directly related to the ability to absorb and synthesize them. Consequently, the root system of the

acorn depends on the soil moisture in which it operates, in particular, on the agrophysical and water properties of this moisture. We based the above soil layers on the fact that in summer, autumn, in different ways and at different depths, the influence of the haidash soil layer on agrophysical and water properties was different.

In particular, in option 1, where summer observation of the common heida was carried out on June 1, the height of 1 bush of the plant averaged 14.3 cm. In this option, the stacking height was 30-32 cm. The height of the stem of the acorn head reached 16.1 cm, when the depth of the Heydov layer was increased to 38-40 cm.

Similarly, a pattern in the growth of acorn height was noted in the variants where autumn watering was carried out. In particular, in option 4, where the soil was watered to a depth of 30-32 cm in the fall, the plant height was 57.2 cm.

In the latest observation, made on August 1, the influence of summer and fall precipitation on acorn growth is evident, similar to previous observations. For example, in those variants where the soil was cultivated in the summer, the height of the acorn was 83.4-85.5 cm, in those variants where the autumn harvest was carried out, these figures were 84.9-87.8 cm.

From the data obtained, it appears that, compared with the simple Haidash method, the soil was very positively affected by the growth of Haidash gout in a double layer.

Cotton harvest. The cotton specificity of acorns is also due to the fact that the duration of main tillage, methods and the influence of silt on the above scientific indicators vary greatly in Monant Hole. For example, the specific gravity of an acorn in its peel was 1

16.8-19.2 c/ha under summer conditions. And in the conditions of autumn Haidov, these indicators amounted to 20.6-22.0 c/ha. Thus, acorns, the soil of which quickly germinates in the autumn varieties of Gaidash, developed intensively and produced a slightly higher cotton yield than in the summer period of Gaidash. Another notable aspect of this crop is that the highest cotton yields were obtained in treatments in which the soil was plowed deeply in two layers.

In particular, when the land was cultivated to 38-40 cm in the Haydalgantairib field in the fall, it was noted that the total cotton yield was also obtained with autumn hiding compared to the above with summer hiding, with the two-tier method compared with the simple method, with deep- decor options in

Thus, additional feeding of cotton received from haidash in the fall from 1.1 to 2.3 centners per hectare. The additional yield of cotton with the two-layer growing method compared to the conventional method was 1.0-1.6 quintals per hectare under summer conditions. The additional cotton yield obtained with two-layer processing using the Heydov method, compared to the simple Heydov method, amounted to 1.2-2.8 centners per hectare.

Differences were also noted in the additional cotton yield obtained depending on planting depth. These figures corresponded to the differences between the simple Heydow method and the two-level Heydow method.

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DYNAMIC ANALYSIS OF FLUTTER CONVEYOR AND CLEANING SCREW CONVEYOR MACHINE UNIT

Abstract. In this article, the results of the dynamic analysis of the machine assembly, which includes the mechanisms of the working bodies of the proposed oscillating, mesh surface with curved holes, screw conveyor with a wavy surface are presented. Graphs of dependence of the obtained driver, reducer and screw movement laws and loadings on grid parameters are given. Based on the analysis, the recommended values of the parameters of the screw conveyor machine unit are based.

Keywords. Conveyor, screw, mesh surface, fluff, electric drive, belt drive, clutch, shaft, torque, rigidity, dissipation, resistance, radial velocity, law of change.

Mathematical models of machine assembly

The dynamic model is based on the recommended screw conveyor machine unit arrangement with four masses. In this case, the first mass is the rotor of the electric drive, the second mass is the mass of the reducer connected to the drive and combined into one structure, the third mass is the mass of the coupling, and the fourth mass is the mass of the screw [1, 2, 3].

This machine assembly can be viewed as a four-mass dynamic system (Fig. 1).

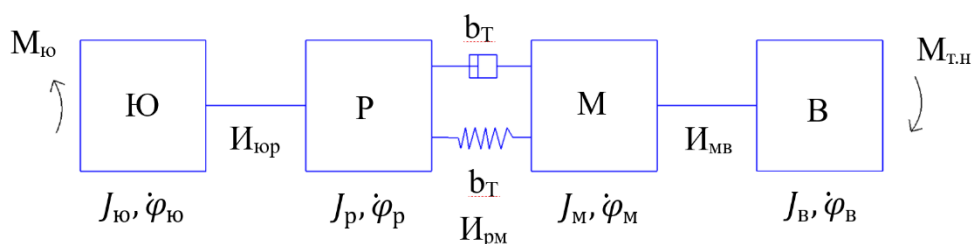


Fig. 1. Dynamic analysis of screw conveyor machine assembly.

A mathematical model representing the movement of the proposed screw conveyor machine assembly was created in the form of a system of differential equations [4, 5, 6]:

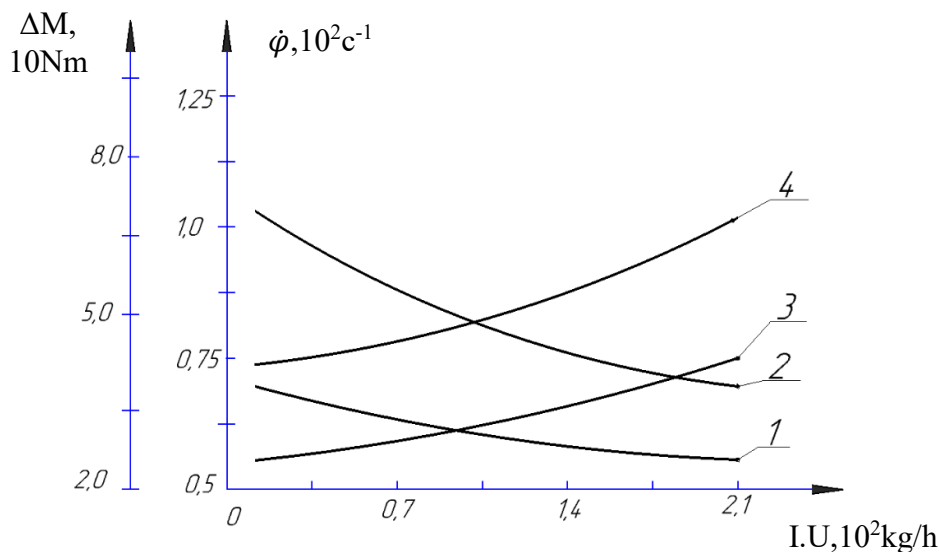
$$\begin{aligned} \frac{\omega_0 - \dot{\varphi}_{yu}}{\omega_0} &= \frac{s_k}{2M_k} M_{yu} + \frac{M_{yu}}{2\omega_0 M_2}; J_{yu} \ddot{\varphi}_{yu} = M_{yu} - M_{yup}; \\ J_P \ddot{\varphi}_P &= I_{yup} M_{yup} - C_T (\varphi_P - U_{PM} \varphi_M) - v_T (\dot{\varphi}_P - U_{PM} \dot{\varphi}_M); \\ J_M \ddot{\varphi}_M &= U_{PM} C_T (\varphi_P - U_{PM} \varphi_M) + U_{PM} B (\dot{\varphi}_P - U_{PM} \dot{\varphi}_M) - M_{mv}; \\ J_B \ddot{\varphi}_B &= U_{MB} M_{MB} - [M_1 + M_0 \sin \omega t \pm \Delta M_B]. \end{aligned}$$

Numerical solution of the resulting system of differential equations was carried out at the initial values of the parameters [7, 8]:

Electric drive (motor-reducer) R67 DRS100M4; $n_{yu} = 1400$ rpm;
 $n_p = 110$ rpm; $U_T = \frac{D_2}{D_1} = \frac{160\text{mm}}{100\text{mm}} = 1,6$; $n_M = n_v = 68,75$ rpm;
 $U \cdot y = (180 \div 200)$ kg/hour; $J_{yu} = 0,018$ kgm²; $J_R = 0,361$ kgm²; $J_M = 0,31$ kgm²; $J_V = 4,63$ kgm²; $C_T = (250 \div 300)$ Nm/rad; $b = (4,5 \div 5,0)$ Nm/rad; $f_c = 50$ Hz; $N = 3,0$ kW; $U_0 / U_1 = 220\text{V} / 380\text{V}$; $M_k = 38$ Nm; $\lambda = 1,6$; $s_n = 0,128$; $p = 2$; $\omega_s = 3/4$ s⁻¹; $\omega_0 = 157$ s⁻¹; $\pi = 3,14$; $M_1 = (48 \div 70)$ Nm; $M_0 = (3,8 \div 6,3)$ Nm; $\Delta M_B = \pm(0,05 \div 0,07)$ M_{tk}; $M_{rm} = (35 \div 45)$ Nm.

The numerical solution of the problem was carried out using a special computer program [9]. The results were recorded as the laws of change of the electric drive rotor, reducer, clutch, screw shaft radial speeds and loads in the machine assembly.

Using the obtained laws, graphs of the interconnection of machine unit parameters were constructed. In particular, Fig. 2 shows the graphs of changes of radial speeds and torques on the output shaft, clutch and screw shafts of the proposed lint-carrying-cleaning screw conveyor reducer depending on the performance.

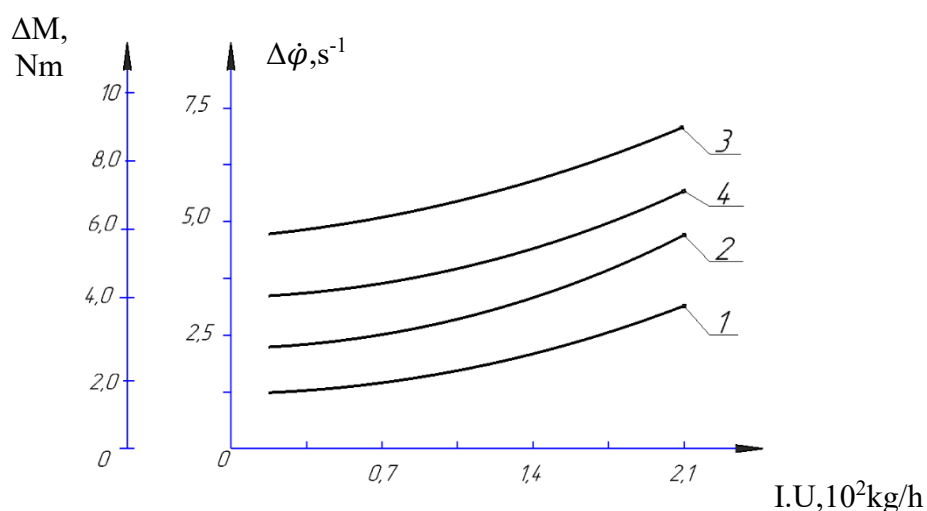


1- $\dot{\phi}_v = \dot{\phi}_m = f(I.U)$; 2- $\dot{\phi}_r = f(I.U)$; 3- $M_v = M_m = f(I.U)$; 4- $M_r = f(I.U)$;
Fig. 2. Variation line graphs of radial velocities and torques on the output shaft, clutch and screw shafts of the recommended fluff carrier-cleaner screw conveyor reducer depending on the performance.

Correspondingly, when the conveyor productivity increases from 35 kg to 200 kg per hour in terms of cotton fluff being transported, the radial speed of the screw shaft $\dot{\phi}_v$ decreases from 72.5 s⁻¹ to 57.3 s⁻¹ in the nonlinear connection, the radial speed of the drive pulley on the reducer outlet shaft is 107.5 s⁻¹ from 74 s⁻¹ can be seen to decrease in the non-linear bond (Fig. 2, graphs 1, 2), but torque

values increase. In particular, it can be seen that the torque M_v on the conveyor screw shaft increases from 36.2 N/m to 64.5 N/m, while the M_r values increase from 22 N/m to 44.3 N/m (Fig. 2, graphs 3, 4).

According to the analysis, when the productivity increases to 200 kg/h, the values of $\Delta\phi_v$ increase from 4.82s^{-1} to 7.42s^{-1} in a non-linear pattern, and the angular velocity oscillation range of the belt drive pulley ϕ_r values increase from 3.09s^{-1} to 5.29s^{-1} .



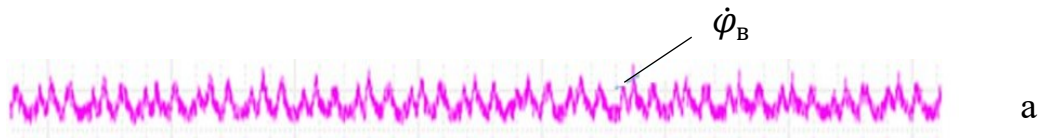
1- $\Delta M_r = f(I.U)$; 2- $\Delta M_v = f(I.U)$; 3- $\Delta \phi_r = f(I.U)$; 4- $\Delta \phi_v = f(I.U)$;

Fig. 3. Dependence graphs of the vibration ranges of the torques on the screw conveyor's screw and the outlet shaft of the reducer.

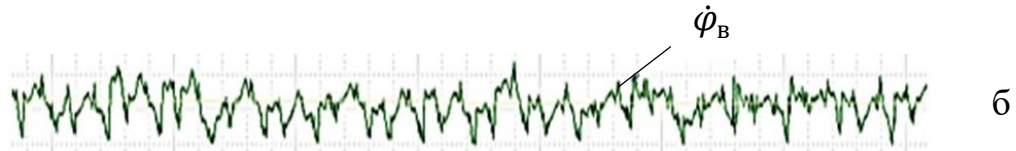
Also, the range of torque fluctuations on the screw shaft - ΔM_v values increase from 2.2 Nm to 5.18 Nm, while ΔM_r values increase from 1.8 Nm to 3.76 Nm in nonlinear connection. (Figure 3, graphs 1-4). So, when the productivity does not exceed $(180 \div 200)\text{kg/h}$, the recommended values are: $\phi_v = (55 \div 60)\text{s}^{-1}$; $\phi_r = (80 \div 90)\text{s}^{-1}$; $\Delta\phi_v = (6,0 \div 6,5)\text{s}^{-1}$; $\Delta\phi_r = (4,5 \div 5,0)\text{s}^{-1}$. In this $M_v = (66 \div 70)\text{Nm}$; $M_r = (40 \div 45)\text{Nm}$ is provided.

It should be noted that radial velocity fluctuations also depend on the belt drive's rotational singularity-dissipative properties. Laws obtained as a result of research are presented. In particular, Fig. 4 shows the laws of radial speeds change in the electric drive (reducer), clutch and screw shaft of the machine unit depending on the change of belt transmission rotational speed and load.

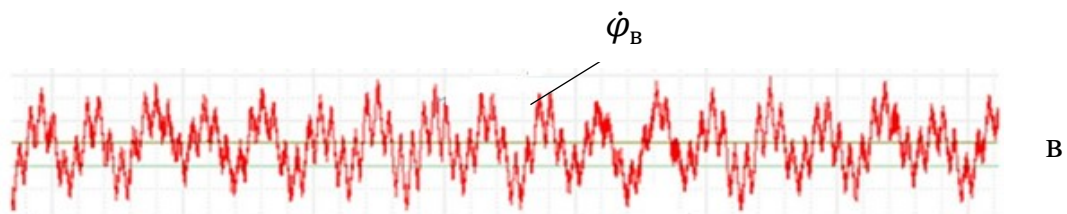
According to the analysis of the obtained laws, the increase in the uniformity of the belt transmission leads to a sharp decrease in the values of $\Delta\phi_v$. Also, if the random component of the technological resistance is high ($\Delta M_v \pm (0,2 \div 0,25) M_{tq}$) the form of vibration of $\Delta\phi_v$ also changes.



$$c_T=350\text{Nm/rad}; M_1=48\text{Nm}; M_1=3,8\text{Nm}; \Delta M_v=\pm(0,2\div 0,25) M_{tq}$$



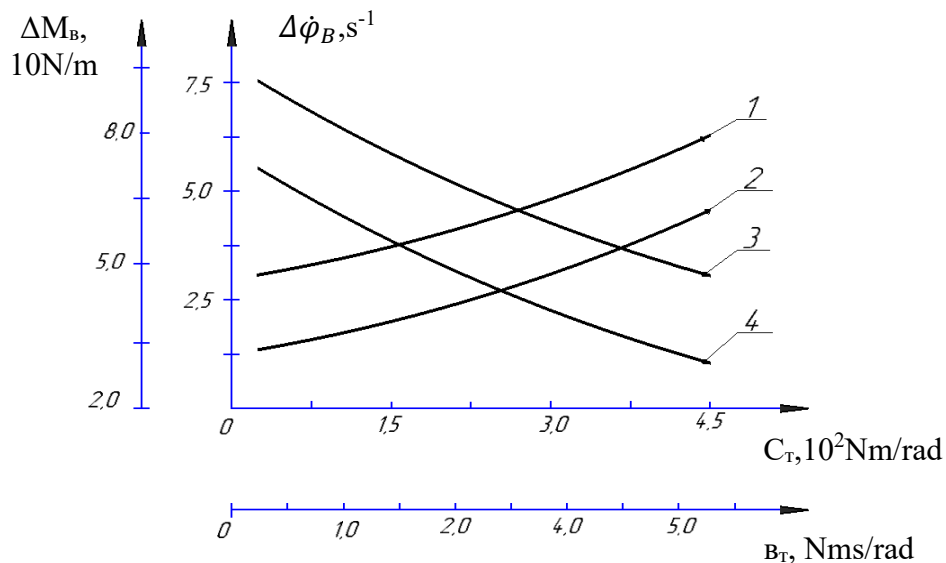
$$c_T=250\text{Nm/rad}; M_1=60\text{Nm}; M_0=5,4\text{Nm}; \Delta M_r=\pm(0,2\div 0,25) M_{tq}$$



$$c_T=200\text{Nm/rad}; M_1=70\text{Nm}; M_0=6,0\text{Nm}; \Delta M_r=\pm(0,2\div 0,25) M_{tq}$$

Fig. 4. Machine unit electric drive (reducer), clutch and radial speed in the screw shaft, belt transmission, rotational speed and laws of change depending on the change of load.

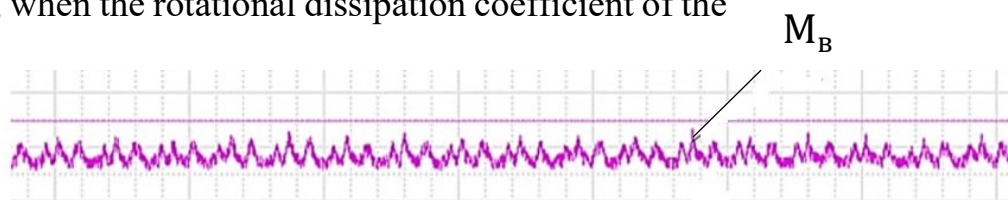
In this case, the harmonic organizer of the technological resistance is almost imperceptible. Fig. 5 presents graphs of the dependence of the rotation speed and dissipative coefficients of the belt transmission on the torque and radial speed of the screw shaft included in the proposed fluff-carrying-cleaning screw conveyor machine assembly.



$$1-M_v=f(c_T); 2-M_v=f(b_T); 3-\Delta\dot{\phi}_r=f(c_T); 4-\Delta\dot{\phi}_r=f(b_T);$$

Fig. 5. Dependence graphs of the torque on the screw shaft and the radial speed of the vibration range of the belt drive rotation uniformity and dissipative coefficients in the recommended fluff-carrying-cleaning screw conveyor machine assembly.

When the built-up graphic patterns are analyzed, when the rotational speed of the belt drive increases from 100 Nm/rad to 450 Nm/rad, the radial velocity of the conveyor screw shaft's vibration range $\Delta\dot{\phi}_v$ values decrease from 7.35 s⁻¹ to 3.9 s⁻¹, and the torque values on the shaft increases from 49.8 Nm to 52.8 Nm. Also, when the rotational dissipation coefficient of the belt

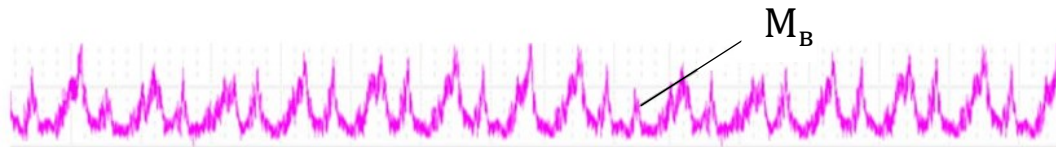


transmission decreases from 5.42 s⁻¹ to 1.14 s⁻¹, the torque M_v values increase from 34.5 Nm to 60.5 Nm in a non-linear manner (Figure 5, graphs 1-4). It is known that the increase in the radial speed of the screw has a positive role in the transportation and cleaning of the cotton fluff. But, an excessive increase in $\Delta\dot{\phi}_v$ will increase additional vibrations and fluff damage. So, to ensure that $\Delta\dot{\phi}_v=(6,0\div 6,5)$ s⁻¹; $\Delta\dot{\phi}_r=(4,5\div 5,0)$ s⁻¹ is in the range of recommended values for belt drive $S_t=(280\div 340)$ Nm/rad; It is advisable to choose $v_T=(3,3\div 3,8)$ Nm/rad. Figure 6 shows the laws of torque changes on the shafts of the working bodies of the proposed screw conveyor machine unit.

$$M_1=48\text{Nm}; M_0=3,8\text{Nm}; c_T=300\text{Nm/rad}; \Delta M_v=(0,2\div 0,25) M_{tq}$$



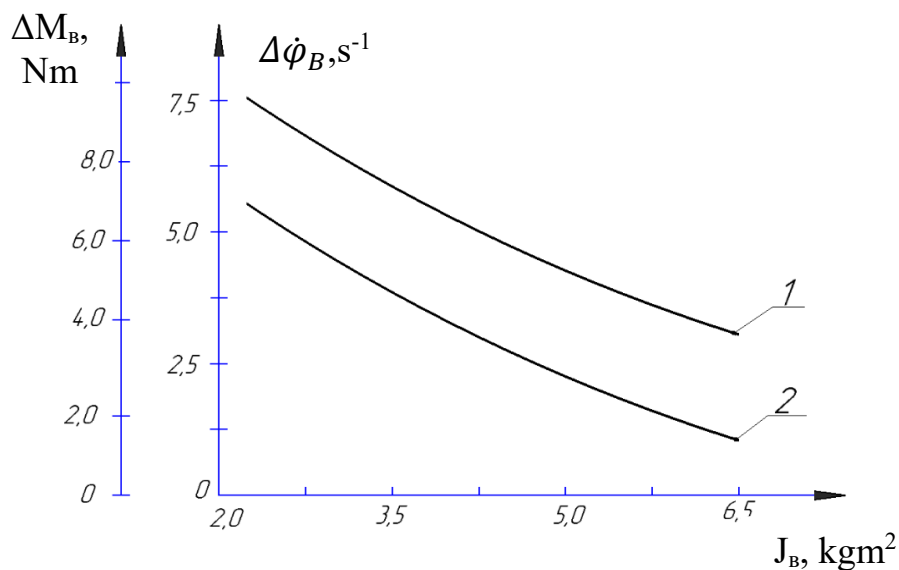
$$M_1=60\text{Nm}; M_0=5,2\text{Nm}; c_T=250\text{Nm/rad}; \Delta M_v=(0,2\div 0,25) M_{tq}$$



$$M_1=70\text{Nm}; M_0=6,0\text{Nm}; c_T=200\text{Nm/rad}; \Delta M_v=(0,2\div 0,25) M_{tq}$$

Fig. 6. The laws of changing torques on the shafts of the working bodies of the recommended screw conveyor machine unit

It is known [10, 11, 12] that their inertial moments are selected at sufficient values to adjust the movement of rotating shafts. The obtained laws show that the increase in the inertial moment of the conveyor screw shaft significantly reduces the range of torque oscillations, and the values of $\Delta\phi_v$ decrease accordingly. Based on these regularities, connection graphs were constructed. Fig. 7 shows the graphs of the dependence of the values of torque and radial velocities in vibration on the wavy surface of the main working body of the proposed screw conveyor on the screw shaft and its moment of inertia.



$$1-\Delta\phi_v = f(J_v); 2-\Delta M_v = f(J_v);$$

Fig. 7. Dependence graphs of torque and radial velocities on the screw shaft on the wave surface of the main working body of the recommended screw conveyor.

The inertial moment of the screw working body in the machine unit has a large value. To reduce it requires a reduction in length or diameter. But the sufficient distribution of $\Delta\dot{\phi}_v$ and ΔM_v depends on the justification of the values of J_v . When the values of the inertial moment of the conveyor screw shaft are increased from 2.71 kgm^2 to 6.35 kgm^2 , the torque range on the screw shaft decreases from 6.05 Nm to 2.15 Nm in the non-linear connection, the range of radial velocity oscillations $\Delta\dot{\phi}_v$ values from 7.52 s^{-1} to $5,05 \text{ s}^{-1}$ decreases. Therefore, to ensure that the screw radial speed does not exceed the vibration range $(6.0\div 6.5) \text{ s}^{-1}$, it is appropriate to choose the values of the moment of inertia in the range $J_v=(3,8\div 4,5) \text{ kgm}^2$.

Conclusion. The article presents the results of the dynamic analysis of the machine assembly, which includes the mechanisms of the working bodies of the fluff-carrying and cleaning screw conveyor. The recommended values of the system parameters were determined as a result of the analysis of the change laws of the angular speed and loads of the screw and the connection graphs.

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BIOGRAPHIC AND PSYCHOLOGICAL ANALYSIS OF CHILD CHARACTERS IN THE WORKS OF SUSAN HILL

Abstract. This scholarly article comprehensively explores the portrayal of child protagonists in three contemporary literary works: "The Pure in Heart" (2005), "The Mist in the Mirror" (1992), and "A Question of Identity" (2007). The article aims to analyze and elucidate five prominent thematic constructs that emerge from these works: innocence and vulnerability, curiosity and sense of adventure, resilience and determination, empathy and compassion, and symbols of hope and purity. The investigation delves into the nuanced representation of child characters, shedding light on their inherent qualities and their consequential impact on the narrative. Firstly, the study examines how these characters embody unblemished purity and susceptibility to external influences, manifesting innocence and vulnerability. Secondly, the analysis explores the child characters' curiosity and sense of adventure, which act as catalysts for their exploratory quests and the plot's development. Furthermore, the research scrutinizes the child characters' resilience and determination, highlighting their ability to confront and overcome obstacles encountered during their journeys. Additionally, the exploration appraises the child characters' empathetic and compassionate dispositions, evaluating their capacity to form meaningful connections and exhibit benevolent behaviors. Lastly, the investigation probes the symbolic significance of child characters as symbols of hope and purity within the literary works embodying optimism and virtuousness, providing contrasts to the darker aspects of the narrative and instilling a sense of optimism for the future. This article aims to contribute to the scholarly discourse on the portrayal of child characters in literature by shedding light on their multifaceted roles and thematic significance in the selected contemporary works.

Key words: innocence, vulnerability, curiosity, sense of adventure, resilience, determination, empathy, compassion.

Introduction. Susan Hill, a renowned author, has crafted a body of work encompassing numerous novels that intricately involve child characters (Hofer, 1993: 128). She is glorified for great mystery and imagination (Bann, 1983: 10-15), description of authentic lifestyles (Breet, 1983), ambiguity in carriage of meanings (Cox, 200: 74-88). The author is highly renowned for gothic stories as well (Edwards, 2012: 353-366). Among these notable literary endeavors are several standout examples that exemplify Hill's adeptness in weaving compelling narratives around the lives of young protagonists.

"The Pure in Heart" (2005), part of the esteemed Simon Serrailer series, serves as a prime illustration of Hill's skillful storytelling. This novel centers around the gripping tale of a young boy who becomes the victim of a kidnapping. As the narrative unfolds, readers are captivated by the complexities that beset Simon Serrailer, a detective tasked with solving the case, who must simultaneously confront his own personal tribulations.

In "The Mist in the Mirror" (1992), Hill masterfully crafts a Gothic ghost story that follows the transformative journey of James Monmouth, a youthful orphan. Driven by an insatiable quest to unravel his ancestor's enigmatic disappearance, James embarks on a daunting expedition that reveals eerie occurrences and unveils dark family secrets lurking within the shadows.

"A Question of Identity" (2007), the seventh installment in the Simon Serrailer series, delves into the intricate complexities of identity and belonging. Hill introduces Joy, a young girl hailing from a gypsy community, whose family becomes entangled in an accusation of crime. As the plot unfolds, Simon Serrailer must unearth the truth and safeguard the innocent, while probing the intricacies of Joy's unique background.

Collectively, these novels embody Hill's remarkable ability to seamlessly incorporate child characters into her narratives. By skillfully exploring the experiences, challenges, and profound impact of these youthful protagonists, Hill invites readers to embark on profound journeys that delve into the depths of human emotion, while simultaneously enriching the overarching tapestry of her storytelling prowess.

Findings. In Susan Hill's novel "The Pure in Heart" (2005), the child characters exhibit several unique qualities and characteristics that distinguish them within the narrative (Reynolds & Noakes, 2003: 5-6). These peculiarities contribute to the overall thematic and emotional depth of the story, further illuminating Hill's exploration of childhood and innocence. Elaboration in ever literary and literacy aspects, author's works can serve as sources to focus on English literacy (Pressly, 2000: 74-77).

Innocence and vulnerability: innocence and vulnerability is one of the crucial themes in literary works (Ganteau, 2015: 15-27). The child characters in "The Pure in Heart" are portrayed as innocent and vulnerable, often experiencing events and emotions beyond their understanding. The author emphasizes their naivety and purity, highlighting their inherent goodness and their vulnerability to the harsh realities of the adult world.

"The Pure in Heart" (2005):

In this novel, innocence and vulnerability are embodied by the character of Sam, a young boy who finds himself at the center of a mysterious and unsettling case. His purity of heart and naivety make him vulnerable to the dangers and darkness that surrounds him. Through Sam's perspective, Hill explores the fragility of innocence and the profound impact that external threats can have on a young and unsuspecting individual.

As the story unfolds, Sam's vulnerability becomes increasingly evident, causing readers to empathize with his plight. Hill emphasizes his helplessness and the weight of responsibility placed upon him, generating emotional depth and a sense of urgency within the narrative.

"The Mist in the Mirror" (1992):

Here, vulnerability is intertwined with the theme of the past. The protagonist, James Monmouth, is haunted by his past and compelled to uncover the truth behind his family's history. As he delves into a mysterious and dangerous journey, his vulnerability emerges (Quema, 2018: 114-135). Hill skillfully depicts James' uncertainty, fear, and susceptibility to manipulation, highlighting the risks he faces in his pursuit of knowledge.

Through James' vulnerability, the novel examines the human desire for identity and connection, as well as the consequences of delving too deeply into the unknown. Hill raises questions about the limits of innocence and the vulnerability that arises when one confronts the shadows of the past (Reynolds, 2003).

"A Question of Identity" (2007):

In this novel, Hill explores vulnerability through the character of Simon Serrailer, a detective grappling with personal and professional challenges. As the story unfolds, Simon's vulnerability is exposed, emphasizing his struggles with relationships, grief, and existential questions.

Hill delves into the emotional complexities of Simon's character, showcasing his vulnerability and the impact it has on his ability to navigate the world around him. By portraying a multidimensional protagonist with vulnerabilities, the novel delves into the theme of human frailty and the importance of connection, ultimately inviting readers to reflect on their own vulnerabilities and how they shape their identities.

In each of these novels, Susan Hill's portrayal of innocence and vulnerability adds depth to her characters and resonates with readers. Through her exploration of these themes, she delves into the fragility of the human experience, reminding us of the universal nature of vulnerability and the lasting impact it can have.

Curiosity and sense of adventure: The child characters display a strong curiosity and a sense of adventure, often venturing into unknown territories and uncovering secrets. This adds a sense of wonder and discovery to the narrative, reflecting the natural curiosity of children and their eagerness to explore the world around them.

Susan Hill's works, such as *The Pure in Heart* (2005), *The Mist in the Mirror* (1992), and *A Question of Identity* (2007), curiosity and a sense of adventure are prevalent themes.

In the enthralling literary work "*The Pure in Heart*," the child characters emerge as captivating conduits of natural curiosity, propelling them to embark upon a journey of enlightenment, unearthing concealed secrets and unraveling the

enigmatic tapestry that shrouds their community. With an unquenchable thirst for discovery, their unwavering sense of adventure becomes an instrumental force that propels the plot forward, infusing the narrative with an invigorating sense of momentum.

These young protagonists fearlessly traverse uncharted territories, their intrepid spirits undeterred by the daunting uncertainty that lies ahead. Their resolute determination to navigate through the unexplored terrain fuels their tireless pursuit of truth, as they relentlessly probe the shadows, unmasking concealed verities and shedding light on the depths of secrecy that permeate their surroundings.

As these courageous child characters forge ahead, their unwavering commitment to unearthing hidden truths becomes a catalyst for personal growth. Alongside their quest for knowledge, they encounter myriad challenges that test their resilience and fortitude. With each obstacle they encounter, they exhibit an unwavering strength of character, steadfastly persevering in the face of adversity.

While their journey is fraught with obstacles, it is their unwavering sense of adventure that propels them forward. Through their audacious exploration, they not only unravel the mysteries that lie within their community but also embark on a profound journey of self-discovery. Their trials and tribulations serve as transformative experiences, shaping their perspectives and fostering personal growth.

In essence, the child characters in "The Pure in Heart" embody a remarkable fusion of curiosity, adventure, and resilience. Their unyielding pursuit of truth and their willingness to confront challenges head-on imbue the narrative with a sense of exhilaration, captivating readers and urging them to join these intrepid explorers on a transformative voyage through the unknown.

In the mesmerizing literary realm of "The Mist in the Mirror," the protagonist emerges as a captivating embodiment of insatiable curiosity and an unquenchable thirst for adventure. Driven by an innate desire to unravel the enigmatic tapestry of his family's past, he embarks upon a transformative odyssey that transcends the boundaries of the known, propelling both the narrative and his own personal journey towards uncharted territories.

Guided by an irrepressible sense of wonder, the protagonist fearlessly ventures into the depths of his ancestral home, a labyrinthine abode veiled in haunting whispers and concealed secrets. As he traverses its hallowed halls and explores its shadow-drenched landscapes, his indomitable spirit of adventure serves as an unwavering compass, guiding him ever closer to the elusive truths that lie dormant within the mist-laden corridors of his family's history.

With each step forward, the protagonist's insatiable curiosity acts as a magnetic force, drawing him deeper into the enigma that shrouds his lineage. His relentless pursuit of knowledge becomes a palpable force that propels the narrative forward, imbuing it with a sense of urgency and an exhilarating momentum. In this intrepid exploration of the unknown, the protagonist's

audacious quest becomes an intricate dance, where curiosity intertwines with bravery, driving him to confront the ghosts of the past and unravel the layers of mystery that enshroud his own identity.

Indeed, it is through the protagonist's unwavering sense of adventure that the narrative acquires a profound sense of depth and resonance. His relentless exploration of haunted landscapes and his unyielding determination to unearth the truth not only shape the trajectory of the story but also serve as a metaphorical reflection of his own inner journey. As he delves deeper into the abyss of the past, his character undergoes a metamorphosis, gradually evolving and becoming increasingly attuned to the nuances of his own existence.

In this captivating tale of discovery and self-realization, the protagonist's unyielding spirit of adventure serves as a catalyst for both narrative progression and personal growth. It is through his audacious exploration of the unknown that he not only unearths the secrets that lie dormant within the mist but also embarks on a transformative voyage of self-discovery, forever altered by the profound truths he unearths along the way.

Within the captivating narrative of "A Question of Identity," the characters find themselves consumed by an insatiable curiosity that becomes the catalyst for their gripping sense of adventure. With an unrelenting desire to unravel the enigmatic tapestry of their own identities and the secrets concealed within their pasts, they embark on a transformative quest that leads them down treacherous paths, braving dangers and navigating unexpected twists along the way.

Driven by an irrepressible thirst for truth, the characters' collective pursuit of self-discovery propels them into uncharted territories of both the external world and their own inner landscapes. Their unwavering determination to unearth the verities that lie dormant within their existence serves as a magnetic force, pulling them deeper into an intricate web of intrigue and uncertainty.

As they delve into the mysteries surrounding their identities, the characters find themselves confronted with unforeseen challenges that test the limits of their resilience and adaptability. Just as a compass guides the intrepid traveler through unexplored terrain, their sense of adventure becomes the guiding light that propels them forward, compelling them to confront their fears and confront the shadows that lurk in the recesses of their pasts.

In their odyssey towards self-discovery, the characters discover that the pursuit of truth is not without its perils. They encounter unexpected dangers, face adversities that threaten to derail their quest, and navigate through a labyrinth of twists and turns that continually reshape their understanding of themselves and their place in the world.

Yet, it is precisely through these trials and tribulations that their sense of adventure is fortified. With each obstacle surmounted and every revelation unearthed, their courage deepens, and their resolve intensifies. They become the architects of their own destinies, fearlessly embracing the unknown and forging ahead with unwavering determination.

In this captivating tale of self-interrogation and relentless exploration, the characters' curiosity about their own identities and the secrets that shroud their pasts remain constant driving forces, fueling their sense of adventure. Through their perilous journey, they not only unravel the mysteries that lie in the shadows but also embark on a profound voyage of self-discovery, forever transformed by the truths they uncover and the profound depths of their own resilience and tenacity.

Throughout these works, Susan Hill portrays characters who are driven by curiosity and a sense of adventure, propelling them into unknown territories and uncovering hidden truths. These themes add depth and excitement to the narratives, engaging readers and keeping them captivated until the very end.

Resilience and determination: Despite their youth, the child characters demonstrate resilience and determination in the face of challenges and adversity. They exhibit a strong sense of agency and display courage when confronted with difficult situations, illuminating their strength of character and willingness to stand up for what is right.

"The Pure in Heart" (2005):

"The Pure in Heart" (2005) stands as a poignant testament to the indomitable spirit of its characters, who exhibit unwavering resilience and unyielding determination in the face of overwhelming adversity. Throughout the narrative, these remarkable individuals navigate a labyrinth of challenges, yet their unwavering pursuit of truth and justice serves as an unwavering guiding light that propels them forward, inspiring both readers and fellow characters alike.

At the heart of this narrative tapestry is Simon Serrailer, the tenacious detective whose resolute dedication to solving the case becomes a beacon of unwavering determination. Hill masterfully portrays the depths of Serrailer's resolve, showcasing his unyielding commitment to the pursuit of truth even in the face of personal hardship and societal pressures. It is through his unwavering determination that the narrative finds its driving force, as Serrailer's relentless pursuit of justice becomes a testament to the strength of the human spirit and the transformative power of resilience.

However, Serrailer is not alone in his unwavering resolve. Hill expertly weaves a tapestry of characters who, in their own unique ways, embody remarkable resilience and unwavering determination. Whether it be the young boy at the center of the kidnapping case or the supporting cast that surrounds Serrailer, each character confronts their own set of challenges and setbacks. Yet, it is their ability to bounce back from these adversities and maintain their unwavering resolve that truly distinguishes them.

Through the portrayal of these characters, Hill invites readers to witness the transformative power of determination. Their unwavering spirits serve as a testament to the strength of the human will, emphasizing that setbacks and societal pressures need not define one's destiny. Instead, the characters in "The Pure in Heart" exemplify the resilience inherent within the human condition, inspiring

readers to find their own wellsprings of determination and forge ahead in the face of life's obstacles.

In this evocative narrative, Hill skillfully captures the essence of human resilience, reminding us that the strength to persist and overcome lies within each of us. Through the characters' unwavering pursuit of truth and justice, readers are invited to reflect upon their own ability to rebound from setbacks, cultivate resilience, and embrace the transformative power of unwavering determination.

"The Mist in the Mirror" (1992):

Within the rich tapestry of this captivating novel, the protagonist, James Monmouth, emerges as a beacon of unwavering resilience and indomitable determination. As he embarks on a perilous odyssey to uncover the enigmatic secrets of his family's history, James becomes a testament to the transformative power of unwavering conviction. Despite the myriad challenges he encounters and the mysterious forces that threaten to engulf him, James persists, his unyielding desire for knowledge serving as a driving force that propels him ever forward.

In Hill's masterful portrayal, the inner strength of the protagonist shines through, illuminating the depths of his unwavering determination. James's resolute pursuit of truth becomes a guiding light in the face of darkness, an unwavering compass that steers him through the treacherous currents of his quest. It is this resilience, this unyielding spirit, that allows him to navigate the dangers that lurk around every corner, emerging from each trial stronger and more resolved than before.

Through James's unwavering determination, Hill underscores the vital importance of perseverance in the face of adversity. The protagonist's resilience becomes a testament to the human spirit, reminding readers of the profound strength that lies within each of us. In the face of daunting challenges and the allure of surrender, James stands tall, refusing to let the shadows of doubt or fear eclipse his unwavering resolve.

As Hill weaves a tapestry of danger and mystery around James, the protagonist's unwavering determination becomes a beacon of hope, inspiring both readers and fellow characters alike. It is through his unwavering pursuit of knowledge that James serves as a reminder of the transformative power of resilience, illustrating that by steadfastly embracing the unknown and persisting in the face of uncertainty, one can overcome even the most formidable obstacles.

In this mesmerizing tale, Hill invites readers to witness the strength of the human spirit personified in James Monmouth. As he delves deeper into the mysteries that surround his family's history, James becomes a testament to the power of unwavering determination, underscoring the profound impact it can have on the trajectory of one's journey. Through his resilience, he not only uncovers the secrets that lie hidden within the shadows but also inspires us to cultivate our own wellsprings of strength and to forge ahead with unwavering determination in the face of life's challenges.

"A Question of Identity" (2007):

In yet another captivating exploration of the theme of resilience, Susan Hill once again thrusts her protagonist, Simon Serrailer, into the crucible of personal and professional trials. Within the pages of this novel, Simon finds himself confronting a formidable array of challenges that demand nothing short of immense resilience. As a detective, his unwavering determination to fulfill his duties is tested to its limits, but he remains an unwavering bastion of fortitude, resolute in the face of uncertainty and loss.

As Hill deftly delves into the intricacies of character and the depths of the human experience, she unveils the profound complexities inherent in resilience. Through Simon's unwavering resolve and unyielding determination, the novel becomes a poignant examination of the resilience of the human spirit and the indomitable courage required to confront the most arduous of circumstances.

In the face of personal and professional challenges that threaten to erode his spirit, Simon emerges as a testament to the power of resilience. Hill skillfully portrays the internal battles he wages, the moments of doubt and despair that threaten to consume him. Yet, it is in these darkest moments that Simon's resilience shines brightest, illuminating the path forward amidst the shadows of adversity.

Through Simon's journey, Hill invites readers to reflect upon their own capacity for resilience and the strength required to face life's most daunting trials. The novel becomes a mirror, reflecting the complexities of the human experience, urging us to confront our own vulnerabilities and discover the reservoirs of courage that lie within us.

Moreover, the exploration of resilience in this narrative extends beyond the individual level. Hill weaves a tapestry that examines the collective resilience of communities and the power of unity in the face of adversity. Through the challenges faced by Simon, the novel invites readers to contemplate the strength that can be derived from the support and determination of those around us, emphasizing the transformative potential of shared resilience.

In this profound examination of character and the triumph of the human spirit, Hill masterfully navigates the depths of resilience, unearthing its manifold complexities and celebrating its unwavering power to triumph over the darkest moments in life. Through Simon's unwavering determination, the novel becomes a testament to the indomitable spirit that resides within each of us, inspiring us to confront the challenges that lie before us with unwavering resolve and unyielding courage.

Overall, Susan Hill's novels portray resilience and determination as vital qualities that enable characters to overcome adversity and build identity (Deeb, 2018: 8-10). Through her thoughtful exploration of these themes, she emphasizes the strength and resilience inherent within the human experience, ultimately inspiring readers to reflect on their own capacity for resilience, determination, and personal growth.

Empathy and compassion: Hill presents the child characters as perceptive and empathetic beings, capable of showing compassion and understanding towards others. They showcase an innate ability to empathize with the pain and struggles of individuals around them, emphasizing the purity of their hearts and it is asserted that purity in her works is substantial (Jackson, 1982: 81-82).

"The Pure in Heart" (2005):

"The Pure in Heart" (2005) unveils a deeply resonant exploration of empathy and compassion, masterfully portrayed by Susan Hill through the intricate web of interactions and relationships that define the narrative. Within the pages of this novel, Hill delves into the profound depths of human emotions and thoughts, illuminating the characters' capacity to understand and connect with others in ways that transcend the ordinary.

At the heart of this tapestry of empathy and compassion stands the character of Freya Graffham, a beacon of benevolence and understanding. Freya's unwavering dedication to protecting and supporting vulnerable individuals showcases her innate empathy, serving as a resounding testament to the transformative power of compassion. As she navigates the complexities of her world, her empathetic nature becomes a guiding light, allowing her to forge deep connections and foster a profound sense of community. This can be seen in other female characters too (Woledge, 2004: 239-249).

Through Freya's actions and interactions, Hill emphasizes the vital importance of understanding and supporting one another. This will involve parental care and support (Deeb, 2018: 5-6). The novel becomes a powerful reminder that empathy is not merely an abstract concept but a tangible force that can reshape lives and heal wounded souls. Freya's capacity to empathize allows her to walk in the shoes of others, to see beyond the surface and comprehend the intricate layers of human experience. In doing so, she ignites a spark of hope, illuminating the path towards unity, compassion, and collective growth.

Moreover, Hill skillfully weaves a tapestry of relationships that further underscores the significance of empathy and compassion. The characters in "The Pure in Heart" find solace and strength in their connections, their ability to empathize and extend compassion becoming the bedrock of their interactions. Through these relationships, the novel showcases the profound impact that understanding and support can have on individuals and the communities they inhabit.

As readers journey through the emotional landscape of this narrative, they are invited to reflect upon their own capacity for empathy and the transformative potential of compassion. Hill's portrayal of empathy serves as a poignant reminder that we are all intricately interconnected, that the ability to understand and connect with others forms the foundation of our shared humanity. By embracing empathy and compassion, we can forge bonds that transcend barriers, fostering a sense of belonging and collective well-being.

In "The Pure in Heart," Susan Hill artfully captures the essence of empathy and compassion, inviting readers to witness the transformative power of understanding and support. Through the character of Freya Graffham and the rich tapestry of relationships, the novel reminds us of the profound impact that empathy can have, both on individuals and the communities they inhabit. It serves as a gentle call to action, urging us to cultivate empathy in our own lives, to extend compassion to others, and to forge a world where understanding and connection reign supreme.

"The Mist in the Mirror" (1992):

"The Mist in the Mirror" (1992) unveils a captivating tapestry where Susan Hill masterfully entwines supernatural elements and enigmatic mysteries with the profound themes of empathy and compassion (Baldellou, 2020: 217). While the novel's primary focus may lie in the realms of the otherworldly, Hill deftly weaves the threads of empathy and compassion into the very fabric of the narrative, illuminating their transformative power amidst the shadows of the unknown.

At the heart of this haunting tale stands the protagonist, James Monmouth, a figure driven not only by curiosity but also by a profound sense of empathy. As he embarks on his quest to uncover his family's history and confront the spectral apparitions that haunt him, James's empathy becomes a guiding light, enabling him to delve deeper into the mysteries that lie before him. His ability to connect with the restless spirits he encounters reflects his innate capacity to empathize and forge connections that transcend the boundaries of life and death.

Through James's journey, Hill skillfully demonstrates how empathy can serve as a powerful tool for healing and understanding. It becomes a force that bridges the chasms of time and existence, allowing James to reach out to the spirits who linger in the ethereal realm. His compassion towards these restless souls not only offers solace to their tormented existence but also becomes a catalyst for his own self-discovery and personal growth.

In their spectral encounters, James's empathy becomes a conduit for understanding, unraveling the depths of human emotion and pain that transcend the mortal coil. Hill's portrayal reminds us of the transformative potential that lies within the act of empathizing, as it opens the doors to profound connections and insights that shape our understanding of ourselves and the world around us.

Furthermore, the presence of empathy in "The Mist in the Mirror" serves as a thematic anchor, highlighting the interconnectedness of the human experience. Hill invites readers to contemplate the universality of human emotions, emphasizing that empathy is not confined to the living but extends to the ethereal realm as well. It becomes a reminder that, ultimately, we are all bound by the threads of shared experiences and emotions, regardless of our mortal or spectral existence.

In this mesmerizing tapestry of supernatural intrigue, Susan Hill seamlessly integrates the transcendent qualities of empathy and compassion, reminding us of their profound significance in our lives (Ireland, 1983; 172-180). Through James's

empathetic journey, the novel becomes a testament to the transformative power of understanding, as it opens doors to hidden truths and fosters connections that transcend the boundaries of the tangible world. It serves as a gentle reminder that empathy has the potential to bridge the gaps between the seen and the unseen, offering solace, healing, and a deeper understanding of the human condition.

"A Question of Identity" (2007):

Within the pages of "A Question of Identity" (2007), Susan Hill skillfully unravels the intricate tapestry of empathy and compassion, casting a spotlight on the character of Simon Serrailier as he navigates the labyrinthine world of a detective. As a guardian of justice, Simon's profession demands not only sharp intellect and meticulous investigation but also an unwavering capacity for empathy, enabling him to delve into the complex emotions, motives, and perspectives of those he encounters.

Through Simon's interactions with victims, suspects, and even within the intimate realm of his own family, Hill masterfully illustrates the significance of empathy in both solving crimes and forging genuine connections. Building empathy is one of the skills of the writer (Janik, 2002: 448). Simon's ability to step into the shoes of others becomes a powerful tool in unraveling the truth, as he pieces together the fragments of fragmented lives, seeking understanding amidst the chaos.

The novel becomes a testament to the transformative power of empathy and compassion, as they emerge as catalysts for rebuilding relationships and promoting healing. Simon's empathetic approach not only aids him in his quest for justice but also serves as a salve for the wounds that bind his own family. Hill deftly portrays the impact of empathy on interpersonal dynamics, showcasing its potential to bridge divides and restore fractured bonds.

Through the lens of Simon's experiences, the novel emphasizes that empathy is not merely a means to an end but a fundamental component of the human experience. It underscores the importance of recognizing and valuing the emotions and perspectives of others, fostering a deeper understanding that transcends surface-level judgments. Hill reminds readers that empathy is a powerful force that can reshape lives, mending broken hearts and transforming relationships that have been tainted by pain and mistrust.

Moreover, "A Question of Identity" invites readers to reflect on the broader implications of empathy and compassion in society. Hill highlights the role of these virtues in promoting justice, understanding, and social cohesion. The novel becomes a subtle call to action, urging readers to embrace empathy as a guiding principle in their own lives, fostering connections and rebuilding communities torn apart by division and mistrust.

In this captivating exploration of empathy and compassion, Susan Hill weaves a narrative that not only showcases their importance in solving crimes but also emphasizes their profound impact on personal relationships and societal well-being. Through Simon Serrailier's empathetic journey, the novel serves as a

reminder of the transformative power of understanding, as it infiltrates the darkest corners of human existence, fostering healing, promoting justice, and illuminating the path towards a more empathetic and compassionate world.

Throughout these novels, Susan Hill underscores the significance of empathy and compassion in our lives. By delving into the emotional depth and connections between characters, she emphasizes the importance of understanding, kindness, and human connection. These themes serve to remind readers of the transformative power of empathy and highlight the role compassion plays in fostering understanding, healing, and personal growth.

Symbols of hope and purity: The child characters in "The Pure in Heart" serve as symbols of hope and purity in a world tainted by darkness. Through their innocence and inherent goodness, they offer a glimmer of hope, acting as beacons for the adult characters and reminding them of the importance of integrity, empathy, and love.

"The Pure in Heart" (2005):

"The Pure in Heart" (2005) is an exquisite tapestry of symbolism, with the very title itself serving as a gateway to a world rich in meaning. Susan Hill masterfully employs the concept of purity as a profound symbol, one that transcends its literal definition to represent innocence, goodness, and the transformative power of hope. Within the narrative, this symbol becomes a beacon of light, illuminating the potential for positive change and reminding us of the enduring resilience and pure intentions that can emerge even amidst the most challenging circumstances.

As readers journey through the pages of this remarkable novel, the character of Sam Youds emerges as a poignant embodiment of hope and purity. As an orphaned child, Sam's presence becomes an oasis of optimism, a testament to the indomitable spirit that can thrive even in the face of adversity. Despite the difficult circumstances that have shaped his young life, Sam's innocence remains untarnished, radiating a sense of goodness that uplifts the story and infuses it with a profound sense of hope.

In Sam, Hill crafts a character who serves as a powerful symbol, a touchstone for the potential for positive change and the enduring purity of the human spirit. His unwavering resilience and pure intentions become guiding lights, reminding us of the inherent goodness that can be found within each individual, regardless of their circumstances. Sam's presence in the novel becomes a source of inspiration, a reminder that even in the darkest of times, there is room for hope and the possibility of a brighter future.

Moreover, the symbolism of purity in "The Pure in Heart" extends beyond the character of Sam to encompass a broader thematic exploration. Hill invites readers to reflect on the transformative power of innocence and goodness, highlighting how these qualities can shape our perceptions and actions. The concept of purity becomes a catalyst for change, a reminder that it is within our

capacity to embrace the inherent goodness within ourselves and others, fostering a more compassionate and understanding world.

Through the symbolism of purity, Hill weaves a narrative that beckons readers to contemplate the profound potential for positive change that lies within each individual (Woledge, 2003: 239-249). The purity represented in the novel becomes a symbol of hope, a reminder that even in the most challenging circumstances, there is room for growth, resilience, and the emergence of goodness. It serves as a call to nurture and protect the purity within ourselves and others, fostering a world where innocence is valued, and the potential for positive change is embraced.

"The Pure in Heart" stands as a testament to the enduring power of symbolism, with purity serving as a profound touchstone throughout the narrative. Through the character of Sam Youds and the broader thematic exploration, Susan Hill reminds us of the transformative potential that resides within innocence and goodness. It becomes a gentle reminder that, despite the trials and tribulations of life, hope can bloom, and the purity of our intentions can forge a path towards a brighter future.

"The Mist in the Mirror" (1992):

"The Mist in the Mirror" (1992) envelops readers in a world where symbolism weaves its enchanting threads, and the mist itself emerges as a powerful emblem of mystery and uncertainty. As it shrouds the landscape, the mist becomes a metaphorical veil, separating the realms of the known and the unknown, tantalizingly hinting at the potential for hope and purity to emerge from the hidden depths. It serves as a visual representation of the ethereal, a liminal space where the boundaries of reality blur and secrets lie in wait to be unearthed.

Within this mist-laden landscape, the mirror emerges as a profound symbol, reflecting not only the physical form but also the inner journey of the protagonist, James Monmouth. Like a polished looking glass, it invites introspection and serves as a portal to self-discovery. As James confronts his past and embarks on a quest for truth, the mirror becomes a metaphorical threshold, beckoning him to delve into the recesses of his own soul.

The mirrored image within the looking glass carries layers of significance, embodying the possibility of finding purity and hope within oneself. It becomes a visual representation of the transformative power of introspection, offering the potential for personal growth and the unearthing of hidden truths. As James gazes into the mirror, he not only sees his physical reflection but also confronts his own fears, desires, and vulnerabilities, ultimately finding the strength to confront the ghosts that haunt him.

Furthermore, the mirror symbolizes the concept of reflection, both literal and metaphorical. Just as the mirror reflects one's physical appearance, it also serves as a metaphor for introspection and self-examination. Through the mirror's lens, James is compelled to confront his own history, allowing him to gain insight into his own identity and navigate the intricacies of his past. It becomes a tool for

self-discovery, serving as a catalyst for personal transformation and the pursuit of truth.

In the tapestry of "The Mist in the Mirror," Susan Hill masterfully employs the symbolism of the mist and the mirror to imbue the narrative with depth and meaning. The mist evokes a sense of mystery and uncertainty, representing the unknown that lies beyond our grasp. It hints at the potential for hope and purity to emerge from the hidden recesses, inviting readers to explore the uncharted territories of the human experience.

Simultaneously, the mirror becomes a potent symbol, representing reflection, self-discovery, and the transformative power of introspection. It guides James along his journey, enabling him to confront his past, find his own truth, and uncover the purity and hope that reside within him. Through the mist and the mirror, Hill invites readers to contemplate the profound possibilities that lie within the unknown and the depths of self-exploration.

"The Mist in the Mirror" stands as a testament to the evocative power of symbolism, with the mist and the mirror serving as beacons that illuminate the transformative journey of the protagonist (Quéma, 2018: 114-135). As readers navigate the mist and peer into the mirror, they are reminded of the enigmatic nature of existence and the potential for personal growth and self-discovery. It becomes a gentle reminder that, within the realms of mystery and introspection, lie the seeds of hope and the transformative power of finding purity and truth within ourselves.

"A Question of Identity" (2007):

Within the expansive canvas of this captivating novel, Susan Hill employs the symbol of identity as a profound emblem of hope and purity. Symbol of identity is of huge importance for fictional masterpieces (Muir, 1982; 274-285). As the characters embark on their individual quests for self-discovery, the search for identity becomes a transformative journey, an odyssey that leads them towards personal truth and a yearning for a sense of purity and authenticity in their lives.

The symbol of identity in the novel serves as a powerful reminder of the human need to understand oneself fully and to uncover the layers that make us who we are. It highlights the inherent desire for clarity and purpose, as characters grapple with their past, their choices, and the influences that have shaped them. The search for identity becomes a sacred pilgrimage, a quest for self-actualization and the pursuit of a genuine, unadulterated existence.

In this intricate tapestry of symbolism, the character of Cat Deerbon emerges as a radiant embodiment of hope and purity. Her unwavering resilience, courage, and unyielding belief in justice become beacons of light, shining amidst the darkness that surrounds her. Cat's actions and character serve as a testament to the purity of intention, the uncorrupted desire to bring about positive change and uphold the values that define her.

Cat Deerbon becomes a symbol of hope, embodying the unwavering spirit that refuses to succumb to despair. Her presence in the narrative infuses the story

with a sense of optimism, reminding readers of the innate goodness that can prevail even in the face of adversity. Through her unwavering belief in justice and her relentless pursuit of truth, Cat becomes a catalyst for positive change, inspiring those around her to embrace their own potential for transformation.

Moreover, Cat's character symbolizes the potential for purity amidst a world fraught with complexities and moral ambiguities. Her actions and unwavering dedication to justice represent the embodiment of purity of intention, a steadfast commitment to uphold what is right and just. In her unwavering pursuit of truth and her refusal to compromise her values, Cat becomes a guiding light, illuminating the path towards a more virtuous and authentic existence.

Through the symbolism of identity, Hill invites readers to contemplate the profound significance of self-discovery and the pursuit of personal truth (Janik, 2002: 448). The search for identity becomes a transformative journey, a quest for purity and authenticity that resonates deeply within the human experience. In the character of Cat Deerbon, Hill crafts a symbol of hope and purity, a reminder that resilience, courage, and an unwavering belief in justice can serve as guiding principles in navigating the complexities of life.

In this novel, the symbol of identity not only represents an individual's quest for self-discovery but also encompasses a broader exploration of the human condition. It becomes a reflection of our collective yearning for purity and authenticity, reminding us of the potential for positive change that lies within each of us. Through the character of Cat Deerbon, Susan Hill weaves a narrative that celebrates the transformative power of hope and purity, inspiring readers to embrace their own capacity for resilience, courage, and unwavering belief in justice.

By incorporating these symbols of hope and purity, Susan Hill infuses her novels with layers of depth and meaning. The use of these symbols allows readers to reflect on the potential for goodness, optimism, and personal growth, even in the face of adversity. They serve as reminders that hope and purity can be found within oneself and can guide individuals towards transformative experiences.

Conclusion.

Child characters often embody innocence and vulnerability, representing a state of purity and uncorrupted perception. This innocence is often contrasted with the harsh realities of the adult world, highlighting the vulnerability of children to exploitation and abuse. The authors explore how these characters navigate a world that is often incomprehensible and threatening, while still maintaining their sense of wonder and hope.

Children are often depicted as possessing an insatiable curiosity and a thirst for adventure. This innate curiosity drives them to explore their surroundings, seek out new experiences, and push the boundaries of their understanding. The authors examine how this curiosity leads child characters into dangerous and unpredictable situations, but also how it fuels their imagination and creativity.

Despite the challenges and hardships they face, child characters often exhibit remarkable resilience and determination. They demonstrate an ability to overcome adversity, adapt to changing circumstances, and persevere in the pursuit of their goals. The authors explore the sources of this resilience, such as the support of family and friends, the power of imagination, and the innate resilience of the human spirit.

Child characters are often portrayed as possessing a deep capacity for empathy and compassion. They are able to understand and share the feelings of others, even those who are different from them. This empathy motivates them to act on behalf of others, to stand up against injustice, and to make the world a better place. The authors examine how these characters' empathy and compassion shape their relationships with others and influence their actions.

Child characters can also serve as symbols of hope and purity in a world that is often dark and despairing. Their innocence and vulnerability can remind adults of the beauty and potential of humanity, while their resilience and determination can inspire others to overcome adversity. The authors explore how these characters represent a beacon of hope for the future, a reminder that even in the darkest of times, there is always the possibility of redemption and renewal.

In conclusion, the analysis of child characters in these three contemporary literary works reveals a rich and complex tapestry of themes and insights. These characters embody innocence and vulnerability, curiosity and sense of adventure, resilience and determination, empathy and compassion, and symbols of hope and purity. Through these characters, the authors explore the complexities of childhood, the challenges and opportunities that children face, and the enduring power of the human spirit.

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BIOECOLOGY OF APPLE RED BLEEDING AND CONTROL MEASURES

Abstract. Pests of orchards reduce the growth, development and death of fruit trees and seedlings. They include green apple weevil, pear weevil, apple weevil, cherry weevil, red apple weevil, peach weevil. Leaves and branches affected by aphids stop growing and even dry up.

Key words: Red apple aphid -Eriosoma lanigerum Hausm, Green apple aphid -Aphis pomi Deg, Pear aphid and control measures.

Enter. Decision of the President of the Republic of Uzbekistan on further development of the fruit-vegetable and viticulture industry, on additional measures to create an added value chain in the sector. October 23, 2019 Ensuring the implementation of Decree No. PF-5853 "On approving the strategy for the development of agriculture for 2020-2030", production of high-value-added products in the field of fruit and vegetables and viticulture, increasing the export volume, The purpose of development of disused and dry lands, increase of planting of agricultural crops for export, as well as effective use of gardens, vineyards and greenhouses was adopted. Currently, people's demand for various vitamins is mainly satisfied by fruits and prevents diseases in the body. Fruits contain more than 60 mineral substances. One of the most common fruit crops is the apple (*Malus Mill*) family, which has about 50 species. Canned food, povidlo, lozenge, puree, marmalade, jam, juice, wine, compote, and other products are made from apples. It is also used in medicine and construction. Apple contains 80.5-86.5% water, 9.6-14.8% sugar, 0.31-0.91% There are acids, 0.27-0.48% soluble pectin, 0.025-0.060% additives, 0.10-0.45% mineral salts and vitamins.

Red blood sap without wings is dark red in color, 2.1-2.6 mm. If you crush this sap, red blood-like liquid comes out. That's why this aphid is covered with a waxy white fluffy dust like the aphid with this name, which is a defining characteristic. The body is cylindrical, 2.2 mm long, the head, chest and legs are

black, the belly is dark brown. Eggs are oblong, 0.5 mm, at first golden, then turn brown. Red blood sap is found in the roots, under the bark of apple trees at different ages in larval and adult forms in Central Asia. hibernates at the base of the branches. It wakes up and starts moving in March-April. It clings to the thin (open) parts of the tree trunk and forms a cluster. Such places seem to be covered with white cotton. Infected trees and branches have hollows, the branch bends and lags behind in development. The larvae of the red blood sap develop by molting 4 times. winged species begin to appear in their colonies to spread to other places. But this pest spreads from place to place mainly by seedlings.

Pear aphid - an adult pear aphid is up to 3 mm. The color is yellowish, light green-brown, and there are transverse lines on the belly. The wings of the pear aphid are clear, and the back wings are shorter than the front. Females have two round spots, the tip of the belly hangs down, and the male's is raised. The eggs are small and white, and the larvae turn yellow before hatching. thus it clings to the tree branch. The larva is wingless, yellow or green, leafy. The primary wing is visible in the large larva. The pear weevil hibernates as an imago under the skins of pears, on the branches. Before the tree buds, it leaves the village and mates and lays its eggs near the buds. Larva and imago feed on buds, leaves, flowers and thin branches of pear. In Uzbekistan, it gives birth 4-5 times.

The peach aphid causes great damage to peaches. It also damages almonds, plums, and apricots. It lives by sucking sap from peach branches and stems. It pollutes trees and fruits very much. One house. Very common. The mature form of wingless insects is pear-shaped, 4 mm in size, covered with dark-gray spots. Aphid tubes are very large and spherical, their holes are slightly smaller than the diameter of the eye. They have long legs and dark spots. Mustaches have 6 joints. From May, winged forms appear in the lice colony. It gives birth and reproduces throughout the summer, and lays eggs that hibernate in the fall. Eggs are 1.5 mm in size, elongated oval, black and shiny. In spring (March), larvae emerge from the eggs that have wintered. Larvae develop quickly, after reaching adulthood, they begin to give birth. In summer, the larva molts 4 times and turns into an adult insect. It will take 2-3 weeks. The female lives for a month and a little more. During this time, she gives birth to larvae 90 times. She lives in a group on the bark of the tree trunks in the places where the thick branches cast a shadow. Founders hatch very early. A comfortable temperature for the development of lice is 20-27C, the upper limit is 40-80C, the lower limit is 8C. Relative air humidity is 60-70%. Founding lice give birth to 80-90 larvae on average, wingless innocent lice give birth to 30 larvae in the next generation. Especially the third generation is growing rapidly. Often, the first generation appears later. In Crimea, it gives 10 generations. One amphigon female lays up to 14 eggs.

Measures to fight against sucking pests aphids.

In the fight against sucking pests, it is necessary to carry out chemical control measures if the damage is caused by an economically dangerous number of pests. When carrying out chemical control measures against insects, the pest's

way of life, its structure, biology, ecology, vitality, adaptation to the external environment, giving many generations in one season are factors that affect the effectiveness of chemical control. Sometimes drugs that enter the stomach through the intestine and affect pests do not affect the pests that are absorbed and feed, on the contrary, systemic drugs also affect the pests that are absorbed and fed. At the same time, the thyroid gland is affected by these drugs, i.e. contact. The drugs given in the list of approved chemical pest control are effective if they are used in moderation.

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THE IMPORTANCE OF CYANOBACTERIA IN AGRICULTURE

Abstract. Every year, more than 100 hectares of land in Uzbekistan become saline and the soil fertility decreases. To solve these problems, it is necessary to multiply cyanobacteria using new technologies and increase soil fertility by creating new stamps. This article provides information on the importance of cyanobacteria in agriculture.

Key words: Cyanobacteria, Cyanophyta, blue-green algae and Nostoc muscorum.

Approved by Decree No. PF-6159 of the President of the Republic of Uzbekistan dated February 3, 2021 "On the further development of the system of knowledge and innovation in agriculture and the provision of modern services" "In 2021-2025 in agriculture in the concept of priority development of the system of knowledge and innovations" "Effective use of land and water resources, increasing the productivity of agricultural crops, creation of new varieties, selection, development of seed production and nursery, introduction of scientific achievements into production, republic It is determined that the development of science based on conceptual directions such as specialization of regions for the cultivation of certain agricultural crops and food products is an urgent task" [1].

Cyanobacteria are photosynthetic prokaryotic organisms that are able to colonize many habitats under different environmental conditions and are therefore widely distributed throughout the world [33]. They can directly or indirectly increase the growth rate of plants: directly, biologically active growth hormones such as phytohormones (auxins, gibberellins and cytokinins) by producing stimulating substances and indirectly, cyanobacteria prevent plant diseases caused by one or more pathogenic microorganisms.

Cyanobacteria are one of the important groups of organisms with important ecological, industrial and biotechnological importance.

Nowadays, cyanobacteria have gained the attention of researchers due to their various potential applications in medicine, such as food and feed pharmaceutical industry, soil conditioning, biopolymers, bioadhesives, and bioenergy. Due to the wide spectrum of bioactive compounds, cyanobacteria have

antiviral, antibacterial, antifungal and anticancer effects. Several strains of cyanobacteria are also rich in food additives. The ability of cyanobacteria to fix nitrogen and purify the soil has attracted researchers. Recent studies have shown that cyanobacteria have the ability to break down environmental pollutants and are also being used as a promising source of alternative energy. Cyanobacteria are also limited by bloom production, which affects nutrient availability and utilization by phytoplankton plants.

Today's agricultural practices face many problems related to the use of synthetic fertilizers and pesticides, intensive tillage and over-irrigation to meet food demand. In particular, it has an impact on the environment, public health, soil fertility and increasing the price of agricultural products.

Some cyanobacteria have the ability to dissolve soil phosphate, since phosphorus (P) is the second most important nutrient for plants and microorganisms after nitrogen.

Nitrogen-fixing cyanobacteria increase nitrogen content in natural desert soils by fixing nitrogen and assimilating it into plant-available forms.

Cyanobacteria also influence the availability of phosphorus, the second most important nutrient for plants, because they have the ability to convert unusable forms of inorganic phosphorus into usable forms through biological processes. In agriculture, cyanobacteria are mainly used as biofertilizers due to their role as nutritional additives.

Several studies have been conducted on cyanobacteria as biocontrol agents, with the activity of cyanobacteria extracts inhibiting *Aspergillus* and mycelial growth due to methanol, acetone, diethyl ether, ethyl acetate, ethanol and methyl chloride extracts.

Cyanobacteria have been reported in the literature to produce metabolites with various biological activities, such as anti-phytopathogenic, anti-fungal, and anti-viral activity. Cyanobacteria produce biologically active substances with antibiotic and toxic activity against plant pathogenic microorganisms. because extracts of *Nostoc* species inhibit the growth of significant phytopathogenic fungi. In addition, *Nostoc endophytum* and *Nostoc muskurum* species have been found to be important in the biological control of soybean root rot disease (*Rhizoctonia solani*), wilt disease. The use of these properties helps to obtain ecologically clean and high yields in agriculture without pesticides.

It is also important that these bacteria can be used to obtain bio energy.

Due to the rapid growth of the world's population, the global demand for fuel energy is constantly increasing. The intensive use of fossil fuels worldwide is depleting them and bringing them closer to the point of exhaustion due to their unsustainable and non-renewable nature. Thus, biofuels are now a growing possibility worldwide as an alternative to fossil fuels. Thus, the beneficial properties of cyanobacteria-produced biofuels are renewable and contribute significantly less to environmental pollution and global warming.

Cyanobacteria also play an important role in the biological treatment of wastewater, by accumulating organic and inorganic toxic substances as well as radioactive materials in their cells and by developing several detoxification mechanisms, they self-degrade urban, industrial and agro-industrial wastewater. It is called "phytoremediation" by cleaning it.

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KARBON KISLOTALARNING OLINISHI VA KIMYOVIY XOSSALARINI KLASTER USULIDA O'QITISH METODIKASI

Annotatsiya. To'yinmagan karbon kislotalar tajriba mashg'ulotini klaster usulida olib borilishdan maqsad ta'lim-fan- ishlab chiqarish bilan bog'liqligini beradi. Natijada, talabalar qisqacha nazariy bilimga hamda amaliy, tajriba mashg'uloti o'rganib qolmasdan balki ishlab chiqarish jarayoni bilan ham borib tanishadilar.

Kalit sozlar: Klaster, sirka kislota, akril kislota, chumoli kislota, sovun, yog' kislota.

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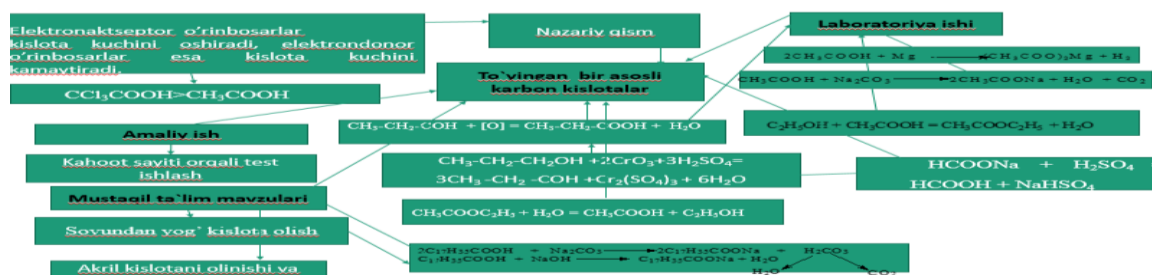
METHODOLOGY OF TEACHING THE PREPARATION AND CHEMICAL PROPERTIES OF CARBONIC ACIDS IN THE CLUSTER METHOD

Abstract. The purpose of conducting an experiment on unsaturated carboxylic acids using the cluster method is related to education-science-production. As a result, students not only acquire brief theoretical knowledge and practical, experimental classes, but also become familiar with the production process.

Key words: Cluster, acetic acid, acrylic acid, formic acid, soap, fatty acid.

Talabalarning professional tafakkurini shakllantiradigan icham grafik shakldagi ma'lumotlar yig'masi shakllanadi. Klasterlarga ajratishni da'vat, anglash va mulohaza qilish bosqichlaridagi fikrlashni rag'batlantirish uchun qo'llash mumkin. U asosan yangi fikrlarni uyg'otish, mavjud bilimlarga etib borish strategiyasi bo'lib, muayyan mavzu bo'yicha yangicha fikr yuritishga chorlaydi. Biror mavzu bo'yicha klasterlar tuzishdan bu mavzuni mukammal o'rganmasdan oldin foydalanish maqsadga muvofiqdir.

Klaster usuli aniq ob'ektga yo'naltirilmagan fikrlash shakli sanaladi. Undan foydalanish inson miya faoliyatining ishlash tamoyili bilan bog'liq ravishda amalga oshadi. Ushbu metod muayyan mavzuning talaba tomonidan chuqur hamda puhta o'zlashtirilguniga qadar fikrlash faoliyatining bir maromda bo'lishini ta'minlashga hizmat qiladi.



1-rasm. Klaster usulida karbon kislotalarni tuzilishi

1) **Nazariy qism:** To‘yingan monokarbon kislotalarning kuchi karboksil guruhi bilan bog‘langan o‘rinbosarlarning tabiatiga bog‘liq. Elektronaktseptor o‘rinbosarlar kislota kuchini oshiradi, elektrondonor o‘rinbosarlar esa kislota kuchini kamaytiradi.

Galogen atomlari karboksil guruhidan uzoqlashgan sari ularning ta’siri kuchsizlanadi, kislota kuchi kamayadi: $\text{CCl}_3\text{COOH} > \text{CH}_3\text{COOH}$

2) Laboratoriya mashg‘uloti. Chumoli kislota olinishi

Reaksiya probirkaga pipetka yordamida 3 – 5 tomchi xloroform va uning ustiga 2 ml 10% li o‘yuvchi natriy eritmasidan soling, aralashmaning qaynab ketishiga yo‘l qo‘ymasdan, ohista aralastirilib turgan holda gaz gorelkasi (yoki spirt lampasi)da qizdiring. Xloroformning gidrolizlanishi natijasida oraliq mahsulot sifatida uch atomli spirt hosil bo‘ladi, lekin bitta uglerodda birdan ortiq gidroksil gramma saqlovchi ko‘p atomli spirtlar beqaror bo‘lganligi sababli u dehidratlanib, chumoli kislota aylanadi:



Hosil qilingan chumoli kislota eritmasiga muhit kislotali bo‘lguncha suyultirilgan sulfat kislota eritmasidan kaliy permanganatning suyultirilgan eritmasidan 1 – 2 ml qo‘shing. Aralashma ohista qizdirilganda kaliy permanganatning rangsizlanishi va karbonat angidrig gazining ajralib chiqishi kuzatiladi. Karbonat angidrid ohakli suvning layqalanishidan bilinadi. Bu reaksiya to‘yingan monokarbon kislotalardan faqat chumoli kislota uchun xos bo‘lib, unda kislota dagi aldegid gramma hisobiga oksidlanish reaksiyasi boradi:



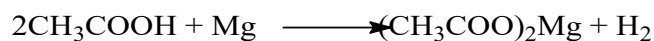
2-rasm. Sirka kislota olinish reaksiyasi

Karbon kislotalarning kislotalik xossalari.

a) 3 ta reaksiya probirka olib, uning har biriga pipetka yordamida 1 ml dan sirka kislota eritmasini soling. Birinchiga metiloranj, ikkinchisiga fenolftalein eritmasidan 1 tomchidan tomizing. Uchinchi probirkaga indikator qog‘oz

bo‘lakchasini tashlang. Probirkalardagi eritmalarning va indikatorlarning rangi qanday o‘zgarishini kuzating.

b) Reaksiya probirkaga sirka kislota eritmasidan 1 ml solib, ustiga ozgina magniy metalidan tashlang. Reaksiya boshlanishi bilan probirka og‘ziga cho‘g bo‘lib turgan cho‘pni tuting. Bunda cho‘p alanganib yonadi. Sababini tushuntiring.



3) Amaliy mashg‘ulot.

1. To‘yingan bir asosli karbon kislotaning 4,8 grammini neytrallash uchun 16,95 ml ($\rho = 1,18$) 22,4% li KOH eritmasi sarflandi. Kislotaning formulasini aniqlang. J: CH_3COOH .

2. To‘yingan bir atomli spirt A oksidlanganda 80% unum bilan B kislota hosil bo‘ldi. B kislotaga mo‘l miqdor rux metali ta’sir ettirilganda 4,48 l vodorod ajralib chiqdi. Reaksiya natijasida qaysi kislota qancha miqdorda hosil bo‘lgan. Agar A spirt degidratlanganda izobutilen hosil bo‘lgan bo‘lsa, reaksiya uchun qancha spirt kerak bo‘ladi? J: 0,4 mol izomoy kislota: 0,5 mol izobutilspirt.

3. 37 g birlamchi spirt oksidlanganda 44 g monokarbon kislota olingan. Agar har ikkala modda tarkibida uglerod atomlari soni bir xil bo‘lsa, reaksiya natijasida qanday kislota olinganligini aniqlang. J: butan kislota.

4. Olein va linol kislotadan iborat 3,55 kg moyni margaringa aylantirish uchun 360 l vodorod sarflangan bo‘lsa, moy sovunlanganda kislotalar qanday nisbatda ajralib chiqadi?

J: 2:1; $\text{C}_{17}\text{H}_{33}\text{COOH}:\text{C}_{17}\text{H}_{31}\text{COOH}$

4) Mustaqil ta’lim mavzulari:

1. Yuqori karbon kislotalarni kimyoviy xossalari.
2. To‘yinmagan karbon kislotalar.
3. Izomoy kislotasini laboratoriyada olinishi.
4. Metakril kislotadan polimer mahsulot olinishi

Mustaqil ishlarga: mustaqil ilmiy, o‘quv, qo‘shimcha adabiyotlarni o‘qish, elektron-metodik qo‘llanmalardan foydalanish, mavzuga oid savol-topshiriqlarni, joriy va oraliq nazorat ishlarini, laboratoriya va amaliy mashg‘ulotlarni, mavzuga oid test topshiriqlarini, masala va misollarni bajarish, referatlar yozish hamda ma’ruzalar tayyorlash kabilar kiradi. Kompyuter va Internet tarmoqlari orqali elektron variantdagi o‘tilgan mavzularni o‘rganish va o‘zlashtirish, yangi bilimlarni izlash, to‘plash, saralash, qayta ishlash va to‘g‘ri xulosalar chiqarish mumkin. Shuningdek, mavzuga oid topshiriq va savollarga echim topish; masala-misollar echish; test savollariga javob topish va boshqa ishlarni amalga oshirish mumkin.

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MAIN ASPECTS OF DEVELOPMENT OF INFORMATION SYSTEMS AND DIGITAL PLATFORMS

Annotation. Nowadays, technology is developing very rapidly. Information and digital technologies, which are developing day by day, never cease to amaze people. All developing industries are currently using modern technologies, such as artificial intelligence tools, the Internet of things and much more.

This article discusses the main aspects of the development of information systems and digital platforms.

Key words: information systems, digital platforms, artificial intelligence, evolution, infrastructure, economics.

Introduction. Sharing the structure of the IT infrastructure through the development of informatization and digitalization is increasingly being carried out with the aim of expanding innovation. Digital platforms (DPs) are becoming strange interaction mechanisms. Many small and medium-sized enterprises are emerging that develop innovation platforms and act as intermediaries in various market segments and sectors of these innovations. The digitalization of global economic activity makes the requirement for the joint use of information resources and information infrastructure by market entities one of the main conditions for the development of innovative activity.

The purpose of this article was to identify factors influencing the transition of business entities to the use of information technologies, and on this basis to formulate an evolutionary classification of information technologies. In the modern economy, the driving force is business entities that actively create and develop the digital economy, IT infrastructure and information resources. Based on the literature studied, we examined the evolutionary classification of processors used during the transition to the introduction of innovations. At the first stage of using IT, processor-based software and hardware solutions were developed. The second stage is characterized by the need to process and analyze incoming information in order for the business entity to make optimal management decisions. During the transition to the third stage, a full-fledged digital market infrastructure is formed on the basis of ecosystems, allowing the introduction of innovative business models and management of innovative activities based on the results of big data processing.

According to the World Bank report, in Table 1 we can see a list of countries that use digitized platforms in the top 10 different industries for 2022.

Table 1 presents the main rating indicators, including:

“Core Government Systems” - Core Government Systems Index, CGSI;
 Provision of public services” – Public Service Delivery Index, PSDI;
 “Public Engagement” – Digital Citizen Engagement Index, DCEI;
 “Institutional support” – GovTech Enablers Index, GTEI.

In today's digital world at large, creating and developing digital platforms has become a necessity for businesses to remain competitive and meet changing customer needs. Digital platforms are online ecosystems that bring together various users, including businesses, customers and partners, to exchange data, services and products. These platforms have revolutionized the way we interact with the world, and their importance continues to grow with the increasing digitalization of business.

Table 1

Top-10 GTMI ranking

Место	Экономика	GTMI	CGSI	PSDI	DCEI	GTEI
1.	Южная Корея	0,991	0,990	0,998	0,994	0,984
2.	Бразилия	0,975	0,980	0,969	0,970	0,981
3.	Саудовская Аравия	0,971	0,963	0,979	0,966	0,977
4.	ОАЭ	0,961	0,922	0,989	0,976	0,956
5.	Эстония	0,956	0,910	1,000	0,998	0,916
6.	Франция	0,945	0,923	0,957	0,950	0,952
7.	Индия	0,940	0,935	0,966	0,955	0,904
8.	Литва	0,918	0,822	0,961	0,950	0,940
9.	Монголия	0,907	0,934	0,864	0,883	0,946
10.	Россия	0,897	0,881	0,960	0,828	0,919

Advantages of digital platforms. Digital platforms have many benefits not only for businesses but for the entire industry, including increased efficiency, scalability and revenue. They provide a central link for connecting businesses with clients and partners, allowing them to optimize their activities and improve customer service. Additionally, digital platforms provide companies with valuable information about their customers, helping them make informed decisions about their products and services. The creation of digital platforms also becomes important of course. The process of creating a digital platform includes defining the goal, identifying the target audience and choosing a technology package. The key to creating a successful digital platform is understanding the needs of your target audience and developing a platform that meets those needs. Challenges in building a digital platform include defining the right technology

stack, developing a user-friendly interface, and ensuring the platform is scalable and secure.

Digital platforms are used in various industries such as healthcare, finance and retail. Successful digital platforms in these areas provide users with valuable information and services and enable companies to create new relationships with their customers. For example, digital platforms in the healthcare sector provide patients with remote access to medical advice and services, while digital platforms in the financial sector provide users with financial advice and financial management tools.

In today's information age, the use of digital platforms in all fields is bringing these fields to a level of maturity. This process is already used in the economic sphere. Artificial intelligence and digital platforms ensure the security of a safe economy and other areas, but we cannot say that they are completely safe. User-friendly platforms are also important for business development.

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DEVELOPMENT TENDENCY OF POPULATION MIGRATION

Abstract. In this article, the main problems of migration, the economic situation of migrants, the main reasons for internal migration, the reasons for the migration of migrants, therefore, this study tries to reveal the socio-economic conditions of migrant workers and their impact on their lifestyle.

Keywords; migration, migrant, trend, socio-political reasons, forced migration, communal functions, rural population, developing countries, global population.

Human beings are restless and mobile creature. Human beings have been migrated from one place to other place; in time and space its advent the planet's known history is full of eventful migration (Kenkel, 1997). It not only provides opportunities for employment but also improves the socio-economic condition of migrant households (Arif, 2005). Migration is shift from a place of residence to another place for some length of time or permanently including different types of voluntary movements. It has great impact on economic, social, cultural and psychological life of people, both at place of emigration as well as of migration (Kaur, 2003). Diversification of economy and increased land productivity in certain areas, rapid improvement in transport and communication means, improvement in education, increase in population pressure and zeal for improving living added momentum to the mobility of population in India (Roy, 2011). As sufficient local labour was not available, farmers of the state had to depend on the migratory labour for various agricultural operations, especially during peak seasons (Sidhu et al., 1997). The social factors like network of the co-villagers and caste fellows started attracting the migration. Some other factors that compelled them to move to Punjab were incidence of floods, droughts, non-availability of jobs, poverty and indebtedness at their native place (Gupta, 1991; Gupta and Bhakoo, 1980). Raghunath Reddy (1996) states that the new economic policy affects the poor adversely and thereby register a rise in poverty and unemployment among rural labourers. J.K. Singh (1996) states that the labourers are exploited more in organized sector of the nation. Increase in the process of development has also increased the exploitation of labour. U. Tataji (1986) takes up the issue of the absorption of the migrant labour force in the formal and informal sectors of the urban economy and the pattern of work organization. According to United Nations (2003), internal migration is almost four times as large as international migration. Hence, the present study makes an attempt in

unravelling the issues of socio-economic conditions of the migrant unorganised workers and its impact on their livelihoods.

Objectives of the Study This study is based on the following objectives:

1. To study the socio-economic characteristics of the sample unorganised migrants in the study area;
2. To find out the various reasons for migration among unorganised workers in the study area;
3. To examine the sources of information about job opportunities;
4. To measure the effect by migration;
5. To understand the problems of employment.

Methodology The present study has covered Tirunelveli District. The primary data was collected with the help of specially prepared interview schedule. Totally 90 respondents were selected using simple random sampling method. This is purely a descriptive study. The data relates to the month of September 2015. A separate interview schedule was designed, pilot tested and used for data collection. For analyzing the data statistical tools such as percentages, averages, Chi-square tests, Garret ranking method and probability analysis technique were used. It is observed from the above table that, out of the 90 respondents, 74.4% are males and 25.6% are females. From the table, it is revealed that the percentage of middle age respondents is more i.e., 59%. As per the survey middle age groups involvements is higher than that of old and young aged groups in the study area. The table reveals that out of 90 migrants, about 65% were married, 7% were widow 4% was separated and 24% were unmarried. Thus, 65% were the married unorganised migrants. The table reveals that the majority of the respondents belong to Backward Caste and their percentage is 75. The table gives a picture on the educational background of the samples. ...

“Internal migration” in China mainly refers to the movement of migrant workers with rural hukou (household registration) rights from the countryside to the big cities, in search of work. The government has relaxed the restrictions on household registration in order to promote labor mobility, following the policy of reforms and Migration is the move from one geographic location to another. Residential migration occurs when the household (or person) changes its place of residence by moving from one neighborhood to another within the same locality. Internal migration occurs when the household moves across larger geographically distinct units – such as counties, metropolitan areas, states, or provinces – but remains within the same country. International migration occurs when the household moves across national boundaries.

Migration is the movement of people from one place to another with the intentions of settling, permanently or temporarily in a new location. This type of movement could be from one country to another or internal migration like among the states of a country, such as from rural-rural, rural-urban, urban-urban or urban –rural. Individuals may migrate as a person, in family units or in large groups. If A person is forced to move from his home to another place due to natural disaster

or civil disturbance may be described as a refugee. Migrants continually face difficulties in becoming a full part of the economic, cultural, social and political lives of society. This paper is an attempt to understand the causes and nature of migration and also gender wise migration patterns in India and issues underlying it. Due to urbanization changes occur in socio-economic conditions, migrants are attracted to urban areas in recent times. Inter-state migration among males to urban area shows precedence growth reflecting migration of people from lower socio-economic class while a large percentage of females migrate mostly due to marriage. The reason for such divergent pattern of migration within a period of 10 years really needs to be investigated. Index Terms Labour, urbanization, migration, marriage

Opening up since the late 1970s. Large numbers of rural farmers turned workers have made a major contribution to china's development. Meanwhile, this migration has generated many negative consequences. This entry provides a description of the social facts of rural–urban migration in terms of its size, demographic characteristics, regional and industrial distribution and of the social problems faced by the migrants, including ethnic minority ones, over a period of four decades.

Circular migration has been practiced and become significant phenomenon of social, demographic, and economic in indonesia, especially in the Java Island. The temporary movement pattern‘ between rural and urban which has been practiced since long time ago, shows a quite unique pattern of the livelihood of rural people in which could provide benefits for the migrants‘ family in rural area, as well as fulfilling labour demand in the city and in the rural area. Sadly, in Indonesia, there is no data or adequate tools to predict or respond to the existence of circular migrants in the city (Hugo, 1982).

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AHOLI MIGRATSIYASI JARAYONLARI VA TURLARI

Annotatsiya. Ushbu maqolada aholi migratsiyasining jarayonlari, aholi migratsiyasining bosh sabablari, aholi migratsiyasining kelib chiqishi ko'p mamlakatlarda salbiy oqibatlari, aholi migratsiyasining turlari.

Kalit so'zlar: migratsiya, migrant, demograf, inson, Aholi migratsiyasi, ichki migratsiya, tashqi migratsiya, mayatniksimon migratsiya, xalqaro migratsiyasi.

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PROCESSES AND TYPES OF POPULATION MIGRATION

Abstract. In this article, the processes of population migration, the main causes of population migration, the origin of population migration, negative consequences in many countries, types of population migration.

Key words: migration, migrant, demographer, human, population migration, internal migration, external migration, pendulum migration, international migration.

Aholi migratsiyasi. Migratsiya – lotincha (ko'chaman), — (joyimni o'zgartiraman) degan ma'noni bildiradi va aholining joylashishi qayta taqsimlanishi, tarkibi va soniga ta'sir ko'rsatadi. Migratsiya jarayonlari xarakteriga ko'ra ichki, tashqi (mamlakatlararo) va ishchi migratsiyalariga ITI sharoitida esa —aql oqimil yo'nalishiga bo'linadi. Migratsiya jarayonlarining bosh sabablari – iqtisodiy, siyosiy, etnik, demografik, madaniy, diniy va boshqalar bo'lishi mumkin. Migratsiya jarayoni aholi hududiy harakatining asosiy turi bo'lib, inson bilan tabiat o'rtasidagi aloqadorlik vujudga kelgandan buyon shakllanib, rivojlanib kelmoqda. Aholi migratsiyasi buyuk geografik kashfiyotlar davridan boshlab keng miqyosda amalga oshmoqda. Migratsiya tashqi va ichki migratsiyaga taqsimlanadi. Mamlakatlar aholisining soni va tarkibiga bo'ladigan ta'siri nuqtai nazardan tashqi migratsiyalarning ahamiyati beqiyosdir. Tashqi migratsiya katta hajmga ega mamlakatlarda, uning aholi soni va tarkibiga bo'lgan ta'siri sezilarli oqibatlarga olib kelishi mumkin. AQSh, Kanada, Avstraliya va boshqa qator mamlakatlar tarixda migratsiya saldosining

ahamiyati tabiiy o'sishi, jumladan ustun bo'lgan ayrim davrlar kuzatishganligini ta'kidlab o'tish joizdir. Hozirgi vaqtda ham mazkur mamlakatlarda migratsiya saldosi aholi sonining o'sishida muhim omil hisoblanadi. Isroil davlatida esa migratsiya saldosi aholi soni o'sishining deyarli 2/3 qismini ta'minlamoqda. Yuqoridagi mamlakatlar aholining ko'chib kelishi bo'yicha yetakchi hisoblansa, qator boshqa mamlakatlar, chunonchi, Irlandiya aholisining ko'chib kelishi bo'yicha dunyoda mashhur bo'lib qolgan. Tashqi migratsiyalar o'z xususiyatlari, sabablari, hududiy qamrovi davom etishi bo'yicha bir-biridan farq qiladi. Migratsiya xususiyatlari to'g'risida so'z yuritganda, avvalambor, xohishiga ko'ra va majburiy migratsiyalar nazarda tutiladi. Tashqi migratsiya asosan, iqtisodiy sabablar bilan bog'langan. Bunda yangi yerlarni o'zlashtirish maqsadida hamda ishchi kuchini shartnomalar bo'yicha boshqa mamlakatlarga yuborish bilan bog'liq migratsiyalar katta rol o'ynaganligini ta'kidlab o'tish joizdir. Hududiy qamroviga qarab materiklarga va materik ichidagi migratsiyalarni ajratish qabul qilingan. Hozirgi vaqtda ikkinchi turdagi migratsiyalar asosiy ahamiyat kasb etadi. Davom etishi bo'yicha doimiy, vaqtinchalik va mavsumiy migratsiya turlari mavjud. Shartnoma asosida amalga oshirilayotgan migratsiyalar vaqtinchalik migratsiyalar deb ataladi. Doimiy migratsiyalar uy-joyi va ish joyining tamomila o'zgarishi bilan bog'liq aholi ko'chishi bilan bog'liq bo'lib, u migratsiyalar ichida asosiy o'rin egallaydi. Insoniyat xo'jalik va ijtimoiy-madaniy faoliyatida ro'y berayotgan internatsionallashuv va demokratiyalashuv jarayonlari, shuningdek, mamlakatlararo, millatlararo ayrim ziddiyatlar, to'qnashuvlar, favqulodda vaziyatlar va tabiiy ofatlar oqibatida aholi hamda mehnat resurslarining mamlakat ichida mamlakatlararo keng miqyosda bir joydan ikkinchi joyga ko'chib yurishi ro'y beradi. Bular bir tomondan, jahon sivilizatsiyalash va xalqaro mehnat bozorlari, turar joy va ish joy tashlash uchun yaratib bergan huquq va imkoniyatlaridan foydalanuvchi ko'pchilik migratsiyalardan iborat bo'lsa, ikkinchi tomondan, o'z xohishi bilan emas, balki sharoit taqozosi bilan tug'ilib o'sgan joyini tashlab ketishga majbur bo'lgan qochoqlar hamda zo'raki migrantlardan iboratdir. Ayrim tarixiy yerlarda migrantlar oqimining ko'lami hamda ahvolining murakkabligi juda katta muammolarni yuzaga keltiradi. Bu muammolarni yechish esa keng miqyosda xalqaro hamkorlikni taqozo etadi. U bir davlatning mintaqalari o'rtasida ro'y beradigan ishchi kuchi migratsiyasi va bir necha mamlakatni qamrab oladigan tashqi migratsiyadan iborat. Xalqaro migratsiya muammolarini o'rganishda duch kelinadigan asosiy tushunchalar quyidagilar:

- ishchi kuchi migratsiyasi mehnatga layoqatli aholining bir davlatdan ikkinchi bir davlatga, bir yildan ko'proq muddat bilan ko'chib o'tishi, buning iqtisodiy va boshqa sabablari bo'lishi mumkin;
- immigratsiya – mehnatga layoqatli aholining biron-bir mamlakatga chetdan kirib kelishi;
- emigratsiya – mehnatga layoqatli aholining bir davlatdan ikkinchi bir davlatga chiqib ketishi;

- migratsiya saldosi – mamlakatda bo'ladigan immigratsiya va emmigratsiya o'rtasidagi farq;
- aqliy talafot – yuqori malakali kadrlarning xalqaro migratsiyasi;
- reemigratsiya – emmigrantlarning turg'un turish uchun o'z vataniga qaytib kelishi;
- tashqi migratsiya – aholining ikki davlat o'rtasida ko'chib yurishi;
- ichki migratsiya – aholining bir davlat doirasida bir joydan ikkinchi joyga ko'chib yurishi;
- mavsumiy migratsiya – mavsumiy ishlar bilan bog'liq migratsiya-dir.

Tashqi migratsiyaning asosiy sabablari iqtisodiy qiyinchilik, siyosiy beqarorlik, milliy-diniy nizo va urushlardir. Ichki migratsiyaning sabablari ham shunga o'xshab ketadi va quyidagilardan iborat: iqtisodiy qiyinchilik, mavsumiy ish, milliy nizolar, urushlar va boshqalar. Aholining bir davlatdan ikkinchi bir davlatga va bir davlatning ichida bir joydan ikkinchi bir joyga ko'chib yurishini boshqarish migratsiya oqimi deb ataladi. Migratsiya oqimi mamlakat yoki rayonlar aholisining soniga sezilarli ta'sir etishi mumkin. Insoniyat tarixi davomida juda ko'p ommaviy tashqi va ichki migratsiyalar sodir bo'lgan. Neoklassika tarafdorlari ishchi kuchini, ayniqsa, yuqori malakali xodimlarni eksport qiluvchi mamlakatda migratsiya muhimligini e'tirof etishadi. Shu munosabat bilan —aqliy talafotga soliq solish va undan kela-digan daromadni BMT ixtiyoriga o'tkazib, ulardan rivojlanish maqsadlarida foydalanish g'oyasi keng muhokama etildi. Keyingi yillarda jamlashishga mamlakat iqtisodiy rivojlanishning muhim omili sifatida qarash ustun kela boshladi. Jamlangan inson potentsiali iqtisodiy taraqqiyotning muhim omili jamligidan kelib chiqilsa, xalqaro mamlakatlar o'rtasida iqtisodiy rivojlanish borasidagi sur'atlar necha xil ekanligining sabablaridan biri deb hisoblasak bo'ladi.

Xalqaro migrantlar 5 toifaga bo'linadi.

1. Mamlakatga oshkora kiritilgan immigrantlar va noimmigrantlar. Ko'pdan beri immigrantlarni qabul qilib kelayotgan mamlakatlar uchun 80-90-yillar immigratsiya yuqori pog'onaga ko'tarilgan davr bo'ldi;

2. Shartnoma bo'yicha ishlaydigan xizmatchi migrantlar 90-yillarning oxirida ularning soni dunyo bo'yicha 25 mln kishidan ko'proq edi. Ko'pincha mamlakatlar chet el ishchi kuchiga muhtojlik sezadi. Bu hollarda ishchi kuchi serob bo'lgan mamlakatlar: masalan, Osiyoning ba'zi mintaqalari, ya'ni Sharqdagi qator mamlakatlar bilan shunday shartnomalar haqida kelishib olishadi;

3. Yashirincha kelgan immigrantlar 90-yillarning oxirida bularning soni 30 mln kishidan ortiq edi. Deyarli barcha sanoat rivojlangan mamlakatlarda yashirin immigrantlar mavjud. Ularning bir qismi chegara orqali o'tsa, boshqalari viza muddati tugagandan keyin begona mamlakatdan chiqib ketmaydi: bundaylar, odatda, eng kam ish haqi to'lanadigan ish joylariga yollanadilar.

4. Boshpana so'ragan shaxslar. Bunday toifadagi migrantlar soni 80-yillargacha juda oz bo'lib, keyinchalik ancha ko'paydi. 90-yillar oxiriga kelib, 1

mln. kishini tashkil etdi. Shaxslar siyosiy sabablarga ko'ra, iqtisodiy ahvol tufayli boshpana so'raydi.

5. Qochoqlar soni, BMT ma'lumotiga ko'ra, 90-yillar oxiriga kelib, dunyoda 22 mln. dan ko'proqni tashkil etgan va bu raqam yildan-yilga ortib bormoqda (bulardan qariyb 4 mln. kishi o'z vataniga qaytib kelgan bo'lsa ham, BMT homiyligida yashaydi). Qochoqlarning ko'pchiligi bugungi kunda maxsus lagerlarda istiqomat qiladi. Bu lagerlar BMT yoki xususiy agentliklar homiyligidadir.

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DESIGNING INFRASTRUCTURES TO INCREASE TRAFFIC FLOW TO THE POPULATION OF NAMANGAN

Annotation. A special aspect of the organization and operation of urban passenger transport in the city of Namangan is considered. Recommendations were given on projects to improve the routes and infrastructure of urban bus transport in terms of traffic safety, convenience, reliability and other indicators.

Key words: route, traffic, route network, node (connection), capacity, traffic interval, city, intermediate stop, station, passenger traffic, speed, traffic regularity, intersections, additional lanes.

Enter. The development of surface public transport, as well as the location of its infrastructure facilities, is carried out based on the master plans of settlements and cities and districts, and for cities with a population of 250,000 or more - taking into account the existing public transport networks, the estimated peak hours in the most loaded direction and the main indicators of different transport systems allow to do it on the basis of comparison [1, 2, 3].

This is due to planning factors that influence the transport demand. The analysis of the city plan begins with the study and description of its features according to the following parameters [1, 2, 3]:

- the size of the city (population, area of developed territory);
- shape and size of the territory, level of compactness;
- the division of the territory, the presence of natural and artificial obstacles (rivers, ravines, railways and others);
- mutual location of residential areas and industrial facilities;
- placement of intercity and district centers;
- the character of placement of the main focus of the pullers;
- the distance of the population from the city center;
- construction of residential buildings in small districts;
- characteristics of road network placement;

Also, the main issues in the development of the public transport system include factors such as determining the number of routes, establishing new routes, improving infrastructures, and organizing transport sections in order to increase the transport capacity.

Determining the number of routes in a city depends on the length, density and configuration of the transport network, as a developed transport network requires more routes. Cities with densely populated residential areas and

permanent work and leisure areas require more routes than cities of the same size with concentrated residential and work areas [1-4].

The total number of directions in the system should correspond to the number of moving parts working in it. With the increase in the number of routes, the intervals of movement and the waiting time for vehicles increase.

The average length of routes is determined by the size of the city and the average distance traveled by passengers.

D.S. Samaylov recommended the average weighted density of the transport network in the range of 1.5-2.5 km/km² depending on the size of the city [1-4].

Transport network density - the ratio of the length of public transport routes (lines) to the population center (Figure 1) (km / km²)

$$\delta = \frac{L_{UM}}{S_3}$$

L_{UM} - route length km; S_3 - square construction area [1];

Table 1.

Transport tappogu density values

Population, thousand people	500-1000	250-500	100-250	50-100
Optimum density system	2.3-2.6	2.0-2.3	1.7-2.0	1.4-1.6

If the population of Namangan city as of October 1, 2022 is taken to be 673,800 people, the optimal density of the transport network is equal to 2.5. The average length of the route is determined by the size of the city and the average distance covered by the commuters.

$$L_{o'rt} = 3/4 * L_{um}$$

According to the method [1], the total length of the bus route "No. 21 small district1-Jahon bazar" in the city of Namangan is 19.8 km.

$$L_{o'rt} = 3/4 * 19.8 = 14.85 \text{ km}$$

Based on the results of public transport movement in the direction of the city center, we can fill in the 2nd table below.

Table 2.

The cost of communication with the city center.

№	Izox ratsam between border zones, min.	Population Ni-(i+1) a thousand people	Walking distance to the city center is average T + T, account —2	$Ni_{((i)} * (T + TJ)$
				2
1	1-10	7,1	5	35,5
2	10-20	135,4	15	2031
3	20-30	153,2	25	3830
4	30-40	9,7	35	339
Total:		305,4		6235,5

According to the obtained results, we determine the difficulty of communication with the city center by the following expression.

$$T_{o'rt} = \frac{6235.5}{305.4} = 20.4 \text{ min}$$

$t_{o'rt}$ - pedestrians in the center of the city

$$t_{o'rt} = \frac{60 * L_{um}}{V_n} = 60$$

Efficiency coefficient

$$E = \frac{40}{20.2} = 2$$

The speed of movement of the population is determined according to:

$$V_{xt} = \frac{60 * 2.0}{20.4} = 7.0 \text{ km / soat}$$

In addition, it is necessary to provide for parking and exiting areas and sheds at bus stops. It is necessary to make the width of the parking spaces equal to the main strip of the road section, and the length depending on the number of buses stopping at one time, but at least 10 meters.

Exit platforms at bus stops should be raised by 0.2 meters from the surface of the parking areas. The surface of the exit platforms should be at least 10x2 meters in size, and the access platforms to the sheds should have a cover. The nearest edge of the parking lot should be at least 3 meters from the edge of the parking area. The curbstone at the bus stops shall be placed without moving the edge of the parking strip and the adjacent speed change strip section. Sidewalks and sidewalks should be designed in the direction of the main flow of pedestrians from the exit platform to existing street sidewalks or sidewalks, if they are not available, at least side view is ensured [5-11].

The basis for measuring the quality of transport services is the system of established standards of transport quality. Passengers often judge the quality of service (especially in urban and rural areas) by the total time spent on the trip. Building norms and rules for planning cities, settlements and rural settlements (ShNK 2.05.02-07) provide for certain requirements for the design of transport systems. The time of moving from the place of residence to the place of work and other public transportation (one-way) should not exceed 40 minutes for 80 percent of commuters in large cities, and 30 minutes in other settlements. However, the analysis of the performance of passenger transport systems in different cities of Uzbekistan showed that the total time spent on trips exceeds this standard by 20-40% [12].

Placement of bus stops outside residential areas on straight sections of the road or on curved sections of class I and II roads with a radius of at least 1000 m, class III roads with a radius of at least 600 m, and class IV roads with a radius of at least 400 m and with a maximum slope of 40% must In this case, the standard of visibility in the appropriate category of roads should be ensured [13].

The pedestrian approach distance from the place of residence or work to the nearest stop of any type of urban passenger transport should not exceed 500 m. The density of the Rtr transrort network should be between 1.5 - 2 km/km2

According to the decision of the Senate of the Oliy Majlis of the Republic of Uzbekistan dated September 13, 2022, on changing the borders of Turakurgan district of Namangan region and Davlatabad district of Namangan city, Namangan city, a new residential area will be established on the land area transferred to Davlatabad district of Namangan city. A project on the organization of public transport (PT) routes is given (Figures 1).



Figure 1. Newly opened JT route with planned area

In addition, one of the main factors mentioned above is the infrastructure in order to implement the project of increasing the traffic flow in the city of Namangan, i.e., the traffic flow in the existing streets of Namangan city, N. Namangoni, South Roundabout Street, Kosonsoy Street, A. Navoi Street, Firvonsoy Street and Davlatabad District. the project of re-improving the intersections, organizing an additional lane, arranging the pedestrian lane, using smart traffic lights, organizing a non-stop right-hand lane at the intersections, organizing additional roads parallel to the central streets, organizing parking lots around the main objects on the central streets, underground and scientific-practical research works such as organization of pedestrian crossings were conducted.

Many researches related to the analysis of the development of the transport system and its place in the development of the country's economy have been carried out by foreign and domestic scientists, in which the formation of the rules of transport and the research of its management methods are also important for other sectors of the economy. In the conditions of city renovation, with the development of existing constructions, transport service network, the tasks of developing certain functions of the city will appear, the necessary opportunities for the residents of the city and its surroundings will appear by placing new institutions in the transport links. [1,2,3]

In conclusion, based on the obtained results, we can see that the level of movement of the population (use of public transport) is small. Based on this, it is possible to implement the project of establishing new residential areas in the city of Namangan and establishing new routes for highways and public transport in 2024.

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MODERN PROSPECTS FOR TAXING RESOURCE TAXES

Annotation. This article discusses the issues of improving digital analog systems, increasing budget stability through resource taxes, in order to facilitate the work of taxpayers and increase the effectiveness of control by government agencies.

Keywords. Taxes on resources, local taxes, taxes on land and property, tax burden, tax base.

Introduction

In the World, property taxes are valid in more than 130 countries of the world and are considered an important factor in the formation of income from local budgets. A number of impressive measures have been implemented by the owners to use the means of taxes in achieving effective use of property, to increase the share of property tax revenue in the income of local budgets. Property taxes make up "40 percent of the income of local budgets in Canada, 30 percent in the United Kingdom, and 20 percent in France" [1]. "Property taxes as the main source of income of local budgets are given wide priority to issues of taxation of real estate objects in countries such as France, Sweden, the United States, and issues of effective taxation of land areas in countries such as Germany, Canada, the Netherlands, Denmark" [2].

In most scientific studies aimed at improving the mechanisms for calculating and charging land and property taxes in world practice, with the introduction of real estate taxes through the unification of these taxes, it is achieved to simplify the mechanisms for calculating and charging taxes as a source of replenishment of local budget income. But the lack of in-depth analysis of such issues as the features of calculating land and property taxes in these studies, ways of rational use of real estate tax in increasing local budget revenues, and the impact of taxes on the financial activities of taxpayers makes it necessary to conduct research on this.

The essence of the tax reforms carried out in Uzbekistan, the promotion of effective and rational use of natural resources by means of taxes, the fair distribution of tax burden among taxpayers, the transfer of all categories of taxpayers to the payment of resource taxes and, in this regard, the development of practical measures to expand the tax base in each district.

Literature review

While the English economist Adam Smith Distinguished land rent among the sources of reimbursement of public expenses, the theorist of views on the

taxation of real estate is the English economist, founder of the Classical School of political economy D.Ricardo concluded that the excess of land obtained by the manufacturer depends not only on its natural properties, but also on physical things.

Also, D.As a result of Ricardo's research analyzing the impact of real estate taxation through the land tax prism, he found that only part of the cost for improved land each year included payment for the initial and non-destructive soil [4].

Alfred Marshall was considered " one of the most important factors in the ability of local payments to increase the standard of living in this area in the introduction of real estate taxes. Marshall has concluded that heavy payments encourage payers to leave the area, while profitable payments, on the contrary, can be an incentive to attract people and attract investments" [5].

This Economist has proposed the stratification of real estate for the purpose of taxation by scientists. For example, those who noted that it is necessary to take into account taxation of individuals and legal entities at different rates, their differentiation depending on the purpose of using objects (commercial, production, residential, etc.) [6].

The Economist scientist of our country Sh.A. Toshmatov cited a number of measures aimed at increasing tax revenues to the local budget, in which he made comments on improving the system of distribution of taxes between budgets of different levels in the context of ensuring the interest of local authorities in maximizing tax revenues, promoting the need to assess the territorial tax potential and improve the mechanism for collecting local taxes [7].

Sh.Sh. Saipnazarov expresses his opinion that it is possible to ensure the reliability and predictability of the tax system by providing accurate and predictable tax rates to users of Natural Resources.

Research methodology

The article uses methods of statistical analysis, determining the mechanism of resource taxes, the tax base and determining the effectiveness.

Analysis and results discussion

When analyzing local tax declines in local budgets directly from property tax revenue to total budget revenues, in 2018-2022 the share of property tax in the state budget and local budget revenue balance is very low, while this tax revenue has been in a sharp downward trend in recent years, in particular, property tax revenue has increased by 121.4% compared to the previous year in 2018, by 128.3, 88.4% in 2021 and 85.6% in 2022.

Therefore, it was found that the problems of property tax revenues should be analyzed by comparing them with the number of taxpayers. Because it was in 2018-2022 that drastic changes were also made in the number of legal entities and individuals paying property taxes.

In accordance with articles 410 and 418 of the tax code of the Republic of Uzbekistan, introduced into practice in our country from 2020, legal entities with

property that are the object of taxation on the territory of the Republic of Uzbekistan and non-resident persons of the Republic of Uzbekistan who own real estate, as well as real estate objects intended for housing, apartments.

In accordance with the tax legislation of the Republic of Uzbekistan, "real estate is considered the object of tax on the property of legal entities and is included in the real estate:

buildings and structures that must be registered with the state registration authorities for rights to Real Estate; unfinished objects. Objects that are not completed include objects that are not completed within the normative period established in the draft-estimate documents for the construction object, objects that are not completed within twenty-four months, from the month in which the permission of the body authorized to build this object is received, if the normative period of construction is not established;

Table-1

Comparative indicators of the number of legal entities and individuals paying property taxes in 2017-2022 [8]

t/r	Years	Taxpayer legal entities			Individuals paying taxes		
		Number	Difference compared to last year	Growth Index in %	Number	Difference compared to last year	Growth cursor in %
1.	2018	6 763	-166	97,6	5 198 671	91 648	101,8
2.	2019	4 325	-2 438	64,0	5 341 710	143 039	102,8
3.	2020	5 856	-586	90,9	5 994 421	650 979	112,2
4.	2021	64 966	59 110	1109,5	6 978 872	984 451	116,4
5.	2022	58856	-6110	90,6	7 255 539	276667	139,6

Table-2

Tax revenues paid from the sides of legal entities and individuals paying property taxes in 2018-2022 comparison pointers [9]

t/r	Years	Paid by legal entities			Paid by individuals		
		Tax revenue	Ratio to last year	Growth cursor	Tax revenue	Ratio to last year	Growth cursor
1	2018	915,8	157 854,9	117,0	445,1	108,4	132,2
2	2019	1 072,8	157,0	117,1	575,6	130,5	129,3
3	2020	1 897,8	343,6	122,1	708,3	132,8	123,1
4	2021	1 553,7	-344,1	81,9	752,4	44,1	106,2
5	2022	1974,1	420,4	127,0	742,1	-10,3	98,6

Tables 1,2 above, the number of legal entities paying property taxes in 2018-2022 has grown by almost 10 times (including 6,723 in 2018 to 64,966 in 2021), the number of property tax payers on individuals by 1.4 times (from 5,198,7 thousand in 2018 to 7,255,539 thousand in 2020), (only in 2020 due to

the benefits, the number of taxpayers has decreased.) but, while the number of legal entities and individuals paying property taxes has increased dramatically as a result of tax reforms implemented in our country in the following years, the income on property taxes paid by legal entities is unstable compared to the number of taxpayers, that is, at a time when the number of taxpayers in 2019 increased tenfold, tax revenues decreased compared to the previous year.

Therefore, the results of this analysis indicate that local taxes, including this situation in the dynamics of income on property taxes, the growth of tax revenues depends not only on the number of taxpayers, but also on the correct setting of tax objects, tax calculation base and tax rates, and a deep analysis of these tax elements is required.

Conclusion

As a result of the expansion of the powers of local governing bodies with the economic reforms carried out in our country, they are assigned the task of ensuring the socio - economic stability of the administrative territory. In accordance with the current legislation, local representative bodies will need a certain amount of financial resources in order to fully fulfill the tasks assigned to them and at a high level within the specified periods. The basis of this base of financial resources is local budget revenues.

But when we analyze this situation with the taxes imposed in the tax system of foreign countries and their share in the total revenue, we can safely see that there are a number of problems in the taxation of property and land in our republic.

During the preparation of the research work based on the analysis carried out within the framework of the topic and the experience of advanced foreign countries, the following conclusions were formulated and practical recommendations and scientific proposals were developed.

1. At a time when the main part of the income of the domestic budget of developed countries is being formed at the expense of real estate taxes, the year-to – year decline in the income of the local budget of our country is one of the main problems facing the tax system today, the revision of which, based on the experience of advanced foreign countries, This serves to ensure efficient use of property and land resources while increasing the stability of local budget revenues.

2. The formation of a complete cartographic basis of all land areas and real estate on the territory of our republic, the formation of a unified state register of real estate and land users through the transfer of their inventory to the close of the objects of taxation, the registration of the balance and account of land and property owned by users in the online system by the cadastral agency and the integration of this online Geoportal into the National geoaxborot system ensures transparency and openness in maintaining the accounting of existing land areas and real estate in our republic.

3. Tax calculation based on the normative value of land for all farms used for agricultural purposes, while simplifying the tax calculation process, provides

equal conditions of taxation for all farms and provides a solid basis for the fair taxation of all agricultural producers.

4. For land not intended for agriculture, the base rates of land tax are given to legal entities for 1 hectare, individuals for 1 sq.m. the determination of the absolute amount in the cross section of the territories for all taxpayers will facilitate the processes of tax calculation.

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THE SCIENCE OF EDUCATION AGAINST INFORMATION ATTACKS

Abstract. In this article, the Internet is one of the most dynamic tools of the information space, which provides a wide range of opportunities for information exchange, as well as necessary information, and helps prevent destructive and aggressive ideas alien to our national ideology and incompatible with our spirituality. The importance and influence of education and training are considered.

Key words: information attack, information space, destructive and aggressive ideas, national ideology, Odnoklassniki, Facebook, Twitter, You Tube, ideological immunity, family.

Introduction: For man, information is the most effective tool because he has a mind. Logical proof, moreover, the simplest methods of conveying information, have such great power that no one can oppose it. Therefore, the people of a country whose propaganda is too strong are like fanatics. Human nature is created in such a way that he cannot live without receiving information and trying to understand it. Every person sees, hears, reads, and most importantly lives under the influence of information that reaches him constantly, continuously, day and night. Therefore, those who want to influence someone mentally with the help of information will be helped by the psychology of that person, if this person accepts the information without thinking.

Today's developing society, including young people, receives information of various contents through mass media in their daily life, educational process, and work activities. The films, shows, and radio broadcasts they watch have different effects on their spiritual world, depending on their content. Taking into account the positive and negative aspects of influence through mass media, it can be said that the role of the information environment he receives in the spiritual development of a person is great. So, what young people see and listen to today should not be left out of the attention of the family where they are growing up, as well as educational institutions.

Another of the fastest means of the information space is the Internet, which provides a wide range of opportunities for information exchange, as well as pages that promote destructive and aggressive ideas alien to our national ideology and

incompatible with our spirituality, along with the necessary information. There is especially in recent years, the increase of pages promoting information that poisons the human mind in the international system - aggression, militancy in the spirit of murder, lies and other information that is against humanity and society - calls us to be aware. In social networks such as Odnoklassniki, Facebook, Twitter, YouTube, we often see young people arguing about some issue - books, pictures, movies, songs. Of course, sharing ideas sharpens the mind. But it is necessary to understand that the impact of some socially dangerous information is more dangerous than itself.

Literature review. It is known that the beginning of many sciences is taught in the family. The fairy tales we have heard - if the science of literature is the beginning, learning to count is the first lesson of mathematics. Among these, the problem of increasing ideological immunity to protect against various "information attacks" was not left out of family education. Our mothers were the first to teach us what is good and what is bad. This is good, this is bad... Don't join the bad guys, be careful with this word, don't believe it, etc. In this way, our hearts have become immune to bad things and bad words. [1.]

Each country has its own reforms in cases where information attacks may occur paying particular attention to the ideological immunity of the population against existing threats seeks to form. In what conditions, in what way and in what way, who are the information attacks or if we are aware of the network through which it comes in, the source of the information we receive is deep if we study objectively on the basis of critical analysis, no one, ever, ever under no circumstances can he send his threats to us. We take our youth from social media to the ability to distinguish between objective and biased information, using it correctly we need to turn them into representatives of intellectual society at every level.

This is the case for everyone encourages people to be aware and live with their own independent ideas. In fact, he is a sober person he always does not harm others in his every activity he pays attention to the interests of the people in his meritorious works. It can be seen that the formation of the first ideological immunity in children has become a natural process of family education. The topic of distinguishing between good and bad and being careful of bad words is expressed in the following proverbs: "You follow good - you will be happy, if you follow bad - you will be ashamed", "If you walk close to the cauldron - you will be black, if you walk close to the bad, you will be struck", "A good word and a bad word come out of the same mouth", "He who believes in rumors - he will die impure", "A good word is food for the soul", "A good word comes out of a snake's den, and a bad word comes out of a sword's scabbard", "Even if you are playing, speak with thought", "Speak to the one who listens - to the one who breathes life into the soul", "You cannot appreciate the good without seeing a bad one" and so on. At the heart of these proverbs are the ideas of preventing the mind from being poisoned.

Family is the cradle of life. "Today's rapidly changing world opens up new and great opportunities for humanity and young people. At the same time, they are exposed to various evil dangers that have not been seen before. Malicious forces are turning simple, gullible children against their parents, their country, and are taking their lives.

Also, as President Shavkat Miromonovich Mirziyoyev noted, "Another important issue that always worries us is related to the manners, behavior, and, in a word, outlook of our youth. Today, times are changing rapidly. Young people are the ones who feel these changes the most. Let the youth be in harmony with the demands of their time. But at the same time, he should not forget his identity. Let the call of who we are and the descendants of great people always echo in their hearts and encourage them to stay true to themselves. At what expense do we achieve this? At the expense of education, education and only education." "In such a tense and dangerous situation, we as parents, teachers-coaches, the public, and the community should increase vigilance and awareness in this matter. He emphasizes that we should raise our children ourselves, not leave them in the hands of others. For this, we need to talk more with our youth, listen to their hearts, understand their pain, and give practical help to solve their problems. In this regard, we need to pay special attention to working with unorganized youth. In carrying out these tasks, we rely on our centuries-old national traditions and the rich heritage of our ancestors. We will mobilize all our strength and capabilities so that our children, especially girls, acquire modern knowledge and skills, foreign languages, become healthy and well-rounded in all aspects, and find a worthy place in life.[2.]

Research Methodology. As our great thinkers A.Avloni, A.Fitratlar noted, education begins first of all with the family. The family takes the first place in raising a mature person in all respects. The family is the center of the main education. The family is a sacred place that preserves the continuity of every people and nation, ensures the development of national values, brings into the world a new generation, educates it spiritually and physically, and is considered the main foundation of society. Family is the main factor and tool in the intellectual, moral, aesthetic, physical, and spiritual material education of a child. In this case, parents are artists, children are works of art, and education is art itself. It is up to both father and mother to create a healthy environment in the family. It is the duty of parents in the family to understand and respect each other when they are angry, to trust each other, to set the division of labor in the right way, and to be equally responsible for raising children [3,38]. -b]

No parent will see evil in their child, because, as our people say, a child is made of the fat of the heart. Fitrat's work "Family" provides excellent instructions on raising a child. He said, "the happiness and honor of every nation depends on its internal discipline and harmony. Peace and harmony rest on the discipline of the families of this nation. "Where family relationships are based on strong discipline, the country and nation will be strong and great," he writes. [4,13-b] In

addition to these thoughts, it should not be forgotten that every child in the family has a legal duty to have a high consciousness, a new way of thinking and worldview, manners, and a high social attitude.

Family education is linked to school education. That is, the first ideas in the family are explained as science in school.

During the former autocratic regime, social sciences such as history and philosophy were explained in a completely different way in the sister republics, including ours. It was impossible to talk about national spirituality. False "theories" that there is no God and that religion is opium were forced into the minds of the young generation. Was it possible to talk about ideological immunity in such difficult conditions? As the first President noted, "the authoritarian system dominated by the inhumane idea used all its ideological power, mass media, and the entire educational system to poison people's minds on a large scale. He rudely belittled their national and religious feelings and distorted the historical truth. Not knowing one's native language, national traditions and culture, and one's history has become a personal tragedy for many people". [5, p. 371]

At that time, instead of arousing love for our nation and our national pride, terrible "informational attacks" were carried out against it at the level of state policy. "The natural desire to realize the national identity was ignorantly denied. Many holy holidays such as Nowruz, Ramadan, Eid al-Adha were banned. Amir Timur, Imam al-Bukhari, Imam al-Tirmizi, Ahmad al-Farghani, Bahauddin Naqshbandi, Khwaja Ahmed Yassavi, Najmiddi Kubra, Mahmud az-Zamahshari, Khwaja Ahrori Vali, Abdul Khaliq Ghiduvani, Abdullah Qadiri, There was an attempt to erase the names of the devotees of the national liberation movement, such as Abdurauf Fitrat, Abdulhamid Cholpan, Mahmudhoja Behbudi, Osman Nasir, from the memory of our people" [6, p. 372]

Conclusion/Recommendations. At a time when the global information field is expanding, it is necessary for today's parents and teachers to feel the responsibility of the time. In such a situation, not only surrounding the minds of our children, giving them one-sided upbringing saying that they should not read it, not see it, surrounding them with an iron wall, without a doubt, does not correspond to the requirements of the time and our noble goals and objectives. Why, the moral building of the legal democratic state and civil society that we are building today should be strong. This, first of all, requires educating citizens, especially young people, to be deeply educated, poplar-minded, aware of the masterpieces of their past and spiritual values, patriotic, truthful, selfless. Raising a perfect human personality is the most complicated and difficult process. It is appropriate to implement this process to inculcate national values in their minds. Therefore, today's young generation will fully understand the true essence of independence only if they know their history, culture, national values, language, religion and customs perfectly. It is no coincidence that civil society is also developed based on these national values. After all, "As long as we are building a legal democratic state, a free civil society, our program of action for the 21st

century in the field of spirituality should be based on this, that is, the development of the spirituality of a free citizen-conscious person living with an independent mind should be our main national idea." [7,303-b] Young people are considered to be the foundation of society, the advanced stratum of the population, the reliable owners of the future. From this point of view, it is possible to clearly imagine the tomorrow of that society depending on the level of knowledge, worldview, thoughts, and spiritual image of the youth of each era. Therefore, on November 20, 1991, with the adoption of the Law "On the Basics of State Policy Regarding Youth in the Republic of Uzbekistan", the issue of attention to youth in our country was raised to the level of state policy. Also, according to the new version of the Decision "On additional measures aimed at the implementation of the state policy regarding youth in the Republic of Uzbekistan" dated February 6, 2014, it is necessary to ensure the active participation of young people in the reforms implemented in our country, to promote the achievements of modern science, which are highly moral, independent and free-thinking. has embodied a wider range of opportunities in the implementation of the state policy on youth aimed at bringing up a healthy and well-rounded generation that has been thoroughly mastered.

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WRITING EFFECTIVE ACADEMIC ESSAYS

Abstract. This article discusses the perspective that writing is a recursive, explanatory, and generative process and thus, the objective of practicing writing in classroom is to help the learners develop practical strategies for getting started, drafting, revising, and editing. Consequently, the researchers investigated whether a process-oriented approach to teaching writing, with its emphasis on practicing strategies for each stage of writing, was more successful than a product-oriented approach in improving essay writing.

Key words: effective, assignment, thesis statement, feedback, cognitive writing, drafting, revising, and editing.

Writing is a complex and multifaceted process that can pose challenges for many children. A student's potential to improve and master the writing process can be attributed to their family and literacy practices at home, a willingness to improve, and the learning environment at school. Academic writing presents a unique set of challenges due to its formal style, rigorous standards, and specific conventions. Here are some common challenges faced by academic writers:

Complexity of Language: Academic writing often requires the use of formal and specialized language, which can be challenging to master, especially for non-native speakers. **Clarity and Precision:** Balancing complexity with clarity is crucial in academic writing. Writers must convey their ideas clearly and precisely while still maintaining academic rigor. **Critical Thinking:** Academic writing typically involves analyzing, synthesizing, and evaluating information from various sources. Developing strong critical thinking skills is essential for effectively engaging with the material. **Structural Organization:** Academic papers must follow a specific structure, such as introduction, literature review, methodology, results, discussion, and conclusion. Ensuring smooth transitions between sections and coherence throughout the paper can be challenging. **Citing Sources and Referencing:** Accurately citing sources and adhering to the required citation style (e.g., APA, MLA, Chicago) is crucial in academic writing. Managing citations and references can be time-consuming and require attention to detail. **Time Management:** Researching, drafting, revising, and editing an academic paper can be time-intensive. Managing time effectively to meet deadlines while ensuring the quality of the work is a significant challenge. **Audience Awareness:** Academic writing often targets a specific audience, such as scholars, researchers, or students in a particular field. Writers must tailor their language, tone, and level of detail to suit the intended audience. **Peer Review and**

Feedback: Receiving constructive feedback from peers, advisors, or reviewers is essential for improving academic writing. However, incorporating feedback and revising drafts can be challenging and time-consuming. Overcoming Writer's Block: Generating ideas and overcoming writer's block can be challenging, particularly when working on complex topics or facing tight deadlines. Developing strategies to overcome writer's block, such as brainstorming, outlining, or taking breaks, is essential.

At school, writing instruction typically begins in earnest in second grade (age 7 years), when students are to create more elaborate connected texts, moving beyond learning words and their meanings and spellings, seeing and reading them in story books, and writing single sentences. The role of teachers in the instructional choices, the use of curriculum materials, the monitoring of student progress, the offering of strategy instruction to help students who struggle with writing, and the assessment of the students' writing skills across the different genres are fundamental to the opportunities of students to improve. For students who struggle with writing, reading high-quality texts provides a means to observe how good writing is organized and demonstrated in words, sentences, and paragraphs. If decoding is a challenge for the student, e-readers are really helpful tools for this purpose. Students should choose texts that are of interest to them across different genres. Story books, novels, magazine articles, and informational texts about a news story are some examples. If the student is expected to write a specific genre of text for a university course, for example, it is best that they first spend time reading and reviewing high-quality examples of that genre. After reading a text, the student should think about what the text aimed to say and discuss the ideas and the text's structure with someone else. The student could also learn more about the ideas on the web or from other sources at a library, for example. Developing familiarity with the genre of text, a lab report's components, the types of content and sentences, and how research questions are posed and answered all help the student to apply these ideas in their own writing and improve this skill over time. After reading and reviewing texts, the student can then begin thinking of a topic and components for their own writing. Each student will have their own ideas and practices to outline their ideas. Making notes of each idea can help. Some writers like to use graphic organizers or webs to define key ideas, and then subpoints or examples. This author has found illustrating ideas to be helpful for students who struggle with writing. With a topic and outline of ideas, the student can then begin drafting text. This prompts a new level of complexity for the student in the writing process. Concurrently, the student needs to manage ideas, text structure (the progression of ideas and events from the beginning to the end), word choice (e.g., using a key word only once in a sentence), spelling, the vocabulary associated with the topic, varying sentence types, paragraphing, punctuation, and grammar. As mentioned earlier, to be a good writer, one needs to be reading high-quality texts. Teachers and parents at home should devote time each day (e.g., 30 min or more) for reviewing high-quality texts with their

children, thinking about the text's message, how the author organized the text, the progression of ideas, word choice, etc. Teachers spending even a few minutes per day on phonemic awareness activities, for example, can significantly help struggling readers improve. These practices also map well to writing with daily practice, the reviewing and revising of drafts, receiving feedback, etc. Technology can also be a real help to a struggling writer, who likely is a struggling reader. E-readers can help a student by decoding the text for them, offering a means for the student to read along with the recording, adjust the speed, and review the meanings of unknown words. Writing effective academic essays involves several key steps. Here's a guide to help you:

1. **Understand the Assignment:** Make sure you fully comprehend the essay prompt or assignment requirements. Identify the purpose of the essay, the audience you're writing for, and any specific guidelines provided by your instructor.

2. **Research:** Conduct thorough research on your topic. Use credible sources such as academic journals, books, and reputable websites. Take notes and organize your research materials effectively.

3. **Develop a Thesis Statement:** Craft a clear and concise thesis statement that presents the main argument or point of your essay. Your thesis should be specific, debatable, and supported by evidence from your research.

4. **Create an Outline:** Outline your essay before you start writing. This helps you organize your ideas and ensures that your essay flows logically from introduction to conclusion. Include main points, subpoints, and supporting evidence in your outline.

5. **Write the Introduction:** Start your essay with an engaging introduction that grabs the reader's attention and provides context for your topic. Introduce your thesis statement and outline the main points you'll discuss in the body paragraphs.

6. **Develop Body Paragraphs:** Each body paragraph should focus on a single main point that supports your thesis. Start with a topic sentence that introduces the main idea of the paragraph, then provide evidence and analysis to support your argument. Use transitional phrases to connect ideas and maintain coherence.

7. **Provide Evidence:** Support your arguments with evidence from your research. Use quotations, statistics, examples, and scholarly references to strengthen your claims. Be sure to properly cite your sources using the appropriate citation style (e.g., APA, MLA, Chicago).

8. **Counterarguments and Rebuttals:** Anticipate and address potential counterarguments to your thesis. Acknowledge opposing viewpoints and provide evidence or reasoning to refute them. This demonstrates critical thinking and strengthens your argument.

9. **Write the Conclusion:** Summarize the main points of your essay and restate your thesis in the conclusion. Avoid introducing new information in this

section. Instead, reflect on the significance of your argument and suggest avenues for further research or discussion.

10. Revise and Edit: Proofread your essay for grammar, punctuation, and spelling errors. Ensure clarity and coherence by revising your sentences and paragraphs. Consider the overall structure and organization of your essay, making revisions as needed to improve clarity and effectiveness.

11. Seek Feedback: If possible, have someone else read your essay and provide feedback. Consider their suggestions and make revisions accordingly.

12. Finalize Formatting: Format your essay according to the guidelines provided by your instructor or the academic institution. Pay attention to font, margins, spacing, and citation style.

By following these steps and practicing regularly, you can improve your academic writing skills and create more effective essays.

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TA'LIM TIZIMINING STRATEGIK BOSHQARUV TIZIMI

Annotatsiya. Ta'lim tizimini strategik boshqarish zamonaviy ta'lim muassasalarining samaradorligini oshirish uchun muhim omildir. Ushbu maqola ta'lim tizimini strategik boshqarishning nazariy asoslari, jarayonlari va amaliy yondashuvlarini tahlil qiladi. Strategik boshqaruvning asosiy tamoyillari va metodlari, shuningdek, ta'lim tizimida samaradorlikka erishish uchun zarur bo'lgan boshqaruv vositalari ko'rib chiqiladi. Maqolaning maqsadi — ta'lim tizimini strategik boshqarishning ahamiyatini yoritish va bu sohada samarali boshqaruv yondashuvlarini tavsiya etishdir.

Kalit so'zlar: Ta'lim tizimi, strategik boshqaruv, ta'lim muassasalari, boshqaruv vositalari, samaradorlik, nazariy asoslar, amaliy yondashuvlar, rivojlanish strategiyalari.

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STRATEGIC MANAGEMENT SYSTEM OF EDUCATIONAL SYSTEM

Abstract. Strategic management of the educational system is an important factor for increasing the efficiency of modern educational institutions. This article analyzes the theoretical foundations, processes and practical approaches of strategic management of the educational system. The main principles and methods of strategic management, as well as management tools necessary to achieve efficiency in the educational system, are considered. The purpose of the article is to shed light on the importance of strategic management of the educational system and recommend effective management approaches in this area.

Key words: Educational system, strategic management, educational institutions, management tools, efficiency, theoretical foundations, practical approaches, development strategies.

Jamiyatda amalga oshirilgan va ijtimoiy iqtisodiy islohotlar ta'lim sohasidagi faoliyat sharoitlarini o'zgarishiga olib keldi. O'zbekistonda iqtisodiyot sohasining bozor munosabatlariga o'tilishi ta'lim sohasi muassasalarini bozorga qarab mo'ljal olishga da'vat etadi. Yangi ijtimoiy iqtisodiy sharoitlarda pedagogik jarayon va boshqaruv faoliyatining mazmuni rivojlanishini ta'minlovchi

boshqaruv zarur. O'quv yurti bozordan saboq ola boshlagan taqdirdagina samarali ishlashi mumkin. Uning marketing faoliyati va marketing tadqiqotlari, strategik boshqaruv, yagona guruh sifatidagi pedagogik jamoa kabi unsurlari, ta'lim xizmatlari buyurtmachilari, eng avvalo ota-onalar, ta'lim oluvchilar va ishlab chiqarishning individualehtiyojlariga qarab mo'ljal olish hamda o'quv yurti rahbari faoliyatining mazmunini yangilashni nazarda tutadi. Zamonaviy ta'lim tizimlarining murakkabligi va dinamik rivojlanishi, ularni samarali boshqarish uchun strategik yondashuvni talab qiladi. Ta'lim tizimini strategik boshqaruvning maqsadi — ta'lim muassasalarining uzoq muddatli maqsad va vazifalariga erishishini ta'minlashdir. Ushbu maqolada ta'lim tizimini strategik boshqarishning nazariy asoslari, asosiy tamoyillari va metodlari tahlil qilinadi.

Ta'lim tashkilotlarida boshqaruv, tashkilotning maqsadlarini amalga oshirish uchun faoliyatni boshqarish va rivojlanish yo'nalishlarini belgilash bilan bog'liq jarayonlarni o'z ichiga oladi. Boshqaruv, resurslarni samarali foydalanish, xodimlarni rivojlantirish, monitoring va baholash jarayonlarini o'z ichiga oladi va tashkilotning mazmuniy va maqsadga yo'naltirilgan faoliyatini ta'minlashda muhim ahamiyatga ega. Boshqaruv organlari tashkilotning qo'llabquvvatlash va rahbarlik qilish uchun belgilangan vazifalarni bajarishda muhim rol o'ynaydilar. Boshqaruvning samarali olib borilishi, tashkilotning rivojlanishida katta ahamiyatga ega bo'ladi. Boshqaruvning muhim asosiy elementlari strategiyalar, maqsadlar, resurslar, monitoring va baholash, qo'llab quvvatlash va rivojlantirish, xodimlarni rivojlantirish va motivatsiyani o'z ichiga oladi. Boshqaruv tizimi tashkilotning faoliyatini samarali boshqaradi va maqsadlarga yo'naltirilgan faoliyatni amalga oshirishda katta yordam beradi. Strategik boshqaruv — bu tashkilotning uzoq muddatli maqsadlariga erishish uchun resurslarni samarali taqsimlash va boshqarish jarayonidir. Ta'lim tizimida bu jarayon quyidagi nazariy asoslarga tayanadi:

1. SWOT tahlil: Ta'lim muassasalarining kuchli va zaif tomonlarini, imkoniyatlarini va tahdidlarini aniqlash orqali rivojlanish strategiyalarini belgilash.

2. Porterning beshta kuchi tahlili: Ta'lim tizimida raqobat muhitini baholash va strategik qarorlar qabul qilish uchun foydalaniladi.

3. Balanslangan ko'rsatkichlar tizimi (BSC): Ta'lim muassasalarining faoliyatini baholash va strategik maqsadlarni amalga oshirish uchun ko'rsatkichlar tizimini ishlab chiqish.

Strategik boshqaruvning asosiy tamoyillari. Boshqaruv tizimi o'rganuvchilarning motivatsiyasini yuqori qiladi, faoliyatni samarali boshqaradi va tashkilotning rivojlanishida katta rol o'ynaydi. Bu sababli, ta'lim tashkilotlarida boshqaruvning muhimligi noyob ahamiyatga ega. Ta'lim tashkilotlarida strategik boshqaruv tizimi o'rganuvchilarning o'qish va o'rganish jarayonlarini rivojlantirish, tashkilotning maqsadlariga yetishishini ta'minlash, resurslarni samarali foydalanishini ta'minlash va tashkilotning uzun muddatli rivojlanishini ta'minlash uchun muhimdir. Shuningdek, ta'lim muassasasidagi rahbar-xodimlar

boshqaruvning funksional jihatlarini o'zlashtirishi; mehnat unumdorligiga erishish; ishiga mas'uliyat bilan yondashish; jamoani maqsad sari yo'naltira olish; ta'lim muassasasi boshqaruvini ichki va tashqi o'zgarishlarga moslashtirishi; innovatsion yangiliklarni joriy etishi va innovatsion texnologiyalarni boshqaruvda qo'llashni takomillashtirish uchun zaruriy bilim, ko'nikma hamda malakalarga ega bo'lishi zarur hisoblanadi. Respublikamizda yuz bergan iqtisodiy o'zgarishlar milliy iqtisodiy amaliyotimiz uchun yangi bir qator kasblarga bo'lgan talabni belgiladi. Ular orasida menejer kasbi ham bor. Oliy ta'lim muassasasini boshqarish amaliyotiga hozirgi zamon menejmenti kiritilishi munosabati bilan o'quv yurtlarida menejerlarga qo'yiladigan talablar muhim ahamiyat kasb etadi.

1. Uzoq muddatli rejalashtirish: Ta'lim tizimining uzoq muddatli maqsadlarini belgilash va ularga erishish uchun rejalar tuzish.

2. Resurslarni samarali boshqarish: Inson, moliyaviy va moddiy resurslarni optimal taqsimlash va boshqarish.

3. Moslashuvchanlik va innovatsiyalar: Ta'lim tizimidagi o'zgarishlarga tez moslashish va yangi innovatsion yondashuvlarni joriy etish.

4. Samaradorlik va sifatni oshirish: Ta'lim jarayonlarining samaradorligini oshirish va ta'lim sifatini doimiy ravishda yaxshilash.

Boshqaruv vazifalarini ro'yobga chiqarish turli xil usullar yordamida amalga oshiriladi. Rahbarning bosh vazifasi qarorning bajarilishini tashkil etish, mazkur jarayonni muvofiqlashtirish va uning ustidan nazoratni ta'minlashdir. Ya'ni nazorat boshqaruvning yakunlovchi bosqichi hisoblanadi. U ikki tomonlama aloqa shaklini kasb etadi va qarorni bajarish, qo'yilgan maqsadlarga erishish haqida axborot olish uchun imkoniyat yaratadi. Shunday ekan boshqaruvni, ya'ni boshqaruv faoliyatini tashkil etish zaruratini belgilovchi bosh mezon – inson oldiga yoki muassasa oldiga qo'yilgan maqsad bo'lib, unga erishish uchun vazifalar belgilash, tashkil etiladigan faoliyatni oldindan rejalashtirish, amalga oshirish yo'lyo'riqlarini tanlash, vazifalarning mazmun va mohiyatiga ko'ra, bajaruvchilarni tanlash hamda bajariladigan vazifalarni taqsimlash, belgilangan maqsadga erishish uchun tashkil etiladigan jarayon ishtirokchilari faoliyatini muvofiqlashtirishdan iboratdir

Strategik boshqaruv jarayonlari

1. Strategik rejalashtirish: Ta'lim muassasasining strategik yo'nalishlarini belgilash va rivojlanish rejasini ishlab chiqish.

2. Strategik nazorat: Strategik rejalarining amalga oshirilishini nazorat qilish va monitoring qilish.

3. Strategik tahlil: Ta'lim tizimining ichki va tashqi muhitini tahlil qilish orqali strategik qarorlar qabul qilish.

4. Strategik boshqaruv vositalari: SWOT tahlil, BSC, benchmarking va boshqa boshqaruv vositalarini qo'llash.

Strategik boshqaruv ta'lim tashkilotlarida o'rganilgan va o'rganilayotgan faoliyatni tashkil etish, rivojlantirish va boshqarishning strategik yondashuvini belgilash va amalga oshirishni anglatadi. Bu jarayon tashkilotning maqsadlariga,

vazifalariga, qiyinchiliklari va imkoniyatlari bilan bog'liq bo'ladi. Strategik boshqaruv ta'lim muassasalarining bo'lg'usi muammolari va imkoniyatlarini prognoz qilishning asosiy usuli hisoblanadi. Ta'lim muassasalarini boshqarishda pedagogik xodimlar hamda talabalar faoliyatiga ta'sir ko'rsatuvchi, shuningdek, muassasa faoliyatini takomillashtirishda muhim ahamiyat kasb etuvchi asosiy jarayonlardan biri qaror qabul qilish va uning bajarilishini ta'minlash jarayoni hisoblanadi. Mazkur jarayonda qarorlarni tayyorlash, qabul qilish va uning bajarilishini ta'minlash ko'p jihatdan rahbarlarning boshqaruv yo'nalishidagi bilim, ko'nikma va malakasi, kasbiy tajribalariga, bajariladigan vazifalarning xususiyatlariga, shuningdek, muassasada yaratilgan sharoitga bog'liq bo'ladi. Ta'lim muassasalarini boshqarish jarayonida turli xil muammolarni hal etish, ta'lim-tarbiya jarayonini ilmiy asosda tashkil etish va ta'lim samaradorligini oshirishda turli masalalar yuzasidan mohiyati hamda mazmuni jihatidan bir-biridan farq qiluvchi qarorlar qabul qilish jarayonida muayyan vaziyatlardan kelib chiqib bahsli masalalar, turli-tuman fikrlar va tortishuvlar vujudga keladi.

Xulosa: Bugungi kunda zamonaviy rahbar boshqaruv fanining umumiy asoslarini puxta bilishi, shuningdek, boshqaruv strategiyasi, innovatsiyalar, marketing, xodimlarni boshqarish sohasida maxsus bilim va ko'nikmalarga ega bo'lishi, muassasadagi boshqaruvni rejalashtirish, tashkillashtirish, nazorat etish hamda shu maqsadga amalga oshirishi talab etiladi. Ta'lim tizimini strategik boshqarish zamonaviy ta'lim muassasalarining samaradorligini oshirish va ta'lim sifatini yaxshilash uchun muhim ahamiyatga ega. Strategik boshqaruvning nazariy asoslari, asosiy tamoyillari va metodlari ta'lim tizimida uzoq muddatli maqsadlarga erishish uchun zarurdir. Innovatsion texnologiyalarni joriy etish, hamkorlik va kadrlar malakasini oshirish orqali ta'lim tizimining samaradorligi va sifati oshirilishi mumkin. Shu sababli, ta'lim tizimini strategik boshqarishning amaliy yondashuvlarini samarali qo'llash zarur.

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IMPROVING COST ANALYSIS IN ENTERPRISES

Abstract. The article reveals the issues of improving the methodology of accounting and analysis of income and expenses of an enterprise using the example of motor transport enterprises Uzbekistan. As well as the reflection of income and costs and accounting problems in the accounting policies of the enterprise will help optimize production costs and time costs, thereby increasing profitability and ultimately increasing profits.

Keywords: income, expenses, analysis, accounting, improvement, trucking enterprises.

IMPROVING COST ANALYSIS IN ENTERPRISES

The development of economic relations in the world, the expansion of production and services, the implementation of targeted income-generating activities, the need for constant labor productivity, the need to reduce costs and increase profits in companies, the need to keep records of income and expenses [1]. Sources of income and income are expanding, and the emergence of investments, innovations and other types of income in addition to normal activities requires the recording of income and expenses from these activities. In particular, the availability of industry-specific revenue and expenditure characteristics requires greater visibility and transparency. From this point of view, accounting and analysis of income and expenses is one of the most important issues, depending on the characteristics of the network. In world practice, research is carried out to improve the theoretical and practical foundations of high-performance projects through cost optimization, structural analysis of costs, data and databases, and cost optimization. This is the basis for determining the goal orientation in the chosen research topic [2].

There are many approaches to accounting and analysis of income and expenses in the field of theoretical and applied field research, but in scientific and practical research there is still a need to develop comprehensive measures to bring this account in line with international standards and reduce the cost of services. This laid the foundation for scientific research to improve accounting in road transport in the process of modernization and diversification of leading sectors of the national economy [3].

Uzbekistan is taking extensive measures to effectively manage enterprises, increase enterprise profits, optimize costs, including time costs, and increase the profitability of enterprises. The strategy of action for the further development of the Republic of Uzbekistan defines the tasks of “an active investment policy

aimed at modernization, technical and technological renewal of production, implementation of projects in the field of production, transport, communications and social infrastructure” [4]. These tasks demonstrate the importance of improving accounting, analysis and theoretical methodology for enterprises to reduce their cost and time costs by increasing revenue and optimizing costs [5].

Scientific research work on accounting and analysis of income and expenses in enterprises is carried out by leading research centers and universities in the world, including the Center for Economic and Business Research (CEBR), American Accounting Authority (ACIPA), Harvard University (USA), Oxford University (UK), International Federation of Accountants (IFAC), International audit firm KPMG, Nevin Institute of Economic Research, NERI, World Congress of Accountants (WCA), Institute of Chartered Accountants of Scotland (Scotland), University of Finland, Institute of Economic Forecasting RAS (Russia) and other scientific institutions.

The purpose of this study is to develop recommendations and recommendations aimed at improving the accounting and analysis of income and expenses in automotive enterprises.

Like all companies, automobile companies have their own network characteristics that allow them to effectively manage income and expenses, group them, record them, improve service quality and increase efficiency.

In the development of the transport sector in recent years, the share of passenger and freight transport by road is very high (Table-1).

Table 1

MAIN INDICATORS OF TRANSPORT ACTIVITY OF THE REPUBLIC OF UZBEKISTAN in 2018-2022. [6]

Indicators	2018	2019	2020	2021	2022
Volume of transported cargo:					
-total (million tons)	1458,9	1527,0	1132,5	1146,2	1209,0
including:	65,7	67,2	67,6	67,9	68,4
railways (million tons)	0,0230	0,0246	0,0265	0,0264	0,0131
air transport (million tons)	65,8	60,0	62,2	65,1	72,4
gas pipelines (million tons)	1327,4	1399,8	1002,8	1013,1	1068,2
vehicle (million tons)	85711,3	86915,7	65264,8	66902,6	70560,6
Freight turnover - total (million t/km)	22895,3	22897,8	22936,7	22939,5	22942,1
Volume of passengers carried, - total, (million people)	19,1	20,1	20,5	21,1	22,3
Passenger turnover - total, (million passengers/km)	88901,2	95202,3	114910,3	117649,6	120696,3
	401,1	415,5	423,1	477,7	545,0

As can be seen from the data presented in the table, in 2018 - 2022 the country was a leader in freight and passenger transportation. In particular, road transport accounted for 88.3% of the total freight traffic in 2022, and 98.3% of passenger traffic was transported in 2018.

The study showed that the bulk of passenger and freight traffic in the country is accounted for by road transport and its general and specific reasons:

- convenience of road transportation;
- high load capacity;
- high cost of air transport;
- underdeveloped internal railways;
- there is practically no access to river transport;
- high availability of road transport.

The volume of transported cargo decreased by 1209.0 million tons in comparison to 2022. Passenger turnover increased every year and amounted to 545.0 million passengers in 2022. km increased by 134426.5 (million people). The volume of passengers transported in 2022 compared to previous years increased by 22.3 (million people). This suggests that there is no unified methodology for accounting for income and expenses at enterprises, there are problems with the existing methodology, inconsistencies in regulatory and methodological documents for accounting for income and expenses, information on accounting for income and expenses does not provide complete and reliable information.

Reflecting income and costs and accounting problems in the accounting policies of the enterprise will help optimize production costs and time costs, thereby increasing profitability and ultimately increasing profits [7]. Therefore, when developing accounting policies, you should choose the most optimal accounting methods. That is, in order to formulate an accounting policy, it is necessary to formulate the main source of income and cost structure of the enterprise, and the most appropriate methods of accounting for these objects should be reflected in this document [8].

The accounting policies of motor transport enterprises reflect the depreciation rates of fixed assets, service life, accounting and write-offs, costs of repair, modernization and reconstruction of fixed assets, in this case changes in the useful life, wear and tear of fuel in the warehouse. The procedure for manufacturing and transferring maintenance costs, the costs of their use on tires, batteries and wheels. Some proposals have been made based on these issues [9].

In conclusion, I would like to note that most of the freight and passenger transport in the country is due to the convenience of road transport, high capacity for transporting small goods, high cost of air transport, underdeveloped inland railways, poor access to river transport and road transport. indicates that such a possibility exists [10].

The accounting policies of road transport enterprises establish standards for depreciation of fixed assets, service life, acceptance and write-off procedures,

accounting for the costs of repairs, modernization and reconstruction of fixed assets, depreciation of warehouse fuel and service costs, car tires. The cost of batteries and disks should be adjusted taking into account their use.

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BOSHLANG'ICH TA'LIMDA O'QUVCHILARNI KASB TANLASHGA O'RGATISHNING PEDAGOGIK SHART-SHAROITLARI

Annotatsiya. Boshlang'ich sinflarda yutuqlarning asosi bolalalar bilan o'tkaziladigan dars jarayonining sifati bilan belgilanadi. Bunda ilg'or pedagogik texnologiya katta ahamiyatga egadir. Boshlang'ich sinf o'quvchilari qiziquvchan boshqarishga moyil bo'ladilar. Shuning uchun o'qituvchi o'quvchilarni mustaqil fikrlash, mushohada qilish, xulosa chiqarishga o'rgatishi lozim. Ushbu ishda boshlang'ich sinf o'quvchilarini kasb tanlashga o'rgatishning pedagogik shart sharoitlari haqida fikr yuritilgan.

Kalit so'zlar: Boshlang'ich ta'lim, pedagogik shart-sharoitlar, o'yin metodlari. interfaol metodlar.

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PEDAGOGICAL CONDITIONS OF TRAINING STUDENTS TO CHOOSE A PROFESSION IN PRIMARY EDUCATION

Abstract. The basis of success in primary grades is determined by the quality of the learning process conducted with children. In this, advanced pedagogical technology is of great importance. Elementary school students tend to be inquisitive. Therefore, the teacher should teach students to think independently, observe, and draw conclusions. In this work, the pedagogical prerequisites for teaching primary school students to choose a profession are discussed.

Keywords: Primary education, pedagogical conditions, game methods. interactive methods.

O'quvchi shaxsiga qaratilgan ta'lim, o'quvchining faolligini oshirish, mustaqil, ijobiy fikrlashga o'rgatish, mustaqilligini, erkinligini ta'min etish, qiziqishlari asosida (motivatsiya) ish yuritish, ichki imkoniyatlarini ishga solish o'z qiziqishlari orqali qo'shimcha ta'lim olishga yo'llash, o'z- o'zini

rivojlantirishni o'z ichiga oladi. Ta'lim- tarbiyada zamonaviy o'qitish uslublari deganda yangi interfaol usullar nazarda tutiladi. Interfaol – lotincha “inter” so'zidan olingan bo'lib “orasida, o'rtasida ” degan ma'noni anglatadi, ya'ni o'quvchi va o'qituvchi o'rtasida ta'limni o'zlashtirish munosabalarini kuchaytirish, faollashtirish kerak, deganidir. Bu uslublar bilan ishlash dars samaradorligini oshirishga yordam beradi. O'quvchilarni mustaqil fikirlashga undaydi, ayniqsa, 3-4 – sinflarda juda yaxshi samara beradi. Buning uchun sinf kichik guruhlarga ajratiladi. Guruhlar 3-7 o'quvchidan iborat bo'lishi kerak. O'quvchilar sonini ko'paytirish guruhlarda ishlash jarayonini qiyinlashtiradi. Bundan tashqari, guruhlar tartibini o'zgartirib turish zarur. Guruhlarda o'g'il va qiz bollalar aralash holda bo'lishi lozim. Endi interfaol metodlarning ta'lim va tarbiya jarayonidagi o'rni o'rni va imkoniyatlari haqida fikr yuritamiz. Interfaol metod ta'lim jarayonida o'qituvchi va o'quvchilar o'rtasidagi faollikni oshirish orqali ularning o'zaro harakati, ta'siri ostida bilimlarni o'zlashtirishni kafolatlash, shaxshiy sifatlarini rivojlantirishga hizmat qiladi. Ushbu usullarni qo'llash dars sifati va samaradorligini oshirishga yordam beradi. Uning asosiy mezonlari – baxs munozaralar o'tkazish o'quv materialini erkin bayon etish mustaqil o'qish'o'rganish' seminarlar o'tkazish, kichik guruh katta guruh sinf jamoasi bo'lib ishlash uchun topshiriq, vazifalar berish yozma ishlar bajarish va boshqalardan iborat. Interfaol ta'lim o'z xususiyatiga ko'ra didaktik o'yinlar orqali, evristik (fikirlash, izlash, topish) sexbat- dars jarayonini loyihalash orqali muammoli vaziyatni hosil qilish va yechish orqali kreativ – ijodkorlik asosida axborot kommunikatsion texnologiyalar yordamida amalgam oshirish metodlarini o'z ichiga oladi. Boshlang'ich ta'limda o'quvchilarning yosh xususiyatlari savodxonlik darajalari shaxsiy taviatlariga ko'ra didaktik o'yinlar keng qo'llanmoqda. Didaktik o'yinlar o'quvchi faoliyatini faollashtiradi va jadallashtiradi. Ular o'quvchi shaxsidagi ijodiy imkoniyatlarni ro'yobga chiqarish va rivojlantirishning amalga oshirishda katta ahamiyatga ega. Didaktik o'yinlarning asosiy turlari: intellektual (aqliy) va harakatli hamda aralash o'yinlardan iborat. Bular o'quvchilarda aqliy, jismoniy, axloqiy, ma'naviy, ma'rifiy, psixologik, estetik baddiy, tadbirkorlik, bunyodkorlik, mexnat kasbiy ko'nikmalarni rivojlantirishga yordam beradi. Didaktik o'yinlar o'quvchilarni ta'lim va tarbiyasida katta ahamiyat kasb etadi. O'quvchilarni yangi mavzularni o'zlashtirib olishlariga katta yordam beradi. Bu uslub o'quvchilarni o'ylashga, erkin fikr yuritishga, muloqotga, ijodkorlikka yetaklaydi. Ayniqsa o'quvchilarda atrof – muxitni, hayotni bilishga qiziqish ortadi. Uchragan qiyinchilik, to'siqlarni qanday yengish va tanqidiy fikirlash ko'nikmalarni shakillantiradi. Ta'lim tarbiya jarayonida o'quvchilarda qobiliyat va qiziqishlarini oshiradigan biror kasbga moyilliklarini ko'rsatadigan didktik o'yinlardan foydalanish maqsadga muvofiqdir. Didaktik o'yinlar nazariy, amaliy, jismoniy, roll, ishchanlik va boshqa yo'nalishdagi turlarga ajratiladi. Boshlang'ich sinflarda didaktik o'yinlarning ”Zinama- zina”, “ Lola sayli ”, ” Bo'g'irsoqni qutqaring ”, “O'yla, izla, top”, ”Qo'riqchini aldap o't”, “Qizil shapkachaga yordam”, “Cho'qqini zab

et”, “Oyga uchamiz”, “Sexrli daraxt”, “Uchar yulduzlar”, “ Bayroqchaga yeting” kabilaridan foydalanish darslarda ko‘proq muvofaqiyatga erishiladi. O‘yinlilar bu o‘yinlar orqali darsni yaxshi o‘zlashtiradi. Didaktik o‘yin turlarini tanlashda quyidagi mezonlarga rioya qilish yaxshi natijalar beradi. Masalan: ishtirokchi o‘quvchilarni tarkibi bo‘yicha o‘g‘il bolalar, qiz bolalar yoki aralash guruhlar uchun o‘yinlar;- ishtirokchilarning soni bo‘yicha yakka, juftlikda, kichik guruh, katta guruh, sinf jamoasi, sinflar aro va ommaviy tarzda o‘yinlar – o‘yin jarayoni bo‘yicha fikirlash topag‘onlik harakatlarga asoslangan musobaqa va boshqalarga yo‘naltirilgan o‘yinlar o‘quvchilar uchun qiziqarli bo‘ladi. Didaktik o‘yinli dasr shakillaridan biri nechtasini misol qilib keltirishimiz mumkin.

Ma‘lumki bola boshlang‘ich sinfga qabul qilinib, maktab ostonasida ilk qadam qo‘ygan bolaning faoliyatida o‘yin asosiy o‘rinni egallaydi. O‘yin ularning eng sevimli mashg‘uloti bo‘lib, ular har qanday mashg‘ulotni o‘yin bilan uyg‘unlashtirishga harakat qiladilar. Shunday ekan o‘qituvchi o‘quvchi faoliyatidan ularning sevimli mashg‘uloti - o‘yinni siqib chiqarmasdan, undan maqsadga muvofiq foydalanish bilan ta‘lim jarayonining samaradorligini oshirishga imkon beradi. Farzandlarimiz mustahkam bilim, ko‘nikma va malakalarga ega bo‘lishlari uchun, albatta, ularni kichik yoshdanoq har bir fanga qiziqtirish zarur. Bunda o‘qituvchi mahorati nihoyatda muhim ahamiyatga ega. Boshlang‘ich sinf o‘qituvchisi bolalarning yoshi va psixologik xususiyatlarini puxta o‘rgangan holda ta‘lim-tarbiya jarayoni samaradorligini oshirish ustida tinimsiz izlanishi, o‘zidagi bor bilimni mahorat bilan ishga solishi zarur. Boshlang‘ich sinflarda o‘quvchilarning psixologik holatini yaxshilash, ularni turli zo‘riqishlardan asrash, bilimlarini turli o‘yinlar orqali mustahkamlab borish muhim ahamiyat kasb etadi. Bunda o‘quvchilarni ziyraklikka, chaqqonlikka hamda fikrni to‘g‘ri va aniq ifoda etishga qaratilgan o‘yinlardan foydalanish mumkin. Shu bilan birga, tanlangan o‘yinning o‘tilayotgan mavzuga mos kelishi, qulayligi, ko‘zlangan natijaga olib kelishi ham muhimdir. Bu esa o‘qituvchining kasbiy mahoratiga, maqsadni to‘g‘ri belgilay olishiga ham bog‘liq. Boshlang‘ich ta‘limda motivlar hosil qilishda didaktik o‘yinlarning o‘rni beqiyosdir. Yuqorida aytilgan fikrlarga hamohang o‘qish, ona tili, matematika fanlarida qo‘llasa bo‘ladigan, o‘quvchilarni topqirlikka, ziyraklikka va fikrlashga undaydigan, ularning ijodiy faolligini oshirishga qaratilgan o‘yinli usullarni keltiramiz. « U kim? Bu nima? » Stol ustiga bir qancha predmetlar terib qo‘yiladi. o‘qituvchi shu predmetlardan birortasini ta‘riflaydi, o‘quvchilar shu belgilar asosida gap nima haqida borayotganligini topadilar. Bu o‘yinning afzallik tomoni shundaki, undan dars davomida o‘quvchilar diqqatini jamlash, qo‘llariga dam berish maqsadida yoki yangi tovushlar bilan tanishtirish, ona tili darslarida yangi mavzuni bayon qilish jarayonida ham foydalanish mumkin. =

Xulosa sifatida qayd etish mumkinki, o‘quvchilarni o‘z vaqtida to‘g‘ri kasbga yo‘naltirish mamlakat taraqqiyotining kafolatidir.

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QASHQADARYO HAVZASIDA TURISTIK MARSHRUTLAR TASHKIL ETISHNING GEOGRAFIK XUSUSIYATLARI

Annotatsiya. Qashqadaryo havzasidagi mavjud turistik imkoniyatlardan samarali foydalanish, turizmni rivojlantirishbugungi kunning dolzarb masalalaridan biri ekanligi bayon qilingan. Qashqadaryo havzasida tashkil qilish mumkin bo'lgan turistik yo'nalishlar haqida izoh berilgan.

Kalit so'zlar: turizm, turistik resurs, etnografik turizm, markaz, qo'riqxon, observatoriya, tabiat yodgorliklari, arxitektura yodgorliklari, urochishe, muzey, g'or, buloq, dovon, muzey.

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GEOGRAPHICAL FEATURES OF THE ORGANIZATION OF TURISTIC ROUTES IN THE KASHKADARYA BASIN

Annotation. The effective use of existing tourist opportunities in the Kashkadarya Basin, the development of tourism is described as one of the pressing issues of today. There are comments about tourist routes that can be organized in the kashkadarya basin.

Keywords: tourism, tourist resource, ethnographic tourism, center, reserve, observatory, nature monuments, architectural monuments, urochishe, museum, save, spring, pass, museum.

Kirish. O'zbekiston turizm resurslari zahirasi va turli-tumanligi bo'yicha jahondagi eng boy davlatlar qatorida turadi. Turistik marshrut tashkil qilishda turistik resurslarni o'rganish va aniqlash muhim vazifalardandir. Marshrut-fransuzcha *marche*-yurish, oldinga harakat, *route*-yo'l, rus tilida ham *marsh-*

oldinga yurish hisoblanadi. O'zbekistondagi tarixiy, madaniy, arxeologik ahamiyatga ega bo'lgan obyektlar soni 4,0 mingdan oshadi. Turistik marshrut tashkil qilishda turistik resurslarni o'rganish va aniqlash muhim vazifalardandir. Turizmni rivojlantirishning muhim asoslaridan biri turistik resurslarga marshrutlar ishlab chiqish hisoblanadi. Bugungi kunning dolzarb vazifalaridan biri tabiiy muhitni saqlash masalalarini hal qilishga yangicha yondashuvlarni ishlab chiqishdir. Ushbu yondashuvni majmual holda murakkab, ijtimoiy-iqtisodiy va turistik-rekreatsiyani ekologik tizim sifatida qaralishida muammolarni hal qilishda yetakchi o'rinni turizm egallaydi.

Tadqiqot usullari. Ushbu ishni tayyorlashda bir– biri bilan bog'liq bo'lgan ilmiy yondoshuvlar, tamoyillar va usullardan foydalanildi. Tadqiqot negizida iqtisodiy geografik, kartografik, geobotanik, geoekologik, tibbiy geografik, tarixiy va qiyoslash kabi ilmiy tadqiqot usullari yotadi. Ushbu usullar turistik resurslarini aniqlashda foydalaniladi, hamda ulardan amaliy jihatdan foydalanishga imkon beradi.

Asosiy qism. Bugungi kunda dunyo mamlakatlari o'zlaridagi mavjud tabiiy imkoniyatlardan samarali foydalanish maqsadida turizmga katta e'tibor qaratmoqda. O'zbekistonning turli mintaqalarida turizmning qator turlarini rivojlantirishga qaratilgan tadqiqotlar olib borish va tavsiyalar ishlab chiqish muhim ilmiy-amaliy ahamiyatga ega. Zamonaviy turizm sanoati iqtisodiyotning yuqori daromad keltiradigan va jadal rivojlanib borayotgan yirik tarmoqlaridan bo'lib, u dunyo xalqlari madaniyati sohasida amaliy muloqot vazifasini o'tamoqda. Sayyohlik dunyodagi ko'plab davlatlarda daromad olishning asosiy sohalaridan biridir.

Turistik resurslar ikki guruhga bo'linadi, ya'ni -tabiiy turistik resurslar va ijtimoiy-iqtisodiy turistik resurslar. Tabiiy turistik resurslarga hudud relyefi, suvlari, iqlimi, florasi, faunasi va boshqalar kiritiladi. Ijtimoiy-iqtisodiy turistik resurslarga esa, madaniy-tarixiy, etnografik, turistlarga xizmat ko'rsatuvchi ishlab chiqaruvchi obyektlari, siyosiy va boshqalarni kiritiladi. Jumladan bular ham yana bajaradigan vazifalariga ko'ra guruhlanadi. Turistik marshrutlarni ishlab chiqishda, turizmni rivojlantirishda, turizm obyektida, turizm marshruti davomida turistlarning nimalarga qiziqishini, ularning ehtiyojlarini o'rganish, turistik obyektda va turistik marshrut bo'ylab o'ziga xos bo'lgan kichik–kichik turistik infratuzilmalarning shakllantirish zaruratini yaratadi.

Mamlakatimizda qolaversa, Qashqadaryo havzada turistik imkoniyatlari juda katta, ulardan samarali foydalanish va umuman turizmni rivojlantirish istiqbollari nazarida tutib, biz hududning mavjud turistik salohiyatini o'rganish va baholash amaliy ahamiyat kasb etishini e'tiborga olgan holda, Qashqadaryoning turistik marshrutlari imkoniyatlarini, turizm industriyasini tahlil qilish va rivojlantirishni hamda tashkil qilish hududni yanada chuqurroq o'rganishni talab qiladi. Qashqadaryo viloyatida betakror turistik obyektlarini o'rganishni maqsad qildik.

Havza asosan paleozoy erasiga mansub bo‘lgan intruziv jinslar, ohaktoshlar va slanetslardan tuzilgan bo‘lib, ushbu havzaga tegishli bo‘lgan tog‘larning devon davri ohaktoshlari tarqalgan mintaqalarda ko‘plab karst g‘orlarini uchratish mumkin. Bundan tashqari daralarda tik devorsimon joylashgan intruziv jinslar ham o‘ziga xos ajoyib tabiat ko‘rinishlarini tashkil etadi. Shuning uchun bu yeming tik ko‘tarilgan devorlarida dinozavr izlari ham saqlanib qolgan. Daryolar o‘zaniga kelib qo‘shiluvchi yonbag‘irlaridan bir qator sharsharalar ham joylashgan. Daryoning quyi qismi bo‘ylab va uning turli irmog‘larining yuqorisida bir necha oromgohlami, dam olish maskanlarini, tog‘oldi va tog‘ turizmiga kiruvchi infratuzilmani tarkib toptirish, qurish bilan aholini turistik-rekreatsiya tuzilmaga bo‘lgan ehtiyojlarini qondirishi mumkin.

Hisor tizmasining janubi-g‘arbiy tarmoqlari tarkibiga kiruvchi havzani janub tomondan chegaralab turuvchi bir qator tog‘lar Eshakmaydon, Xontaxti va boshqalar karbon davridan tarkib topgan. Havzaning sharqida joylashgan Xojapiryax tog‘ massivi silur va devon davrlarining kristalli ohaktoshlaridan tuzilgan. Bu tog‘lar dastlab gersin so‘ngra esa al‘p - oragenezida burmalangan, havzaning hududidagi tog‘larda yura davrining iliq dengiz hududlari hisoblangan gips-angidridli jins majmualaridan tashkil topganligi bunga misol bo‘la oladi. Shu kunda daralarda katta-kichik tog‘lar ko‘plab uchraydigan bu tog‘larda tog‘ etagining dengiz sathiga tutash tekisliklarida dinozavrlar yashaganligi aniqlangan.

Yakkabog‘ daryoning o‘rta oqimidagi Zarmas darasidan janubi- g‘arbda Tumabuloq boshlanadigan Qizilg‘aza dovonigacha 20-25 km masofa yastanib yotgan Eshakmaydon va Toytalash tog‘lari (2800 m) bilan tutashgan. Guldara, Langar daryo va Kattao‘ra daryo suv ayirg‘ichi Xontaxti va Kurik tog‘lari al‘p orogenezida burmalangan tizmalardir. Tog‘larning yonbag‘ri juda tik ammo usti bir qator yassi platosimon relyefga ega.

Havza iqlimining tarkib topishida uning yer usti tuzilishi, relyefi ham ta‘sir ko‘rsatadi. Bu yeming sharqiy, janubiy v shimoliy tomonlari tog‘ bilan o‘ralgan bo‘lib, faqat g‘arbiy qismi ochiqdir. Shu sababli bu yerda g‘arbdan esuvchi havo massalari kirib keladi.

Mazkur hudud iqlimining qaror topishida mahalliy havo massalari hisoblangan tog‘, vodiy shamollari muhim o‘rin tutadi. Tog‘larda havo haroratining kunduzlari tez isib, kechalari sovishi oqibatida mahalliy havo sirkulyatsiyasi yuzaga keladi va havolaming almashib turishi uchun qulay imkoniyat yaratadi.

Qish ob-havosi o‘zgaruvchan bo‘lib, eng sovuq harorat yanvar oyida kuzatiladi. Bu oyning o‘rtacha harorati 00 dan -60 gacha o‘zgarib turadi. Havzaning adir qismida 0° bo‘lsa, baland tog‘li qismlarida -6° ga tushadi. Arktika sovuq havosi kirib kelganda, -27 - 30° gacha tushib ketadi.

Yillik bug‘lanish tushadigan yog‘inga nisbatan ancha yuqorligi bilan xarakterlanadi. Yillik bug‘lanishni yuz foiz desak, 80-85 % i yilning issiq davriga (may,oktabr oyiga) to‘g‘ri keladi.

Qashqadaryo havzasining suv resurslarini Qashqadaryo va uning irmoqlari, yer osti suvlari va mineral buloqlari muhim resurslarini tashkil qiladi, yer osti suvlari va mineral buloqlari ham muhim suv resurslarini tashkil qiladi.

Turistik- rekreatsiya resurslaridan amaliy jihatdan foydalanish maqsadida Qashqadaryo havzasi tabiiy sharoitlari va resurslarini tahlil qilish va ulaming turistik-rekreatsiyadagi imkoniyatlarini aniqlash birinchi darajali ahamiyatga molik. Shu jihatdan barcha asosiy tabiat komponentlari sayyohlik va rekreatsiya nuqtai nazaridan chuqur va atroflicha tahlil qilindi. Bu borada har bir komponentning sayyohlik va rekreatsiya muhitini tashkil qilishdagi ahamiyati, xususan uning ijobiy va salbiy tomonlarini yaqqol va amq ifodalashga enshildi. Shunday ekan, jismoniy va ruhiy jihatdan sog'lom bo'lish va organizmni har tomonlama chiniqtirishning eng yaxshi vositasi tabiat qo'ynida bo'lish, hamda tarixiy arxitektura yodgorliklari bilan tanishish va sayr–sayohatlar uyushtirishdir. Quyida Qashqadaryo havzasi turistlik obyektlariga sayohat qilish va ulardan turistlik marshrutlaridan foydalanish imkoniyatlarini rivojlantirishga qaratilgan.

1. Mirzo Ulug'bek nomidagi kenglik stansiyasi shahardan 1,5 km shimolda Kitob – Samarqand avtomagistralining o'ng tomonida joylashgan. Bu kenglik rasadxonasi 1993 yildan boshlab Mirzo Ulug'bek nomidagi “Baland tog' observatoriyalari majmui” deb atalgan. Xalqaro kenglik xizmatini tashkil etish g'oyasi 1898 yilning oxirida shakllangan. Xalqaro kenglik stansiyasi 39 gradus 08 minut shimoliy kehglikda joylashgan.

2. Hazrati Bashir qishlog'i Kitob shahridan 30,5 km shimoli – sharqda Habash va Qul tog'lari oralig'idan olib o'tuvchi Qashqadaryo sohilida joylashgan. Bu yerda dam olish uchun barcha tabiiy sharoit qulay. Ayniqsa sharqirab oquvchi muzdek ammo ta'mi sutdek buloqlar o'z shifobaxshligini namoyon etib, g'ozal tog' manzaralariga uyg'unlashib ketgan.

3. Xo'jaimkana asli nomi Xo'jaimkon bo'lib, bu qishloq Kitob shahridan 9 km Sevaz fuqarolar yig'inida, Qoraxon tog'i etagida joylashgan. Qishloq sharqiy qismidagi tepalikda Xonoqo joylashgan. Bu joy kichik Makka hisoblangan. Xo'jaimkoniga ziyoratga keluvchilar Kitob shahrining Kovush qishlog'ida ot – ulovdan tushib hurmat yuzasidan piyoda borishgan. Shuning uchun bu qishloqning nomi “Kovush” deb yuritilgan.

4. Katta O'zbek trakti bo'ylab “Taxtaqoracha” dovoni tomon Qaynar maskaniga kirib boriladi. Bu qishloqning dovrug'i Yevropagacha yetib borgan. Qaynarda Mingbuloq, Mingchinor oromgohlari, o'nlab bolalar dam olish oromgohlari, asab va sil kasalliklarini davolash sanatoriylari mavjud. Turistlar Qirqqiz, Yettiqiz g'orlari va Taxtaqoracha dovonida bo'ladilar.

5. Xo'jaqo'rg'onga borish uchun Kitobdan Jovuzgacha va geologiya qo'riqxonasi muzeyigacha avtomobil yoki otdan foydalanib, tabiat manzarasidan bahramand bo'lish mumkin.

6. Kitob qo'riqxonasi Zarafshon tog' tizmasining janubi – g'arbiy tarmoqlarida joylashgan. Bu yerda 300-400 mln yil oldin Yerda mavjud bo'lgan hayot muhrlagan yotqiziqlar ochiq holda uchraydigan tog' landshaftlari muhofaza

qilinadi. Kitob geologiya qo'riqxonasining hududi 6 ta urochishega ajratilgan: Oqsuv yoki Obi –Safed, Xo'jaqo'rg'on, Zinzilbon, Qo'shnavo, Novdaroz. Bu yer ajoyib sayohat ob'ektidir.

7. Dinezavr izlariga sayohat –viloyatga keladigan sayohatchilar uchun “Dinezavr izlari”, “Qazilma o'simlik va hayvonot dunyosi” yo'nalishlarini tashkil qilish zarur. “Dinezavr so'qmog'i” yo'nalishi Yakkabog' tog'larida Toshqo'rg'on qishlog'idan 3,5 km janubda joylashgan. Bu noyob paleontologik topilma yura davrida, taxminan 140- 150 mln. yil ilgari yashagan qadimgi bahaybat kaltakesaklar – dinezavrlarning aniq panja izlari tushgan hududlardir. U yerda Dinezavr so'qmog'i va Amir Temur g'ori bor.

8. Amir Temur g'ori Hisor tog'larining janubi – g'arbiy tarmoqlarida 2500 metr balandlikda joylashgan. G'or stalaktit va stalagmitlarga boy. G'orning ichkarisida ko'l mavjud. Ko'l yuzasiga shirdagi yuzlab yirik stalaktitlar va yoriqlardan suv tomchilari tushib turadi. Amir Temur g'origa kelib ketayotgan turistlarga xizmatlar qilish bilan g'or atrofidagi qishloq ahli to'liq shug'ullanishadi. Tuya, ot, eshakda sayr, oziq-ovqatlar, ichimlik suvi bilan ta'minlash va xizmatlar ko'rsatish orqali mahalliy aholining ko'p qismi yaxshi, yengil daromad topmoqdalar. G'or atrofida o'ziga xos bo'lgan turizm infratuzilmalari o'zaro raqobat nati jasida tobora kengayib, mukammallashib bormoqda.

9. G'uzor – Dehqonobod- Oqrabot yonalishida G'uzorning tarixiy arxitektura yodgorliklari (Oqsaroy) bilan tanishiladi. Sayohatchilar bu yo'nalishda cho'ldan adirga, past tog' va tog' zonalari almashinishini yaqqol sezadi. Bu yerda sayohatchilar xalq udumlari bilan tanishishlari va bozorlarni tomosha qilishlari hamda toqqa chiqishlari mumkin.

10. Dehqonobod – Chashmaimiron- Tuyayaylov yo'nalishi –bu yerda tog' manzarasi, musaffo havodan nafas olishdan tashqari sayohatchilar ko'plab tabiat sirlaridan voqif bo'ladilar. Dehqonoboddan Chashmaimironga borilib undan Tuyayaylovga o'tiladi. Bu yerda karst voronkalari va boshqa tabiat shakllarini ko'rish mumkin. U yerda archazor ormonlar va boshqa ajoyib tabiat manzaralari bor.

11. Dehqonobod – Konsoy- Tolko'l yo'nalishida sayyohlar erta bahordan kech kuzgacha sayohatni amalga oshirish mumkin. Konsoyda shifobaxsh balchiq bor. Tolko'lda ov qilish, har xil dorivor o'simliklar bilan tanishish mumkin. Dehqonobod o'rmon xo'jaligi shu yerda joylashgan. Tog' daryo vodiylari, daralari go'zal manzara hosil qilgan.

Xulosa qilsak, Qashqadaryo havzasida turizm sohasida faoliyat ko'rsatayotgan tadbirkorlar, firma va korxonalarining istiqbol rejasini tuzishda ko'p maqsadli turistik yo'nalishlarini tashkil etish lozim. Buning uchun Qashqadaryo havzasida qulay turistik makonni shakllantirish va mavjud turistik obyektlardan samarali foydalanishni yo'lga qo'yish talab etiladi.

Turizmga oid barcha bilimlarni tahlil qilib, ularni yuqorida bayon qilingan usullar orqali o'rganish va ulardan foydalanish yo'llari ishlab chiqildi. Hudud

uchun mavjud turizm resurslari va sharoitlarini o'rganish asosida dam olish va sayohat qilish uchun zarur bo'lgan obyektlar aniqlandi. Bu hududda turizm bilan bog'liq bo'lgan tadbirlarni rejalashtirish, turistik obyektlarni ilmiy asoslangan holda joylashtirish, turizm industriyasini rivojlantirish ishlarini amalga oshirishga imkon beradi.

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**IQLIM O'ZGARISHI SHAROITIDA QISHLOQ XO'JALIGI
YERLARIDAN FOYDALANISH XUSUSIDA (QASHQADARYO
VILOYATI MISOLIDA)**

Annotatsiya: maqolada bugungi kunning dolzarb masalalaridan Qashqadaryo viloyatida iqlim o'zgarishining agrolandshaftlarga ta'siri hamda qurg'oqchilik ta'sirida sug'oriladigan yerlaridan foydalanish, tuproq eroziyasi va boshqa jarayonlarning geografik-ekologik muammolari yoritilgan. Ushbu muammolarni shakllanishida tabiiy hamda antropogen omillarning roli, uni bartaraf etish tadbirlari haqida bayon etilgan.

Tayanch so'zlar: qurg'oqchilik, yer fondi, sug'orma dehqonchilik, cho'llanish, arid, degradatsiya, sho'rlanish, landshaft.

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**ON THE USE OF AGRICULTURAL LAND IN CLIMATE CHANGE
CONDITIONS (ON THE EXAMPLE OF THE KASHKADARYA
REGION)**

Annotation. The current issues of today's climate change in Kashkadarya region on agro-landscapes and the use of irrigated land under the influence of drought, soil erosion and other geographical-ecological problems are

highlighted in the article. The role of natural and anthropogenic factors in the formation of these problems, measures to eliminate them are described.

Key words: drought, land fund, irrigated agriculture, desertification, arid, degradation, salinization, landscape.

Kirish. Keyingi yillarda dunyo bo`ylab qurg`oqchilik xavfining davriyligi va ko`lami ortib hamda murakkablashib borayotganligi hech kimga sir emas. Umumiy ma`noda olganda qurg`oqchilikning yuzaga kelishiga hududda atmosfera yog`inlari, yer usti va yer osti suvlarining kamayib borishi oqibatida, uzoq vaqtlar davomida suvning yetishmovchilik holati tushuniladi. Iqlim o`zgarishi sharoitida qurg`oqchilik dunyo mamlakatlari aholisining hayoti va dehqonchilik faoliyatiga xavf sezilmoqda. Mamlakatimizning boshqa viloyatlari kabi Qashqadaryo viloyatida dolzarb muammolardan sug`oriladigan yerlardan samarali foydalanish, tuproq unumdorligini muttasil oshirib borish, sug`orishga yaroqli yerlarni ilmiy asoslangan usulda xo`jalik muomalasiga kiritish va boshqalar. Binobarin, butun insoniyatning kelajak faoliyatiga tahdid soluvchi suv tanqisligi va qurg`oqchilik arid iqlim mintaqasida joylashgan Qashqadaryo viloyati uchun ham dolzarb masalalardan hisoblanadi.

Asosiy qism. Qashqadaryo viloyati mamlakatimizning boshqa viloyatlardan asosiy qishloq xo`jalik ekinlari maydonining kattaligi bilan ajralib turadi. Qashqadaryo viloyati iqlimi keskin kontinentallikka egaligidan qishi qisqa va beqarordir. Qashqadaryo viloyati uchun yoz uzoq davom etib, kunlarning jazirama issiqligi, tekislikdan tog`lardan tekislikka tomon qurg`oqchilik ortib borishi, yog`in miqdorining ham kamayib borishi xos. Shu sababli, viloyat tumanlarida qishloq xo`jalik ekinlarini joylashtirilishi daryo suvlari hajmi, kuz-qish davrida atmosfera yog`inlari hisobiga bahorda shakllangan tuproq nam zahirasi bilan bog`liq. O`rtacha yillik yog`in miqdori Qarshida 187 mm dan tog`larda Hazrati Bashirda 850 mm gacha o`zgaradi va yog`in oylar bo`yicha juda notekis taqsimlanganligini kuzatish mumkin. Eng ko`p yog`in tekisliklarda mart oyiga, tog` etaklarida va tog`larda aprel-mayga to`g`ri keladi. Hududda yog`in miqdori notekis taqsimlangan bo`lib, yoz oylarida yillik yog`in miqdorining atigi 2-2,5% i tushadi xolos. Hududda yog`in miqdorining notekis taqsimlanishi bahor oylarida tuproq yuvilishi, jarlar hosil bo`lishining kuchayishiga sabab bo`ladi. Yil davomida harorat o`zgarishi 26,4 °C ni tashkil qiladi. Yilning eng issiq oyi iyul bo`lib, o`rtacha harorat 29,8 °C, eng past o`rtacha harorati yanvarda 3,4 °C atrofida bo`ladi. Hududda eng yuqori nisbiy namlik yanvar oyida 66,02%, eng pastiyun oyida 30,34% kuzatiladi.

Quruq va issiq iqlimli sharoitda joylashgan Qashqadaryo viloyatida qishloq xo`jalik ekinlaridan yuqori hosil olish bevosita sun`iy sug`orish bilan bog`liq. Bunday sharoitlarda faqat sug`orish yer resurslari hosildorligini oshirishning eng muhim va zaruriy usuli hamda dehqonchilikni boshqarishning albatta amalga oshirilishi lozim bo`lgan sharti hisoblanadi. Qashqadaryo viloyati vegetatsiya davrining nam bilan ta`minlanganligi jihatidan Qarshi cholidagi hududning quyi

qismidagi g'arbiy tekislik dashtlari kamroq namlangandir. Bu hududga ayniqsa Sandiqli cho'lining (janubi-g'arbdan) ta'siri kuchli bo'lib, yillik yog'inlar miqdori 146-190 mm ni tashkil etadi. Qashqadaryo viloyatining bu qismida yozning uzoq davom etishi sababli hududda yillik harorat katta bo'ladi. Zero, haroratning yuqori bo'lishi natijasida bug'lanish 1700 mm ga yetadi, bu esa o'z navbatida namlik taqchilligi (defitsit)ni ya'ni qurg'oqchilikni vujudga keltiradi.

Ma'lumotlarga ko'ra, Qashqadaryo viloyatida havo haroratining davrlar bo'yicha o'zgarishini tahlil qilganimizda o'rtacha havo harorati 1951 yilda $7,5^{\circ}\text{C}$ ga teng bo'lgan bo'lsa, 2021 yilga kelib, uning qiymati $8,3^{\circ}\text{C}$ ga teng bo'lgan. Hisob davrida $0,8^{\circ}\text{C}$ ga ortgan. Yilning iliq davrida esa $14,4^{\circ}\text{C}$ dan $15,5^{\circ}\text{C}$ ga, sovuq davrda $0,8^{\circ}\text{C}$ dan $1,6^{\circ}\text{C}$ ga ko'payganligini guvohi bo'ldik [5; 170-173 b.].

Qashqadaryo viloyatida ko'p yillik ob-havo ma'lumotlari tahliliga ko'ra, mart oyining maksimal va minimal haroratlari quyidagi ko'rinishda: 1961-2023 – yillar oralig'ida mart oyining 2005-yilda mart oyida eng past harorat $-9,3^{\circ}\text{C}$ ni, 2024- yilda mart oyida eng past harorat $-2,2^{\circ}\text{C}$ ni, maksimal haroratlar 1961-2023 – yillar oralig'ida mart oyining 2000-yilda mart oyida eng yuqori harorat $36,4^{\circ}\text{C}$ ni, 2024- yilda mart oyida eng yuqori harorat $-30,4^{\circ}\text{C}$ ni tashkil etdi. Hududda keying yillarda eng ko'p yog'in 1992-yilda 370 mm, 2018 yilda eng kam 140 mm yog'in tushgan. Quyidagi 1-rasmda 1990-2020 yillar davriomida Qashqadaryo viloyati yog'in miqdori, mm.hisobida keltirilgan bo'lib, keyingi yillarda yog'in miqdorining kamayib borishi kuzatiladi. Eng qurg'oqchil va yomg'irli oylar o'rtasidagi yog'ingarchilik miqdori o'rtasidagi farq 56 mm. O'rtacha mart oyida eng yomg'irli kunlari 8,53 kun. Eng kam yomg'irli kunlar esa avgust oyida 0,10 kun ekanligi kuzatiladi. Tahlillar shuni ko'rsatadiki, Qashqadaryo viloyatida yog'inlar asosan oktyabr – may oylarida yog'ib, yog'inlarning eng yuqori miqdori mart oyida kuzatiladi (1-rasm).



1-rasm.Qashqadaryo viloyati yog'in miqdori, mm.hisobida (1990-2020 y.)

Ma'lumotlar asosida muallif tomonidan tuzildi.

Sir emaski, havo haroratining sutka va yil davomida keskin o'zgarib turishi nurashni kuchaytiradi va tog'oldi rayonlarida sel oqimining hosil bo'lishiga yordam beradi. Bunday sharoit biogen omillardan o'simlik qoplami, tuproqlar va hayvonot dunyosining tabiiy geografik jarayonlarning rivojlanishiga birgalikda ta'sir ko'rsatishida avj oladi. Zero, tuproq yuvilishi, cho'llarda shamol

deflyatsiyasining intensivligi o'simlik qoplaminig qalinligiga bog'liq va bu jarayonlar o'simlik qoplami yordamida boshqariladigan jarayonni vujudga keltiradi.

Eroziya jarayonlarining boshqa omillar bilan birgalikda ta'siri tufayli tuproqlarda chirindi qatlamining kamayishi, zarur oziq moddalarning yo'qolishi, qurib ketishi kabi salbiy jarayonlar kuzatiladi. Mutaxassislarining ma'lumotlariga ko'ra, kam eroziyalangan tuproqlar chirindi gorizonti qalinligining 25% dan ko'prog'ini, o'rtacha eroziyalangan - 25-50%, kuchli eroziyalangan - 50% dan ko'prog'ini yo'qotadi. Shu bilan birga, tuproq va o'simlik qoplami uchun zarur bo'lgan ozuqa moddalari kamayib borishi kuzatiladi. Masalan: azot - 0,3%, fosfor - 0,15%, kaliy - yuvilgan tuproq og'irligining 2% ni tashkil etadi.[1; C.241].

Viloyatda yer-suv resurslari nihoyatda chegaralangan vaziyatda sug'orma dehqonchilikni rivojlantirishni va yerdan yuqori darajada oqilona foydalanishni taqozo etadi. Natijada sug'orma dehqonchilik bir qator salbiy ekologik oqibatlariga sabab bo'ladi. Qashqadaryo viloyati obikor dehqonchilik zonalarida agrolandshaftlarga suv eroziyasi, shamol eroziyasi, gravitatsion jarayonlar, sel hodisalari, loyqa bosishi, botqoqlanish, sho'r bosish, qatqaloq hosil bo'lishi kabi tabiiy geografik jarayonlari eng ko'p salbiy ta'sir ko'rsatishi bilan kuzatish mumkin. Keyingi yillarda viloyatdagi agrolandshaftlar maydonining kengayishi meliorativ holatini yaxshilashni talab qiladigan yerlar maydoni ham kengayishiga sabab bo'ldi (1-jadval).

1-jadval.

Qashqadaryo viloyatida sug'oriladigan yerlarning sho'rlanish darajasi bo'yicha ma'lumotlar (ming gektar hisobida).

Yillar	Umumiy sug'oriladigan yer maydoni ming ga.	Umumiy sho'rlangan yer maydoni ming ga.	Shu jumladan sho'rlanganlik darajasig ko'ra:		
			Kuchli sho'rlangan ming ga.	o'rtacha sho'rlangan ming ga.	Kuchsiz sho'rlangan ming ga.
2010	515,8	227,66	12,9	48,4	181,5
2015	515,4	279,6	10,9	42,5	182,5
2021	513,45	291,1	8,9	35,4	178,3

*Ma'lumotlar asosida muallif tomonidan tayyorlandi.

Berilgan 1-jadval ma'lumotlari tahlilida, 2010 – yilda Qashqadaryo viloyatida sug'oriladigan yerlarning 227,66 ming ga. sho'rlanish. Shundan kuchli sho'rlangan maydon 12,9 ming ga., o'rtacha sho'rlangan maydon 48,4 ming ga., kuchsiz sho'rlangan maydon 181,5 ming ga.ga teng bo'lgan. 2021 yil yanvar holati bo'yicha, sho'rlangan maydon 291,1 ming ga. bo'lib, shundan kuchli sho'rlangan maydon 8,9 ming ga., kuchsiz sho'rlangan maydon 178,3 ming ga. va o'rtacha sho'rlangan maydon 35,4 ming ga.ni tashkil etadi. "Davlat kadastrlar palatasi Qashqadaryo viloyati" boshqarmasi ma'lumotiga asosan 45176 gektar meliorativ holati yomon yerlar aniqlangan. Shundan: 1873 gektar sizot suvlari

sathi ko'tarilgan hudud, 13119 gektar tuproq sho'rlanish darajasi yuqori va 30183 gektar suv tanqisligi va sug'orish inshootlarining yaroqsizligi bo'yicha qoniqarsiz ahvolda ekanligi aniqlangan. Viloyat bo'yicha sho'rlangan maydonlarni tahlil qiladigan bo'lsak 2015-yilga nisbatan 2020 yilda o'rtacha va kuchli sho'rlangan maydonlar 9323 gektarga kamaygan bo'lsa shundan: kuchli sho'rlangan maydonlar 2138 gektarga, o'rtacha sho'rlangan maydonlar 7185 gektarga kamaygan.

Hozirgi paytda viloyat yer maydonlariga antropogen bosim hamda iqlim o'zgarishining salbiy ta'siri natijasida keyingi o'tgan yigirma yillikda (2003-2020 yillar) faoliyat yer fondining tarkibiy o'zgarishiga sabab bo'ldi. Bugungi kunda Qashqadaryo viloyatda meliorativ holatini yaxshilash uchun nazoratga olingan maydon 513,45 ming ga., zovur talab etiladigan maydon 216,59 ming ga., amalda zovurlar bilan ta'minlangan maydon 296,87 ming ga.ni tashkil etadi. Viloyatda sug'oriladigan maydonning 296,87 ming gektari kollektor-drenaj tarmoqlari bilan ta'minlangan bo'lib, shundan 62,62 ming gektar maydon yopiq-yotiq drenaj tarmoqlari, 9,60 ming gektar maydon tik meliorativ quduqlar 224,65 ming gektar maydon ochiq kollektor tarmoqlari bilan ta'minlangan. [2; 46-51 b.3; C390.4; 46-51 b.]. Zero, bu tahlililardan ko'rinib turibdiki, olib borilayotgan meliorativ tadbirlar o'z samarasini berib, sug'oriladigan yerlarning sho'rlanish darajasi kamayishiga olib kelmoqda.

Xulosa. Qashqadaryo viloyatida yer-suv resurslari nihoyatda chegaralangan vaziyatda sug'orma dehqonchilikni rivojlantirishni va yerdan yuqori darajada oqilona foydalanishni taqozo etadi. Viloyat cho'l zonasida joylashgan tumanlarda yer osti suvlarining ko'tarilishi agrolandshaftlarda meliorativ holatni yaxshilash maqsadga muvofiq. Xususan Muborak, Nishon va Koson tumanlarida tuproq tarkibida tuzlarning konsentratsiyasi oshib borishini oldini olish uchun mavjud zovur - irrigatsiya inshootlarini ta'mirlash ucun ulardan samarali foydalanish va ma'lum miqdorda kapital mablag'larni ajratishni talab etadi. Agrolandshaftlarni optimallashtirishda quyidagi tadbirlarni amalga oshirish maqsadga muvofiq: yer tuzilishi va faoliyatining maqbul darajada shakllantirish, qishloq xo'jaligi landshaftlarining xilma-xilligi va barqarorligini hamda yovvoyi tabiatning mahalliy genetik fondini asrash va tabiiy geotizimlar tiklanishini ta'minlash bilan agrolandshaftlarni ekologik optimallashtirish.

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GREEN ECONOMY: CULTIVATING SUSTAINABILITY FOR A THRIVING FUTURE

Abstract. The concept of a green economy has emerged as a pivotal strategy in addressing pressing environmental challenges while fostering economic prosperity. This abstract delves into the essence of the green economy, highlighting its focus on sustainability as a fundamental driver for long-term growth and well-being. It explores the principles of decoupling economic growth from environmental degradation, embracing renewable energy, promoting sustainable agriculture, and transitioning towards a circular economy. By prioritizing these principles, the green economy offers a pathway towards a thriving future where economic progress is intertwined with environmental stewardship. Through collaborative efforts among governments, businesses, and individuals, the green economy presents a transformative vision for cultivating sustainability and ensuring a prosperous coexistence with our planet.

Keywords: environment, economic activities, pollution, emissions.

The effects of climate change can be felt in the natural, economic, and social systems that we rely on. Climate change will disrupt food supply chains, industry supply chains, financial markets, infrastructure, cities, human health, and global development. On the other hand, there are a number of risks and impacts associated with climate change that are expected to have a significant impact on our economy. These impacts include: property loss and damage to infrastructure and service cost risks to financial stability and etc. We know the more economy growth rates improve, the more it has serious effects to our environment. Higher energy intensity tends to go hand in hand with higher energy consumption and natural resource consumption. Since fossil fuels still make up 80% of the world's energy mix, fossil fuel consumption remains closely linked to greenhouse gas emissions and therefore to climate change.[1] Considering a number of effects of economic activities to climate, we can suggest it is time to work on green economy. For instance, green economy helps countries reduce greenhouse gas emissions, including by financing renewable energy such as wind and solar power. It also helps communities adapt to the impacts of climate change.

In today's world, the concept of sustainability is more important than ever before. With growing concerns about climate change, pollution, and depletion of

natural resources, there's a pressing need to rethink how we do things. That's where the idea of a green economy comes in.

Simply put, the green economy is all about finding ways to grow and prosper while taking care of the environment. It's about making choices that are good for both people and the planet. Instead of just focusing on making money, businesses and governments in a green economy also think about how their actions impact nature. In a green economy, we use resources wisely and try to produce as little waste as possible. For example, instead of burning fossil fuels that pollute the air, we might use renewable energy sources like the sun and wind. We also try to protect natural habitats and make sure that animals and plants have a safe place to live.

Central to the idea of a green economy is the concept of decoupling economic growth from environmental degradation. This means finding ways to advance prosperity without exhausting finite resources or degrading ecosystems beyond repair. It requires a fundamental shift in how we produce and consume goods and services, moving towards renewable energy, sustainable agriculture, and resource-efficient manufacturing processes.

One of the key pillars of the green economy is renewable energy. By harnessing the power of the sun, wind, and water, we can reduce our dependence on fossil fuels and mitigate the harmful effects of climate change. Investments in renewable energy not only create jobs and stimulate economic growth but also help to reduce greenhouse gas emissions and improve air quality.

Similarly, sustainable agriculture plays a critical role in the transition to a green economy. By adopting practices that conserve soil health, minimize water usage, and reduce chemical inputs, farmers can produce food in a way that is both environmentally sustainable and economically viable. Agroecology, organic farming, and regenerative agriculture are all examples of approaches that prioritize the long-term health of the land while also supporting rural livelihoods and food security.

Another key principle of the green economy is the concept of a circular economy, where resources are used and reused in a closed-loop system, minimizing waste and maximizing efficiency. This means designing products with end-of-life considerations in mind, promoting recycling and composting, and reducing the use of single-use plastics and other disposable items. By shifting towards a circular economy, we can reduce the strain on natural resources and minimize the environmental impact of our consumption patterns.

Transitioning to a green economy will require bold action and collaboration at all levels of society. Governments must enact policies that incentivize sustainable practices and penalize environmental degradation. Businesses must innovate and adapt to meet the growing demand for green products and services. And individuals must make conscious choices in their daily lives to reduce their environmental footprint and support sustainable alternatives.

The green economy isn't just good for the environment—it's also good for us. By investing in things like clean energy and sustainable agriculture, we can create new jobs and businesses. Plus, we'll have cleaner air to breathe, healthier food to eat, and more beautiful places to enjoy. The adoption of green economic principles offers a myriad of benefits, both for the environment and for human well-being. Some of the key advantages include[2]:

- Environmental Preservation: By reducing greenhouse gas emissions, protecting ecosystems, and conserving natural resources, the green economy helps mitigate the impacts of climate change and biodiversity loss.

- Economic Resilience: Investments in renewable energy, energy efficiency, and sustainable infrastructure create jobs, spur innovation, and enhance economic competitiveness.

- Public Health: By minimizing air and water pollution, promoting clean energy, and providing access to green spaces, the green economy improves public health outcomes and quality of life.

- Social Equity: The green economy fosters inclusive growth by providing opportunities for marginalized communities, promoting sustainable livelihoods, and empowering local economies.

Achieving a green economy requires concerted effort from governments, businesses, communities, and individuals. Here are some key steps we can take to transition towards a green economy[3]:

1. Policy Support: Governments can enact policies and regulations that incentivize sustainable practices and penalize environmental harm. This may include implementing carbon pricing mechanisms, providing subsidies for renewable energy, and setting ambitious targets for emissions reduction and resource conservation.

2. Investment in Green Infrastructure: Redirecting investment towards green infrastructure projects, such as renewable energy installations, public transportation systems, and energy-efficient buildings, can create jobs, stimulate economic growth, and reduce environmental impact.

3. Promotion of Sustainable Practices: Businesses can adopt sustainable practices throughout their operations, from sourcing raw materials and manufacturing processes to distribution and waste management. This may involve adopting circular economy principles, reducing water and energy consumption, and minimizing waste generation.

4. Education and Awareness: Educating the public about the importance of sustainability and empowering individuals to make environmentally conscious choices can foster a culture of sustainability. This includes raising awareness about climate change, biodiversity loss, and the benefits of green living.

5. Technology Innovation: Investing in research and development of clean technologies and innovations is crucial for driving progress towards a green economy. This includes advancements in renewable energy, energy storage, sustainable agriculture, and waste management.

6. **Collaboration and Partnerships:** Collaboration between governments, businesses, civil society organizations, and academia is essential for overcoming barriers and driving collective action towards sustainability goals. Public-private partnerships can leverage resources and expertise to implement impactful initiatives.

7. **Support for Green Entrepreneurship:** Encouraging entrepreneurship and innovation in green sectors can spur economic growth and create new opportunities. Providing support for startups and small businesses focused on sustainability can accelerate the transition to a green economy.

8. **Community Engagement:** Engaging local communities in decision-making processes and empowering them to participate in sustainable initiatives can enhance social inclusivity and ensure that green transitions are equitable and beneficial for all.

9. **Monitoring and Reporting:** Establishing transparent monitoring and reporting mechanisms to track progress towards green economy goals is essential for accountability and informed decision-making. Regular assessments of environmental, social, and economic indicators can help identify areas for improvement and measure the effectiveness of interventions.

By adopting a holistic approach that integrates environmental, social, and economic considerations, we can work towards achieving a green economy that promotes prosperity, equity, and environmental stewardship for present and future generations.

While the transition to a green economy is fraught with challenges, ranging from policy barriers to technological limitations, it also presents immense opportunities for innovation and collaboration. Governments, businesses, and civil society must work together to overcome these obstacles and accelerate the shift towards sustainability. In conclusion, the green economy offers a compelling vision for a future where economic prosperity is inextricably linked to environmental sustainability. By embracing this vision and taking bold action to integrate green principles into our economic systems, we can pave the way for a thriving, resilient, and equitable world for generations to come. The time to act is now, and the rewards are boundless. Let us seize this opportunity to drive towards a sustainable future together.

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RAQAMLI IQTISODIYOTDA MOLIYA VA BOSHQARUV TIZIMINING ISTIQBOLLARI

Annotatsiya. Zamonaviy dunyoda raqamli iqtisodiyot global iqtisodiy tizimning ajralmas qismiga aylanib bormoqda. Raqamli texnologiyalarning moliyaviy va boshqaruv jarayonlariga integratsiyalashuvi korxonalar samaradorligi va raqobatbardoshligini oshirish uchun yangi imkoniyatlar ochmoqda. Biroq, istiqbollar bilan bir qatorda, boshqaruv va nazorat tizimlari uchun ham yangi vazifalarni qo'yadi. Ushbu maqola moliyaviy va boshqaruv tizimlarini raqamlashtirish bilan bog'liq imkoniyatlar va xavflarni tahlil qilishga qaratilgan.

Kalit so'zlar. Raqamli iqtisodiyot, moliyaviy tizimlar, boshqaruv tizimlari, raqamli texnologiyalar, menejmentda innovatsiyalar, moliyalashtirishni avtomatlashtirish, raqamli iqtisodiyotda risklarni boshqarish.

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PROSPECTS OF FINANCE AND MANAGEMENT SYSTEMS IN THE DIGITAL ECONOMY

Annotation. In the modern world, the digital economy is becoming an integral part of the global economic system. The integration of digital technologies into financial and management processes opens up new opportunities for increasing the efficiency and competitiveness of enterprises. However, along with prospects, it also sets new tasks for management and control systems. This article focuses on the analysis of opportunities and risks associated with digitalization of financial and management systems.

Keywords. Digital economy, financial systems, management systems, digital technologies, innovations in management, financing automation, risk management in the digital economy.

I. Raqamli iqtisodiyotning nazariy asoslari – raqamli iqtisodiyotning asosiy tamoyillari va modellarini o'rganish.

Raqamli iqtisodiyotning nazariy asoslarini batafsil ko'rib chiqish uchun ta'riflar, asosiy tamoyillar, modellar va texnologiyaning iqtisodiy jarayonlarga

ta'sirini o'z ichiga olgan bir qancha asosiy jihatlarni qamrab olish muhim ahamiyatga ega. Quyida men sizning maqolangizning ushbu qismini ishlab chiqishda sizga yordam beradigan tuzilmani taqdim etaman.

Raqamli iqtisodiyotning nazariy asoslari

1. Raqamli iqtisodiyot ta'rifi

Raqamli iqtisodiyot tovarlar va xizmatlarni yaratish, almashish va iste'mol qilish uchun raqamli texnologiyalardan foydalanadigan iqtisodiyotning barcha jabhalarini qamrab oladi. Shuni ta'kidlash kerakki, raqamli iqtisodiyot nafaqat raqamli mahsulotlar yoki xizmatlar bilan cheklanib qolmaydi, balki raqamlashtirish natijasida yuzaga kelgan an'anaviy tarmoqlardagi o'zgarishlarni ham o'z ichiga oladi.

2. Asosiy tamoyillar

- **Markazsizlashtirish:** blokcheyn kabi texnologiyalar orqali markaziy boshqaruv tuzilmalariga qaramlikni kamaytirish.

- **O'zaro bog'liqlik:** Odamlar va mashinalar o'rtasidagi aloqa narsalar Interneti (IoT) va bulutli texnologiyalar yordamida yaxshilanadi.

- **Avtomatlashtirish va algoritmlashtirish:** Sun'iy intellekt va mashinani o'rganishdan foydalanish orqali samaradorlik va mahsuldorlikni oshirish.

- **Shaxsiylashtirish:** mahsulot va xizmatlarni iste'molchilarning individual ehtiyojlariga moslashtirish.

3. Raqamli iqtisodiyot modellari

- **Platforma iqtisodiyoti:** Turli foydalanuvchilar guruhlarini, masalan, sotuvchilar va xaridorlarni (Amazon, Alibaba) bog'laydigan raqamli platformalarni yaratish va ishlatishga asoslangan biznes modellari.

- **Sharing Economy:** Resurslarga egalik qilish o'rniga ularga kirishni baham ko'rishga urg'u beradigan modellar (Uber, Airbnb).

- **Obuna iqtisodiyoti:** Takroriy to'lov evaziga mahsulot yoki xizmatlarga doimiy kirishni taklif qiluvchi modellar (Netflix, Spotify).

4. Texnologiyaning iqtisodiy jarayonlarga ta'siri

- **Raqamli moliya:** Mobil to'lovlar, onlayn banking va kriptovalyutalar kabi texnologiyalar orqali an'anaviy moliyaviy xizmatlarni o'zgartirish.

- **Raqamli marketing:** Marketing kampaniyalarini yaxshiroq maqsad va shaxsiylashtirish uchun katta ma'lumotlar va tahlillardan foydalanish.

- **Raqamli ishlab chiqarish:** Ishlab chiqarish jarayonlarini optimallashtirish uchun 3D bosib chiqarish va narsalar interneti kabi texnologiyalardan foydalanish.

Ushbu bo'lim ilmiy ishlarga havolalar, tahliliy agentliklarning hisobotlari va tasvirlangan modellar va texnologiyalarning zamonaviy iqtisodiyotga ta'siri va samaradorligini ko'rsatadigan statistik ma'lumotlar bilan qo'llab-quvvatlanishi mumkin.

II. Moliya tizimlarida raqamli texnologiyalarni joriy etish misollari - moliyaviy operatsiyalarni avtomatlashtirish bo'yicha tadqiqotlarning amaliy tadqiqotlarini tahlil qilish.

Moliyaviy tizimlarda raqamli texnologiyalarni joriy etish misollarini o'rganish ularning moliyaviy operatsiyalarni avtomatlashtirishga ta'sirini tushunishimizni chuqurlashtirish imkonini beradi. Maqolangiz uchun texnologiya moliyaviy operatsiyalarga an'anaviy yondashuvlarni qanday o'zgartirayotganini ko'rsatadigan bir nechta asosiy holatlarni ko'rib chiqishingiz mumkin. Mana bir nechta bunday misollarning batafsil tahlili:

Moliyaviy tizimlarga raqamli texnologiyalarni joriy etish misollari

1. Bank sohasida blokcheyn

- ****J.P. Morgan Chase:**** Dunyodagi eng yirik banklardan biri J.P. Morgan banklararo tranzaksiyalarni tezlashtirish va soddalashtirish uchun o'zining Quorum blokcheyn tarmog'ini ishlab chiqdi. Kvorum kliring va hisob-kitob jarayonini takomillashtirish uchun, tranzaksiyalarni bir zumda qayta ishlash va talab qilinadigan vositachilar sonini kamaytirish orqali qo'llaniladi.

- ****Foydalar:**** Tranzaksiyalarning xavfsizligi va shaffoqligini oshirish, xarajatlarni va ishlov berish vaqtini qisqartirish.

2. Kreditlashda sun'iy intellekt

- ****ZestFinance Case:**** ZestFinance mijozlarning, ayniqsa kredit tarixi yetarli bo'lmaganlarning kredit qobiliyatini baholash uchun murakkab mashina o'rganish modellaridan foydalanadi. Ularning texnologiyasi banklar va kredit tashkilotlariga tavakkalchilikni aniqroq baholash, defolt stavkalarini pasaytirish va kengroq iste'molchilar doirasiga kredit olish imkoniyatini kengaytirish imkonini beradi.

- ****Afzalliklari:**** Kredit qarorlarining to'g'riligini oshirish, kreditlash bozorini kengaytirish, moliyaviy risklarni kamaytirish.

3. To'lov tizimlarini avtomatlashtirish

- ****Alipay Case:**** Alipay, Xitoy to'lov tizimi qulay, tez va xavfsiz onlayn va oflayn to'lov imkoniyatlarini taklif qilish orqali Xitoydagi chakana savdoni o'zgartirdi. Tizim aksariyat yirik va kichik chakana savdo tarmoqlari bilan integratsiyalashgan bo'lib, iste'molchilarga QR kodlari, smartfonlar va hatto yuzni tanishdan foydalangan holda to'lovlarni amalga oshirish imkoniyatini beradi.

- ****Afzalliklar:**** To'lov jarayonlarini tezlashtirish va soddalashtirish, foydalanuvchi tajribasini yaxshilash, chakana savdo imkoniyatlarini kengaytirish.

4. Robotik aktivlarni boshqarish tizimlari

- ****Betterment Case Study:**** Betterment avtomatlashtirilgan investitsiya xizmatlarini taqdim etuvchi robot-maslahatchilarning kashshoflaridan biridir. Portfellarni boshqarish uchun algoritmlardan foydalangan holda Betterment o'z mijozlarining investitsiyalarini maqsadlari va tavakkalchilik ishtahasi asosida optimallashtiradi.

- ****Va boshqalar**

Afzalliklari:** Investitsiya xizmatlarining mavjudligi, aktivlarni boshqarish xarajatlarini pasaytirish, investitsiya strategiyalarini shaxsiylashtirish.

Ushbu misollar turli raqamli texnologiyalar moliyaviy operatsiyalarning samaradorligi, qulayligi va xavfsizligiga qanday ta'sir qilishini ko'rsatadi. Har bir holat texnologiyaning moliyaviy sohaga ta'sirini har tomonlama tahlil qilish uchun iqtisodiy samaradorlik ma'lumotlari, foydalanish statistikasi va foydalanuvchilarning fikr-mulohazalari bilan qo'llab-quvvatlanishi mumkin.

III. Raqamli boshqaruv tizimlarida boshqaruv va nazorat - boshqaruv samaradorligini oshirish usullari va vositalarini baholash.

Raqamli boshqaruv tizimlarida boshqaruv va nazorat operatsion jarayonlarning samaradorligi, xavfsizligi va ishonchliligini belgilaydigan muhim jihatlardir. Raqamli texnologiyalarni boshqaruv amaliyotiga joriy etish kompaniyalarga o'z jarayonlarini optimallashtirish, shaffoflikni oshirish va o'zgaruvchan bozor sharoitlariga moslashish imkonini beradi. Quyida zamonaviy raqamli boshqaruv tizimlarida qo'llaniladigan asosiy texnika va vositalarning umumiy ko'rinishi keltirilgan.

Boshqaruv samaradorligini oshirish usullari va vositalari

1. Korxonalar resurslarini rejalashtirish (ERP) tizimlari

- **Tavsif:** ERP tizimlari boshqaruvning turli funktsional jihatlarini bir axborot tizimiga birlashtiradi, barcha jarayonlar uchun yagona ma'lumotlar bazasini ta'minlaydi, bu esa muvofiqlashtirish, samaradorlik va qaror qabul qilishni yaxshilashga yordam beradi.

- **Misollar:** SAP ERP, Oracle ERP, Microsoft Dynamics.

- **Afzalliklar:** Takomillashtirilgan rejalashtirish va resurslarni taqsimlash, xarajatlarni kamaytirish, biznes jarayonlarini tezlashtirish.

2. Mijozlar bilan munosabatlarni boshqarish (CRM) tizimlari

- **Ta'rif:** CRM tizimlari mijozlar bilan munosabatlarni boshqarishga, mijozlarning o'zaro munosabatlari va xatti-harakatlarini kuzatishga yordam beradi, bu ularning ehtiyojlarini yaxshiroq tushunish va xizmat sifatini yaxshilash imkonini beradi.

- **Misollar:** Salesforce, HubSpot, Zoho CRM.

- **Foydalar:** Mijozlarning qoniqishini oshirish, sotishni oshirish va marketing strategiyalarini yaxshilash.

3. Katta ma'lumotlar va tahlillar

- **Ta'rif:** Katta ma'lumotlar va tahliliy vositalardan foydalanish tendentsiyalarni aniqlash, voqealarni bashorat qilish va jarayonlarni optimallashtirish uchun katta hajmdagi ma'lumotlarni tahlil qilish imkonini beradi.

- **Misollar:** Apache Hadoop, Tableau, IBM Watson.

- **Afzalliklari:** Operatsiyalar shaffofligini oshirish, qarorlar qabul qilishni

4. Sun'iy intellekt va mashinani o'rganish

- ****Ta'rif:**** Boshqaruvda sun'iy intellekt va mashinani o'rganishdan foydalanish odatiy vazifalarni avtomatlashtirish, qaror qabul qilishni yaxshilash va real vaqtda biznes jarayonlarini moslashtirish imkonini beradi.

- ****Misollar:**** IBM Watson, Google AI, OpenAI GPT.

- ****Afzalliklari:**** Murakkab vazifalarni avtomatlashtirish, mijozlar bilan o'zaro munosabatlarni shaxsiylashtirish, boshqaruv qarorlarini qabul qilish sifatini oshirish.

5. Raqamli hamkorlik platformalari

- ****Ta'rif:**** Jamoa hamkorligini, loyiha va hujjatlarni boshqarishni osonlashtiradigan, aloqa va loyiha ishlari samaradorligini oshiradigan raqamli vositalar.

- Misollar: ****** Slack, Microsoft Teams, Asana.

- ****Afzalliklar:**** Yaxshilangan jamoa muvofiqlashtirish, optimallashtirilgan ish jarayonlari, loyihalarni bajarish uchun vaqtni qisqartirish.

Ushbu vositalar va usullar raqamli texnologiyalar boshqaruv tizimlarini qanday o'zgartirishi mumkinligi haqidagi tasavvurni ifodalaydi. Ularning har biri kompaniyaning aniq biznes maqsadlari va ehtiyojlariga moslashtirilishi mumkin bo'lgan o'ziga xos xususiyatlarga ega.

IV. Raqamlashtirishning qiyinchiliklari va xatarlari – xavfsizlikka potentsial tahdidlar, maxfiylik muammolari va boshqa xavflarni o'rganish.

Raqamlashtirish biznes va jamiyat uchun katta foyda keltiradi, biroq bir qator jiddiy xavf va muammolarni ham keltirib chiqaradi. Asosiy muammolarga axborot xavfsizligi tahdidlari, ma'lumotlar maxfiyligining buzilishi, avtomatlashtirish va texnologiyaga bog'liqlik bilan bog'liq zaifliklar kiradi. Quyida ushbu jihatlarning batafsil ko'rib chiqilishi keltirilgan:

Raqamlashtirish muammolari va xavflari

1. Axborot xavfsizligiga tahdidlar

- ****Kiberhujumlar:**** Raqamli texnologiyalar rivojlanishi bilan kiberhujumlar soni ortib bormoqda. Tashkilotlar viruslar, troyan otlari, fishing, xizmat ko'rsatishni rad etish (DDoS) hujumlari va to'lov dasturi kabi turli xil hujumlarga duch kelishadi.

- ****Qarshi chora-tadbirlarga misollar:**** Keng qamrovli kiberxavfsizlik tizimlarini ishlab chiqish va joriy etish, dasturiy ta'minotni muntazam yangilash, ko'p faktorli autentifikatsiya va ma'lumotlarni shifrlashdan foydalanish.

2. Ma'lumotlar maxfiyligi muammolari

- ****Maxfiylik buzilishi:**** Raqamlashtirish shaxsiy ma'lumotlarning sizib chiqishi va suiiste'mol qilish xavfini oshiradi. Etarlicha himoyalangan tizimlar maxfiy ma'lumotlarga ruxsatsiz kirishga olib kelishi mumkin.

- ****Qarshi chora-tadbirlarga misollar:**** Ma'lumotlarni himoya qilish siyosatini amalga oshirish, xodimlarni o'qitish, ilg'or shifrlash texnologiyalaridan foydalanish va GDPR kabi xalqaro standartlar va qoidalarga muvofiqligini ta'minlash.

3. Texnologiyaga bog'liqlik va avtomatlashtirish

- ****Yuqori qaramlik:**** Raqamli texnologiyalarning keng qo'llanilishi biznesning ularga bog'liqligini oshiradi, agar ular muvaffaqiyatsizlikka uchrasa yoki hujumga uchrasa, jiddiy oqibatlariga olib kelishi mumkin.

- ****Qarshi chora-tadbirlarga misollar:**** Zaxira tizimlarini yaratish, biznesning uzluksizligini rejalashtirishni ta'minlash, falokatlarni tiklash rejalarini ishlab chiqish.

4. Axloqiy va ijtimoiy muammolar

- ****Avtomatlashtirish va ish o'rinlarini yo'qotish:**** Avtomatlashtirilgan tizimlarning joriy etilishi ish o'rinlarining yo'qolishiga olib kelishi mumkin, bu esa ijtimoiy keskinlikni keltirib chiqaradi va bandlik va kadrlar tayyorlashga yondashuvlarni qayta ko'rib chiqishni talab qiladi.

- ****Qarshi chora-tadbirlarga misollar:**** Xodimlarni qayta tayyorlash va malakasini oshirish dasturlarini ishlab chiqish, ta'limga investitsiyalar va o'zgarishlarni boshqarish ko'nikmalarini rivojlantirish.

5. Huquqiy va tartibga soluvchi risklar

- ****Tartibga solishdagi noaniqlik:**** Texnologiyaning jadal rivojlanishi ko'pincha qonunchilikning yangi hodisalarni adekvat tartibga solish qobiliyatidan oshib ketadi, bu esa huquqiy noaniqlikni keltirib chiqaradi.

- ****Qarshi chora-tadbirlarga misollar:**** Biznes va tartibga soluvchi organlar, normativ-huquqiy bazani shakllantirishda ishtirok etish, qonun hujjatlaridagi o'zgarishlarni monitoring qilish.

Bu risklar boshqaruv va nazoratga kompleks yondashuvni, shuningdek, yuzaga kelayotgan muammolarga javoban biznes strategiyalarini doimiy baholash va moslashtirishni talab qiladi. Tashkilotlar nafaqat yangi texnologiyalarni o'zlashtiribgina qolmay, balki ulardan foydalanish bilan bog'liq potentsial xavflarni minimallashtirish uchun faol ish olib borishlari juda muhimdir.

Xulosa

Raqamlashtirish davrida an'anaviy moliya va boshqaruv tizimlari sezilarli o'zgarishlarni boshdan kechirmoqda. Blokcheyn, sun'iy intellekt, katta ma'lumotlar va avtomatlashtirish kabi innovatsion texnologiyalar joriy etilishi bilan bu tizimlar yanada samarali, moslashuvchan va xavfsiz bo'lib bormoqda. Biroq, raqamli transformatsiya shuningdek, kiberxavfsizlik tahdidlari, ma'lumotlarning maxfiyligi bilan bog'liq muammolar va texnologiyaga katta bog'liqlik bilan bog'liq xavflarni o'z ichiga olgan bir qator qiyinchiliklarni keltirib chiqaradi. Joriy tadqiqot raqamli iqtisodiyot kontekstida moliyaviy va boshqaruv tizimlari uchun ochiladigan istiqbollar va imkoniyatlarni tahlil qilish, shuningdek, potentsial risklar va ularni minimallashtirish strategiyalarini o'rganishga qaratilgan.

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UZBEKISTAN'S TRANSITION TO A GREEN ECONOMY: OBSTACLES AND OPPORTUNITIES

Abstract. Closely related to the ecological economy, the green economy is an economy that aims to reduce environmental risks and ecological scarcity and achieve sustainable development without destroying the environment. According to the UNEP 2011 Green Economy Report, "to be green, an economy must be not only efficient, but also fair. Fairness involves recognizing global and country-level dimensions of equity, particularly ensuring a just transition to a low-carbon, resource-efficient and socially inclusive economy." [1] In this article, we will observe about measures that should be taken in order to improve certain sectors of the economy and reduce the impact on the environment in Uzbekistan's transition to a green economy. In conclusion, in the article, we can see the necessity of Uzbekistan's transition to a green economy, and that it wants to achieve the specified goal by developing separate sectors of the economy.

Keywords: green economy, CO₂, air pollution, water use efficiency, energy sources.

In the last decade, the green economy has become an important task for the sustainable development of the economies of developed and developing countries. And the essence of the green economy provides an attractive framework for enabling resource-efficient, low-carbon, environmentally-friendly, and socially inclusive societies. There are tensions between competing green economy discourses and a number of different definitions, all of which have major flaws. This is further complicated by different concepts of "weak", "transformational" and "strong" green economies. Several important definitions focus on the "transformational green economy". To enable and monitor this "transformation", the economic and environmental dimension is important. Existing approaches are still under development, lack available data or show inconsistencies with the proposed definitions, and thus neither support effective decision-making nor efforts to transform the economy.

In 2015, the world's leading countries promised to try to prevent the global temperature from exceeding 1.5 degrees. For the first time, they have pledged to take action to reduce greenhouse gas emissions that cause global warming.

The Paris Agreement, adopted by 194 countries (193 countries and the European Union) in Paris, France, on December 12, 2015, entered into force on November 4, 2016.[2] Along with developing countries, a number of projects and legal frameworks for the transition to a green economy have been developed and are being implemented in the Republic of Uzbekistan. In order to fulfill its obligations under the Paris Agreement, Uzbekistan has adopted legislation that is a solid basis for the implementation of measures aimed at saving fuel and energy resources. Including modernization and renewal of production facilities and energy-intensive industries, reducing losses in electrical networks, using energy-saving technologies in the construction sector, innovative technologies from renewable energy sources (solar collectors, small hydroelectric units and biogas plants, wind) to expand use. mills, etc.) in all sectors of the national economy, improvement of solid household waste management system, etc. The law of the President of the Republic of Uzbekistan No. PQ-4477 dated 04.10.2019 "On the approval of the strategy for the transition to a "green" economy of the Republic of Uzbekistan during the period of 2019-2030" is an absolute example of our statement.

Accelerating industrialization and population growth are significantly increasing the economy's need for resources. It also increases the negative anthropogenic impact on the environment and leads to an increase in greenhouse gas emissions. The low level of energy efficiency of the economy, the unreasonable use of natural resources, the slowness of technology renewal, the insufficient participation of small businesses in the introduction of innovative solutions for the development of the "green economy" prevent the achievement of the priority national goals and tasks in the field of sustainable development of the country.

In 2018, the Republic of Uzbekistan ratified the Paris Agreement (Paris, December 12, 2015) and in connection with its implementation, according to the contribution determined at the national level - until 2030, comparative allocations of greenhouse gases per unit of gross domestic product in 2010 accepted a quantitative commitment to reduce the level by 10 percent.[3]

In 2021, the UNFCCC secretariat published the first biennial report on updated data of the Republic of Uzbekistan.[4] According to this report the total greenhouse gas emissions of the Republic of Uzbekistan in 2017 amounted to 189.2 million tons of CO₂ equivalent (excluding CO₂ absorption in the Forestry and other types of land use (FLOU) sector) and 180.6 million tons of CO₂-eq. taking into account CO₂ absorption.

Table 1

Greenhouse gas emissions by individual gases in Uzbekistan, million tons of CO₂-eq.[5]

<i>Years</i>	<i>CO₂</i>	<i>CH₄</i>	<i>N₂O</i>	<i>HFC_s</i>	<i>Total</i>
1990	111,7	56,3	9,4	-	177,4
2000	111,0	89,7	7,7	0,001	208,5
2010	103,4	84,5	12,0	0,02	199,9
2011	106,6	83,0	12,4	0,03	202,0
2012	106,8	83,2	12,6	0,04	202,7
2013	96,7	80,6	12,9	0,05	190,3
2014	99,7	79,6	13,6	0,06	192,9
2015	95,9	74,9	14,5	0,09	185,3
2016	95,4	72,9	14,4	0,17	182,8
2017	101,4	73,1	14,4	0,27	189,2
Trend					
$\Delta_{(1990-2017)}$	-9,2%	29,9%	52,3%	-	6,7%
$\Delta_{(2013-2017)}$	4,9%	-9,3%	11,2%	464,1%	-0,6%

We can see that for the period 1990-2017 GHG emissions increased by 6.7%, and for 2013-2017 decreased slightly by 0.6%. The largest share of emissions in the country comes from carbon dioxide; its contribution to total emissions in 2017 was 53.6%. Methane accounted for 38.6%, nitrous oxide - 7.6% and hydrofluorocarbons - 0.2%. There have been noticeable changes in the structure of GHG emissions, which have led to: reducing the share of carbon dioxide in emissions by 9.4% (from 63.0% to 53.6%); increasing the share of nitrous oxide by 2.3% (from 5.3% to 7.6%); increasing the share of methane by 6.9% (from 31.7% to 38.6%). The reduction in CO₂ emissions was mainly due to the implementation of mitigation measures in the energy sector.

There are many problems and tasks before the Republic of Uzbekistan to solve the existing problems. First of all, Uzbekistan has to improve resource management. The country's resource efficiency is much lower than that of the European Union and other upper-middle-income countries. Water use in Uzbekistan is particularly inefficient, with the country's energy consumption per unit of gross domestic product nearly three times the average for Europe and Central Asia and twice that of neighboring Kazakhstan.

At the same time, particulate air pollution from urban and industrial sources is exacerbated by wind-blown sand and dust from disturbed lands. A significant portion of the population is regularly exposed to air quality that is considered harmful. To meet its green ambitions, Uzbekistan must address these and other issues divided into three time frames: immediate, near-term, and long-term.

In the long run, the country would do well to transition from agriculture to more expensive, better-paying sectors. For this, it is necessary to retrain a part of the agricultural labor force, in particular, the most vulnerable women and youth.

Improving water use efficiency through water pricing and investment in irrigation should be the highest priority, and certain water use limits are part of these new priorities. Today, about 20% of the water used in the country is formed on the territory of the Republic, and the remaining 80% is taken from the transboundary rivers - Amudarya and Syrdarya. On average, 44-48 billion cubic meters of water are used in the country per year, and the main part of water resources, or more than 85 percent, is used for irrigation purposes in agriculture. Experts say that currently 46 billion cubic meters of water is used on 3 million 200 thousand hectares of land, and 60 percent of it reaches crops. 23 percent of the total 180,000 kilometers of irrigation networks are covered with concrete, and they have not been updated for 30-35 years. This requires the efficient use of water, the introduction of water-saving irrigation technologies, especially the widespread use of irrigation technologies such as drip irrigation, sprinkler irrigation, subsoil irrigation, film laying on egrades, and portable flexible plastic pipes.[6]

A reasonable low-carbon policy will provide the necessary incentives for the transition to low-carbon energy and energy efficiency in Uzbekistan.

In addition, a broader list of sectors with similar green potential, based on renewable energy sources and other innovative technologies, deserves further analysis. Involvement of the public sector and green finance is essential to ensure the success of the transition to a green economy.

In conclusion, prioritizing green goals should be an integral part of ongoing efforts toward a broader transition to a market economy. However, the country should also consider the impact of the green transition on society. Supporting green sectors and moving away from carbon-intensive activities will change the pattern of investment and job creation, creating winners and losers. It is very important to help the companies that have suffered the most. During the global green transition, which offers many opportunities for economic growth and development, Uzbekistan must adopt sustainable policies to secure its future.

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TECHNOLOGY OF BIOENERGY OBTAINING FROM COTTON STEM HUMUS IN THE CONDITIONS OF UZBEKISTAN

Annotation. The article focuses on the technology of obtaining biogas from cotton stalk humus, one of the sources of renewable raw materials, using agricultural waste. In the article, the possibility of using biomass from agricultural plant humus, the chemical composition of biomass, the conditions of its formation in the environment, as well as the development of new technologies for obtaining biogas, the procedures for their use, and the improvement of the ecological conditions of the environment are discussed in the article. It is thought that it can be achieved.

Key words: biomass, biogas, bioreactor, substrate, anaerobic, extract, thermophiles mode, methane tank.

Agricultural waste represents a huge source of biomass. Plant and animal wastes make up the Earth's biomass, an important type of fuel that accounts for a large amount of available energy. Agricultural waste mainly includes cultivated crop residues such as wheat and rice straw and husks, hemp and cellulose-rich wild plants, straw, cattle manure, waste and surplus products. For the first time, in 1985, 110 million tons of manure and crop residues were used as fuel in India. In the same years, the amount of agricultural waste in China increased by 2.2 times the amount of wood fuel. Every year, millions of tons of straw are harvested all over the world. But with a thousand regrets, it can be said that every year more than half of the cultivated straw is not used. In many countries, biomass equivalent to this gold is left in the field and burned or buried. For the same reason, in many developed countries, the environmental protection organization has banned the burning of biomass in the fields. These prohibitions caused biomass to be considered as an energy source.

The use of crop residues for energy purposes raises the following question: what amount can be used without a negative impact on the yield. According to the qualifications of developed countries, it is possible to lose about 35% of crop surpluses without affecting the future harvest. Industrial waste, which constitutes biomass, can also be used for energy production. For example, combustible gas

can be obtained from the residues of alcohol production. Other types of useful waste include feed and textile industry waste. Returning to the above points, it is possible to obtain high-quality energy from agricultural waste. For the same reason, scientists have developed various methods of obtaining energy from waste, and one of them, and the most effective, is biogas.

1-tab.

Biogas obtained when using different raw materials and its methane content

<i>Raw material type</i>	<i>Amount of gas obtained m³ per kilogram of substance</i>	<i>Content of methane, %</i>
Household waste		
Sewage, garbage	0,310-0,740	70
Vegetable waste	0,330-0,500	50-70
Potato stalk	0,280-0,490	60-75
Beet stalk	0,400-0,500	85
Dry waste of plants - stubble		
Wheat straw	0,200-0,300	50-60
Rye straw	0,200-0,300	59
Barley straw	0,250-0,300	59
Oat straw	0,290-0,310	59
Corn straw Flax straw	0,380-0,460	59
Flax straw	0,360	59
Beetroot	0,165	
Sunflower leaves	0,300	59
Alfalfa	0,430-0,490	
Others		
Grass is grass	0,280-0,630	70
Leaves of trees	0,210-0,290	58

As mentioned, this process of production of biogas and fertilizers is carried out in special bioreactors - methane tanks.

Biodegradation of organic raw materials in bioreactors can be carried out in the following three different temperature regimes and periods:

1. Psychrophilic mode at a temperature of 5-25°C for 30-40 or more days;
2. Mesospheric regime at a temperature of 25-37 °C for 12-20 days;
3. Thermophile regime at a temperature of 49-60 °C for 5-12 days. In the psychrophilic regime, the fermentation of biomass occurs very slowly - in almost two months, which means that gas production is low and the quality of the obtained fertilizer is also very low.

Most biogas plants operate in the mesospheric temperature regime. The thermophiles temperature regime is mainly used for centralized processing of raw materials in large biogas plants.

The method of placing the substrate in the bioreactor can be continuous or periodic. In a periodic method, a certain amount of plant straw is added to fresh manure mixed with water, and it is put into a bioreactor. The substrate is left in

the open air to increase its temperature within a day or two. In the next two or three days, it ferments under anaerobic conditions and biogas production begins. After 10-14 days, productivity reaches the highest level. Then gas production begins to decrease and after some time it reaches about half of the maximum production level.

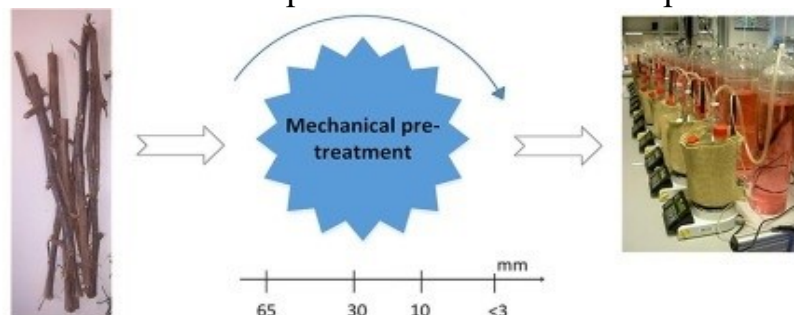
Another method of batching is to combine fermentation and storage systems. In this case, one reservoir serves as both a bioreactor and a collector. The reservoir is gradually filled with straw manure, depending on the speed of raw material fermentation. The advantage of this system is its low cost. It should be noted that a certain amount of heat can be lost and an unstable gas can be formed during the processing of plant waste manure in this way.

Currently, the technology of obtaining biogas from cotton stalks for renewable energy sources is widely studied and scientific research is being carried out. In this regard, the use of agricultural waste as a source of biomass allows to save energy, which is expensive for production. For example, the stalks of cotton, an agricultural product left in the field after harvesting cotton, are a source of natural fuel. But it has little economic value. Currently, most of the stalks are removed from the fields, buried or burned in the field to prevent the pest from multiplying in the future. However, this huge amount of by-product from cotton production is a potential source of income. Recent studies show that high levels of Cl, K, and Na in stalks reduce ash solubility during combustion and cause corrosion and fouling problems. Therefore, it is preferable to use it as a source of clean energy. Thus, cotton stalks are not a suitable raw material for direct combustion. Instead, its use for biomethane production is proposed as a promising, cost-effective technology. In this case, it is advisable to pre-clean cotton stalks to increase methane production.

The cotton stalk is brought to the state of granules with small particle sizes from 0.5 to 65 mm. These pellets are made anaerobically at 37°C for 48 days. It was shown that methane output is inversely proportional to particle size and the quality of biogas is good (54.0-55.2% CH₄).

A significant increase in the methanogens phenomenon is observed with 20.3% and 26% for substrate with particle size of 3 mm and 0.5 mm, respectively, compared to untreated cotton stalks. The coefficient of anaerobic energy turnover is relatively low (20.2-25.5%). To achieve efficient methane conversion and reduce the storage time of the anaerobic event from 31 to 25 days, it is possible to reduce the particle size of cotton stalks to 3 mm or less. However, in order to cover the high energy demand required for small granulation, size reduction should be combined with chemical and physic-chemical pretreatment. Before obtaining biogas from cotton stalks, it needs to be treated to improve its biodegradability. A number of pre-treatment methods, including physical, chemical, physic-chemical and mechanical treatment, are necessary to improve the anaerobic digestion of raw materials. Although untreated biomass has a complex physical and chemical structure, reducing its volume allows effective

improvement of microbial decomposition in the anaerobic process.



Cotton stalk Size reduction Anaerobic process

1-Figure. Substrate preparation and loading from cotton stalk waste

Pretreatment methods improve the degradation phenomenon of biomaterial. This leads to higher efficiency. On the other hand, excessive reduction of the size of biomaterial can also lead to a decrease in biogas efficiency. This is due to excessive production of volatile fatty acids in the anaerobic process.

The size reduction of natural dried biomaterial of cotton stalk up to 100 mm long and 4.8% moisture content shows the effect on methane efficiency. For this, the biomaterial is cut to an average length of about 65 mm using an MC-22 hammer mill. Then some of them are made into granule stalks with particle sizes of 0.5, 3, 10 and 30 mm.

In the anaerobic event, the content of cotton stalks is taken into account: dry matter, organic matter in dry matter, crude protein, crude fiber, starch, crude oil, nitrogen-free extract and total nitrogen in organic matter. In this case, we will be able to use the analysis carried out by the micro analytical laboratory of the University of Vienna, Austria, and by comparing the experimental analyzes conducted in the conditions of Uzbekistan, we will be able to study the chemical analysis and composition. The composition and results of chemical analyzes are presented in Table 2.

2-tab.

Composition and elemental analysis of cotton stem.

Characteristics	Basis	Material	
		Cotton stalks	Upload
Dry matter	FM (%)	95.2	2.2
Volatile solids	DM (%)	91.6	52.8
Total nitrogen	FM (%)	0,88	ND
Ammonium is nitrogen	FM (%)	0,18	ND
Crude oil	DM (%)	0,7	0,8
Crude protein	DM (%)	6	14.5
Raw fiber	DM (%)	45.7	10

Characteristics	Basis	Material	
		Cotton stalks	Upload
Nitrogen free extracts	DM (%)	43.9	27.5
Starch	DM (%)	1.25	ND
Sugar	DM (%)	4.3	ND
C	VS (%)	55.8	27.7
H	VS (%)	6.4	ND
N	VS (%)	0,95	6.3
S	VS (%)	0,06	ND
O	VS (%)	36.8	ND
PH		ND	7.5
C/N		58.7	4.4

**DM = dry matter; FM = new substances; ND = nonspecific substance;
VS = volatile solids.**

The accumulated biogas and methane efficiency of untreated cotton stalks for 48 days of mechanically pretreated cotton stalks is 211 and 113.9, respectively. After pretreatment, the biogas and methane output is inversely proportional to the particle size of the samples. A much higher biogas production is achieved between 221 and 260 ratio of refined biomaterial.

The increase in biogas and methane yield for different cotton stalk particle sizes compared to the untreated substrate is based on the following. This corresponds to 4.7-23.2% of untreated cotton stalks. The highest biogas production is achieved for biomaterial with 0.5 mm. When the volume of biomaterial decreases by 30, 10, 3 and 0.5 mm, respectively, the amount of biogas is significantly ($p < 0.05$) 11.8%, 12.8%, 18.5% and 23.2% increases to

Significant difference between methane release from pre-treated and untreated samples ($p < 0.05$); Av. = Average; % equals the share of methane in biogas.

The table below shows that the quality of biogas obtained from treated and untreated cotton stalks was satisfactory and ranged from 54.0% to 55.2%. The highest concentration of methane is obtained at a particle size of 0.5 mm. Biomaterial with particle size greater than 10 mm with the lowest methane concentration is obtained in the anaerobic process (Table 3).

Biogas and methane derivatives of cotton stalks for anaerobic process.

Particle size of CS samples [mm]	Biogas output kg	Methane output kg	
	Av.	Av.	%
0,5	260 ± 14,4	143,5 ± 9,4	55.2
3	250 ± 8,67	137,0 ± 6,4	54.8
10	238 ± 8,22	129,0 ± 6,0	54.2
65	236 ± 8,12	127,4 ± 6,8	54,0
	221 ± 7,65	119,3 ± 5,6	54,0
Untreated	211 ± 15,7	113,9 ± 6,0	54,0

This showed that reducing the particle size to 10 mm and above resulted in a slight increase in methane concentration from 0.7% to 2%. This increase is probably related to the change in the structure of the substrate, which increases the availability of biodegradable organic matter under anaerobic conditions. In this case, obtaining biogas from cotton stalks can be integrated into the field, preventing cotton stalks from burning or preventing the remaining part of the cotton stalks from serving as a wintering place for insects. Mechanical pretreatment of cotton stalks for methane production shows potential for more efficient conversion of cotton stalks to energy. Because for biomaterial with a particle size of 3 and 0.5 mm, there is a significant increase in methane productivity by 20.3% and 26%, respectively. Compared to untreated biomaterial, the quality of biogas is good (54% CH₄) and slightly increases with particle size below 10 mm (0.7-2%). In order to create an anaerobic process of crushing cotton stalks, it is required to reduce the storage period in the units to 25 days instead of 31 days for uncrushed cotton stalks. However, since the turnover ratio of the anaerobic process is not high and ranges from 20.2% to 25.5%, it is necessary to optimize the pretreatment conditions to maximize methane production from cotton stalks.

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**FARG'ONA HALQA YO'LIDA I.KARIMOV VA KOSONSOY
KO'CHALARI BILAN KESISHGAN CHORRAHALARDAGI
TIRBANDLIKNI OLDINI OLISH**

Annotatsiya: maqolada shahar ichi transport oqimining harakatchanligi, zichligi va chorrahalardagi tirbandliklar to'g'risida ma'lumotlar tahlili va o'tkazilgan tadqiqot natijalari keltirilgan. Bunda Farg'ona halqa yo'lida I.Karimov va Kosonsoy ko'chalari bilan kesishgan chorrahalardagi tirbandlikni oldini olish bo'yicha natijalar va xulosalar qilingan.

Kalit so'zlar: chorraha, transport vositasi, tirbandlik, transport oqimi, zichligi

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**PREVENTION OF TRAFFIC AT THE INTERSECTION WITH
I.KARIMOV AND KOSONSOY STREETS ON FERGONA RING ROAD**

Abstract. The article provides an analysis of data on traffic, density and congestion at intersections, as well as the results of research. The results and conclusions on the prevention of traffic jams at the intersection of I.Karimov and Kosonsoy streets on the Fergana ring road were made.

Keywords: intersection, vehicle, congestion, traffic flow, density.

Hozirgi kundagi shaharlarda yuzaga kelayotgan katta muammolardan biri transport tirbandliklaridir. Aholi sonining jadallik bilan ortib borishi avtomobil transportiga bo'lgan talabni ham oshib borishiga olib keldi. Shahar infrastrukturasi mukammal rajalashtirilganligi, shahar yo'l-qurilish loyihasini yaxshi tashkil etilganligi transport oqimining maqbul bo'lishini ta'minlaydi. Bizga ma'lumki transport oqimi bu vaqt birligi ichida ko'chani ko'ndalang qismidan o'tayotgan avtomobillar soniga aytiladi [1,2,3,4]. Transport oqimini maqbullashtirish shahardagi yo'lovchi va avtomobillar harakati xavfsizligini ta'minlashda muhim rol o'ynaydi.

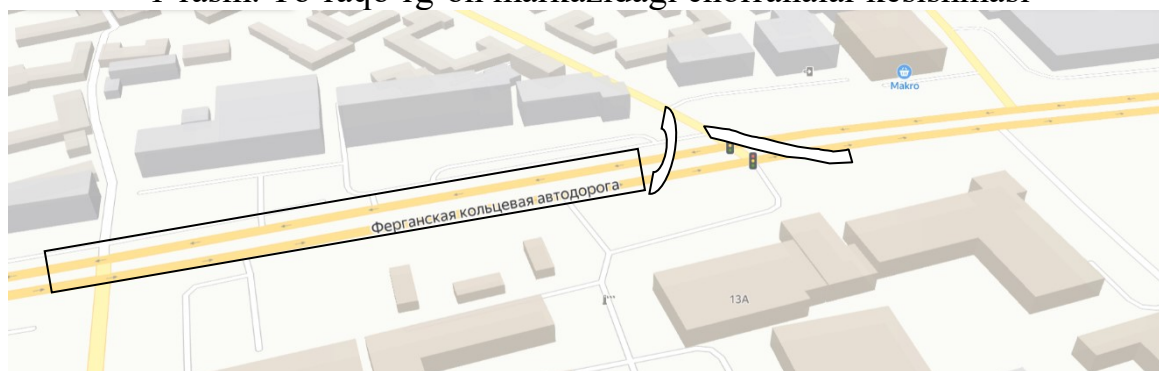
Shahar ichi marshrutlarining boshqa yo'nalishlardan keskin farq qiladigan belgilaridan biri – bu yo'lovchilar oqimining kunning soatlari va yo'nalish uzunligi bo'yicha notekis taqsimlanishi koeffitsiyentining kattaligidir. «Tig'iz» soatlarda yo'nalishdagi mavjud avtobuslar sonining zarur bo'lgan miqdordan kamligi, avtobuslar sig'imidan foydalanish koeffitsiyentining birdan ortib ketishi

sababli, avtobusga chiqish va tushishda hamda unda harakatlanishda juda ko'p noqulayliklar tug'diradi. Ba'zi yo'lovchilar boshqa transportlardan foydalanishga majbur bo'ladilar [1,2,4,5,6,7,8].

Ushbu masalaning yechimini topish uchun yo'ning o'tkazuvchanligi maqbul bo'lishi talab etiladi. Vaqt birligi ichida yo'ning ma'lum kesimidan o'tkazishi mumkin bo'lgan avtomobillar soniga yo'ning o'tkazuvchanligi deyiladi. U avt/soatda yoki avt/sutkada aniqlanadi.

Metod va usullar. Tadqiqotlar kuzatish, tahlil qilish usuli bilan o'tkazildi. To'raqo'rg'on tumani markazidan o'tgan Farg'ona halqa yo'li hamda O'zbekiston ko'chalari bilan kesishgan chorrahalarda tirbandliklarni bartaraf qilish maqsadida kuzatuv o'tkazilib o'rganildi (1-rasm). Tadqiqotning dastlabki bosqichida transport oqimini ko'chani ikki tomonidagi holat haftaning uch kuni uchun o'rganildi. Olingan natijalar tahlil qilinib tavsiyalar ishlab chiqildi. O'rganish va kuzatuvlar asosan kunning eng tig'iz va transport oqimi ko'p deb hisoblangan vaqtlar uchun amalga oshirildi. Bunda yo'ning qarama-qarshi tomonlari alohida kuzatildi va hisobga olindi bunda rasmda belgilangan joylarni alohida qo'shimcha ikki qatorli yo'laklar qoshilishi va harakatdagi yo'nali9shli taxsilar uchun bektalar yo'ning qatnov qismidan olib tashlansin O'zbekiston kochasiga kirish uchun alohida qo'shimcha karman yo'lak ochilishi O'zbekiston kochasiga burilib ketuvchi avtomobillarni svetaforda toqtab qolishini oldini oladi natijada yo'l tezroq bo'shaydi O'zbekiston kochasidan chiquvchi avtomobillarni esa shaxar petak boshlanish joyigacha xam xuddi shundan chizmadagi kabi karman yo'lak ochish lozim va yo'nali9shli taksilarni "ZILOL" market va SPC o'quv markazi ro'parasidagi bosh turgan joyga odam chiqarib tushiradigan yo'lakga o'tkazilishi hozirgi muammolarni qisman bartaraf qiladi [9,10,11].

1-rasm. To'raqo'rg'on markazidagi chorrahalar kesishmasi



Nazariy tadqiqotlar. Harakat tezligi va harakatni tashkil etish yo'ning o'tkazuvchanligiga ko'p jihatdan bog'liq. Avtomobil harakatlanadigan yo'lining maksimal nazariy o'tkazuvchanligi quyidagi empirik ifoda orqali aniqlanadi [1,6]

$$P = \frac{1200V}{L_d}, \text{ avt/soat} = 1200 \cdot 40 / 9 = 5333,3(1)$$

bunda V – polosada harakatlanayotgan avtomobilning tezligi, km/soat;

L_d – avtomobilning dinamik gabariti, m.

Yo‘lning transport o‘tkazuvchanligi imkoniyatini hisoblash qatnov qismining imkoniyatlaridan to‘liq foydalangan holda, qo‘shni bo‘lakka o‘tish mumkin bo‘lmagan shartga asoslanib bajariladi. Bunday sharoitda dinamik gabarit L_d ning qiymatini quyidagi formula yordamida aniqlanadi [1,9].

$$L_d = l_a + l_t + S_t + l_x = 5+1+2+1=9 \text{ m}(2)$$

bu yerda: l_a – avtomobilning statik uzunligi (5 metrga teng deb olinadi); l_t – haydovchining reaksiya vaqtida o‘tadigan masofasi, $l_t = 1$ [4]; S_t – avtomobilning tormoz yo‘li, ($S_t = l''_t - l'_t$; l'_t – oldindagi avtomobilning tormoz yo‘li, l''_t – orqadagi avtomobilning tormoz yo‘li); l_x – xavfsizlik masofasi (2 metrga teng deb olinadi); d – xavfsizlik oralig‘i.

Haydovchining reaksiya vaqtida o‘tadigan masofasi Farg‘ona halqa yo‘lida I.Karimov va Kosonsoy ko‘chalari bilan kesishgan chorrahalarda tirband bo‘lganligi bois $l_t = 1,5$ metrga teng deb olindi. Avtomobillar o‘rtasidagi oraliq, haydovchi ishining tig‘izligi va uning reaksiya vaqti o‘zaro bog‘liq. Avtomobillar oralig‘i qanchalik kichik bo‘lsa haydovchi ishining tig‘izligi shunchalik yuqori bo‘ladi [12,13,14].

Yo‘lning o‘tkazuvchanligi asosiy hisobiy ko‘rsatkich bo‘lib, u yo‘lning holatiga va harakatni tashkil etishning darajasiga bog‘liq. Yo‘lning yuklanganlik darajasini quyidagicha baholash mumkin

$$Z=N/P; =3727/3809,5=0,98(3)$$

bunda P – yo‘lning o‘tkazuvchanligi, avt/soat;


N – harakat miqdori, avt/soat.

Harakat miqdorining qiymatini yo‘lning qatnov qismi chetida turib aniqlangan tadqiqot natijalarining kunlik o‘rtacha qiymatidan foydalanamiz. Olingan natijalar 1-jadvalda keltirilgan. (3) ifodadagi N ning qiymatini yo‘lning o‘rganilgan qatnov qismidagi oqim eng tig‘iz va zich payt uchun olindi.

1-jadval. To‘raqo‘rg‘on markazidagi chorrahalar kesishmasida avtomobil oqimining miqdori (avt/soat)

Hafta kunlari \ Vaqt	Vaqt				Kunlik o‘rtacha
	8.00-9.00	12.00-13.00	15.30-16.30	17.30-18.30	
Dushanba	2350	2647	1919	1864	2195
Seshanba	2464	2864	2198	2247	2443
Chorshanba	2827	3727	2600	3278	3108
Payshanba	2557	3215	2457	2895	2781

* izoh – tadqiqot-kuzatuv ishlari 2021 yilning may iyun oyi oralig‘ida olingan

 Kunning eng tigiz va zich holatlari shu vaqt oralig‘ida hatto 40 minutlab qolibxam ketadi

Fargʻona halqa yoʻli Toʻraqoʻrgʻon markazidan oʻtgan yoʻlning yuklanganlik darajasini $Z=0,98$ ekanligi aniqlandi.

Yoʻlning yuklanganligi darajasini baholash quyidagi meʼyorlarga nisbatan belgilanadi: Agarda $Z \leq 0,2$ transport oqimi erkin, $Z=0,2-0,45$ transport oqimi qisman bogʻlangan oqim, $Z=0,45-0,7$ bogʻlangan oqim, $Z=0,7-1,0$ toʻyingan oqim yoki zich oqim deyiladi [13,14,15].

Soha olimlarining koʻp yillik ilmiy-tadqiqotlar natijasiga koʻra, yoʻlning yuklanganlik darajasining optimal qiymati shahar tashqarisidagi yoʻllar uchun $0,45-0,55$ ekanligi aniqlangan. Har xil yoʻl sharoitlarida harakatni tashkil etishda yuklanganlik darajasi koʻrsatkichlariga asosan ish yuritiladi.

Natijalar. Haftaning boshlanishida toʻrt kun va har kuni uch mahalgi kuzatuvlar soat 8.00–9.00 gacha boʻlgan vaqt oraligʻida harakatdagi avtomobillar soni aniqlandi (1-jadval). Oʻrganish natijalariga koʻra, dushanba kuni ertalabki soat 8:30–09:00 gacha boʻlgan vaqt oraligʻida 2350 tagacha avtomobil, soat 12:00–13:00 oraligʻida 2647 ta, 15:30–18:30 gacha boʻlgan vaqtlarda esa 3783 tagacha avtomobil qatnovi kuzatildi. Qolgan holatlarda ham transport oqimi kunning eng tigʻiz deb hisoblangan vaqtlari uchun oʻrganildi. Bunda qarama-qarshi yoʻnalishdagi va barcha avtomobillar turini yengil avtomobil deb hisobga olindi.

Jadvaldan koʻrinib turibdiki, seshanba kuni soat 8.00–9.00 gacha boʻlgan vaqt oraligʻida avtomobillar soni 2464 tani tashkil etdi. 12.00–13.00 gacha boʻlgan vaqt davomida esa 2864 ta avtomobilni, kechki 17.30–18.30 gacha boʻlgan vaqt oraligʻida esa 2198 ta avtomobil harakatlandi.

Muhokama. Oʻtkazilgan tadqiqotlarning tahlil qilish shuni koʻrsatdiki, bitta yoʻlakning maksimal oʻtkazuvchanligi soatiga 20–40 km tezlikda 1100–1600 avtomobil/soatni tashkil qiladi. Harakat tezligining oshishi bilan yoʻlning oʻtkazuvchanligi sekin kamayadi [16,17,18,19].

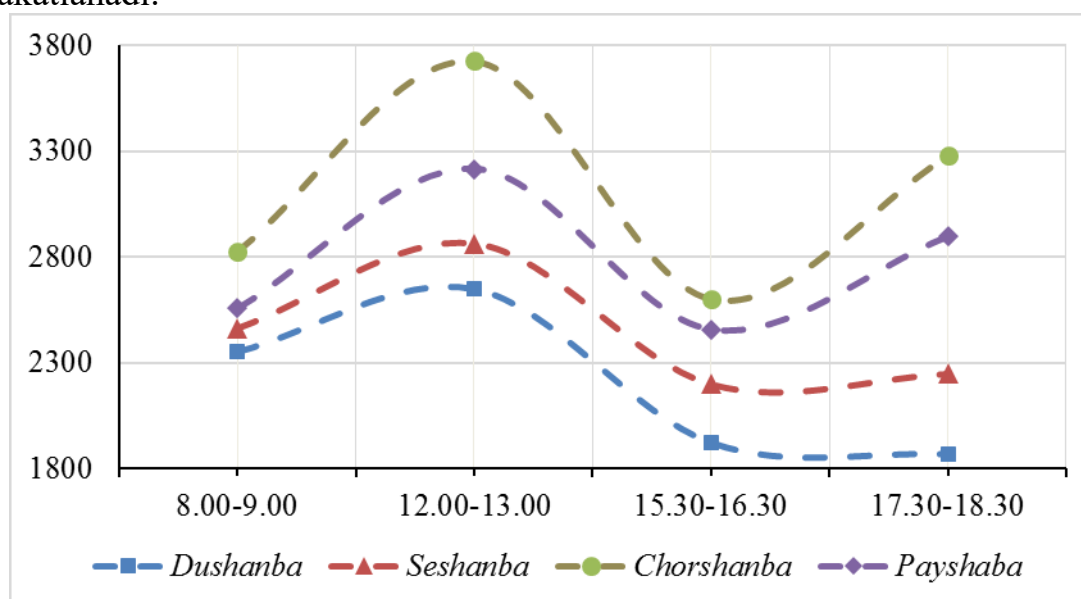
Hisoblashda maksimal oʻtkazuvchanligi P_{max} ning quyidagi qiymatlaridan foydalanish tavsiya etiladi:

- ikki qatorli yoʻllarda – 2000 ta avt / soat (har ikki yoʻnalishda);
- uch qatorli yoʻllarda – 4000 ta avt / soat (har ikki yoʻnalishda);
- Toʻrt qatorli va undan koʻp yoʻllarda – 1250 avt/soat eng chetki oʻng qator uchun, 1800 avt/soat eng chetki chap qator uchun, 1600 avt/soat oʻrta qator uchun (bitta boʻlakda).

Keltirilgan qiymatlar maksimal oʻtkazuvchanlik koʻrsatilgan yoʻllar uchun oʻrtacha hisoblanadi. Baʼzi hollarda, ikkita harakatlanish boʻlagi boʻlgan yoʻllarda soatiga 2800 ta avtomobil tezligi qayd etilgan. Yoʻlning maksimal yuk tashuvchanligini pasayishining asosiy sababi qulay shart-sharoitlarga ega yoʻl boʻlagi uzunligining yetarli emasligidir [1].

Olingan natijalar (1-jadval) asosida hosil qilingan grafik (2-rasm) tahlilidan maʼlum boʻldiki, Fargʻona halqa yoʻlidagi I.Karimov hamda Kosonsoy koʻchalari bilan kesishgan chorrahalarda transport harakati oqimining yoʻlning oʻtkazuvchanligiga boʻliqligi oʻzgaruvchan ekan. Bunda haftaning dushanba

kunidan payshanba kunigacha bo‘lgan vaqtda transport oqimining oshganligini, birinchi va ikkinchi kunlarning boshlanishidan kechga qadar avval oshib so‘ng esa kamayishi kuzatildi. Uchinchi va to‘rtinchi kunlarda esa oqim kechga qadar notekis o‘zgarganligini ko‘rish mumkin. Buni ertalabki harakatni va ortga qaytishda Farg‘ona halqa yo‘lini Toshkent-Namangan yo‘nalishida joylashganligi hamda shaharlararo va tumanlararo bog‘lovchi yo‘l ekanligi bois ertalabki paytda Namangan shahridan chiqib ushbu yo‘ldan o‘tishiga to‘g‘ri kelishi bilan izohlash mumkin. Bundan tashqari Namangan sharida joylashgan korxonalar va tashkilotlarda ishlovchilarning aksariyati ushbu yo‘nalishda harakatlanadi.



2-rasm. To‘raqo‘rg‘on markazidagi chorrahalar kesishmasi

Demak, hafta boshida ertalabki transport oqimining jadalligi keskin oshib kechga tomon kamaydi. Keyingi kunlarda aksincha, oqim kechga tomon oshdi.

Yuqoridagi tahlillardan kelib chiqadiki, ushbu yo‘ldagi transport qatnovi maqbulligini ta‘minlash uchun yo‘lning qatnov qismini kengaytirish lozim. Lekin bu chorraha oldodagi ko‘priknı qaytadan kengaytirib qurishni talab etadi. Boshqa usulda esa Farg‘ona halqa yo‘lini ko‘priknı ustidan ko‘tarma yo‘l qurish orqali o‘tkazish mahalliy transport oqimi bilan aralashmay shahar yoki shaharlararo yo‘ldagi oqimning tirbandligini kamaytiradi. Bu bilan yo‘lning transport-piyoda xavfsizligini ham ta‘minlash imkonı yaratiladi.

Farg‘ona halqa yo‘lida To‘raqo‘rg‘on-Namangan, To‘raqo‘rg‘on-Yesin, To‘raqo‘rg‘on-Chust yo‘nalishlarida harakatlanuvchi marshrutlar qatnovi mavjudligini hisobga olinsa transport oqimining tirbandligini oldini olish maqsadida yuqorida tavsiya etilgan yo‘l konstruksiyasilarini loyihalash va qurish mahalliy avtomobillarning asosiy yo‘nalishdagi avtomobillarga halal bermasligi, asosiy yo‘lga chiquvchi avtomobillar esa Oqtosh-To‘raqo‘rg‘on yo‘nalishi bilan asosiy yo‘lga o‘tib olishlariga imkon yaratiladi.

Farg‘ona halqa yo‘lidagi I.Karimov hamda Kosonsoy ko‘chalari bilan kesishgan chorrahalarda transport harakati oqimi haftaning dushanba kundan payshanba kunigacha bo‘lgan vaqtda oshdi, birinchi va ikkinchi kunlarning boshlanishidan kechga qadar avval oshib so‘ng esa kamayishi kuzatildi. Uchinchi va to‘rtinchi kunlarda esa oqim kechga qadar notekis oshishi ma‘lum bo‘ldi. Hafta boshida bir kundagi ertalabki transport oqimining jadalligi keskin oshib kechga tomon kamaydi. Keyingi kunlarda aksincha, oqim kechga tomon oshishi kuzatildi.

Farg‘ona halqa yo‘lidagi transport qatnovi maqbulligini ta‘minlash uchun yo‘lining qatnov qismini kengaytirish yoki Farg‘ona halqa yo‘lini ko‘prik ustidan ko‘tarma yo‘l qurish orqali o‘tkazish mahalliy transport oqimi bilan aralashtirmay shahar yoki shaharlararo yo‘ldagi oqimning tirbandligini kamaytiradi. Bu yo‘lining transport-piyoda xavfsizligini ham ta‘minlash imkoniyatini yaratadi.

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GPSNING INTELLEKTUAL TRANSPORT TIZIMLARIDA Q'LLANILISH AMALIY AHAMIYATI

Annotatsiya. Maqolada intellektual transport tizimlari, ularning o`rni, yuk va yengil avtomobillaridan foydalanishda GPS tizimlarini qo`llash va shu orqali ulardan foydalanish samaradorligini oshirish, harakat davomida yuk va yengil avtomobillar sarflayotgan yonilg`i miqdorini monitoring qilish usullari bitta aniq korxonada misolida keltirilgan.

Kalit so`zlar: Intellektual transport tizimlari, GPS, sun`iy yo`ldosh signallari, yonilg`i tejankorlik, aqlli yuk mashinalari.

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PRACTICAL IMPORTANCE OF GPS IN USING IN INTELLIGENT TRANSPORT SYSTEMS

Annotation. The article presents intelligent transport systems, their place, the use of GPS systems in trucks and cars, and thereby increasing the efficiency of their use, the methods of monitoring the amount of fuel consumed by trucks and cars during movement, as an example of one specific enterprise.

Keywords: Intelligent transport systems, GPS, satellite signals, fuel economy, smart trucks.

Hozirgi kunda tez-tez GPS degan atamaga duch kelmoqdamiz va bu tushuncha nafaqat geodeziya sohasida, balki mobil telefonlarda ham keng ravishda qo`llanilmoqda. GPS global pozitsion tizim degan ma`noni anglatadi. Bu tizim Yerga doimiy ravishda elektromagnit signallarni yuborib turuvchi sun`iy yo`ldoshlar tizimidan tashkil topgan. Bunday signallarni qabul qilish uchun Yerdan ham maxsus qabul qilib oluvchi priyomnik (qabul qilgich) lar va qurilmalar bo`ladi. Bunday qurilmalarning afzalligi shundaki, sun`iy yo`ldoshdan yer yuzidagi obyektgacha bo`lgan masofa yuqori aniqlikda (bir necha 10 km dan bir

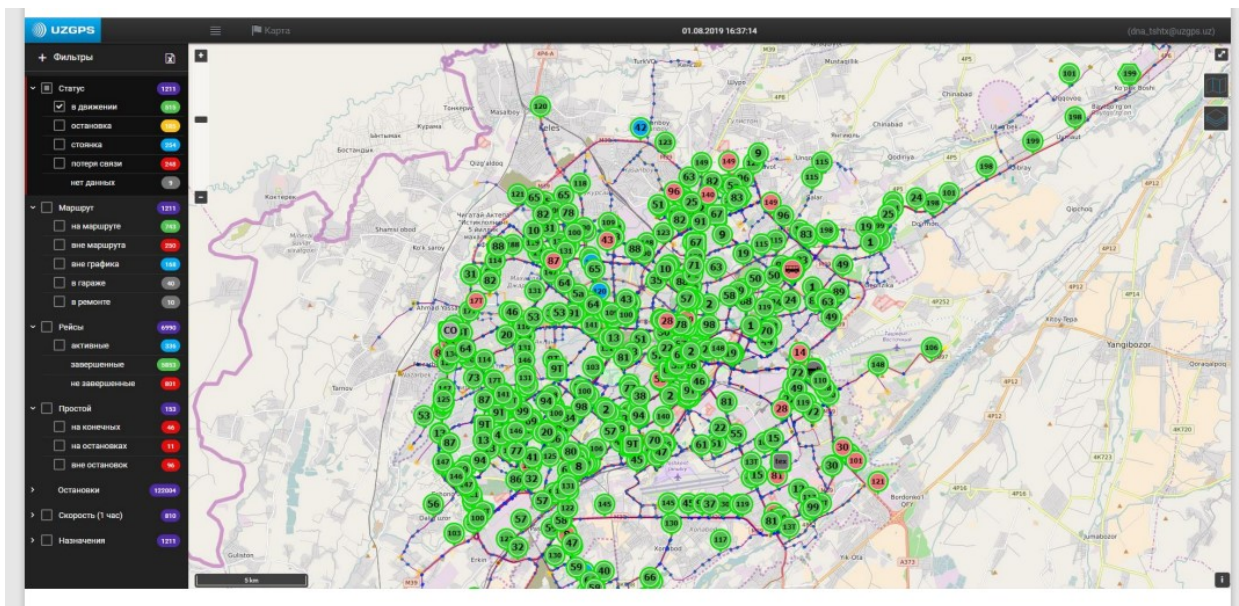
necha millimetrgacha) o'lanadi va natijada bunday aniqlikdagi hisob kitoblardan olingan obyektning koordinatasi yoki joylashgan joyi ham yuqori aniqlikda o'lanadi. GPS nafaqat yerda, balki dengiz va havo navigatsiyasida ham qo'llaniladi. GPS barcha joylarda qo'llanilishi mumkin, lekin GPS signallar olmaydigan joylar (yerto'la, shaxta, g'orlar)da qo'llab bo'lmaydi. GPSning qo'llanilish sohalari kengdir. Bunday sohalar jumlasiga harakatlanuvchi transport bo'lmish xususiy avtomobil, yuk avtomobillari, kema va samolyotlar navigatsiyasi kiradi.

GPS yo'ldoshining signallari asosida xususiy turgan joyni, harakatlanishning tezligi va yo'nalishini hisoblaydi; - O'xshash yoki raqamli kirishlar orqali tashqi datchiklarni ulaydi; - Ketma – ketligdagi porta yoki yanada ixtisoslashgan CAN interfeysi bo'lgan bort uskunalarda ma'lumotlarni solishtiradi; - Aloqada bo'lgan vaqtda ma'lumotlarning ba'zi hajmini ichki xotirasida saqlaydi; - Olingan ma'lumotlarni, ular ishlanadigan serverga uzatib beradi; Yer yo'ldoshi yordamida monitoring qilishda quyidagilarni nazorat qilish mumkin: - Harakatlanish (siljish) marshruti; - Harakatlanish va marshrut grafiklariga rioya qilinishi; - Ish vaqti hamda haydovchi va operatorlar ish rejimlari va grafiklarga rioya qilish, transport vositalaridan foydalanish samaradorligi; - Yonilg'idan foydalanish sarflash (sarflash); - Transportdan foydalanish, uning o'tgan yo'li va harakatlanish tezligi; - Ishlash zonalari, yani "geo zone" sistemasidan foydalanib, muayyan transport vositasiga harakatlanishga ruxsat berilgan hududni oldindan aniqlash mumkin. Quyidagilarni tahlil qilish mumkin: - Tanlangan vaqt oralig'ida ma'lum transport vositasidan foydalanishning har xil parametrlari va shartlari shunday qilib, ham muayyan transport sistemasidan, ham transport parkining hammasidan samarali foydalanishni tahlil qilish mumkin; - Transport vositalari parkining ishi; - Transport haydovchilari ishining samaradorligi; - Transport harakatlanish marshrutining optimalligi va samaradorligi.

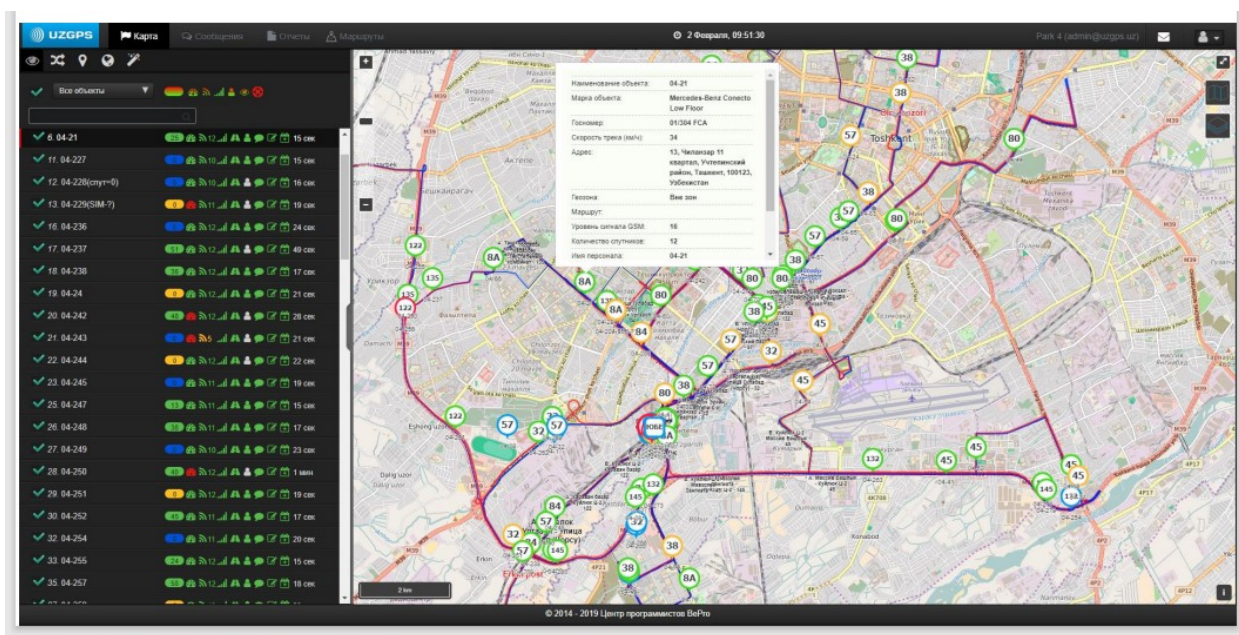
Harakatlanuvchi ob'ektlarni monitoring qilish tizimi GPS/GLONASS trekeri bilan jihozlangan ob'ektning joylashuvini real vaqt rejimida aniqlash, uning harakati haqida ma'lumot olish, yoqilg'i sarfini kuzatish, shuningdek, ishlamay qolish va noto'g'ri foydalanish holatlarini aniqlash imkonini beruvchi zamonaviy yechimdir.

YUK TASHISH VA LOGISTIKA

✓ Harakat ssiklining oshishi, transportning to'xtab qolish muddatini qisqartirish; ✓ Ortiqcha masofani kamaytirish va isroflarning oldini olish orqali avtomobil parki bo'ylab yoqilg'i va yoqilg'i sarfini kamaytirish; ✓ Avtotransport vositalarining xizmat muddatini oshirish; ✓ Haydovchilar va dispetcherlar intizomini oshirish; ✓ Yuk tashish xavfsizligi.



1-rasm. Dispatcherlar uchun boshqaruv paneli



2-rasm. Tizim interfeysi - monitoringi

TIZIM INTERFEYSI - Hisobot tizimi u yoki bu sabablarga ko'ra serverga kechikib kelgan ma'lumotlarni retrospektiv tahlil qilish asosida qurilgan. Bu BARCHA treklarni istisnosiz qayta ishlash imkonini beradi.

Отчет по ежедневному пробегу
Информация по ежедневному пробегу и скорости движения

Объект: 04-18

Период отчета: 01.01.2019 00:00 - 01.02.2019 00:00

Максимальная скорость: 86 км/ч
Суммарный пробег: 1609,14 км
Моточасы: 93:40:44
В движении: 58:55:37
Холостой ход: 34:45:07

Дата	Первое сообщение	Последнее сообщение	Зажигание включено		Моточасы		Пробег, км	Пробег с учётом высоты, км	Максимальная скорость, км/ч	
			Первое сообщение	Последнее сообщение	Холостой ход	В движении				
25.01.2019	18:03:46	22:15:09	18:03:46	21:28:02	01:36:31	01:46:55	63:23:26	32,29	32,31	86
26.01.2019	09:04:30	23:57:01	09:04:30	23:57:01	04:24:50	08:18:06	12:42:56	190,17	190,51	80
27.01.2019	06:44:39	21:29:02	06:44:39	20:21:58	05:27:14	06:10:05	14:37:19	267,42	267,81	83
28.01.2019	02:43:18	21:51:38	02:43:18	20:42:52	05:43:07	09:35:49	15:18:56	270,14	270,85	86
29.01.2019	08:04:54	23:16:42	08:04:55	21:57:40	06:06:25	10:20:16	16:26:41	295,41	295,77	86
30.01.2019	05:15:38	23:09:48	05:15:48	21:49:47	06:13:50	10:12:12	16:26:02	288,95	289,28	86
31.01.2019	05:52:43	22:12:32	05:52:48	20:46:29	05:13:10	09:32:14	14:45:24	264,75	265,45	75

02.02.2019 10:07:58 Рейт 4

3-rasm. Obyektlardan kunlik hisobot olish.

GPS monitoringi tizimi

Haqiqiy vaqt rejimidagi monitoring – bu avtopark samaradorligini oshirishning zamonaviy usuli. O'z ixtiyorida transport aktivlariga ega bo'lgan, ammo monitoring tizimidan foydalanmaydigan kompaniya rahbarlarining aksariyati, qoida tariqasida, transport vositalaridan oqilona foydalanish, yoqilg'ini o'g'irlash va xodimlarning mehnat majburiyatlarini vijdotsiz bajarishi bilan bog'liq bo'lgan ko'plab qiyinchiliklarga duch kelishadi.

GPS bilan transport va mobil xodimlarni onlayn GPS monitoringi nafaqat xarajatlaringizni optimallashtiradi, balki haydovchilar intizomini ham oshiradi. Tizim an'anaviy transportdan tortib uy hayvonlarigacha bo'lgan turli xil ob'ektlarni boshqarish imkonini beradi.

GPS / GLONASS monitoring tizimi bilan haqiqiy vaqt rejimidagi monitoring quyidagilarni o'z ichiga oladi:

- ob'ektlarning joylashishini va ularning xaritada harakatlarini kuzatish;
- harakat tezligi, yoqilg'i darajasi, harorat va boshqalar kabi ob'ektlarning ma'lum parametrlaridagi o'zgarishlarni kuzatish;
- ob'ektlarni boshqarish (buyruqlarni bajarish, vazifalarni avtomatik bajarish) va haydovchilar (SMS, qo'ng'iroqlar, uchrashuvlar);
- ob'ekt faoliyati to'g'risida bildirishnomalarni olish;
- berilgan yo'nalish bo'yicha ob'ektning harakatini kuzatish;
- ob'ektdan olingan ma'lumotlarni turli xil hisobotlarda (jadvallar, grafiklar) talqin qilish va boshqalar.

Yuqorida ko'rsatilgan afzalliklaridan tashqari GPS tizimining ba'zi kamchiliklari ham mavjud. Misol tariqasida GPS tizimining narxini keltirib o'tishimiz mumkin. Hozirgi kunda 1 dona FMB 920 markali GPS qurilmasining narxi o'rtacha 90\$ ni tashkil qiladi. 1 dona FMB 125 markali GPS qurilmasining narxi esa o'rtacha 120\$ ni tashkil qiladi. Bu ko'pgina korxonalariga o'z

avtomobillarini GPS qurilmasi bilan ta'minlashda muammolar yuzaga keltiradi. Bundan tashqari, avtomobillar tunellar, yerto'lalarda harakatlanganda GPS qurilmasi orqali aniq ma'lumotlar uzatishda muammolar yuzaga kelishi mumkin. Bu esa yuqori samaradorlikka o'z ta'sirini o'tkazadi.

GPS qurilmasining amaliy ahamiyatini "AVTOGIGANT DANGARA" MChJ misolida ham ko'rishimiz mumkin. Bu korxonada jami 10 ta avtomobil mavjud bo'lib, shulardan 7 tasi yengil(Matiz, Nexia, 3ta Damas, 2 ta Toyota), 2 tasi tirkamali yuk avtomobillari(kamaz va traktor) va 1 ta ISUZI avtobusi hisoblanadi. Bu avtomobillarning barchasiga 2023-yil dekabr oyida FMB 920 markali GPS qurilmasi o'rnatilgan.

Tahlillar shuni ko'rsatadiki, joriy yilning boshlang'ich 4 oyi davomida "AVTOGIGANT DANGARA" MChJ korxonasidagi yengil avtomobillarga qo'yilgan FMB 920 markali GPS qurilmasi qo'yilishi natijasida transport vositalari o'tgan yilning shu davriga nisbatan qariyb 14744 km masofa kamroq bosib o'tgan. Bu esa deyarli 1356.5 litr(m³) yonilg'idan tejash demakdir. Bu esa korxonada budjetiga taxminan 8 139 000 so'm foyda keltirgan.

"AVTOGIGANT DANGARA" MChJ avtoulavlarga 2024-yil 4-oyi mobaynidabenzin, dizel yonilg'isi va Metan gazlar sarflanganligi

TAHLILI

1. Yengil avtomobillar (100 kmga taxminan 9.2 litr benzin, propan yoki metan gazi sarflaydi)						
Oylar	2023-yil		2024-yil		2023 y.ga yurgan masofasi farqi ± km.	2023 y. ga nisbatan yonilg'i sarfi farqi ± litr
	Bosib o'tgan km.	Yonilg'i sarfi litr	Bosib o'tgan km.	Yonilg'i sarfi litr		
Yanvar	51215	4711,78	48008	4416,736	-3207	-295,044
Fevral	48416	4454,272	45905	4223,26	-2511	-231,012
Mart	49901	4590,892	46812	4306,704	-3089	-284,188
Aprel	49920	4592,64	43983	4046,436	-5937	-546,204
Jami oylik	4-199452	18349,584	184708	16993,136	-14744	-1356,448
2. KAMAZ avtoulovi(100 km.ga 29,3 litr dizel yonilg'isi sarflaydi)						
Oylar	2023-yil		2024-yil		2023 y.ga yurgan masofasi farqi ± km.	2023 y. ga nisbatan sarfi farqi ± litr
	Bosib o'tgan km.	Sarfi litr	Bosib o'tgan km.	sarfi litr		
Yanvar	9196	313,86	8966	306,01	-230	-8
Fevral	10315	352,05	10103	344,81	-212	-7
Mart	9700	331,06	9467	323,11	-233	-8
Aprel	10190	347,78	10002	341,37	-188	-6

Jami oylik	4-	39401	1345	38538	1315	-863	-29
3. ISUZI AVTOBUS avtoullovi(100 km.ga 18 litr dizel yonilg'isi sarflaydi)							
Oylar	2023-yil		2024-yil		2023 y.ga yurgan masofasi farki ± km.	2023 y. ga nisbatan sarfi farki ± litr	
	Bosib o'tgan km.	Sarfi litr	Bosib o'tgan km.	sarfi litr			
Yanvar	7784	1395	6745	1216	-1039	-179	
Fevral	8394	1512	6670	1202	-1724	-310	
Mart	6251	1126	6365	1126	114	0	
April	7369	1326	6539	1177	-830	-149	
Jami oylik	4-	29798	5359	26319	4721	-3479	-638

Bu tahlildan yengil avtomobillarga qo'yilgan FMB 920 markali GPS qurilmasi taxminan 5 oyda o'ziga sarflangan pulni oqlashini ko'rishimiz mumkin. Kamaz avtoullovining tahlili shuni ko'rsatadiki, o'tgan yilning boshlang'ich 4 oyiga nisbatan bu yil 863 km kamroq bosib o'tilgan. Bu esa 29 litr dizel yonilg'isini tejash demakdir. Kamaz avtoulloviga qo'yilgan FMB 920 markali GPS qurilmasi taxminan 1 yilda o'ziga sarflangan pulni oqlashini ko'rishimiz mumkin. ISUZI avtobusining tahlili shuni ko'rsatadiki, o'tgan yilning boshlang'ich 4 oyiga nisbatan bu yil 3479 km kamroq bosib o'tilgan. Bu esa 638 litr dizel yonilg'isini tejash demakdir. Kamaz avtoulloviga qo'yilgan FMB 920 markali GPS qurilmasi taxminan 2,5 oyda o'ziga sarflangan pulni oqlashini ko'rishimiz mumkin.

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GURLAN TUMANI AHOLISI SALOMATLIGI VA TIBBIY XIZMAT KO'RSATISH TIZIMINING GEOGRAFIK XUSUSIYATLARI

Annotatsiya. Maqolada Xorazm viloyati Gurlan tumani aholi salomatligi va tibbiy xizmat ko'rsatish tarmoqlarining hududiy-geografik xususiyatlari o'rganilgan va tahlil qilingan.

Kalit so'zlar: ambulatoriya-poliklinika, dorixona, epidemiologik vaziyat, ijtimoiy inratuzilma, ichimlik suvi, profilaktika, sanitar-gigiyenik sharoit, shifoxona muassasasi, tibbiy yordam, tibbiy xizmat.

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GEOGRAPHICAL CHARACTERISTICS OF THE HEALTH AND MEDICAL CARE SYSTEM OF THE POPULATION OF GURLAN DISTRICT

Abstract. In the article, the regional and geographical features of public health and medical service networks of Gurlan district of Khorezm region are studied and analyzed.

Key words: ambulatory clinic, pharmacy, epidemiological situation, social infrastructure, drinking water, prevention, sanitary and hygienic conditions, hospital, medical aid, medical service.

Kirish. Sog'liqni saqlash tizimi davlatning aholi salomatligini muhofaza qilish masalalari bilan shug'ullanuvchi yetakchi tarmog'idir. U ijtimoiy sohalarning boshqalaridan farqli, aholining ijtimoiy ehtiyojlarini qondiradi, uning takror barpo bo'lishi va rivojlanishini ta'minlaydi. Sog'liqni saqlash tizimi mamlakat va uning hududlari miqyosida aholi o'rtasida kasalliklarni oldini olish va uni davolash, yuqori mehnat qobiliyatini va uzoq umr ko'rishni hamda, shu asosda, jamiyatni barqaror rivojlanishini ta'minlaydi.

Mamlakatimizni 2017-2021-yillarda rivojlantirishning beshta ustuvor yo'nalishi bo'yicha Harakatlar strategiyasida hamda O'zbekiston Respublikasi Prezidentining 2023 yil 11-sentyabrdagi PF-158-sonli "«O'zbekiston - 2030»

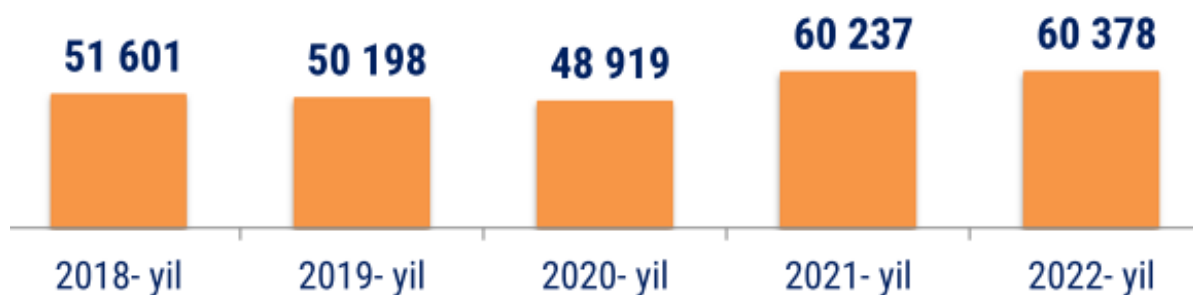
strategiyasi” Farmonini 1-ilovasi 1.2-bandida aholi salomatligi ko‘rsatkichlarini yaxshilash, oila salomatligini mustahkamlash, onalik va bolalikni muhofaza qilish, onalar va bolalarning sifatli tibbiy xizmatdan foydalanishni kengaytirish, ularga ixtisoslashtirilgan va yuqori texnologiyalarga asoslangan tibbiy yordam ko‘rsatish, chaqaloqlar va bolalar o‘limini kamaytirish bo‘yicha kompleks chora-tadbirlarni yanada keng amalga oshirishga katta e‘tibor qaratilgan.

Ishning maqsad va vazifalari: Gurlan tumani aholisi, salomatligi, tibbiy xizmat ko‘rsatish tarmoqlarining hududiy xususiyatlarining rivojlanishi va zamonaviy holati, aholi salomatligining birlamchi bo‘g‘ini – kichik hududlar tibbiy infratuzilmasi hududiy tashkil etilishi, uning aholi salomatligida aks etishi, hamda uni rivojlantirishning ijtimoiy geografik jihatlarini o‘rganish va tahlil qilish asnosida xulosa va takliflar ishlab chiqishdan iborat.

Asosiy qism: Aholining fiziologik ko‘rsatkichlari, salomatligi bevosita jamiyat taraqqiyotining, hududning ekologik sharoiti mahsulidir.

O‘zbekiston Respublikasida mustaqillikning dastlabki yillardanoq, aholi salomatligini yaxshilash, tibbiy xizmat ko‘rsatish muassasalar faoliyatini takomillashtirish masalalariga katta e‘tibor qaratildi. Ushbu boradagi chora-tadbirlar va amaliyotlar yildan-yilga chuqurlashtirilib, ko‘lami kengaytirilib borilmoqda. Bunga O‘zbekiston Respublikasi Prezidenti Sh.M. Mirziyoyevning 2018 yil 7 dekabrda “O‘zbekiston Respublikasi sog‘liqni saqlash tizimini tubdan takomillashtirish bo‘yicha kompleks chora-tadbirlar to‘g‘risida” gi PF-5590-son farmoyishi hamda u asosda amalga oshirilayotgan 2019 — 2025 yillarda O‘zbekiston Respublikasining sog‘liqni saqlash tizimini rivojlantirish konsepsiyasi bunga dalil bo‘la oladi.

Ammo, respublikamizning ayrim mintaqalarida shu jumladan viloyatimizda ekologik vaziyatning yomonlashuvi, aholi ijtimoiy ta‘minotida muammolar va bir qancha omillar ta‘sirida o‘lim ko‘rsatkichlari, ayniqsa bolalar o‘limi darajasini pasaytirishda erishilgan yutuqlarga qaramay kasalliklarga chalinish darajasi ortib borishi kuzatilmoqda.



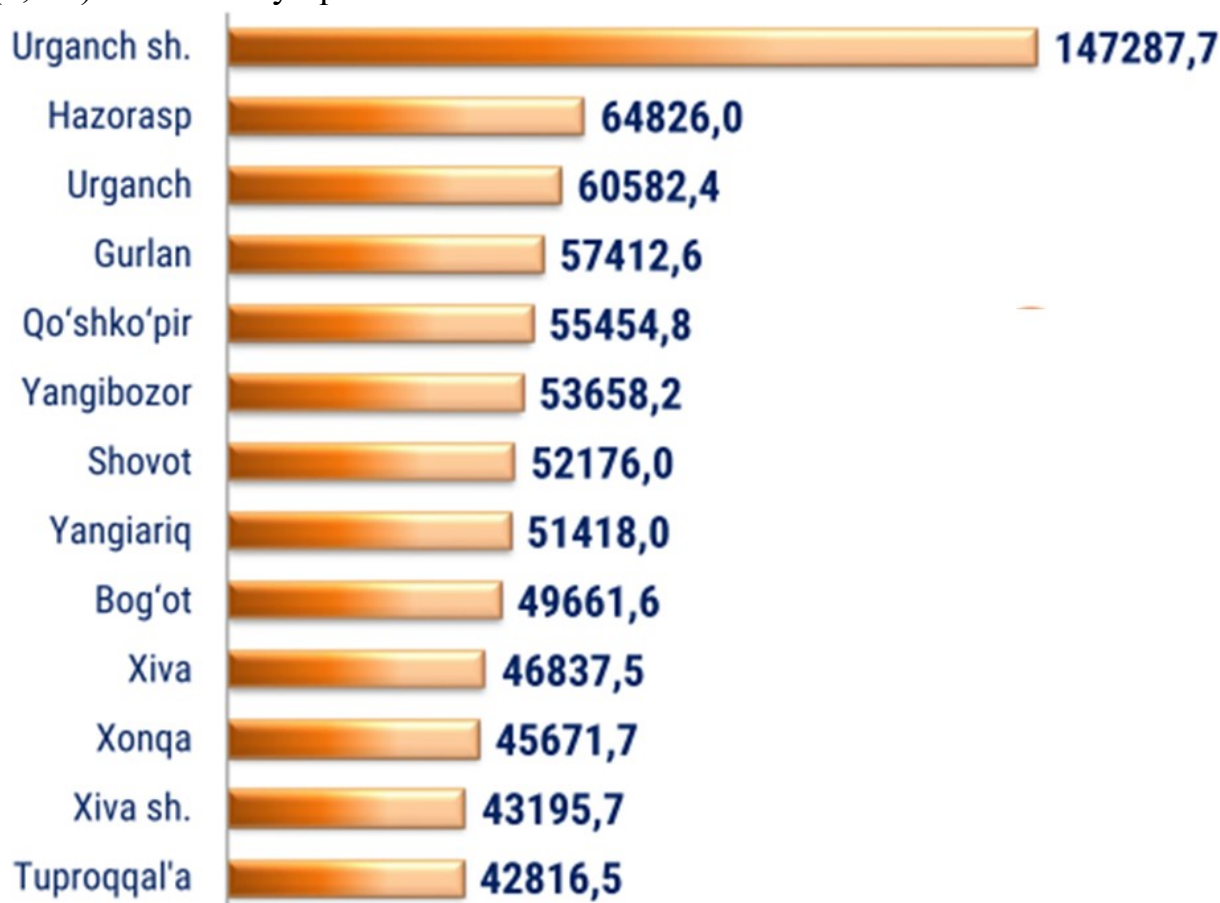
1-rasm. Xorazm viloyatida aholining birlamchi kasalliklarga chalinishi (100 000 aholiga nisbatan).

Manba: Xorazm viloyatida sog‘liqni saqlash sohasining asosiy statistik ko‘rsatkichlari (2022- yil yakuni bo‘yicha).

Yuqoridagi rasmdan ko‘rinib turibdiki, Xorazmda aholining birlamchi va umumiy kasallanishi hajmida nafas olish a‘zolari kasalliklari (NOAK) hamda

ovqat hazm qilish xastaliklari ko'pchilikni tashkil etadi. Masalan, 2022 yilda dastlabki marotaba kasallangan bemorlarning har 100000 kishiga 16,7 mingi NOAK, 13,4 mingi ovqat hazm qilish a'zolari kasalliklariga chalingan (1-rasm).

Shifo maskanlariga murojaat qilgan bemorlar bo'yicha keyingi asosiy tarkibni perinatal davrda ro'y bergan ayrim holatlar va homiladorlik, tug'ruq va tug'ruqdan keyingi davr asoratlari kasalliklari tashkil etadi, jarohatlanish, zaharlanishlar va ayrim tashqi sabablar bilan bog'liq asoratlarni ko'rsatkichlari (8,0%) ham ancha yuqoridir.



2-rasm. Shahar va tumanlar kesimida aholining birlamchi kasalliklarga chalinishi (100 000 aholiga nisbatan).

Manba: Xorazm viloyatida sog'liqni saqlash sohasining asosiy statistik ko'rsatkichlari (2022- yil yakuni bo'yicha).

Gurlan tumani aholisi salomatligi ko'rsatkichlari viloyatning boshqa hududlarinikiga taqqoslaganda ancha salbiy holatlar yaqqol ko'zga tashlanadi. Xususan, 2023 yilda, tuman har 100000 kishiga nisbatan birlamchi kasallanish darajasi bo'yicha viloyatda tuman va shaharlar o'rtasida Urganch shahri hamda Hazorasp va Urganch tumanlaridan keyin 4 – o'rinni (aholi soni bo'yicha 7-o'rinni egallaydi) egallagan (2-rasm).

Ta'kidlab o'tganimizdek, tumanda aholi o'rtasida kasallanishining umumiy miqdori ortib bormagani holda yuqumli va xavfli kasalliklarning ayrimlari oldingi yilga nisbatan ortgan (1-jadval). Masalan, 2022-2023 yillar oralig'ida umumiy

kasalanish hajmida, ulushi unchalik katta bo‘lmasa-da, davolash qiyin yoki iloji yo‘q bo‘lgan OITS - orttirilgan immunitet tanqisligi sindromi - 104,2, qandli diabet 104,0, oshqozon va ichak kasalliklari 105,0 foizga oshdi. Faqat o‘tkazilayotgan profilaktik tadbirlar samarasi o‘laroq, yuqumli, parazitar, qon va qon hosil qiluvchi a‘zolar xastaliklari ko‘payish sur‘ati turg‘unlashgan, shikastlanish va zaharlanishlar hajmi esa kamayib bormoqda.

1-jadval.

Kasalliklar va kasallanish darajasi

Kasallik nomi	Kasallanish (har 10 ming aholiga)		2022-2023 yillar oralig‘idagi o‘sish %
	2022 yilda	2023 yilda	
Yuqumli kasalliklar:	1490	1054	70,7
- OITS	48	50	104,2
- sariq	35	35	0,0
- qizamiq	1	5	500,0
- suvchechak	0	1	100,0
- boshqalar	1406	963	68,5
Yuqumli bo‘lmagan kasalliklar:	107506	106431	99,0
- qandli diabet	2605	2710	104,0
- yod taqsilligi	1181	1207	102,2
- oshqozon va ichak kasalliklari	1919	2025	105,5
Boshqalar	101801	100489	98,7

Manba: Xorazm viloyatida sog‘liqni saqlash sohasining asosiy statistik ko‘rsatkichlari (2022- yil yakuni bo‘yicha).

Tumanda aholi salomatligining yomonlashib borishiga aholi zichligi va ijtimoiy muammolarning murakkablashayotganligi ham sabab bo‘lmoqda. Sanitariya-epidemiologiya tadqiqotlari xulosalariga ko‘ra, hududda aholining zichligi 1 kv.km. ga 200 kishidan ortsa, makonda sanitariya va epidemiologiya sharoiti keskinlashadi. Shuningdek, aholi miqdori va zichligining ortib borishi tabiiy ravishda insonning fiziologik va psixologik holatiga o‘z ta‘sirini o‘tkazmasdan qo‘ymaydi. Tumanning asosiy qismi deyarli bir turdagi tabiat landshafti hamda xo‘jalik ixtisosligiga ega bo‘lsada, aholisi salomatligi ko‘rsatkichlari ma‘lum tafovutlarga ega.

Yuqumli kasalliklarga qarshi kurashish bo‘yicha kompleks profilaktika, epidemiyaga qarshi va sanitariya-gigiyena tadbirlarining joriy etilishi o‘ta xavfli yuqumli kasalliklar, poliomielit, difteriya, chaqaloqlar qoqsholi yuzaga kelishidan to‘liq himoya qilish imkonini berdi. Mahalliy kelib chiqishi mumkin bo‘lgan qizamiq va qizilcha (suvchechak)ning ommaviy tarqalishiga yo‘l qo‘yilmayapti.

Infeksion kasalliklar orasida sil kasalligi ancha xavfli bo'lib, u sil infeksiyasi tashuvchi mikrobakteriyalardan o'tadi. Bu kasallik asosan o'pkaning shikastlanishi bilan kuzatilib, 2022 yil 9 oyida viloyatda 490 ta sil kasalligiga chalingan bemor qayd etilgan va 34 tasi Gurlan tumaniga to'g'ri kelgan va ushbu kasallikka chalinish bo'yicha tuman viloyatda har 100000 aholiga to'g'ri keladigan ko'rsatkich bo'yicha viloyat o'rtachasidan past va faqat Xiva shahri, Qo'shko'pir, Xonqa va Yangiariq tumanlaridan oldinda turadi. Eng quvonarlisi, tumanda ushbu xavfli kasallikka chalinish darajasi oldingi yilning shu davriga qaraganda pasaygan.

Tumanda, viloyatning boshqa hududlarida kuzatilganidek, xavfli o'sma kasalliklariga chalinish miqdori yildan-yilga oshib bormoqda. Xususan, 2021-2022 yillar oralig'ida, ya'ni bir yilda tumanda ushbu kasalliklar bilan xastalanish 103,2 foizga o'sgan. Tumanda ushbu guruh kasalliklar bilan og'rish darajasi bo'yicha viloyat o'rtachasidan past va ushbu kasallikka chalinish bo'yicha faqat Bog'ot, Tuproqqal'a, Hazorasp tumanlaridan oldinda turgan.

Xavfli o'sma kasalliklarining umumiy kasallanish hajmidagi ulushi unchalik katta emas, ammo u bilan bog'liq o'lim holati ancha yuqori. Ushbu kasallik turlarining davolash imkoniyatlari hozirda cheklangan va faqat dastlabki aniqlanish davrida davolanish ijobiy natija beradi. Ushbu hol bu guruhga kiruvchi kasalliklarning nihoyatda xavfli ekanligini ko'rsatadi.

Xavfli o'sma kasalliklari epiteliy to'qimalar faoliyatining kanserogen moddalar, ayrim virus va nukleidlilar hamda texnogen ta'siri ostida shakllanadi. Muhitga texnogen ta'sirning ortib borishi natijasida ekologik sharoitning o'zgara borishi turli xil konservantlar va salbiy odatlarga (ichish, chekish va xokazo) ruju qo'yish ushbu kasalliklarning ortib borishiga sabab bo'lmoqda.

2-jadval.

Gurlan tumanida ayrim kasalliklarga birlamchi chalinish (2021-2022 uch kvartali) ko'rsatkichlarining viloyat o'rtachasi bilan taqqoslama jadvali.

	2021 yil 9 oylik		2022 yil 9 oylik	
	Mutloq sonda	100000 aholiga	Mutloq sonda	100000 aholiga
Sil kasalligi				
Gurlan	35	23,6	34	22,6
Viloyat bo'yicha	426	22,7	490	25,7
Zahm				
Gurlan	0	0	2	1,3
Viloyat bo'yicha	84	4,5	102	5,3
So'zak				
Gurlan	6	4	1	0,7
Viloyat bo'yicha	107	5,7	110	5,8
Narkomaniya				
Gurlan	1	0,7	1	0,7
Viloyat bo'yicha	14	0,7	16	0,8

Alkogolizm				
Gurlan	33	22,2	43	28,5
Viloyat bo'yicha	444	23,6	479	25,1
Ruhiy kasalliklar				
Gurlan	24	16,2	32	21,2
Viloyat bo'yicha	446	23,7	495	25,9
O'sma kasalligi				
Gurlan	62	41,7	64	42,5
Viloyat bo'yicha	890	47,3	928	48,6
Qandli diabet kasalligi				
Gurlan	149	100,3	167	110,8
Viloyat bo'yicha	2668	141,9	2716	142,3

Manba: Xorazm viloyati statistika boshqarmasi ma'lumotlari

Xastaliklar orasida **ovqat hazm qilish a'zolari kasalliklari** ikkinchi o'rinda turadi. Ushbu guruhga kiruvchi xastaliklar bevosita ekologik va sanitar-epidemiologik sharoit bilan bog'liq. Yerosti suvlarning yaqinligi, tuproq qoplarning yuqori darajada sho'rlanganligi, issiq va quruq iqlim, noto'g'ri ovqatlanishi va turmush tarzi (alkogolizm, narkomaniya) va boshqa qator omillar ozuqa mahsulotlari, ichimlik suvi sifatining buzilishi zahirida ushbu guruh kasalliklari shakllanadi.

Oshqozon-ichak kasalliklari bilan xastalanish Gurlan tumanida viloyatning boshqa ma'muriy tizimlaridan ancha yuqori. Uni keltirib chiqarishi mumkin bo'lgan alkogolizmning mutloq ko'rsatkichi bo'yicha tuman viloyatda 3-o'rinda, har 100000 aholiga nisbatan 5-o'rinda turadi. 2023 yilda tumanda oshqozon va ichak kasalliklari bilan birlamchi xastalanish ko'rsatkichlari oldingi yilga nisbatan 105,5 foizga ortgan.

2023 yilda viloyatda birlamchi kasallanish hajmida NOAK yetakchilik qilgan. Tumanning daryobo'yi hududlarining Sultonuvays sanoat zonasiga yaqinligi sement ishlab chiqarish, ohaktosh va boshqa rudalarni o'zlashtirish bilan bog'liq korxonalar chiqindilari bilan ifloslanishiga olib kelmoqda.

NOAK dan bronxit, surunkali bronxit, astma, sil kasalliklari hayot uchun ancha xavfli bo'lib, so'nggi yillarda tuman hududida ushbu xavfli kasallik bilan xastalanish ko'rsatkichlari pasayib bormoqda.

Qon va qon hosil qilish a'zolari kasalliklari tumanda, butun viloyatda bo'lganidek, keng tarqalgan. Ushbu guruh xastaliklari ichki omillar ta'sirida shakllanmasada, bevosita inson salomatligiga putur yetkazuvchi boshqa tizim kasalliklar oqibatida yuzaga keladi.

Xususan, endokrin tizimi yoki ichki sekresiya bezlari faoliyatining buzilishi, asab tizimi va boshqa qon va qon hosil qilish a'zolari kasalliklarini keltirib chiqaradi. Tumanda ichki sekresiya bezlari, ovqatlanish, modda almashinuvi va immunitetning buzilishi natijasida yuzaga keladigan eng xavfli

kasallik – qandli diabet ortib bormoqda. Xususan birgina 2022 yilda ushbu kasallik har 100 ming aholi boshiga 110,8 ni tashkil etgan. Ushbu ko‘rsatkich viloyat ko‘rsatkichida ancha kam bo‘lsada, oldingi yilga qaraganda 6,7 foizga ortgan, vaholanki, viloyatda uning o‘sishi atigi 0,3 foini tashkil etgan.

Qon va qon yaratish a‘zolari xastaliklari bilan aholining kasallanishi viloyatining Yangibozor, Yangiariq, Hazorasp tumanlarida eng yuqori, Gurlan, Qo‘shko‘pir tumanlarida o‘rtacha, Xiva, Bog‘ot, Honqa Urganch, Shovot tumanlari hamda Urganch shahrida o‘rtachadan past.

Ulushi bo‘yicha keyingi o‘rinda turuvchi **qon aylanish tizimi kasalliklari** bilan aholining xastalanishi qon va qon hosil qilish a‘zolari kasalliklariga qaraganda hayotga xavf solishi bilan ajralib turadi. Aholi o‘rtasida eng keng tarqalgan qon aylanish tizimi kasalliklariga qon arterial va venoz bosim kasalliklari, yurak ishemiyasi, miokard infarkti, qon tomirlari yorilishi natijasida ichki a‘zolarga qon quyilishi, qon tomirlari shikastlanishi va boshqalar kiradi. Qon aylanish tizimi kasalliklari bilan xastalanish ulushi umumiy kasallanish hajmida unchalik katta emas 6,5- 6,8 foizni tashkil etadi.

Qolgan guruh kasalliklari bilan xastalanish, ayrimlarini (ayirish a‘zolari, teri-tanosil kasalliklari, shikastlanish va zaharlanishlar) hisobga olmaganda, umumiy kasallanish hajmida salmoqli o‘rinni egallamaydi. Biroq, ularning aksariyatining nisbiy ko‘rsatkichlari bo‘yicha viloyat respublikada yetakchilik qiladi. Xususan, asab tizimi, ayirish a‘zolari, suyak-mushak va biriktiruvchi to‘qimalar, teri va teri osti kasalliklari, homiladorlik, tug‘ish va undan keyingi tug‘ma asoratlar, noaniq holatlar va belgilar nisbiy ko‘rsatkichi bo‘yicha birinchi va ikkinchi o‘rinlarni band etadi.

Ruhiy kasallanish darajasi ham 2021 – 2022 yillarda tumanda mutloq (133,3 %) va 100 ming aholiga nisbatan (132,5 %) ortgan. Ruhiiy kasalliklar turli-tuman stress va noxushliklar natijasida shakllanadi, aksariyat hollarda ijtimoiy muammolar ta‘sirida shakllanadi. Ruhiiy xastaliklari bilan kasallanish darajasi bo‘yicha tuman viloyat o‘rtachasidan past ko‘rsatkichga ega.

Tuman aholisi salomatligi ko‘rsatkichlariga salbiy ta‘sir o‘tkazayotgan, ayni vaqtda ekologik, ijtimoiy ekologik sharoitini nisbatan yomonligidan dalolat beruvchi jihatlaridan biri ijtimoiy muammolar zamiridagi kasalliklarning (zaxm, so‘zak) ortib borishidir. Umuman olganda, tuman aholisi salomatligi bo‘yicha viloyatda o‘rtacha ko‘rsatkichlarga ega bo‘lib qolmoqda.

Aytish o‘rinliki, aholiga tibbiy xizmat ko‘rsatish muassasalarining hududiy tashkil etilishi hududlarda aniq ifodalangan tizim sifatida gavdalanadi. Tibbiy xizmat ko‘rsatish muassasalari, avvalo, tumanning katta-kichikligiga, aholi soni va ayrim hollarda hudud ekologiyasi va nozologiyasi bilan bog‘liq bo‘ladi.

Mustaqillik yillarida viloyatda aholiga tibbiy xizmat ko‘rsatish tizimida ancha ijobiy o‘zgarishlar bo‘ldi. Xususiyl dorixona va klinikalar tashkil etila boshlandi. Hududlarda qator kasalxonalar va klinikalar tugatilib, chekka joylarda yangi vrachlik punktlari, ambulatoriya va kasalxonalar, birinchi tibbiy sanitariya

yordami (ilgarigi feldsher-akusherlik punktlari o'rnida) punktlari (BTSYo) ko'rsatish tashkil etildi.

Qishloq vrachlik punktlari va quyi bo'g'indagi kasalxonalarni maqbullashtirish tadbirlariga mos ravishda ulardagi bemorlar o'rinlari ham kamaydi va tizim yanada markazlashtirildi. Kasalxonalarda o'rinlar va ovqat bilan ta'minlashni pullik tizimiga o'tkazilishi yengil shakldagi bemorlarni uyda davolanishga o'tishiga sabab bo'ldi. Shu bilan birga sobiq Ittifoq davrida eski tipda qurilgan aksar kasalxonalardagi sharoit aholining ayrim qatlamiga ma'qul bo'lmaganligi ham bunga sabab bo'ldi, aholi iqtisodiyotini yaxshilanib borayotganligi esa xususiy klinikalarga talabni oshirdi. Ushbu jarayonlar tadqiqot obyekti Gurlan tumani uchun ham xosdir.

Gurlan tumanida hozirda 30 ta stantsionarlar aholiga tibbiy xizmat ko'rsatmoqda. 2023 yil sog'liqni saqlash muassasalari faoliyatining asosiy ko'rsatkichlari quyidagicha, shifoxona muassasalari soni 30 tani tashkil etib shundan xususiy shifoxona muassasalari soni 15 ta, 1 ta tez (shoshilinch) tibbiy yordam ko'rsatish tuman bo'limi mavjud. Ambulatoriya-poliklinika muassasalari soni 22 tani tashkil etib, shundan 10 tasi xususiy, 3 QVP, 6 oilaviy (ilgarigi ambulatoriya) poliklinika muassasalari 2 ta bosh sanitar tez yordam ko'rsatish markaziga qarashli shahobcha(BSTYo) tibbiyot muassasi faoliyat yuritgan.

Gurlan shaharchasida 1 ta 331 o'rinli shifoxona joylashgan. 2023 yilda statsionar holda 20332 ta bemor davolangan. Har 10000 aholi hisobiga 202,2 o'rindan to'g'ri keladi. Xorazm viloyati markazi Urganch shahri sog'liqni saqlash tizimi nafaqat shahar, balki butun viloyat aholisiga, Qoraqalpog'iston Respublikasining yondosh tumanlari aholisiga tibbiy xizmat ko'rsatadi. Bu yerda ko'p tarmoqli viloyat, shahar, markaziy klinik kasalxonalari, asab, urologik, infeksiya, pediatriya shifo markazlari joylashgan. Viloyatning boshqa ma'muriy birliklari orasida kasalxona xizmati bilan ta'minlanishi darajasi bo'yicha Gurlan, Urganch, Bog'ot va Xiva tumanlari biroz ajralib turadi. Jumladan, har 10000 aholiga to'g'ri keladigan bemor o'rinlari soni Urganch tumanida 36,5 ga, Xivada 34,9 ga, Gurlanda 30,1 ga Bog'otda 22,1 ga teng bo'lgan. Kasalxona xizmati bilan ta'minlanishi nisbatan past ko'rsatkichga ega hududlarga Xonqa, Yangiariq, Qo'shko'pir va Yangibozor tumanlarini kiritish mumkin. Bunday vaziyat bevosita ushbu tumanlarning viloyat markazi Urganch shahriga yaqinligi bilan izohlanadi.

Birlamchi tibbiy yordamni birlamchi tibbiy yordam ko'rsatuvchi davlat muassasalari, davlat o'rta va uchinchi darajali muassasalarining ambulatoriya-poliklinikalari va xususiy ambulatoriya-poliklinikalari ta'minlaydi. Qishloq joylarda birinchi aloqa punkti qishloq vrachlik punkti bo'lsa, ikkinchi darajali ambulatoriya yordami tuman tuman kasalxonalarining ambulatoriya xizmatlari tomonidan ko'rsatiladi.

Shahar joylarda birlamchi tibbiy-sanitariya yordami va tanlab olingan ikkilamchi yordam xizmatlari poliklinikalar tomonidan ta'minlanadi. Hozirda barcha turdagi poliklinikalar (ilgari kattalar, bolalar uchun ajratilgan va ayollar

sogʻligʻiga ixtisoslashgan poliklinikalar) hozirgi kunda aholining barcha guruhlari uchun birlamchi tibbiy yordam koʻrsatadigan oilaviy poliklinikalarga aylantirilgan.

Shoshilinch tibbiy yordam xizmatlari, xususan, shifoxonaga asoslangan shoshilinch tibbiy yordam sohasida muhim islohotlar amalga oshirildi. Mamlakat boʻylab tuman, viloyat va respublika miqyosidagi statsionar muassasalarida shu jumladan, Gurlan tumanida bosh koʻp tarmoqli kasalxonasi qoshida tez (shoshilinch) tibbiy yordam boʻlimlari tarmogʻi tashkil etilgan.

Bugungi kunda tuman tez tibbiy yordam boʻlimi qoshida 5 ta tez tibbiy yordam stansiyasi faoliyat yuritmoqda. Bu tarmoq stansiya va boʻlimlarini son jihatdan koʻp yoki kamligi asosan tumandagi maʼmuriy birliklarning markazga yaqin yoki uzoqligi bilan bogʻliq. Gurlan tumanida markazga nisbatan olis (15 km va undan yiroq) qishloqlar mavjud.

Umuman olganda, aholiga tibbiy xizmat koʻrsatish tarmoqlarini joylashtirishda ham tumanning yaqinlik masofasi xaritasidan foydalanish mumkin. Bevosita tuman markaziga olis hududlarda dorixona tarmogʻi, aholiga tez tibbiy yordam koʻrsatish boʻlimlarini tashkil qilishga eʼtibor qaratish maqsadga muvofiqdir.

Tumanda koʻp tarmoqli bitta shifoxona mavjud, koʻplab kasallik toifalari va aholi guruhlari viloyat markazi va boshqa tumanlardagi alohida kasalxonalarda davolanadi.

Tibbiy xizmatlar koʻlami va sifatini oshirish jarayonini yuqori samarali dori-darmonsiz tasavvur etib boʻlmaydi. Tumanda 84 dorixona mavjud. Dorixonalar katta qismi tadbirkorlik subyektlari hisoblanadi. Tahlillar tumanda oʻrtacha 1838 kishiga bitta dorixona toʻgʻri keladi.

Shahar joylarda birlamchi tibbiy-sanitariya yordami va tanlab olingan ikkilamchi yordam xizmatlari poliklinikalar tomonidan taʼminlanadi. Ilgari bir nechta poliklinikalar mavjud edi - kattalar, bolalar va ayollar sogʻligʻiga ixtisoslashgan poliklinikalar. Qishloq joylarda umumiy amaliyotni joriy etishning soʻnggi tendensiyalari shaharlarda takrorlanmoqda. Hozirgi kunda barcha turdagi poliklinikalar aholining barcha guruhlari uchun birlamchi tibbiy yordam koʻrsatadigan oilaviy poliklinikalarga aylantirilmoqda.

Xulosa: Tumanda aholi salomatligi va ekologik vaziyatni yaxshilash, eng avvalo, ichki imkoniyatlarni ishga solish bilan bogʻliqdir. Xususan, Orol ekologik fojeasining kengayib va yanada chuqurlashib ketishini oldini olish maqsadida Markaziy Osiyo mamlakatlari va jahon hamjamiyatining atrof-muhitni muhofazalash tashkilotlari doirasida amaliy ishlar olib borilmoqda.

Tuman ijtimoiy-iqtisodiy sohalarini jadal rivojlantirish hozirgi kunning asosiy masalalaridan sanaladi. Yangi ish oʻrinlari yaratish orqali xoʻjalik tarmoqlarini rivojlantirish, sifatli sanoat mahsulotlari ishlab chiqarishni yoʻlga qoʻyish maʼlum maʼnoda ijtimoiy masalalarni hal qilish, oʻz navbatida, aholining moddiy masalalar bilan bogʻliq holda yuzaga keladigan kasalliklarini kamaytirish imkoniyatini yaratadi. Maʼlumki, doimiy yashash sharoiti va moddiy ahvolini

yaxshilash bilan bog‘liq masalalarning murakkabligi hudud ijtimoiy masalalarini keskinlashtiradi va ayni vaqtda aholining rivojlanishi hamda salomatligiga salbiy ta‘sir ko‘rsatadi.

Tuman sanitar-epidemiologik holatini yaxshilash maishiy chiqindilarni tashlash, saqlash hamda ularni qayta ishlash, ya‘ni ekologik infratuzilma mexanizmini yangicha tashkil etish bilan bog‘liqdir. Ayniqsa, grunt suvlarining yer betiga yaqinligi qattiq va kanalizatsiya chiqindilari tashlanadigan tizimni maxsus jihozlash, ayniqsa yopiq tizimli inshootlar holatiga o‘tish tavsiya etiladi. Kanalizatsiya oqova chiqindilarini yopiq trassa orqali betonlashtirilgan havzaga tashlanishini va ularda zamonaviy tozalash inshootlarini barpo etish ushbu masalaning asosiy jihatlaridan hisoblanadi. Tumanda markazida markazlashgan kanalizatsiya tizim majud emas. Ko‘p qavatli binolar oqovalari ayrim vaqtlarda butun shaharni bezovta qilgan vaqilar kuzatilgan.

Tuman aholisini chuchuk suv bilan ta‘minlash asosiy masalalardan biridir. Hozirda viloyat aholisining 92 foizdan sal ortiqrog‘i sifatli ichimlik suvi bilan ma‘lum darajada taminlangan. Markaziy ta‘minot tizimi suvining me‘yorlarga javob bermasligi hamda yer osti suvlarining iste‘molga yaroqsizligi aholi salomatligiga salbiy ta‘sir etmoqda va aholi uni asosan maishiy maqsadlarda ishlatadi, ko‘proq hozirda keng tarqalgan maxsus tozalangan ichimlik suvini iste‘mol qiladi.

Inson salomatligi murakkab tabiiy va ijtimoiy muhitning mahsuli bo‘lib. keyingisining aholi sog‘lig‘ining izdan chiqishida ulushi ortib bormoqda. Xususan, sivilizatsiya kasalliklari - gipertoniya, yurak ishemik kasalliklari, oshqozon va o‘n ikki barmoqli ichak yarasi, diabet, bronxial astma, modda almashinuv, nevrozlar, ruhiy buzilishlar va boshqalar ijtimoiy muhitni zichlashib, yuqori shovqin, gipodinamiya, havoning kuchli ifloslanishi va h.k. qatori ijtimoiy muammolar ketidan quvish kabilar keltirib chiqaradi.

Ta‘kidlangandek, tuman aholisi salomatligi viloyatda o‘rtacha ko‘rsatkichlarga ega, bolalar o‘limi ko‘rsatkichlari (2022 yilda 7,3) har ming tug‘ilgan bolaga nisbatan pasayib borayotgan bo‘lsa-da, tumanda qator tor yo‘nalishdagi kasalxonalarni ochish, tibbiy xizmatni quyi tizimlarini texnik va texnologik qurollantirish lozim.

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O'ZBEKISTONDA YO'L-TRANSPORT HODISALARI: SABABLARI VA OQIBATLARI

Annotatsiya. O'zbekistonda, xususan Jizzax va Toshkent viloyatlarida yo'l-transport hodisalari tufayli odamlar va jamiyat uchun halokatli oqibatlar ortib bormoqda. Yo'l harakati xavfsizligini ta'minlash bo'yicha profilaktik chora-tadbirlarni amalga oshirishda asosiy sabablar va oqibatlarni tushunish juda muhimdir.

Kalit so'zlar: yo'l harakati, xavfsiz harakat, transport oqimi, avtomobil, haydovchi, yo'l, piyoda, yo'l-transport hodisasi, harakat qatnashchisi, qonun, me'yoriy hujjatlar, yo'l tarmoqlari, tirbantlik, tezlik, yo'l sharoitlari, tartibsiz harakat, piyodalar o'tish joylari.

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ROAD TRANSPORT ACCIDENTS IN UZBEKISTAN: CAUSES AND CONSEQUENCES

Abstract. In Uzbekistan, especially in the Jizzakh region, the fatal consequences for people and society are increasing due to traffic accidents. It is very important to understand the main causes and consequences when implementing preventive measures to ensure road safety.

Key words: traffic, safe traffic, traffic flow, car, driver, road, pedestrian, traffic accident, traffic participant, law, regulations, road networks, traffic jam, speed, road conditions, irregular traffic, pedestrian crossings.

Oxirgi yillarda mamlakatimizda yo'l-transport hodisalarining oldini olish borasida ko'plab chora-tadbirlar ko'rilmogda. Ammo shunga qaramay, bu borada ijobiy o'zgarishlar ko'p, deb bo'lmaydi. Achinarlisi, ayrim haydovchilar yo'l harakati qoidalarini buzishda davom etmoqda.

Bunday sharoitda ba'zi mutaxassis va ekspertlar jazoni yana-da kuchaytirishni taklif qilayotir. Biroq bu bilan asosiy maqsadga erishish mushkul. Demoqchimizki, barcha yo'l harakati qatnashchilarida yuksak huquqiy madaniyatni shakllantirmasdan turib, yo'l-transport hodisalarining oldini olib bo'lmaydi.

Mavjud vaziyat tahlili ham shunga ishora bermoqda. O'zbekiston Ichki Ishlar Vazirligi Jamoat xavfsizligi departamenti Yo'l harakati xavfsizligi xizmati ma'lumotlariga ko'ra, 2023 yilning yetti oy davomida respublika hududida 4 772 ta yo'l transport hodisalari qayd etilgan. Shundan 2 453 tasi yoki 51,4 foizi subyektiv sabablarga ko'ra sodir etilgan, ya'ni haydovchilar yo'l harakati qoidalariga e'tibor bermasligi oqibatida kelib chiqqan.

Agar haydovchilar yo'l harakati qoidalariga rioya qilganda yuqoridagi barcha yo'l transport hodisalari sodir bo'lmasligi mumkin edi. Achinarlisi, yetti oyda O'zbekistonda yo'l-transport hodisalari natijasida 1 115 kishi halok bo'lgan, 4 ming 564 nafari turli tan jarohatlari olgan.

Bir raqamga e'tibor qaratish lozim – yo'l-transport hodisalarida halok bo'lganlarning 1 078 nafari yoki 96,7 foizi xavfsizlik kamarini taqmagani. Soha mutaxassislarining fikricha, agar orqada o'tirgan yo'lovchilar xavfsizlik kamarini taqqan bo'lganida oldingi o'rindiqlarda o'tirgan yo'lovchilarning ko'pchiligi avtohalokatda omon qolishi mumkin edi. Ularning so'zlariga ko'ra, agar orqadagi yo'lovchilar kamar taqmagani bo'lsa, yo'l transport hodisasi vaqtida oldingi o'rindiqda o'tirgan yo'lovchining halok bo'lish ehtimoli besh barobar ortadi.

Ichki ishlar vazirligi Jamoat xavfsizligi departamenti Yo'l harakati xavfsizligi xizmati statistik ma'lumotlariga ko'ra, yo'l transport hodisalari turlari bo'yicha sabablar etib piyodalarni urib yuborish, avtomashinalar to'qnashuvi va boshqalar keltirilgan.

Birgina Toshkent shahar Ichki Ishlar Bo'limi ma'lumotlarida aytilishicha, 2023 yilning o'tgan yetti oyida poytaxtda 675 ta yo'l transport hodisasi qayd etilgan. Hodisa oqibatida 71 kishi halok bo'lgan, 787 kishi turli tan jarohatlari olgan. Baxtsiz hodisalarning eng keng tarqalgan sababi tezlikni oshirish bo'lgan — 199 ta holat. Haydovchilar tomonidan 90 ta holatda taqiqllovchi svetofor ishorasiga e'tibor bermaslik, mast holatda haydovchilar ishtirokida 8 ta yo'l transport hodisasi sodir etilgan.

Xususan Jizzax viloyatida yo'l-transport hodisalarining asosiy sababi tezlikning oshishi, bu esa boshqaruvni e'tiborsiz qoldirish va boshqaruvni yo'qotishdir. Jizzax viloyatida 2023 yil o'tkazilgan tahlil natijasida, o'n bir oy mobaynida viloyat bo'yicha 443 tani tashkil qilib, shundan noyabr oyida 13 tani tashkil qilmoqda. Etiborga olishimiz kerakki, bu yo'l transport hodisalarining asosiy qismi jizzax shahri hududiga to'g'ri kelmoqda. Shahar hududida sodir etilgan qoidabuzarliklar soni to'qqiztani tashkil qilmoqda va barchasi tezlikni belgilangan miqdordan yuqori bo'lganligi aniqlandi.

Jizzax shahar hududida 11 oy mobaynida o'tkazilgan tahlil natijasida 59 ta yo'l transport hodisasi sodir etilib, unda halok bo'lganlar soni 5 nafar va jarohat

olganlar 4 nafarni tashkil qilmoqda. Shundan noyabr oyining o'zida 13 ta sodir etilib unda halok bo'lganlar 2 ta va jarohat olganlar soni esa 15 tani tashkil qilmoqda.

Yuqoridagi raqamlar yo'l harakati qatnashchilarining ko'pchiligi yo'l harakati qoidalariga rioya qilmasligini yana bir bor tasdiqlaydi. Natijada baxtsiz hodisalar soni ortib bormoqda.

Aslida, haydovchilar uydan chiqishlari bilanoq yo'l harakati qoidalariga rioya qilishlari, jumladan, xavfsizlik kamarlaridan foydalanish odatiy holga aylanishi kerak. Ma'muriy javobgarlik to'g'risidagi kodeksning 125-moddasiga ko'ra, haydovchilarning transport vositalarini boshqarish va yo'lovchilar tashishda xavfsizlik kamaridan foydalanish qoidalariga rioya etmaslik bazaviy hisoblash miqdorining ikkidan bir qismi miqdorida jarima solishga sabab bo'ladi.

2022-yil 4-aprelda "Avtomobil yo'llarida inson xavfsizligini ishonchli ta'minlash va o'lim holatlarini keskin kamaytirish chora-tadbirlari to'g'risida"gi Prezident qarori qabul qilindi. Ushbu hujjatda haydovchi va piyodalarning yo'l harakati qoidalariga rioya qilish madaniyatini oshirish, har qanday qoidabuzarlik uchun jazo muqarrarligini ta'minlash hamda yo'l harakati qoidalari asoslarini bolalikdan singdirishni yo'lga qo'yish, amaliyotni maktabgacha ta'lim tashkilotlari va umumta'lim maktablarida joriy etish — yo'l harakati xavfsizligini ta'minlashning dolzarb yo'nalishlari etib belgilangan.

2023 yil 26-may kuni Senatning Mudofaa va xavfsizlik masalalari qo'mitasida yuqoridagi qaror ijrosi yuzasidan amalga oshirilayotgan ishlar holati to'g'risida mas'ul vazirlik hamda idoralar rahbarlarining axboroti eshitildi. Ta'kidlanganidek, qarorda belgilangan vazifalarning 21 tasi ijro qilingan, 6 ta normativ-huquqiy va boshqa hujjatlar qabul qilingan. O'rganishlar shuni ko'rsatdiki, yo'l harakati qoidalari aholi o'rtasida hanuzgacha ta'sirchan va samarali targ'ib qilinmaydi, ommaviy axborot vositalari va ijtimoiy tarmoqlarda fuqarolarning bu boradagi madaniyatini yuksaltirishga qaratilgan materiallar yetarli darajada berilmayapti.

Xulosa qilib aytganda, yo'l harakati qatnashchilarining huquqiy madaniyatini oshirishda nafaqat ichki ishlar organlari xodimlari, balki ta'lim tizimi, fuqarolik jamiyati institutlari va jamoat tashkilotlari vakillari muhim rol o'ynashi zarurligiga e'tibor qaratish lozim. Bundan tashqari, huquqiy nigilizmga barham berish, huquqiy ongni yuksaltirish, yo'l harakati xavfsizligini ta'minlash targ'ibotini kuchaytirish har qachongidanda dolzarbdir.

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ECONOMIC DEVELOPMENT IN THE AGGLOMERATION OF UZBEKISTAN

Abstract. An agglomeration is a cluster of economic activities and industries located in a certain geographical area. In this essay, we explore the characteristics of agglomerations, their types, and the role they play in economic growth. Agglomerations can be industrial or service-based and they come in many forms, such as industrial areas, science parks, and technology clusters.

Keywords: agglomerations, agglomeration processes, regional management, urbanization, urban agglomerations, spatial development strategy.

Agglomeration economics studies the processes occurring in modern agglomerations, where there is a concentration of production, labor and financial resources. This is an important phenomenon that involves many aspects, such as productivity growth, innovation, and environmental and employment issues. It is important to note that the agglomeration economy is important for the economic development of the region and the country as a whole.

Factors affecting emergency agglomerations include:

- Population and labor force growth in middle-sized countries.
- Concentration of employees and services.
- Growth of labor productivity and innovation.
- Environmental and development issues.
- Analysis of international trade and economic policy.

The agglomeration economy plays a crucial role in economic development and social structure. It promotes innovation, increases productivity, and creates new jobs. In addition, agglomeration can stimulate economic growth and attract investment, which contributes to the sustainable development of regions.

Agglomeration economics is a major area of research that addresses many aspects of urban life and economic development. Its study is of great importance for understanding modern economic processes and developing development methods.

These factors play a crucial role in economic development and social structure, contributing to innovation, productivity, and job creation.

Sociocultural factors affecting agglomeration include migration, ethnic diversity, education, cultural institutions, and social networks. The level of economic development and social stability, as well as the impact on international trade and economic policy, is also a prerequisite. These factors have a significant

impact on the containment of the socio-cultural environment and the development of agglomerations in general.

The development of agglomerations is an important aspect of the economic development of many countries. Agglomerations are large urban regions where a significant part of the population and economic activity is concentrated. They play a key role in attracting investment, creating jobs, and driving innovation.

According to an analysis conducted by the World Bank for the Ministry of Regional Development and Public Administration of Romania, the eight largest metropolitan areas in Romania (Bucharest, Brasov, Cluj-Napoca, Constanta, Craiova, Iasi, Ploiesti and Timisoara) concentrate 50 percent of the country's population and generate 75 percent of economic activity.

Agglomerations have a number of advantages, such as access to a broad labor market, infrastructure and services, as well as the ability to exchange ideas and knowledge. They promote innovation and create an enabling environment for entrepreneurship.

However, the development of agglomerations can also face a number of challenges. Uncontrolled growth of agglomerations can lead to problems with transport, housing, environmental pollution and inequality. Therefore, it is important to develop strategies for the sustainable development of agglomerations that take into account economic, social and environmental aspects.

The development of agglomerations is an important aspect of the economic development of many countries.

Agglomerations concentrate a significant part of the population and economic activity.

Agglomerations have advantages, such as access to the labor market and infrastructure.

The development of agglomerations can face challenges, such as problems with transport and environmental pollution.

Sustainable development of an agglomeration can be achieved through a number of measures and strategies. Here are some approaches that can contribute to the sustainable development of an agglomeration:

Growth planning and management: Develop long-term agglomeration development plans that take into account economic, social and environmental aspects. This includes identifying priority areas for development, monitoring land development and use, and managing transport infrastructure.

Sustainable infrastructure: Development of infrastructure that contributes to the sustainable development of an agglomeration. This may include building energy-efficient buildings, developing public transport, creating ecological zones, and improving waste management.

Social integration: Creating conditions for social integration and reducing inequality in an agglomeration. This may include affordable housing, educational and health services, and the creation of public spaces and cultural centers.

Economic development: Stimulating the economic development of an agglomeration by attracting investment, developing innovations, and creating jobs. This can be achieved by supporting entrepreneurship, developing technology clusters, and creating a favorable business environment.

Environmental protection: Protecting and improving the environment in an agglomeration. This includes reducing pollutant emissions, making efficient use of resources, developing green areas, and conserving natural resources.

It is important to note that each agglomeration has its own characteristics and requires an individual approach to ensuring sustainable development.

Sustainable development of an agglomeration can be achieved by planning and managing growth, developing sustainable infrastructure, social integration, developing the economy, and protecting the environment.

Each agglomeration requires an individual approach to ensuring sustainable development.

There are several technologies that can contribute to the sustainable development of an agglomeration. Here are some of them:

❖ **Smart City technologies:** The introduction of Internet of Things (IoT) technologies, sensors, and communication networks can help manage resources such as energy and water, as well as improve the efficiency of urban infrastructure. For example, smart transport management systems can reduce traffic jams and polluting emissions.

❖ **Renewable energy:** The use of renewable energy sources, such as solar and wind power, can help reduce the agglomeration's reliance on fossil fuels and reduce greenhouse gas emissions.

❖ **Energy efficiency:** The use of energy-efficient technologies in buildings and infrastructure can reduce energy consumption and reduce the negative impact on the environment.

❖ **Smart waste management systems:** Implementing technology-based waste management systems can help optimize waste collection and recycling, as well as reduce the amount of waste sent to landfill.

❖ **Transport innovation:** The development of electric transport, autonomous vehicles, and shared transport can reduce polluting emissions and improve mobility in an agglomeration.

❖ **Digitalization of urban infrastructure:** The use of digital technologies in the management of urban infrastructure, such as traffic monitoring and management systems, water supply management systems and energy networks, can improve the efficiency and reliability of infrastructure.

It is important to note that these technologies should be integrated into the overall strategy of sustainable development of the agglomeration, taking into account its features and needs.

Conclusions:

Smart urban technologies, renewable energy, energy efficiency, smart waste management systems, transport innovation, and digitalization of urban

infrastructure are some of the technologies that can make agglomeration more sustainable.

It is important to integrate these technologies into the overall strategy for sustainable development of the agglomeration, taking into account its features and needs.

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AVTOMOBIL YO‘LLARI EKSPLUATATSION KO‘RSATKICHLARINI BASHORAT QILISH USULLARI

Annotatsiya. Ushbu maqolada avtomobil yo‘llari ekspluatatsionn ko‘rsatkichlarini bashorat qilish usullar xususida so‘z boradi.

Kalit so‘zlar: Prognozlash usullari, yo‘lning ekspluatatsion ko‘rsatkichlari, matematik prognozlash, harakatlanish intensivligi, ekspert baholash usuli, statistik usul, haqiqiy prognoz.

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METHODS FOR PREDICTION OF HIGHWAY PERFORMANCE INDICATORS

Annotation. In this article talks about the methods of predicting the operational indicators of highways.

Key words: Forecasting methods, operational indicators of the road, mathematical forecasting, traffic intensity, expert evaluation method, statistical method, true prediction.

Prognozlash istiqbollari, kelajakda ma‘lum bir hodisaning yuzaga kelishi mumkin bo‘lgan holatlari va ularni amalga oshirishning muqobil yo‘llari va muddatlari haqida ehtimoliy ilmiy asoslangan qaror sifatida tavsiflanadi.

Hozirgi vaqtda juda ko‘p prognozlash usullari mavjud. Bu usullar ikki ekstremal yondashuvlarga asoslangan deb hisoblashadi: evristik va matematik.

Yo‘llarni loyihalash va ishlatishda yo‘l qurilishi sohasida turli xil prognozlash usullari qo‘llaniladi. Misol uchun, harakatning intensivligini prognozlash usullari quyidagi guruhlariga bo‘linishi mumkin:

1) o'tgan yillarda harakatning jadalligini o'zgartirish bo'yicha ma'lumotlardan foydalanishga asoslangan usullar (ekstrapolyasiya usuli);

2) ko'rib chiqilayotgan hududda transport aloqalarini tahlil qilishga asoslangan usullar;

3) iqtisodiy faoliyatni ko'p faktorli tahlil qilishga asoslangan usul;

4) ekspert baholash usuli. Qoplamalarning mustahkamligi, yopishqoqligi va ishonchliligini taxmin qilish uchun statistik usullar ham qo'llaniladi.

Yo'ning transport–ekspluatatsion ko'rsatkichlari bir–biri bilan bog'liq, shuning uchun ularni prognozlash tizimli yondashuvni talab qiladi. Keling, prognozlash nazariyasi nuqtai nazaridan ularni loyihalashtirish va ishlatishda yuzaga keladigan yo'llarning transport – ekspluatatsion holati masalalariga to'xtalib o'taylik. Prognozlash metodologiyasi prognozlash usullari, usullari va tizimlari haqida bilim sohasi sifatida tushuniladi. Prognozlash usuli bilan biz prognozni ishlab chiqishga qaratilgan yo'l transport–ekspluatatsion sifatini o'rganish usulini tushunamiz; texnikada–bir nechta usullarning to'plami, nihoyat, prognozlash tizimi ostida–ularni amalga oshirish usullari va vositalarining tartibli to'plami.

Prognozlash nazariyasi yo'ning transport–ekspluatatsion sifati, xususan tasniflashni tahlil qilishni o'z ichiga oladi; rasmiylashtirilgan (matematik) va intuitiv (ekspert) ga bo'linadigan prognozlash usullari; prognozlash tizimlari, shu jumladan, uzluksiz, qayta aloqa yo'li bilan yo'ning ishlash jarayonida prognozlarni tuzatish amalga oshiriladi. Prognozlash ob'ektlari quyidagicha tasniflanadi:

– tabiat–ilmiy–texnik, texnik–iqtisodiy va boshqalar.;

– miqyosi bo'yicha – ob'ekt tavsifiga kiritilgan muhim o'zgaruvchilar soniga qarab, sublokal (1–3 o'zgaruvchilar), mahalliy (4–14), subglobal (15–35), global (36–100) va superglobal (100 o'zgaruvchilardan ortiq) ob'ektlar;

– murakkablikda–o'zgaruvchan ob'ektlarning o'zaro bog'liqligi darajasiga qarab, ob'ektlar oddiy (o'zaro bog'liqlik mavjudligi), murakkab va super murakkabga bo'linadi);

– determinlashish darajasiga ko'ra–deterministik, stoxastik va aralash;

– jarayonning muntazam komponenti vaqtida rivojlanishning tabiatiga ko'ra– diskret, aperiodik va davriy;

– retrospeksiya davrining axborot xavfsizligi bo'yicha–to'liq miqdoriy ta'minotga ega bo'lgan, to'liq bo'lmagan miqdoriy ta'minotga ega bo'lgan, sifatli ma'lumotlarning mavjudligi, retrospektiv ma'lumotlarning to'liq yo'qligi.

Prognozlash tor va keng ma'noda ko'rib chiqilishi mumkin. Tor ma'noda prognozlash yo'llarning transport–ekspluatatsion ko'rsatkichlarini vaqt davomida yoyilgan xususiyatlar sifatida aniqlashni o'z ichiga oladi va asosiy dastlabki ma'lumotlar – materiallar, yo'l to'shamasi konstruksiyasi, yo'l to'shamasiga tushadigan yuk, ishlash sharoitlari berilgan. Boshqacha aytganda, tor ma'noda prognozlash tekshirish hisob–kitobidan keyin amalga oshiriladi.

Keng ma'noda, prognozlash, transport va operatsion sifat korsatkichlarini baholash uchun dastlabki ma'lumotlar oldindan prognozlash usullaridan foydalangan holda aniqlanadi. Bunday holda, yo'1 to'shamasi transport–ekspluatatsion ko'rsatkichlarini prognozlash ikki bosqichga bo'linadi:

- 1) dastlabki ma'lumotlarning prognozi;
- 2) haqiqiy prognoz.

Biz yuqorida ko'rib chiqilgan tasniflash nuqtai nazaridan yo'llarning transport–ekspluatatsion ko'rsatkichlarini tahlil qilamiz. Tabiatan transport va operatsion ko'rsatkichlar texnik–iqtisodiy prognozlar sinfiga tegishli bo'lishi kerak. Prognozlashtirish ob'ektining miqyosi va murakkabligini baholash 1–jadvalda keltirilgan. Tasniflashning uchinchi darajasi prognozlash usullarini "metodlar apparati" tasnifi asosida turlarga ajratadi. Har bir tur o'z tarkibida ularni amalga oshirishning bir xil apparati bo'lgan usullarni birlashtiradi. SHunday qilib, turlar bo'yicha statistik usullar ekstrapolyasiya va interpolatsiya usullariga bo'linadi; regressiya va korrelyasion tahlil apparati yordamida usullar; omillarni tahlil qilish usullari.

1- jadval

Prognozlash ob'ekti sifatida modellar va transport ekspluatatsion ko'rsatkichlarni tasniflash

Transport ekspluatatsion ko'rsatkichlar	Sinf		Prognozlash usullari
	Kattalik	Murakkabligi	
Harakatning intensivligi	Sublokal, Mahalliy	Murakkab	Ekstrapolyasiya, ko'p faktorli korrelyasiya,
Tarmoqli kengligi	Mahalliy, Sublokal	Murakkab	Ehtimollik–statistik
Harakatning Yuklanganlik darajasi	Sublokal, Mahalliy	Murakkab	Maxsus
Harakat tezligi	Mahalliy, Sublokal	Murakkab	Ehtimollik–statistik
Xabar vaqti	Mahalliy	Murakkab	Maxsus
Yo'1 to'shamasining mustahkamligi, qoplamaning ravonligi, tishlanish koeffitsienti	Sublokal, Mahalliy	Murakkab	Maxsus, Ehtimollik–statistik
Harakat havfsizligi	Sublokal, Mahalliy	Murakkab	Maxsus, Ehtimollik–statistik

Yuk tashish narxi	Sublokal, Mahalliy	Murakkab	Maxsus
Transport harajatlari: yoqilg'i sarfi, shinalar	Mahalliy	Murakkab	Maxsus, Ehtimollik–statistik
Yo'l–transport hodisalaridan zarar	Sublokal	Murakkab	Ehtimollik–statistik
Yo'l harajatlari: joriy ta'mirlash, kapital ta'mirlash, rekonstruksiya.	Mahalliy	Murakkab	Maxsus, Ehtimollik–statistik

Amalga oshirish apparati asosida ekspert baholashlari ekspert tekshiruvi va ekspert tahlillari turlariga bo'linadi. Yakuniy natijani shakllantirish uchun birinchi holda, savollarni shakllantirish, ularga javob olishni tashkil etish, olingan javoblarni qayta ishlash va maxsus protseduralar qo'llaniladi.

Tendensiyalarni ekstrapolyasiya qilish usullari eng keng tarqalgan va prognozlash usullarining butun majmuasi orasida eng ko'p ishlab chiqilgan. Prognozlashda ekstrapolyasiyadan foydalanish uning asosida bir taxmin bor, o'zgaruvchining o'zgartirish jarayoni ikki komponentlarini birikmasi–muntazam va tasodifiy:

$$y(x) = f(\vec{a}, x) + 5(x)$$

Bu muntazam komponent $f(\vec{a}, x)$ argument bir xilliq vazifasi, deb ishoniladi (ko'p hollarda – vaqt), prognoz davrida oldindan uning qiymatini saqlab qoladi. Ushbu tarkibiy qism tendensiya, jarayon asosi sifatida aniqlanadigan daraja, trend deb ham ataladi. Bu atamalar ostida tahlil qilinayotgan jarayonning mohiyatiga aralashishning intuitiv g'oyasi yotadi.

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AVTOMOBIL YO‘LLARIDA HARAKATLANISH TEZLIGINI BASHORAT QILISH

Annotatsiya. Ushbu maqolada avtomobil yo‘llarida harakatlanish tezligiga ta’sir etuvchi omillar xususida so‘z boradi.

Kalit so‘zlar: Hisobiy tezlik, harakat tezligi, maksimal tezlik, minimal tezlik, ekpluatatsion ko‘rsatkich, harakat xavfsizligi.

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PREDICTION OF TRAFFIC SPEED ON AUTOMOBILE ROADS

Annotation. This article discusses the factors that affect the speed of traffic on highways.

Key words: Calculated speed, movement speed, maximum speed, minimum speed, operational index, movement safety.

Hisobiy tezlik eng muhim ekpluatatsion ko‘rsatkich bo‘lib, yo‘lning texnik elementlari parametrlarini belgilash uchun asos bo‘lib xizmat qiladi. Hisobiy tezlik yo‘llarning toifasiga, yerning rel’efiga, harakat xavfsizligi sharoitlariga qarab belgilanadi. Shu bilan birga, g‘ildiraklarning normal yo‘l bilan ilashish sharoitida yo‘lning tor joylarida bitta avtomobilning harakati xavfsizligini hisobga olgan holda maksimal ruxsat etilgan tezlikni tavsiflaydi. Bir qator olimlar harakat tezligini tanlashda texnik–iqtisodiy sabablarga ko‘ra kelib chiqishi kerak, deb hisoblaydilar, yana bir guruh olimlar optimal hisobiy tezlik hisob–kitob davri (20 yil) uchun yo‘l qurish va foydalanish uchun harajatlar minimal miqdori asosida belgilanishi kerak, deb hisoblaydi.

Prognozlash vaqtida haydovchining xohishini va yo‘lning funksional ahamiyatini hisobga olgan holda, avtomobilning harakatlanish tezligini hisoblash

kerak. Ma'lumki, yo'l yuk va yo'lovchilarni yuqori tezlikda harakatlanish uchun mo'ljallangan. Avtomobil yo'li-haydovchining ish joyi. Shuning uchun, haydovchilar uchun yo'llarning talablarini o'rganish va uning harakatlanish tezligi haqidagi fikri muhim ahamiyatga ega. Safar xizmat va biznes, shaxsiy ishlar, dam olish yoki ekskursiya bo'lishi mumkin. Bunday bo'linish avtomobil yo'lining funksional maqsadini aniqlash uchun zarur. Harakat tezligi kerakli, haqiqiy, xavfsiz (haydovchiga fikriga ko'ra), maksimal va minimal bo'linadi.

Sayohat masofasining oshishi bilan xoxish harakat tezligi (V_j) ortadi (1-rasm). Xarakterli jihati shundaki, avtomobil va yuk mashinalarining harakatlanish tezligiga bog'liqlik 150 kmgacha bo'lgan masofa oralig'ida harakat tezligi egriligi biroz oshib boradi, 150 km dan ortiq keskin o'zgaradi. Buning sababi shundaki, yurish masofasi qanchalik ko'p bo'lsa, oxirgi nuqtaga tezroq borishni xohlaysiz. Tejamkorlik, qulaylik, harakat xavfsizligi ikkinchi darajali bo'lib qoladi.

Sayohat masofalariga qarab harakat tezligining o'zgarishi quyidagi formulalar bilan hisoblab chiqiladi:

$$V_1 = a \cdot l^2 - b \cdot l + c(1)$$

$$a = 0.0004, b = 0.075, c = 92.449$$

$$V_2 = a \cdot l^2 - b \cdot l + c(2)$$

$$a = 0.0003, b = 0.0571, c = 82.027$$

$$l = km, a = 1/km \cdot soat, b = 1/soat, s = km/soat$$

Xavfsiz harakatlanish tezligi (haydovchining fikriga ko'ra) sayohat masofasining ortishi bilan ortadi. 350 km dan ortiq safar oralig'ida xavfsiz harakat tezligi 110–120 km/soat. Xavfsiz tezlikdan oshib ketadigan haydovchilar harakat xavfsizligini xavf ostiga qo'yadi.

Safarning maqsadiga qarab, harakatning tezligini taqsimlash (V_j, V_{max}, V_{min}) tabiati turli xil sayohat maqsadlari uchun farq qiladi. Sayohat maqsadi dan qattiy nazar, maksimal harakatlanish tezligini taqsimlashning tabiati bir xil. Maksimal harakatlanish tezligi bilvosita avtomobilning texnik imkoniyatlarini va yo'l sharoitlarini tavsiflaydi.

Ekskursiyalar va dam olish uchun va shaxsiy maqsadlar uchun xavfsiz harakatlanish tezligi 70–120 km/soat oralig'ida va 70–100 km/soat xizmat va biznes safari uchun o'zgaradi.

Xavfsiz harakat tezligi quyidagi formulalar bilan belgilanadi:

$$V_1 = a \cdot l^2 - b \cdot l + c(3)$$

$$V_2 = a \cdot l^2 - b \cdot l + c(4)$$

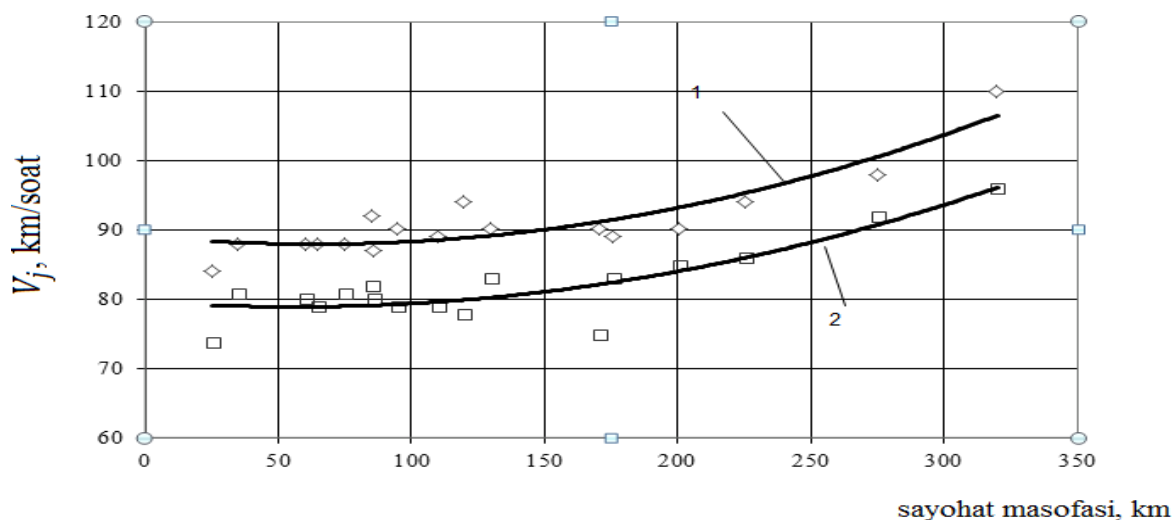
$$l = km, a = 1/km \cdot ch, b = 1/ch, s = km/ch$$

$$1) a = 0.0007, b = 0.1024, c = 78,91$$

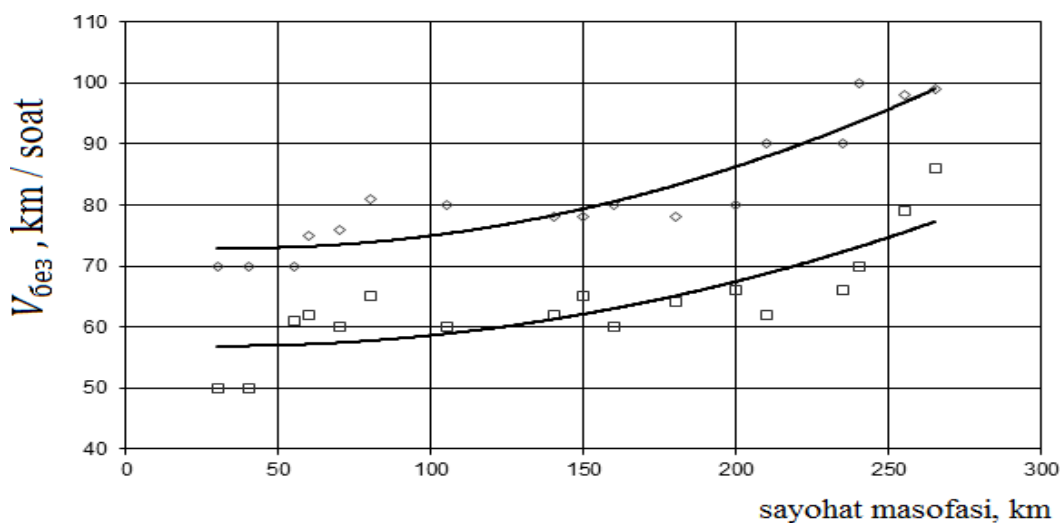
$$2) a = 0.0006, b = 0.1135, c = 64,303$$

Eng xarakterli – hohish harakat tezligi (V_j), bu bilvosita yo'l talablarini belgilaydi. Istalgan harakat tezligini taqsimlash oddiy taqsimot bilan ta'riflanishi mumkin. Safarning shaxsiy va biznes maqsadlari uchun kerakli harakatlanish tezligining modal qiymatlari 80 km/soat, ekskursiya va dam olish uchun esa 90 km/soat.

Shaxsiy maqsadlar uchun sayohat qilish uchun 85% xavfsizlikdagi istalgan harakat tezligi (V_l) 94 km/soat, ish safarlari uchun ($V_{s.d}$) – 81 km/soat, ekskursiyalar va dam olish uchun ($V_{o.e}$) – 110 km/soat (3.7-rasm); va 95% xavfsizlik $V_{s.d} = 86$ km / soat $V_l=104$ km/ soat, $V_{o.e}=120$ km/soat. xoxishli, xavfsiz, maksimal va minimal harakat tezligini belgilash maqsadi haydovchilar uchun yo‘llarning talablarini to‘liq qondirishdir.



rasm. Harakat tezligining sayohat masofasiga bog‘liqligi.
1 - yengil avtomobillar; 2 - yuk avtomobillar.



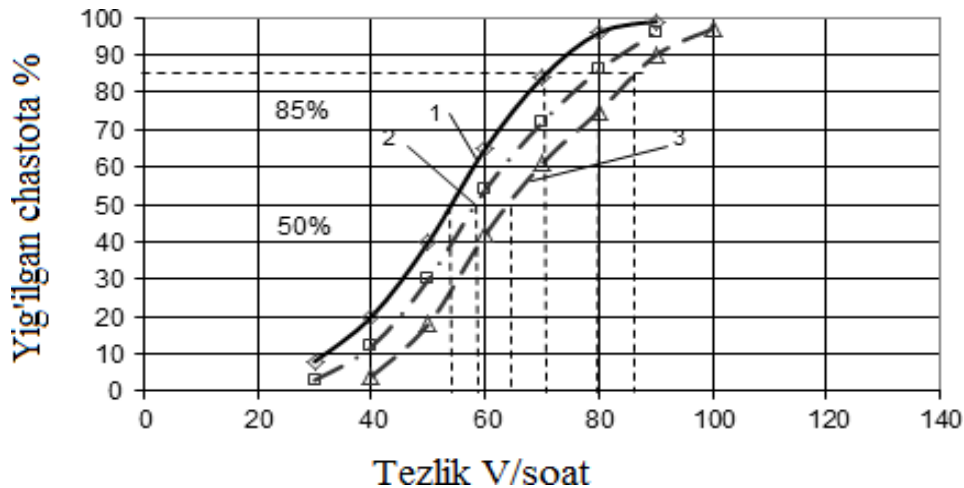
2-rasm. Xavfsiz tezlikning haydash masofasiga bog‘liqligi

1-yengil avtomobillar; 2 - yuk avtomobillar. Shunday qilib, harakatning qulayligi va qulayligini ta‘minlash uchun kerakli harakat tezligi talab qilinadi;

Maksimal tezlik – avtomobil yo‘llarini rekonstruksiya qilishda hisob – kitob tezligini aniqlashtirish;

Minimal tezlik – yo‘l harakati xavfsizligini ta‘minlash va yo‘l transport hodisalari sonini kamaytirish.

Avtomobilning harakatlanish tezligi ham qoplamaning ravonligiga bog'liq.



3-rasm Aholi punktlarida avtomobil harakatlarining tezligining qoplamlarning ravonligiga bog'liq kumulyativ egrisi.

Ravonlikni baholash: 1-yaxshi, 2-qoniqarli, 3-yomon

Aholi punktlarida turli xil ravonliklarga ega bo'lgan ikkita tasmali yo'llarda, baholashda yaxshi bahodan qoplamaning ravonligi yomonlashganida va 85% ta'minlanganlikda maksimal harakatlanish tezligi 97 dan 71 kmgacha kamayadi. va 50% ta'minlanganlikda (o'rtacha tezlik) 70dan 58 kmgacha. aholi yashamay- digan joylarda o'rtacha harakat tezligi 64dan 52 km/soatgacha kamayadi. 100 sm/kmgacha bo'lgan qoplamaning ravonligi yomonlashishi avtomobil- larning harakatlanish tezligining sezilarli kamayishiga olib keladi va tekislikning yanada yomonlashishi harakatlanish tezligini biroz pasaytiradi.

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ATROF-MUHIT VA EKOLOGIYA O'RTASIDAGI BOG'LIQLIK VA BUNING INSON SALOMATLIGIGA TA'SIRI MASALALARI

Annotatsiya. Maqolada tabiat va atrof-muhit hamda ekologiya ortasidagi o'zaro bog'liqlik, ularning inson turmush tarzi va salomatligiga ta'siri haqida fikr yuritiladi. Shuningdek, bu omillar o'rtasidagi muvozanatning buzilishi inson salomatligi uchun keltirib chiqaradigan xavflar haqida so'z boradi.

Kalit so'zlar: Tabiat, atrof-muhit, muhofaza qilish, ekologiya, bog'liqlik, ekologik muammo, ekologik turmush tarzi, sog'lomlik, xavflar, biologik turlar, hayotiy sharoit, ekosistemalar, patologiya, irsiy moyillik, ekopatologiya, tabiatning barqarorligi, genetik, ontogenez.

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ISSUES OF RELATIONSHIP BETWEEN ENVIRONMENT AND ECOLOGY AND ITS EFFECT ON HUMAN HEALTH

Abstract. The article discusses the interrelationship between nature and the environment and ecology, their impact on human lifestyle and health. It also talks about the risks that the imbalance between these factors causes for human health.

Key words: Nature, environment, conservation, ecology, dependence, ecological problem, ecological lifestyle, health, risks, biological species, living conditions, ecosystems, pathology, genetic predisposition, ecopathology, sustainability of nature, genetics, ontogenesis.

Tabiat va atrof-muhitni hamda ekologiya orasida juda katta bog'liqlik bor. Chunki bizning turmush tarzimiz va sog'lomlik holatimiz tabiat va atrof-muhit bilan aloqador. Agar biz tabiatni muhofaza qilmay, atrof-muhitni saqlamay va ekologik muammolarga ehtiyojlarimizni e'tiborga olmasak, bu inson salomatligi uchun katta xavflarga olib kelishi mumkin.

Tabiat va atrof-muhitni muhofaza qilish uchun quyidagi jihatlar juda muhim:

1. Atrof-muhitni saqlash: Inson faoliyati natijasida paydo bo'lgan zararli moddalar, atrof-muhitga zarar yetkazishi mumkin. Shuning uchun, atrof-muhitni saqlab qolish, moddiy va ekologik muammolarni oldini olish kerak.

2. Tabiatni muhofaza qilish: Tabiatni muhofaza qilish, biologik turlarning hayotiy sharoitini saqlash, ekosistemalarni saqlab qolish va tabiatning barqarorligini ta'minlash uchun juda muhim.

3. Ekologik muammolar bilan kurashish: Ekologik muammolar, ya'ni atrof-muhitga zarar yetkazadigan moddalar, suv va havoning ifloslanishi, tabiatning buzilishi kabi muammolar bilan kurashish.

4. Ekologik turmush tarzini shakllantirish: Ya'ni atrof-muhitga zarar yetkazmaydigan va tabiatni muhofaza qiladigan turmush tarzini rivojlantirishdan iborat.

Tabiat va atrof-muhitni muhofaza qilish va ekologiya orasidagi bog'liqlik - bu yerga o'zgartirishlar kiritib, turmush tarzini sog'lomlashtirish va tabiatni saqlash uchun qadam qo'yishdir.

Ma'lumki, atrof-muhitda ko'plab kimyo sanoati korxonalaridan kiruvchi bir qator kimyoviy mutagenlar ham mavjud bo'lib, bir qator virusli kasalliklar ham mutagen ta'sirga ega. Bular shaxsning irsiyatini o'zgaruvchan qiladi va patologiyalariga irsiy moyillikni keltirib chiqaradi. Ekopatologiya - atrof-muhit omillaridan kelib chiqqan kasalliklar hisoblanadi.. Avvalo, bular to'yib ovqatlanmaslik yoki ortiqcha ovqatlanish bilan bog'liq "turmush tarzi kasalliklari" dir. Oziqlanishning yetarli emasligi bilan oziq-ovqat tarkibidagi vitaminlar, mikroelementlar, oqsillar me'yordan past bo'ladi, bu esa sog'liqning jiddiy buzilishiga olib keladi. Ortiqcha ovqatlanish bilan semirish rivojlanadi, bu diabet, saraton va yurak-qon tomir kasalliklari kabi jiddiy patologiyalarga olib keladi. Shuning uchun ovqatlanishning ortiqcha yoki nomutanosibliigi uning yetishmasligidan kam halokatli rol o'ynaydi.

Ko'pgina tadqiqotlar shuni ko'rsatadiki, salomatlikka ta'sir qiluvchi omillar: -biologik (irsiyat, oliy asabiy faoliyat turi, temperament va boshqalar); - tabiiy (iqlim, landshaft, flora, fauna va boshqalar); -atrof-muhit holati; ijtimoiy-iqtisodiy; -sog'liqni saqlashning rivojlanish darajasi.

Bu omillar odamlarning turmush tarziga ta'sir qiladi. Shuningdek, turmush tarzi qariyb 50%, atrof-muhit holati 15-20%, irsiyat 15-20% va sog'liqni saqlash (uning organlari va muassasalari faoliyati) 10% salomatlikni (individual va jamoat) belgilaydi. Salomatlik g'oyasi salomatlik tushunchasi bilan chambarchas bog'liq. Salomatlik omillari XX asrning 80-yillarida JSST mutaxassislari zamonaviy inson salomatligini ta'minlash uchun turli omillarning taxminiy nisbatlarini aniqladilar va asosiylari sifatida to'rtta hosilani ta'kidladilar. Inson salomatligiga ta'sir qiluvchi omillar doirasi kasalliklarning paydo bo'lishi uchun morfologik va funksional shartlarning yo'qligi, irsiy kasalliklar va buzilishlar, kasallikka irsiy moyillik, yaxshi yashash va mehnat sharoitlari, qulay iqlim va tabiiy sharoit, ekologik jihatdan qulay yashash muhiti, hayot va ishlab chiqarishning zararli sharoitlari, noqulay iqlim va tabiiy sharoitlar, ekologik vaziyatning buzilishida o'z vaqtida va kompleks tibbiy yordam ko'rsatilmoqda.

JSST ma'lumotlariga ko'ra, biologik, ekologik va ijtimoiy xavf omillari ajralib turadi. Agar kasallikning bevosita sababi bo'lgan omillar xavf omillariga

qo'shilsa, ular birgalikda sog'liq omillari deb ataladi. Ular xuddi shu tarzda tasniflanadi va biologik xavf omillari inson tanasining genetik va ontogenez orqali olingan xususiyatlarini o'z ichiga oladi.

Ma'lumki, ayrim kasalliklar ma'lum milliy va etnik guruhlarda ko'proq uchraydi. Gipertenziya va oshqozon yarasi, diabetes mellitus va boshqalar kasalliklariga irsiy moyillik mavjud. Ko'pgina kasalliklarning paydo bo'lishi va kechishi uchun diabetes mellitus, yurak-qon tomir kasalliklari, semizlik jiddiy xavf omilidir. Tanadagi surunkali infeksiya o'choqlarining mavjudligi (masalan, surunkali tonzillit) revmatizmning rivojlanishiga yordam beradi.

Harorat, atmosfera bosimi va magnit maydon kuchining keskin kundalik tebranishlari yurak-qon tomir kasalliklarining kechishini yomonlashtiradi. Ionlashtiruvchi nurlanish onkogen omillardan biridir. Tuproq va suvning ion tarkibining xususiyatlari, demak, o'simlik va hayvonlardan olingan oziq-ovqat, u yoki bu element atomlarining tanasida ortiqcha yoki yetishmasligi bilan bog'liq kasalliklarning rivojlanishiga olib keladi. Masalan, tuproqda yod miqdori kam bo'lgan joylarda ichimlik suvi va oziq-ovqatda yod yetishmasligi endemik buqoqning rivojlanishiga yordam beradi.

Ijtimoiy xavf omillariga: noqulay turmush sharoitlari, turli xil stressli vaziyatlar, odamning turmush tarzining jismoniy harakatsizlik kabi rivojlanishi uchun xavf omilidir.

Chekish kabi yomon odatlar bronxopulmoner va yurakqon tomir kasalliklari uchun xavf omilidir.

Spirтли ichimliklarni iste'mol qilish alkogolizm, jigar kasalliklari, yurak kasalliklari va boshqalarning rivojlanishi uchun xavf tug'diradi. Xavf omillari alohida shaxslar uchun (masalan, organizmning genetik xususiyatlari) yoki har xil turdagi ko'plab shaxslar uchun (masalan, ionlashtiruvchi nurlanish) muhim bo'lishi mumkin. Eng noqulay narsa - bu bir nechta xavf omillarining tanaga ta'siri, masalan, semizlik, jismoniy harakatsizlik, chekish, uglevod almashinuvining buzilishi kabi xavf omillarining bir vaqtning o'zida mavjudligi koroner yurak kasalligi rivojlanish xavfini sezilarli darajada oshiradi.

Avvalo, shuni ta'kidlash kerakki, har bir alohida organizmda, har bir alohida shaxsda patologik holat ko'pincha darhol emas, balki charchoqning to'planishi, kompensatsiyalanmagan stressli sharoitlar, ya'ni tibbiyotda nima ko'pincha kasallikdan oldingi holat deb ataladi. Kasalliklarni tasniflash, ularni bir necha asosiy guruhlarga bo'lish mumkin.

Iqtisodiy rivojlangan mamlakatlar aholisi, ayniqsa, shahar aholisi tomonidan iste'mol qilinadigan tozalangan oziq-ovqat mahsulotlarining ko'pligi, hayvonlarning yog'lari, shakar, turli xil konservalar, kolbasa, dudlangan go'shtlarni haddan tashqari ko'p iste'mol qilish - bularning barchasi ovqat hazm qilish tizimining bir qator tizimli kasalliklarining paydo bo'lishiga yordam beradi.

Inson muhiti "stress" ta'sirining manbai hisoblanadi. Bular, birinchi navbatda, fizik va kimyoviy stresslarning ta'sir etuvchi omillari. Jismoniy stress omillari yorug'lik, akustik yoki tebranish rejimining buzilishi, shuningdek,

elektromagnit nurlanish darajasi bilan bog'liq. Qoidaga ko'ra, ushbu omillarning me'yorlaridan chetga chiqish inson tanasi evolyutsion tarzda moslashtirilgan sharoitlar eng ko'p va eng ko'p buziladigan shahar yoki sanoat muhitiga xosdir.

Inson tanasi bu begona sun'iy moddalarga dosh bera olmaydi, chunki ularni zararsizlantirish uchun vositalar yo'q. Jismoniy va kimyoviy stresslardan tashqari, zamonaviy dunyoda odam ta'sir qiladi aholining haddan tashqari ko'payishi stressi, yirik shaharlar uchun xosdir. U shiddatli ijtimoiy hayotning ko'plab psixologik stressli vaziyatlariga tushib qoladi. Shu bilan birga, inson nafaqat real vaziyatlarda, balki virtual vaziyatlarda ham televizor, radio va shaxsiy kompyuterlardan keladigan ortiqcha ma'lumotlardan kelib chiqadigan stress omillariga duch kelishi muhim. Nihoyat, kiruvchi ma'lumotlarning tabiati (tarkibida) ko'pincha inson tanasini stressli sharoitlarga olib keladi. XX asr stressni atrof-muhitning ortib borayotgan talablariga javoban yuzaga keladigan inson tanasining o'ziga xos bo'lmagan reaksiyasi deb hisoblanadi. Bunday ta'rif turli sabablarga ko'ra yuzaga keladigan stresslar uchun maqbuldir va turli tirik tizimlarning moslashish mexanizmlarini tavsiflaydi. Hayvonlarda ham, odamlarda ham stress - bu organizmning o'ziga xos bo'lmagan neyrogumoral reaksiyasi bo'lib, atrof-muhit talablariga moslashish uchun asab va gumoral tizimlarni safarbar qilish orqali amalga oshiriladi. Stress holati barcha tirik mavjudotlarning ko'payishini tartibga soluvchi eng muhim omil hisoblanadi, ya'ni aholini nazorat qiluvchi omil.

Xullas, noqulay ekologik omillar va inson kasalliklari o'rtasidagi bog'liqlikni quyidagicha umumlashtirish mumkin.

1. Havoning kanserogenlar bilan ifloslanishi.
2. Oziq-ovqat va ichimlik suvining nitratlar bilan ifloslanishi va nitritlar, pestitsidlar va boshqa kanserogenlar.
3. Mikroelementlar bo'yicha hududning endemikligi.
4. Ichimlik suvining noqulay tarkibi va qattiqligi.
5. Ionlashtiruvchi nurlanish.

Bundan tashqari shaharlarning o'sishi, avtomobil transporti sonining ko'payishi, sanoatning rivojlanishi atmosfera havosidagi turli ifloslantiruvchi moddalarning ko'payishiga olib keladi.

Ifloslangan havoning salomatlik holatiga ta'sir qilish xavfi: turli xil ifloslanishlar (bundan tashqari, zararli moddalarning birgalikdagi ta'siri ular keltirib chiqaradigan toksik ta'sirning kuchayishiga olib kelishi mumkin); nafas olish harakati doimiy bo'lgani uchun katta ta'sir qilish ehtimoli; ifloslantiruvchi moddalarning tananing ichki muhitiga bevosita kirishi (nafas olish paytida havo deyarli barcha moddalar eriydigan qon bilan deyarli bevosita aloqa qiladi). Bundan tashqari, statsionar va ko'chma manbalardan havo havzasiga kiradigan gazlar, aerozollar va changlar issiqxona effekti, kislotali yomg'ir, tutun, ozon pardasining buzilishi kabi hodisalarni keltirib chiqaradi.

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OMMAVIY SPORT - SOG'LOMLASHTIRISH TADBIRLARINING JAMIYATDA SOG'LOM TURMUSH TARZINI TA'MINLASHDAGI O'RNI

Annotatsiya. Maqolada ommaviy sport - sog'lomlashtirish tadbirlarining jamiyat a'zolari uchun sog'lom turmush tarzini ta'minlab berishdagi ahamiyati xususida fikr yuritilgan. Hamda mamlakatimizda sog'lom va barkamol avlodni voyaga yetkazish davlat siyosatining ustuvor yo'nalishlaridan biri bo'lib, amalga oshirilayotgan chora-tadbirlar haqida ham so'z boradi.

Kalit so'zlar: O'zbekiston Respublikasi, jismoniy tarbiya, sport, ommaviy sport, sport sog'lomlashtirish, milliy sport bayramlari, sport turlari, jamoalar, tashkil etish, sport musobaqalari, ommaviy jismoniy tarbiya tadbirlari, "maktab ligasi", "talabalar ligasi", iste'dodli yosh sportchilar.

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PUBLIC SPORTS - HEALTHY EVENTS FOR A HEALTHY LIFESTYLE IN SOCIETY PLACE IN SUPPLY

Annotation. The article discusses the importance of public sports and wellness events in providing a healthy lifestyle for members of society. In our country, raising a healthy and well-rounded generation is one of the priorities of state policy. measures are also mentioned.

Key words: Republic of Uzbekistan, physical education, sports, mass sports, sports rehabilitation, national sports holidays, sports, teams, organization, sports competitions, mass physical education activities, "school league", "students league", talented young athletes.

O'zbekiston Respublikasida jismoniy tarbiya va sportni 2025-yilgacha rivojlantirish konsepsiyasining maqsadli ko'rsatkichlariga ko'ra O'zbekiston Respublikasida jismoniy tarbiya va sportni 2025-yilgacha rivojlantirish konsepsiyasini 2020-yilda amalga oshirish bo'yicha "Yo'l xaritasi" ishlab chiqilgan va Respublika tuman (shahar)larni ustuvor, istiqboldagi, rivojlanayotgan sport turlariga ixtisoslashtirish tasdiqlangan.

Konsepsiyada nazarda tutilgan maqsadli ko'rsatkichlar va asosiy yo'nalishlar har yili O'zbekiston Respublikasi Jismoniy tarbiya va sport vazirligining asoslangan hisob-kitoblariga ko'ra ushbu tadbirlarni

moliyalashtirish uchun ajratilgan budget mablag'lari doirasida Vazirlar Mahkamasi tomonidan tasdiqlanadigan "Yo'l xaritasi" orqali bosqichma-bosqich amalga oshirilishi belgilangan.

Jismoniy tarbiyaning ahamiyati, uning qiymati, bolalar salomatligi bilan chambarchas bog'liq hamda o'quvchilarning harakat faolligini oshiruvchi vosita sifatida qaraladi. Jismoniy tarbiyaning rivojlanishi ommaviy sport tadirilarini o'tkazish bilan bevosita bog'liq. Ommaviy sport tadirilariga turli xil sport musobaqalari, estafetalar, harakatli o'yinlar kiradi. Bunday o'yinlar, bayramlar qadim zamondan o'tkazilib kelingan. Masalan, har yili respublikamizda o'tkaziladigan milliy sport bayramlari, O'zbekiston Respublikasi mustaqillik davrida tiklana boshladi va yildan yilga uning keng ommaviyligi oshib bormoqda. Mashg'ulotlardan tashqari o'tkaziladigan sport tadbirlari, bayramlar o'quvchilarning harakat faolligini oshiradi, bolalar organizmiga ijobiy ta'sir ko'rsatadi hamda ularning faol dam olishiga imkoniyat yaratadi. Shuning uchun ham bunday tadbirlar bugungi kunda jismoniy tarbiyaning eng dolzarb masalalaridan biriga aylandi. Chunki bu o'tkaziladigan tadbirlar yoshlarning harakat faolligini oshirishga imkoniyat yaratadi. O'zbekiston Respublikasi Vazirlar Mahkamasining 2018-yil 16-iyuldagi "Davlat ta'lim muassasalari huzurida sport klublarini tashkil etish chora-tadbirlari to'g'risida"gi 542-sonli Qarorining mazmuni va mohiyati Qarorning maqsadi-o'quvchi yoshlar va talabalarning jismoniy tarbiya va sport bilan muntazam shug'ullanish tizimini takomillashtirish, iste'dodli yoshlarni saralab olish va sport turlari bo'yicha milliy terma jamoalar zaxirasini shakllantirish, shuningdek, sportchilarni tibbiy ta'minlash ishlarini tashkil etishdan iborat qilib belgilangan.

Qarorning 3-bandida. Quyidagilar sport klublarining asosiy vazifalari etib belgilangan:

- o'quvchilar va talabalar o'rtasida sog'lom turmush tarzini shakllantirish hamda jismoniy tarbiya va sportni keng targ'ib qilish, ularning muntazam ravishda jismoniy tarbiya bilan shug'ullanishlari uchun shart-sharoitlar yaratish;

- o'quvchilar va talabalar o'rtasida sport turlari bo'yicha jamoalar tashkil etish, ular o'rtasida turli sport musobaqalari va ommaviy jismoniy tarbiya tadbirlarini, xususan, "maktab ligasi", "talabalar ligasi" tashkil etish orqali iste'dodli yosh sportchilarni aniqlash;

- umumta'lim maktablarida o'quvchilar orasidan jismoniy tarbiya o'qituvchilarini jalb qilgan holda iste'dodli yoshlarni saralab olish (seleksiya) hamda bolalar va o'smirlar sport maktablari sport zaxirasini shakllantirish, sport musobaqalarida ishtirok etish uchun sport to'garaklari bo'yicha haftasiga kamida 4 soatdan sinfdan tashqari sport to'garaklari mashg'ulotlarini tashkil etish;

- jismoniy tarbiya va sport jarayoniga mashg'ulotlar o'tkazish uchun malakali trenerlar va mutaxassislarni jalb etish, shuningdek, ilg'or tajribani joriy qilish.

Yurtimizda sog‘lom va barkamol avlodni voyaga yetkazish davlat siyosatining ustuvor yo‘nalishlaridan biri bo‘lib, millat genofondini asrash, oilada, jamiyatda sog‘lom turmush tarzini shakllantirish, sport turida yuqori natija ko‘rsata oladigan qobiliyatli, iste'dodli sportchilarni qidirib topish, sport turlarini rivojlantirish hamda ularning ommaviylikini oshirish, iqtidorli sportchilarni saralash va yuqori malakali murabbiylarni tayyorlash, sport inshootlari quvvatidan to‘liq va samarali foydalanishniyo‘lga qo‘yishdan iboratdir.

Shuningdek, Oliy ta‘lim muassasalarida respublikamiz hududlarida barpo etilgan barcha sport inshootlari quvvatidan to‘liq va samarali foydalanishni yo‘lga qo‘yish, jismoniy tarbiya va sportni yanada rivojlantirish, sog‘lom turmush tarzini ommalashtirish, ta‘lim muassasalarida talabalarni sog‘lomlashtirish va muntazam sport bilan shug‘ullanishlari uchun sport seksiyalarini tashkil etish, talabalarining darsdan tashqari bo‘sh vaqtlarini mazmunli o‘tkazishlari uchun oliy ta‘lim muassasalari sport zallarida ular bilan o‘tkaziladigan sport tadbirlari va musobaqalar ko‘lamini kengaytirish, qolaversa, ommaviy sportni umumxalq harakatiga aylantirish bugungi kunning dolzarb masalalaridan biri bo‘lib hisoblanadi.

Yuqorida qayd etilgan vazifalarni amalga oshirishda oliy ta‘lim muassasalarida “Sog‘lomlashtirish” sport klubi faoliyatini yo‘lga qo‘yish orqali amalga oshiriladi. Talabalarni sport tayyorgarligi, ularni respublika va xalqaro musobaqalarga tayyorlash oliy va umumta‘lim muassasalarida tashkil etilgan sport klublari orqali yo‘lga qo‘yiladi.

Oliy ta‘lim muassasalari qoshida “Talaba” sport klublarini tuzish orqali talaba-yoshlarning darsdan tashqari ommaviy jismoniy tarbiya va sport-sog‘lomlashtirish tadbirlarini yanada takomillashtirish, iste'dodli yoshlarni saralab olish (seleksiya) va sport turlari bo‘yicha milliy terma jamoalari zaxirasini shakllantirish, oliy ta‘lim muassasalarining pedagog va boshqa xodimlarini sportga jalb qilish, shuningdek, sport klublari faoliyatini samarali yo‘lga qo‘yish, jismoniy tarbiya va sportni rivojlantirish, faollashtirishga hamda uning moddiy-texnik bazasini tubdan takomillashtirishga qaratiladi.

Sport tadbirlari – sport musobaqalarini, o‘quv-mashq jarayonini va sportchilar ishtirokida sport musobaqalariga tayyorgarlik ko‘rish bo‘yicha boshqa tadbirlarni o‘z ichiga oladigan tadbirlar.

Sport federatsiya, jamiyat, assotsiatsiya (uyushmasi) – bir yoki bir nechta sport turini rivojlantirish, ommalashtirish, shuningdek, sport tadbirlarini o‘tkazishni tashkil etish hamda sportchilarni – O‘zbekiston Respublikasining sport terma jamoalari a‘zolarini sportning tegishli turi bo‘yicha tayyorlash uchun a‘zolik asosida tashkil etilgan va davlat ro‘yxatidan o‘tkazilgan nodavlat, notijorat tashkilot.

Nizomga muvofiq “Ta‘lim to‘g‘risida”, “Jismoniy tarbiya va sport to‘g‘risida”gi, “Nodavlat, notijorat tashkilotlari to‘g‘risida”gi hamda O‘zbekiston Respublikasi qonunlariga muvofiq sport klubini tuzish, uning maqomi, faoliyat olib borishi va moliyalashtirish tartibibelgilangan.

Mamlakatda yuksak madaniyatga ega bo'lgan, har tomonlama yetuk hamda jismonan sog'lom insonni shakllantirish maqsadida, aholining jismoniy tarbiya va sport sohasida malaka va bilimlarini orttirishga qaratilgan ustuvor yo'nalishlarni belgilash, iqtidorli sportchilarni tanlab olish (seleksiya) jarayoniga innovatsion shakllar va usullarni joriy etish maqsad qilingan bo'lib, quyidagilar jismoniy tarbiya va sport tizimini isloh qilishning 2025-yilgacha asosiy yo'nalishlari etib belgilangan²²:

jismoniy tarbiya va sport bilan muntazam shug'ullanayotgan aholining umumiy sonini 30 foizgacha, sport tashkiloti va muassasalarida shug'ullanayotgan yoshlarning umumiy sonini 20 foizgacha oshirish;

davlat sport ta'limi muassasalarida trener va mutaxassislarning sifat tarkibi, xususan, oliy ma'lumotli xodimlar sonini bosqichma-bosqich 80 foizgacha yetkazish;

joylarda yoshlar orasidan iqtidorli sportchilarni tanlab olish (seleksiya)ning samarali va shaffof to'rt bosqichli – tashkilot-tuman (shahar)-hudud-respublika tizimini ishlab chiqish va joriy etish;

O'zbekiston Respublikasi Jismoniy tarbiya va sport vazirligi tizimidagi sport maktablari o'quvchi-sportchilari o'rtasida "Bolalar sport o'yinlari"ni o'tkazish orqali iqtidorli sportchilarni aniqlash va yoshlar terma jamoalariga zaxira yaratish hamda oliy ta'lim muassasalari talabalari o'rtasida "Talabalar sport o'yinlari"ni tashkil etish natijasida talabalarni sport bilan muntazam shug'ullanishga jalb etish;

aholining keng qatlamlari, jumladan, umumta'lim maktabi o'quvchilari, professional va oliy ta'lim muassasalari o'quvchi va talabalari o'rtasida jismoniy tarbiyani ommalashtirish, ular orasida iqtidorlilarini aniqlash maqsadida "Umumta'lim maktab sporti" festivali, "Jismoniy tayyorgarligi rivojlangan muassasa" ko'rik-tanlovini bosqichma-bosqich (tuman/shahar, hudud, respublika) o'tkazish tizimini ishlab chiqish va jismoniy tayyorgarlik darajasi rivojlangan eng yaxshi umumta'lim maktabi, professional va oliy ta'lim muassasasi nominatsiyasini joriy etish;

milliy sport turlarini rivojlantirish va ommaviyligini oshirish, ularni Osiyo va Olimpiya o'yinlari dasturlariga kiritish bo'yicha tizimli chora-tadbirlarni amalga oshirish nazarda tutilgan.

Ta'lim, sog'liqni saqlash, jismoniy tarbiya va sportga alohida e'tibor berildi. Aholining sog'ligini yaxshilash, yosh o'quvchi- talabalarning jismoniy rivojlanishi, ishchilar va ziyolilarning ish qobiliyatini va samaradorligini oshirish kabi masalalarga e'tibor kuchaytirildi. Borayotgan xalqaro talablar va zamonaviy standartlarni hisobga olgan holda iqtidorli sportchilarning qobiliyatini rivojlantirish kabi muhim yo'nalish ham e'tibordan chetda qolmadi.

22 O'zbekiston Respublikasi Prezidentining "O'zbekiston Respublikasida jismoniy tarbiya va sportni yanada takomillashtirish va ommalashtirish chora-tadbirlari to'g'risidagi" PF-5924-sonli Farmoni. Toshkent sh.,2020-yil 24-yanvar.

Shu bilan birga, hayotni kengaytirish va uning sifatini oshirish, sogʻlom turmush tarzini targʻib qilish orqali sogʻlom avlodni tarbiyalash, ham professional sportchilar, ham butun mamlakat aholisi uchun sport uchun sharoit yaratish masalalari ustuvor masalalar boʻlib qoldi.

Hozirgi kunda dunyo davlatlari oʻrtasidagi munosabatlar sport va intellektual qobiliyatlarni, inson salohiyatini va millat resurslarini namoyish etishda namoyon boʻlmoqda.

Rivojlanishning barcha jabhalarida tobora oʻsib borayotgan global raqobat sharoitida bugungi kunda dunyoning har bir mamlakati inson kapitali sifatini oshirish zarurati bilan duch kelmoqda, bu millat salomatligini - aqliy, jismoniy, maʼnaviy va intellektualni saqlashga yondashuvlarni tubdan qayta koʻrib chiqishni, barcha aholining jismoniy sogʻligʻini mustahkamlash toʻgʻrisida doimiy gʻamxoʻrlikni talab qiladi.

Oʻzbekiston Respublikasida jismoniy tarbiya va aholining turmush darajasining yuqori darajasiga erishish bu strategik vazifani - mamlakatni barqaror rivojlantirishni amaliy amalga oshirish doirasidagi muhim shartdir.

Xulosa qilib aytganda, Oʻzbekiston Respublikasini yanada rivojlantirish boʻyicha Harakatlar strategiyasini amalga oshirish doirasida ushbu muammoni hal qilishning asosiy omillaridan biri mamlakat aholisining barcha qatlamlari vakillari uchun butun umr davomida jismoniy tarbiya va sportga muntazam ravishda jalb qilish uchun zarur shart-sharoitlarni taʼminlashdan iboratdir.

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HISTORY OF ARCHAEOLOGICAL RESEARCHES IN SYRIA FOR PREHISTORIC SITES

Abstract. Despite the natural geographical borders of the Levant, its central location between the continents of the world made it a meeting place and communication center for many ancient civilizations. On the other hand, its location made it a center for conflicts between empires throughout the history. This fact resulted in a huge material legacy dating back to many ancient eras, including Pre-historic times and therefore has always been an important center for many archaeological missions in the recent past until now.

Key words: Syrian archaeology, Pre-historic period, prehistoric sites, Levant.

1. Introduction The geographical location, as well as the environment, had a great influence on the patterns of the different groups in the Levant (Syria, Lebanon, Palestine, and Jordan). If some natural features constitute geographical barriers and differ in form and nature from one region to another but the connections existed in the various ancient historical stages.

The Levant occupies a middle geographical location that made it a place of meeting and interaction between the civilizations of Asia, Europe and Africa. The natural environment gave it another advantage in terms of environmental diversity resulting from the difference in terrain. But the population was in Constant communication with the major civilizations that arose in neighboring regions, especially in Egypt, Mesopotamia (ancient Iraq, Mesopotamia), Anatolia, and others. Ancient discoveries and writings confirm the cultural ties between the Levant and other regions. Research conducted in this country also indicates that it has been inhabited since the earliest Stone Age similarly to the case in the coastal region, the desert, Yabroud near Damascus, and the mountainous and southern region of Syria. Kingdoms were formed during the historical eras after the discovery of writing at the end of the fourth millennium BC, during the Bronze Ages (the third and second millennium BC), such as Mari in Tell al-Hariri, Ugarit in Ras al-Shamra, Ebla in Tell Mardikh, and Qatna in Tell al-Mushrifa they were formed during the first millennium, the Iron Age, the Aramaic kingdoms in the Syrian interior and the Phoenician kingdoms on the coastal region. Of course, there are many cities that have not been studied because they are occupied by the

current residents and it is impossible to move them to another place without conducting the required studies.

As for the southern region of the Levant (Palestine and Jordan), Western researchers, took a place from the nineteenth century, relied in their knowledge of the Holy Land on the information contained in the Holy Bible, especially in the Old Testament book "The Torah," in addition to what was stated in the reports of travelers, explorers, and geographers, where it began Westerners conducted random archaeological excavations in various areas, then a number of institutes were established in Europe and the United States of America to study the sacred area and uncover its antiquities. Before organized missions such as Albright were formed. Albright W.F.: 1966, who excavated sites mentioned in the Old Testament. After World War I, the Allied countries shared influence in the Levant. Syria and Lebanon were under the French mandate, and Palestine and Jordan were under the British mandate. During that period, the number of archaeological missions increased and ancient settlement centers were discovered in the region. We will present the most important of them In this study, as it is not possible to mention all the Heritage sites in Syria. The General Directorate of Antiquities and Museums has more than ten thousand registered sites in Syrian territory, and before the war broke out in Syria in 2011, there were more than one hundred and twenty excavation and exploration missions working in Syrian archaeological sites. Therefore, we will choose some important sites from them to cover some of the features of the civilizations that rose on Syrian soil.

2. History of archaeological research in prehistoric times

Excavations in Syria have generally shown that they are not ancient and were initially the result of simple and limited individual works. But the first stage of systematic and scientific research into the Syrian Stone Age dates back to the thirties of the twentieth century (the last century) with the discoveries of the German researcher Alfred Rust (A. Rust) in the Sakfta Valley in Yabroud, who came to Syria and excavated from 1930-1933, and discovered three Rock caves were given numbers 1-2-3. In the first shelter, traces of Homo sapiens and Neanderthals were found, stacked on top of each other at a thickness of more than ten metres, collected over a period of time that lasted between about 200 and 60 thousand years BC. This excavator identified 25 archaeological layers, each of which represents an independent civilization, dating back to a human group that frequented this shelter over that long period of time. While traces of the Upper Paleolithic were found in the second shelter, and in the third shelter, remains of the Mesolithic and New Stone Age were found, indicating a rare continuity in that region. Mr. Rost published the results of his excavations in Yabrud in a book in German, "Finds of the Magha'ir of Yabrud" (Die Hohlen. Fubd Von Jabrud).

At the second stage, it was conducted by the Dutch researcher Van Liere, who conducted a preliminary survey in various regions. During which he discovered many sites, the most important of which was Al-Lataminah in the

Orontes Basin, which represents an intact camp floor dating back more than half a million years.

The third phase was characterized by salvage excavations in the 1960s and 1970s before the construction of dams in the middle Euphrates Basin. As for the fourth and final phase, which began in the early nineties of the last century, excavations took place in dozens of sites, especially in the Al-Koum region in the desert, the most important of which are the Nadawiya site dating back to the Paleolithic Age, the Umm Al-Tilal site, and the Dederiyeh Cave northwest of Aleppo in the Afrin region, which it dates back to the Middle Paleolithic. There are discoveries in the Khabur Basin and the Upper Euphrates, where many of the aforementioned sites were uncovered.

3. Wahat Al-Koum

The Kom Oasis is located halfway between the city of Palmyra and the Euphrates River. This oasis consisted of an important group of diverse local water points linked to natural springs, with approximately sixty springs in a small area, which allowed for the establishment of habitation since the Paleolithic period. The beginning of systematic research was through archaeological surveys carried out by Jacques Covan in 1978, and starting in 1980, Loren Copeland, Francis Orr, Sultan Muhaisen, and Jean-Marie Letonsurer conducted systematic discoveries that revealed the richness and importance of this region.

Excavations for Paleolithic sites began in 1989 at the Nadawiya site (Ain Askar) and later at the Al-Hamal site by a Syrian-Swiss team from the Universities of Basel and the University of Damascus in cooperation with the General Directorate of Antiquities and Museums in Syria (which is the responsible party for antiquities in Syria). A team from the University of Paris visited the site of Umm al-Talil, in an area of 400 km² and more than 140 sites dating back to the Paleolithic era. It was found that this vast oasis is an exceptional archive, due to its length and distinguished preservation from the beginning of its settlement of the Levant until the present day. (Muhaisen Sultan, 2009)

4. Dederiyeh Cave

This cave is located on the left bank, approximately 60 km north of the city of Aleppo. A joint Syrian-Japanese archaeological mission was carried out between 1989 and 2011, and archaeological excavations showed a long history of settlement in the cave, starting early 400 thousand years ago until late in the Stone Ages, where Neanderthals lived, and the most complete skeletons of Neanderthals were discovered in the world. (Akazoa, T, Muhesen, S, 2003)

5. Qaws Qazah in the Damascus countryside

It is located near the town of Maaloula, north of Damascus. It was discovered by a team from the German University of Tübingen, led by Nicholas Conard, in the year 2000 to 2006. The site contained antiquities, some fluorescent tools, and burials dating back to the Paleolithic and Middle Stone Ages, and even the Neolithic Age.

6. Abu Hurairah site (Raqqqa Governorate)

It is located in the Euphrates Basin in an area that was flooded with water from the Tabqa Dam on the river. Excavations took place in 1972 and 1973, as part of the archaeological rescue campaign that took place during the construction of the dam. When dams were built on the Euphrates River, the Syrian government Requested UNESCO to assist in a rescue campaign. To study the area that would be flooded with dam water, dozens of universities and research centers came together to contribute to this campaign.

This site is considered one of the largest prehistoric villages. Its importance is due to its large area and ancient civilizational sequence. It documents a transitional stage in human life from the stage of hunting and gathering fruits and plants to agricultural life (the transformation of man from the state of a consumer of what nature provides to a producer of food through agriculture and domestication Some pets). (Van Loon, M,1968)

7. Al-Muraibet site (Aleppo)

This hill is located To the east of Aleppo city of the city of Aleppo, on the left bank of the Euphrates River. The hill was discovered by researcher Van Loon from the University of Chicago - USA - then archaeological excavations were carried out by Professor Jack Covan, and continued from 1971 - until 1974, before it was submerged. The hill with water from the dam built on the riverbed.

Inhabitation at Tell Al-Mureibt extends for 2000 years, from 10,200 - 8,200 BC (BC B, C). It was determined through excavations that the Neolithic Revolution (the New Stone Age revolution) and the Nolta (spread of agriculture) are called the changes that occurred since the end of the ninth millennium BC. Birth, which lasted for several thousand years, proved through excavations that there were profound transformations in human thought, a "revolution of symbols" that was the driving force for the emergence of agriculture and animal domestication. The results obtained by a team were collected in a special study published in 2008 after his death, and this site appears to be the oldest place where humans practiced agriculture. (Van Loon, M,1968)

8. Jorf al-Ahmar (Aleppo)

It is considered one of the most important settlement sites in the Upper Euphrates Basin, north of Muraibet on the left bank. Settlement at the site dates back to the period between 9500 - 8700 BC.

The site was discovered by Tom MacLellan in 1980. Emergency excavations took place at the site due to the construction of a new dam on the course of the Euphrates River, by the joint Syrian-French mission, directed by Daniel Stordor and Bassam Jamous, between the years 1995-1999. It was found that there was a group of collective works. It was carried out as in the construction of houses on terraces that were planned, created and used collectively. These communal buildings were built and supported by small walls and were semi-developed underground, and the oldest ones were divided by radial walls. (Stourdeur, D, Bassam, J, 1996)

9. Jadah Al-Maghara (Aleppo)

It is located on the course of the Euphrates River. It was studied and excavated as part of rescue campaigns before the Tishreen Dam was erected on the course of the river, managed by Eric Colenco (NRs, France). Excavations at the site resulted in the discovery of archaeological layers, most of which date back to the ninth millennium BC. (Coqueugniot, E, 1998) (Dja,de el Mughara, 1997)

10. Tal Haloula (Aleppo)

It is located near the city of Manbij, northeast of the city of Aleppo. The site consists of a Hill with 11 meters high, above the valley. It was excavated by a team from the University of Barcelona, led by Miguel Molest, in cooperation with the General Directorate of Damascus, within the framework of the international rescue campaign for the archaeological and historical heritage threatened by the construction of the Tishreen Dam. In the Upper Euphrates Valley, after the study it was found that the site dates back to the Neolithic Age (pre-pottery B periods), which is a settlement phase covering more than two thousand years from 7800-5400 BC. (Molist, M, 1997)

11. Al-Ahimar Sukar, Al-Hasakah

It is located in the Khabur Basin in Al-Hasakah Governorate. The settlement dates back to the Neolithic period (Pefor P0ttery Neolithic B). The site was discovered in 1991, and excavated by a mission from the University of Tokyo for eleven seasons, in the period between 2000-2010, and covers the period from 7300 - 6500 BC. A series of important discoveries contributed to significant progress in the emergence and development of ancient farmer societies, as architecture was identified, the use of flint tools, and the making of dolls, especially for the mother goddess, and some antiquities such as pottery vessels dating back to the Pre-Hassouna period, which shed light on reconsidering the general framework of the era. Neolithic in Syria. (Karen, 2018)

12. Sher Hama

It is located northwest of the city of Hama in central Syria, at a distance of 125 km. The site was discovered in 2005 during archaeological surveys and Was later excavated between 2006 and 2010. The site was excavated by a German mission led by Karin Barthel from the German Goethe Institute in Damascus.

The chronology and settlement at the site covers almost the entire seventh millennium BC, from 7000-6200 BC. Then, buildings consisting of rooms, warehouses, female dolls, and small and large pottery vessels for storage were uncovered. (Karen, 2018)

13. Tal Al-Abr, Aleppo

The hill dates back to the Ubaid and Uruk eras, in the fourth millennium BC. It is located on the eastern bank of the Euphrates River, 55 km south of the town of Jarablus, located on the Syrian-Turkish border. Its name indicates that it was once a crossing point on the Euphrates River from the right bank to the left bank. The excavation of the hill by a joint Syrian-Japanese mission revealed sequential archaeological layers tracing the details of the development of slave

pottery at the site, in addition to colored pottery. Then, facilities were uncovered that were linked to the activity of potter-makers, such as ovens, worker's rooms, and warehouses. (Hamada, 1989)

14. Shaghar Bazaar (Al-Hasakah)

An archaeological hill located in northeastern Syria in the fertile plains with the waters of the Khabur and its other small tributaries. Dating back to the Halaf era and later, the site was first excavated by Sir Max Mallowan in 1943 under the supervision of the British era. A new, advanced project was started at the site in 1999 by a joint mission from the General Directorate of Antiquities and Museums in Syria and Linge University. (MallonmME, 1947) (Syria in 100 archaeological sites, 2018)

15. Tal Al-Karkh (Idlib)

Karkh Hill is considered one of the largest archaeological hills located in northwestern Syria. It is a huge complex located to the south of the Al-Ruj Plain in Idlib Governorate. It was excavated by Akira Tsuneki from Tsukuya University in Japan. The hill was settled for long periods extending from the Neolithic period until the Byzantine period. The site provides information on how agricultural villages appeared in the region, based on plant remains and animal bones. Excavations at Tell Al-Karkh indicated the existence of a livelihood resource for the first settled societies, which seem to have followed the same path from the hunting and gathering stage (Natufian stage) to the agricultural and herding stage. (Tsuneki A, 1999)

16. Tal Al-Sabi Abyad (Raqqa)

It is considered one of the most important prehistoric sites in Syria. It was excavated by Peter Akkermans from the Dutch University of Leiden. Twenty-five organized archaeological excavations and research showed a long and continuous series of settlement, the like of which was not known in any other site from the Neolithic period until now 7100 - 5500 BC, unique buildings were identified such as the burned village, ancient pottery in its early stages, rare management tools through seals and their prints, tombs and buildings from the Neolithic period, in addition to fortified Assyrian architecture. (Akkermans P, M, shwartz, G, 2003)

17. Tall AL Ramad

Tall AL Ramad is a hill located 25 km southwest of Damascus in the eastern Qatana Valley, on the slopes of Mount Hermon. Its area exceeds 3 hectares, and the thickness of the archaeological layers in it reaches six meters. The hill was called the Tall AL Ramad because of the color of the hill resulting from the abundance of ash, while it was previously called Tall Qatana.

The hill was known for the first time when the Frenchmen Prevost and Conpin visited the hill in the 1930s. Then, Mr. Conpin conducted a sounding in conjunction with a French army officer (Pouteau), and collected many samples and artifacts.

A French excavation mission was formed in the 1960s and was directed by Henri de Contanson, and work continued Between 1963-1973. Antiquities dating

back to the Neolithic era were uncovered, distributed over three layers: 6250-6000 BC, 6000-5800 BC, and 5800-

An agricultural settlement was discovered on the hill. The people of this settlement lived in adjacent houses in the form of huts, some of which were circular in shape. Before the site turned into a pastoral settlement, its Population relied on raising animals after agriculture declined. (De Contenson, H, 1995)

18. Habouba alkabira

Urbanization developed in the second half of the fourth millennium BC, and settlements were found in a network of villages and small cities that were administered by large cities. This phenomenon spread in northeastern Syria, the Euphrates Basin and southern Iraq, where huge buildings, temples, and walled cities were located, including the city of Habouba.

It is located on the right bank of the Euphrates River near the village of Habouba, 80 km east of Aleppo.

Excavations began as part of rescue campaigns before the area was flooded with the waters of the Tabqa Dam in the seventies of the twentieth century. It was excavated by a German team from the German East Association from 1969 to 1974, and a city emerged that was built according to a prior plan, surrounded on its three sides by a wall with towers at equal distances and symmetrical gates. The city's streets were designed criss-crossing. As for the huge buildings used as administration or temples, they were in the nearby Tal Qannas and Mount Aruda. (Strominger, Eva, 1975)

19. Hamokar

Tell Hamukar is located in eastern Syria on the eastern edge of the Khabur Basin, on the trade route between Mesopotamia and western Syria. Excavations began in 1999 by a joint Syrian-American mission from the Oriental Studies Institute in Chicago and the General Directorate of Antiquities and Museums, directed by M. Gibson from 1999-2001, then resumed in 2005 under the direction of Clemence Rachel.

C.Reichel and continued until 2010. The discoveries contributed to the reconsideration and the emergence of cities at the beginning of the fourth millennium BC in this site or the contemporary Tell Brak. (Gibson M, Reichel, C, 2000)

20. Conclusion

Given the huge tangible and intangible heritage that the Levant region in general and Syria in particular possess, dating back to various ancient times, it still needs a lot of national and international efforts in the field of archaeological research. This is due, firstly, to the huge material heritage, secondly, to the relatively small number of archaeological missions operating in the region, and thirdly, due to The war conditions led to the obstruction and cessation of the work of many archaeological missions, which also led to damage and destruction in some important sites. All of these factors indicate the necessity of intensive work

at various scientific and administrative levels to preserve and document what can be saved after the war.

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XAVFSIZ HARAKATNI TASHKIL ETISHDA MEHNAT MUHOFAZASI FANINI O'QITISHNI O'RNI

Annotasiya. Ushbu maqolada zamonaviy fan va texnika taraqqiyoti ishlab chiqarishda yuqori samarali va xavfsiz texnologiyalarni, mehnatni tashkil qilishning ilg'or usullarini tadbiiq etish va shu bilan birgalikda ushbu soha uchun yuqori malakali o'rta bo'g'in kadrlari tayyorlashni talab qiladi. Ularning sanoat korxonalarida xavfsiz mehnat qilishlarini ta'minlash ularga sog'lom mehnat sharoitlarini yaratish, jarohatlanish va kasb kasalliklarining oldini olish usullarini o'rgatish orqali amalga oshiriladi.

Kalit so'zlar: Ekologik xavf, homo agens, global iqlim o'zgarishi, mehnat xavfsizligining nazariy asoslari, kimyoviy va toksik moddalar, ekologik inqiroz, suvlarini tuzsizlantirish, mahsulotga rang berish, maishiy va qattiq chiqindilar, rekultivatsiya, poligonlar.

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THE ROLE OF OSH TRAINING IN ORGANIZING SAFE TRAFFIC

Abstract. In this article, the development of modern science and technology requires the application of highly effective and safe technologies, advanced methods of labor organization in production, and at the same time the training of highly qualified middle-level personnel for this field. Ensuring their safe work in industrial enterprises is carried out by teaching them methods of creating healthy working conditions, preventing injuries and occupational diseases.

Key words: Ecological risk, homo agens, global climate change, theoretical bases of labor safety, chemical and toxic substances, environmental crisis, water desalination, product coloring, household and solid waste, reclamation, landfills.

Mamlakatimizda amalga oshirilayotgan iqtisodiy va siyosiy sohalaridagi barcha islohotlarning asosiy maqsadi yurtimizda yashayotgan barcha fuqarolar uchun munosib hayot sharoitlarini yaratib berishga qaratilgandir. Albatta, munosib hayot sharoitini yaratish ilmiy-texnik taraqqiyot asosida amalga oshiriladi va bu inson mehnatini yengillashtirish bilan bir qatorda, turli xil xavfli faktorlarni vujudga keltiradiki, natijada har xil ko‘rinishdagi baxtsiz hodisalar: jarohatlanishlar, shikastlanishlar va kasb kasalliklari vujudga keladi. Lekin, bu muqaddas zaminda yashayotgan har bir inson yaxshi yashashni, ya’ni o‘zining moddiy-ma’naviy va ijtimoiy ehtiyojlarini to‘liqroq qondirishni istaydi. Aynan shu sababli inson tinimsiz faoliyatda bo‘ladi. Faoliyat – insonning yashashi uchun zarur bo‘lgan asosiy shart-sharoitlardan biridir. Mehnat – faoliyatning oliy shaklidir. Falsafiy nuqtayi nazardan olib qaraganda, «inson» tushunchasiga eng xos aniqlanish «Homo agens», ya’ni «Harakatdagi inson»dir. Albatta, faoliyat va mehnat shakli turlicha bo‘lib, u hayotdagi ishlab chiqarish, madaniyat, jamoat ishlari, ilmiy ishlar va boshqa sohalaridagi amaliy, intellektual hamda ma’naviy jarayonlarni o‘z ichiga oladi.

Asosiy qism: «Mehnatni muhofaza qilish» fani insonning ishlab chiqarishdagi faoliyatida sodir bo‘ladigan turli shakldagi xavflarni bartaraf etish va ulardan himoyalani sh yo‘llarini o‘rganishga qaratilgan nazariy fandır. U keng qamrovli ilmiy-amaliy izlanishlar va tadqiqotlar asosida rivojlanib, takomillashib boradi [1]. Insonning mehnat xavfsizligini ta’minlashda ilmiy nazariy izlanishlar asosida vujudga kelgan qonunlar, nizomlar, standartlar, ko‘rsatmalar, qoidalar va sanitar texnik me’yorlar hamda ularni o‘rganish bo‘yicha uzluksiz ta’lim-tarbiya tizimini vujudga keltirish, uni rivojlantirish muhim o‘rin tutadi. Mehnatni muhofaza qilish fanining asosiy maqsadi talabalarga insonning ishlab chiqarishdagi mehnat faoliyati davrida yuzaga keladigan xavfli faktorlar, ularning kelib chiqish sabablari va bartaraf etish yo‘llari, mehnat xavfsizligini ta’minlash hamda xavfsiz va sog‘lom ish sharoitlarini yaratish bo‘yicha nazariy bilim berish va amaliy ko‘nikmalar hosil qilishdan iboratdir [2]. Yuqoridagilarga mos holda talabalar fanni o‘rganish davomida quyidagilarni nazariy jihatdan o‘zlashtirishlari lozim:

- mehnat xavfsizligining nazariy asoslari. Ergonomika va mehnat xavfsizligi psixologiyasi haqida tushuncha;
- mehnat xavfsizligini ta’minlovchi asosiy tamoyillar, uslublar va vositalar tizimi; – mehnat xavfsizligini boshqarish asoslari;
- mehnat xavfsizligining huquqiy va tashkiliy asoslari. Mehnatni muhofaza qilish bo‘yicha qonunlar, standartlar tizimi, nizomlar, ko‘rsatmalar, ishlab chiqarish sanitar yasi me’yorlari va boshqa me’yoriy hujjatlar:
- ishlab chiqarishda mehnat xavfsizligini ta’minlash, sog‘lom va xavfsiz ish sharoitlarini yaratish bo‘yicha rejali tadbirlar mazmuni, uni ishlab chiqish tartibi;
- ishlab chiqarishdagi baxtsiz hodisalarni tahlil qilish, ularni tekshirish va hujjatlashtirish tartiblari;

– mehnat xavfsizligini ta'minlashning iqtisodiy samaradorligini oshirish, baxtsiz hodisalar sabablarini aniqlash uslublarini o'rganish;

– xavfsiz mehnat sharoitini ta'minlashga qaratilgan shaxsiy himoya vositalari bilan ishchi-xizmatchilarni ta'minlash tartibi va ulardan foydalanish yo'llari.

Ishlab chiqarish binolardagi ish o'rinlarida havoning harorati, nisbiy namligi va harakat tezligining yo'l qo'yiladigan me'yorlari [4]

Yil fasli	Ish toifalari	Havoning harorati, °C	Nisbiy namligi, %	Harakat tezligi, m/s
Sovuq mavsum	yengil –I	20-23	60-30	0.2
	o'rtacha og'irlikdagi-II ^a	18-20	60-40	0.2
	II ^b	17-16	60-40	0.3
	og'ir –III	16-19	60-40	0.3
Iliq yoki o'tish davri	yengil –I	20-25	60-40	0.2
	o'rtacha og'irlikdagi-II ^a	21-23	60-40	0.3
	II ^b	20-22	60-40	0.4
	og'ir –III	18-21	60-40	0.5
Issiq mavsum	yengil –I	20-30	60-30	0.3
	o'rtacha og'irlikdagi-II ^a	20-30	60-30	0.4-0.5
	II ^b	20-30	60-30	0.5-0.7
	og'ir –III	20-30	60-30	0.5-1.0

Xulosa.

Mehnatni muhofaza qilish – ishlab chiqarishdagi mehnat xavfsizligini ta'minlashga qaratilgan vositalar usullar majmuidir. Demak, insonning mehnat xavfsizligini ta'minlash birinchi navbatda uning mehnat faoliyati jarayonini va uni amalga oshirishda yuzaga keladigan xavfli faktorlarni o'rganishni talab etadi. Bunday muammolarni bartaraf etishda, xavfsiz harakatni tashkil etishda mehnat muhofazasi fanining o'zni kata ahamiyat kasb etmoqda.

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CHLORELLA – REPRESENTATIVE OF GREEN ALGAE USE OF CHLORELLA IN POULTRY FARMING

*Annotation. The deterioration of the ecological parameters of the natural environment due to the increasing influence of the anthropogenic factor leads to a decrease in the content of micro- and macroelements and organic substances in animal feed. One of the ways out of this situation is the use of plant materials, hydrobionts, fungi, biotic elements and a number of other products of natural origin, one of which is the green microscopic algae - chlorella. The article is devoted to the technology of growing *Chlorella vulgaris* and its use as a premix for farm animals.*

Key words: chlorella, microscopic algae, nutrient medium, protein, carbohydrates, lipids, vitamins, suspension, food.

The deterioration of the environmental situation, which arose in the process of technogenic pressure, is a serious obstacle to providing the population of our country with environmentally friendly food [2; 3]. Technogenic pollution directly or indirectly, through complex biogeocenotic chains, affects the human body and animals, as a result of which the morbidity and mortality of animals increases, and their productivity decreases.

One of the reasons for this situation is the use in livestock farming of drugs obtained by chemical synthesis and antibiotics as fertilizers and prophylactic agents [1; 2; 3].

In accordance with the European Union's requirements for the safety of feed and food products, established since January 2006, a ban on the use of a number of antibiotics and other drugs obtained by chemical synthesis forces producers to look for alternative replacements. In this regard, the search for effective and safe sources of raw materials for the development of premixes and medicinal products is currently of particular relevance. One of the ways out of this situation is to use plant materials, hydrobionts, fungi, biotic elements and a number of other products of natural origin as alternative sources.

Chlorella is an active producer of proteins, carbohydrates, lipids and vitamins, with an easily adjustable ratio of these compounds when changing cultivation conditions: if, when grown on ordinary mineral media, its dry biomass contains 40-55% protein, 35% carbohydrates, 5-10% lipids and up to 10%

minerals, then by changing the ratio of the components of the medium it is possible to obtain biomass of the required composition: 9-88% protein, 5-86% lipids, 6-38% carbohydrates. *Chlorella* develops on a nitrogen-rich medium, accumulates predominantly protein; when nitrogen is deficient, it synthesizes mainly fats and carbohydrates; the addition of glucose and acetate to the medium leads to an increase in the content of carotenoids, etc. In terms of the quality of the proteins and vitamins produced, *chlorella* surpasses all known feed and food products - protein contains all the necessary amino acids, including essential ones. By correctly selecting a nutrient medium, the necessary ratio of various substances is formed in terms of quantitative and qualitative indicators.

Chlorella can be grown both on mineral media and on media of natural organic fertilizers; waste from livestock and poultry complexes, as well as domestic and industrial wastewater can be used.

The chemical composition of *chlorella* is subject to significant fluctuations depending on growing conditions. When *chlorella* is grown on mineral media, it accumulates more protein and carotene, and on organic media it accumulates more fat and carbohydrates [3; 5].

Recently, in the livestock industry, the question of the need to introduce new technologies for keeping and feeding farm animals has increasingly arisen. One of them is the use of *chlorella* biomass as a feed additive and preventive agent against diseases. Its introduction in the form of a suspension into the diet of animals and birds can significantly replace expensive vitamin and drug preparations.



Chlorella is a representative of green algae - microscopic aquatic plants, which includes 20 species. The most famous and widespread is *Chlorella vulgaris*, which forms huge clusters in ditches, ponds and muddy puddles. *Chlorella* is widespread almost everywhere, as it is undemanding to the environment and multiplies quite quickly. Representatives of the genus can be found in fresh and salty bodies of water and highly moist soils.

The study of the properties and cultivation of *chlorella* is of interest due to its usefulness when used as feed additives and intensive accumulation of biomass. It is used for experimental experiments in ecological closed life support systems. Representatives of this genus release a lot of oxygen during photosynthesis during

their life. This feature made it possible to use it for air regeneration in spaceships and submarines.

Algae protein contains many useful vitamins, microelements and amino acids. In terms of nutritional value, it is compared to beef meat. Chlorella is also used to make medications - it enhances the protective functions of the immune system, is an analgesic, reduces blood pressure, and removes heavy metal compounds. Algae is also used for wastewater treatment.

For the industrial cultivation and use of microscopic algae, including Chlorella vulgaris, it is necessary to create favorable conditions (lighting and temperature, carbon dioxide concentration, mixing) and select an optimal nutrient medium that satisfies the physiological needs of the algae for growth and development. The nutrient medium in its composition must correspond to the conditions under which the species lives in nature. Nutrient media used for the cultivation of Chlorella vulgaris contain macro- and microelements that ensure normal cell functioning.

Based on the above, the purpose of this work is to determine the optimal nutrient medium for the cultivation of chlorella.

Materials and methods. Research work was carried out in the laboratories of the departments of "Pharmacology and Toxicology" and "Biotechnology" of the Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology.

The subject of the study was microscopic algae - chlorella. As a cultivation medium, we used a special medium with a certain concentration of mineral elements (KNO_3 - 0.1%, $\text{Ca}(\text{NO}_3)_2$ - 0.01 g/l, K_2HPO_4 - 0.02 g/l, $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ - 0.01 g/l, $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$ * 0.0001 g/l) based on farm wastewater, as well as in the form of control options, a medium made of mineral elements (Knop solution) and on livestock wastewater. The prepared media were poured into 3 flasks with a capacity of 500 ml, 300 ml in each.

30 ml of chlorella stock suspension was added to each flask. The results were taken into account by changes in the optical density of the culture after 24, 48 hours and on the 8th day of the experimental period.

Research results. The chemical composition of chlorella is subject to significant fluctuations depending on growing conditions. When chlorella is grown on mineral media, it accumulates more protein and carotene, and on organic media it accumulates more fat and carbohydrates. Studies have established that the growth rate of microalgae varies depending on the nutrient medium. At the same time, during the first day, an increase in the number of cells was observed in all flasks studied. In particular, in the first variant the amount of chlorella increased 4 times. In the second and third flasks, with the corresponding nutrient media, 1.0 and 1.4 mg, respectively.

Accounting of the results, carried out after 48 hours of cultivation, showed that in the first flask the number of chlorella, in relation to the initial indicators, increased by 3.7 times, in the second - 1.5, in the third - 1.2 times. By the end of

the study (day 8), the amount of chlorella in the first flask increased 8.5 times, in the second – 5.3 times. In the third flask with waste water, the number of cells increased in small quantities (3.2 times).

We also determined the amount of total and individual wet and dry biomass of *Chlorella vulgaris* studied in vitro. It has been established that algae produce different amounts of biomass on nutrient media “04” and Knop in laboratory conditions.

The wet and dry biomass of algae was determined 15-18 days after planting them on nutrient media. For this purpose, algae cultures grown in 100-250 ml flasks and aquariums were used.

To determine the biomass of the resulting chlorella, clean filter paper was first weighed on an electronic balance. The flask in which the algae was grown was thoroughly shaken. Then 10 ml of algae suspension was taken, poured onto filter paper and weighed together with the paper. The result obtained was multiplied by 100. The resulting number is the mass of chlorella in 1 liter of nutrient medium.

Then, together with the filter paper, they were kept in an oven at a temperature of 105°C for 30 minutes. The filter paper was then weighed again. This number is subtracted from the previous number and converted to 1 liter. The resulting number is the dry biomass of chlorella.

The experimental results are presented in Table 1.

1-table

Amount of wet and dry biomass of *Chlorella vulgaris*.

Nutrient medium	Biomass amount mg/l	
	Wet biomass	Dry biomass
«04»	111,9±1,2	1, 2122±0,5
Knop	103,3±2,2	1, 1002±1,1

When growing algae on the Knop nutrient medium for 15-18 days, it was found that the result was slightly lower than on the 04 nutrient medium. According to the data presented in Table 1, it can be seen that the nutrient medium “04” is up to 10% more effective than the Knop nutrient medium.

The grown chlorella was used as a dietary supplement to the main feed for Japanese quails.

Quail farming is a cost-effective industry. This is due to the high physiological precocity of quails, the small areas required for poultry breeding, the high quality of quail eggs and meat, resistance to diseases and many other indicators [3].

One of the promising directions for increasing the productivity of quails is the inclusion of various biological additives and non-traditional feeds in their diet. Among dietary supplements, one of the most promising is chlorella.

The real purpose of our research was to study the effect of the feed additive of chlorella suspension on the productivity of quails (egg production, egg quality and meat).

For the study, three groups of quails were formed: the first - control, the second and third groups - experimental. During the research, the experimental second group was given a multivitamin complex for poultry, and the third group of quails, throughout the entire production cycle of poultry use, was given a suspension of chlorella (*Chlorella vulgaris* strain IFR No. C-111 at a concentration of 30-40 million cells in 1 ml) in the diet in the amount 2.0% by weight of the feed, respectively. Chlorella suspension was not included in the diet of the control and first experimental groups.

Our research has established that the introduction of a chlorella suspension into the diet of quails affected the feed intake of quails in the experimental groups. Thus, in the control it was 85.3%, and in the first and second experimental groups it was almost the same - 98.5-98.7%.

Chlorella has been found to have beneficial effects on meat and egg quality due to increased concentrations of omega-3 polyunsaturated fatty acids and carotenoids, as well as on performance indicators and immune function [3].

In our studies, we determined the dynamics of body weight growth in quails over a period of 60 days. The live weight of the quails of the experimental group at the beginning of the experiment was 76.6 g, at the end of the experiment - 186.2 g; in the second experimental group - 80.9 and 153.4 at the beginning and at the end of the experiment, in the control group - 80.2 g and 147 g, respectively. The death rate of quails by the age of 60 days in the experimental group 1 was 2 pieces, in the second group 1 piece, and in the control group 5 pieces. The safety of quails at 60 days of age was 90% in the 1st experimental group, 95% in the second experimental group, and 80% in the control group, respectively.

And so, the inclusion of *Chlorella vulgaris* in the diet of quail poultry makes it possible to improve zootechnical and economic indicators, in particular, improve their safety, increase the live weight of quails by 9.8%; reduce quail mortality.

Conclusions. Thus, we can conclude that chlorella can be grown on pure mineral media, but then the amount of biomass formed will be less than in a balanced (mineral elements + mullein) nutrient medium.

In the studies carried out, intensive growth of chlorella was observed when using the nutrient medium "04", enriched with mineral elements with the addition of mullein.

It is safe to say that when growing quails, adding chlorella to feed has a positive effect on increasing live weight.

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DAVLATNING MOLIYAVIY SIYOSATI: TARKIBIY QISMLARI VA TAHLILI

Annotatsiya. Moliyaviy siyosat davlatning iqtisodiy va ijtimoiy siyosatini amalga oshirish vositasi hisoblanadi va shu ma'noda yordamchi rolni o'ynaydi. Bir vaqtning o'zida davlat siyosatining boshqa milliy, geosiyosat, harbiy yo'nalishlari ham mavjudligini esdan chiqarmaslik kerak. Ana shu barcha besh yo'nalishning (iqtisodiy, ijtimoiy, milliy, geosiyosat, harbiy) yig'indisi davlat siyosatini amalga oshirishdagi asosiy vosita sifatida xizmat qiladigan moliyaviy siyosatni aniqlab beradi.

Kalit so'zlar: Moliyaviy siyosat, iqtisodiy siyosat, moliya mexanizmi, moliyadan foydalanishning metodlari, moliyaviy siyosatning tarkibiy qismlari (yo'nalishlari), moliyaviy munosabatlar.

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STATE FINANCIAL POLICY: COMPONENT PARTS AND ANALYSIS

Abstract. Financial policy is a means of implementing the economic and social policy of the state, and in this sense plays an auxiliary role. It should be remembered that at the same time there are other national, geopolitical, military directions of state policy. The sum of all these five directions (economic, social, National, geopolitical, military) will clarify the financial policy that serves as the main tool in the implementation of Public Policy.

Keywords: Financial policy, economic policy, financial mechanism, methods of using finance, components (directions) of financial policy, financial relations.

KIRISH

Ijtimoiy rivojlanish deyilganda faqatgina maorif, madaniyat, sog'liqni saqlash va boshqa ijtimoiy ehtiyojlarning rivojlanishi tushunilibgina qolmasdan jamiyatning ijtimoiy tuzilmasi ham tushuniladi. Shuning uchun moliyaviy siyosatni faqat iqtisodiy siyosatga bog'lab qo'yish maqsadga muvofiq emas.

Siyosat davlat faoliyatining barcha yo'nalishlarini qamrab oladi. Siyosiy ta'sir ob'ekti hisoblangan ijtimoiy munosabatlar sohalariga bog'liq ravishda

iqtisodiy yoki ijtimoiy, madaniy yoki texnikaviy, byudjet yoki kredit, ichki yoki tashqi siyosat to'g'risida gapiriladi.

Moliyaviy siyosat o'z-o'zini bosib turuvchi mustaqil ahamiyatga ega bo'lib, bir vaqtning o'zida ijtimoiy faoliyatning har qanday sohasida davlat siyosatini amalga oshirishning muhim vositasi hisoblanadi. Bu yerda uning iqtisodiyot, ijtimoiy soha, harbiy islohotlar yoki xalqaro munosabatlar bo'lishi jiddiy ahamiyatga ega emas.

Siyosat, siyosiy ta'sir va siyosiy rahbarlik quyidagi uch elementlardan tarkib topadi:

- bosh maqsadni aniqlash va qo'yish hamda jamiyat hayotining ma'lum bir davriga xos qo'yiigan maqsadlarga erishish uchun yechilishi zarur bo'lgan istiqboldagi va yaqin kunlardagi vazifalarni aniqlashtirish;

- qo'yilgan maqsadlarga qisqa muddatlarda erishiladigan, yaqin kunlardagi va istiqboldagi vazifalar esa oqilona tartibda hal qilinadigan munosabatlarning metodlari, vositalari va aniq shakllarini ishlab chiqish;

- qo'yilgan vazifalarni yechishga qodir bo'lgan kadrlarni tanlash va joy-joyiga qo'yish, ularning bajarilishini tashkil etish.

Demak, takror ishlab chiqarishning alohida ehtiyojlarini qondirish va uzluksiz takror ishlab chiqarish jarayonini moliyaviy resurslar bilan ta'minlash uchun ijtimoiy boylikni shakllantirish, taqsimlash va qayta taqsimlash jarayonlariga yo'naltiriladigan maqsad va vazifalarning yechilishini aniqlashga moliyaviy siyosat deyiladi.

Moliyaviy boshqaruvning barcha tizimi davlat moliyaviy siyosatiga asoslanadi. Shuning uchun ham moliyaviy siyosat moliyaviy boshqaruv tizimida eng asosiy element hisoblanadi. Moliyaviy siyosat davlatning moliyaviy munosabatlar sohasidagi mustaqil faoliyatidir. Bu faoliyat davlatning u yoki bu iqtisodiy va ijtimoiy rivojlanish dasturini amalga oshirish uchun tegishli moliyaviy resurslar bilan ta'minlashga qaratilgan.

Har qanday jamiyatda ham davlat moliyadan o'zining funktsiya va vazifalarini bajarishda hamda ma'lum maqsadlarga erishishda foydalanadi. Moliyaviy munosabatlarning ijtimoiy-iqtisodiy mohiyati "Davlat kimning hisobidan moliyaviy resurslarni oladi va kimlarning manfaatlarini uchun bu mablag'lardan foydalanadi?" degan savolning tadqiq qilinishi orqali namoyon bo'ladi²³. Qo'yilgan maqsadlarni amalga oshirilishida moliya siyosati muhim o'rinni egallaydi. Uni ishlab chiqish va hayotga tadbiiq etish jarayonida jamiyat oldida turgan masalalarni hal etilish sharoitlari ta'minlanadi. U iqtisodiy manfaatlariga ta'sir etuvchi faol dastak sifatida namoyon bo'ladi. Iqtisodiy siyosat - xo'jalik yuritishning tamoyillari va shakllari, iqtisodiyotni rivojlantirish vazifalarini yechishdagi usullar, chora-tadbirlar va faoliyatlar yig'indisidir. Iqtisodiy siyosat jamiyat rivojlanishining turli bosqichlarida turlicha bo'lishi, iqtisodiy rivojlanish darajasiga qarab o'zgarib turishi mumkin. Iqtisodiy siyosat

²³ Olimjonov O.O., Malikov T.S. Moliya asoslari. Darslik /Toshkent Moliya instituti. – Toshkent: "Sharq", 2019.

o'z ichiga baho siyosati, pul-kredit siyosati, amortizasiya siyosati va moliya siyosati kabilarni mujassamlashtiradi. Moliya siyosati - bu davlatning iqtisodiy siyosatini tarkibiy qismi bo'lib, moliyaviy resurslarni (manbalarni) jalb etish, ularni taqsimlash, ishga solish va foydalanishga davlat orqali yo'naltirilgan barcha chora-tadbirlar yig'indisidir. Moliya siyosatining muhim vazifasi - u yoki bu iqtisodiy va ijtimoiy rivojlanishning davlat rejasini yoki chora-tadbirlarini amalga oshirish uchun tegishli moliyaviy resurslar bilan ta'minlashdir. Lekin moliya siyosatini faqat iqtisodiy siyosatga bog'lash mumkin emas. Moliya siyosati - bu moliyaviy munosabatlar sohasida davlatning mustaqil faoliyat ko'rsatadigan sohasi. Moliya siyosati mustaqil xususiyatga ega bo'lish bilan bir vaqtda davlatning har qanday istalgan ijtimoiy faoliyatni amalga oshirishi uchun xoh ijtimoiy, xoh iqtisodiy xoh halqaro munosabatlar olib borishida muhim vosita. Ayrim hollarda moliyaviy siyosat davlatning o'z funksiyalarini bajarishi uchun moliyaviy munosabatlardan foydalanish bilan bog'liq bo'lgan davlat organlarining ma'lum bir faoliyati sifatida talqin qilinadi. Bunday talqin o'zida bir necha xavfni mujassam etadi. Buning boisi shundaki, milliy xo'jalik taraqqiyotida davlatning roli to'g'risidagi jamiyatda hukmron tasawurlarga muvofiq ravishda davlatning vazifalari va funksiyalari ham o'zgaradi, transformatsiyalanadi. Masalan, mamlakat iqtisodiyotiga davlatning aralashuvi, aholi turmush darajasi ijtimoiy-iqtisodiy sharoitlarini tenglashtirish va shunga o'xshash davlatning funksiyalari va vazifalarini aniqlaydigan boshqa bir qancha masalalar hamon munozaraligicha qolmoqda. Buning ustiga, moliyaviy siyosatdan faqat davlatning funksiyalarini bajarish vositasi sifatida foydalanish davlat hokimiyat organlari, mahalliy o'z-o'zini boshqarish organlari bilan moliya tizimining boshqa sub'ektlari, ya'ni aynan mamlakatning aholisi va xo'jalik yurituvchi sub'ektlari manfaatlari o'rtasida qarama-qarshiliklarni keltirib chiqadi.

Misol uchun, ko'plab mutaxassislar, shu jumladan, davlat hokimiyat organlarining vakillari tomonidan amaldagi soliq mexanizmining samarasiz ekanligi, biznesning ayrim sohalari uchun esa uning oqibati juda yomon natijalarga olib kelishi mumkinligi ilmiy va amaliy jihatdan asoslansa-yu, moliyaviy siyosat uzoq vaqt davomida o'zgarmasdan qolaversa, amalga oshiriladigan soliq islohotlari uning mohiyatini o'zgartirmasa, bunday holda davlatning moliyaviy siyosati davlat hokimiyatining tegishli organlari tomonidan faol ravishda hayotga tadbiriq etilayotgan alohida shaxslar guruhining moliyaviy siyosatiga aylanib qoladi.

Yuqoridagilardan quyidagi uchta mantiqiy xulosa kelib chiqadi:

- birinchidan, moliyaviy siyosat faqat o'z manfaatlarini ko'zda tutadigan hokimiyat organlarining u yoki bu maqsadlarga erishishi vositasi emas, balki jamiyatning ijtimoiy-iqtisodiy vazifalarini yechish vositasi bo'lishi kerak;
- ikkinchidan, davlatning moliyaviy siyosati faqat davlat hokimiyat organlarining emas, balki moliya tizimi barcha sub'ektlarining manfaatlarini hisobga olishi lozim;

•uchinchidan, davlat moliyaviy siyosati va davlat hokimiyat organlarining moliyaviy siyosatini farqlash zarur. •

Shunday qilib, davlat moliyaviy siyosatini mamlakat moliya tizimining barcha bo'g'inlarida moliyaviy resurslar o'sishini mutanosiblashtirilgan holda ta'minlash bo'yicha davlat ijtimoiy- iqtisodiy siyosatining bir qismi sifatida qarash kerak. Xorijiy tajribalarning ko'rsatishicha, moliyaviy resurslarning mutanosiblashtirilgan holda o'sishi zarurligini inkor etish mamlakat moliya tizimining degradatsiyalashuviga, iqtisodiyotning yemirilishi va vayron bo'lishiga olib keladi.

Moliyaviy siyosatning o'ziga xos bo'lgan eng asosiy xususiyati shundan iboratki, bu siyosat mamlakat ishlab chiqaruvchi kuchlarining rivojlanishiga va iqtisodiy muvaffaqiyatlarga uzluksiz ravishda ta'sir ko'rsatib turishga yo'naltirilgan bo'lishi kerak. Bunday siyosat aholining turmush farovonligini ta'minlab va davlat daromadlari manbaini ko'paytirib, moliyaviy xo'jalikka nisbatan eng yuqori natijalarni berishi mumkin. Moliyaviy siyosat ana shunga yo'naltirilganligi orqali uning quyidagi eng asosiy maqsadini aniqlash mumkin: jamiyatning ijtimoiy-iqtisodiy taraqqiyoti, aholi turmushi darajasi va sifatini oshirish uchun moliyaviy sharoitlarni yaratish moliyaviy siyosatning asosiy maqsadidir.

Moliyaviy siyosat dasturlarini (uzoq, o'rta va qisqa muddatli) bajarish uchun moliyaviy resurslarni jalb qilish, ularni taqsimlash va qayta taqsimlashga yo'naltirilgan davlat tadbirlari majmui ta'minlaydi. Bu tadbirlar orasida moliyaviy munosabatlarning shakllari va normalarini huquqiy tartibga solish muhim o'rin egallaydi.

O'z-o'zidan moliyaviy siyosat yaxshi yoki yomon bo'lishi mumkin emas. Uning yaxshi yoki yomon ekanligi jamiyat (yoki uning ma'lum bir qismi) manfaatlariga qanchalik muvofiqligi va quyilgan maqsadlarga erishish hamda aniq vazifalarning yechilishiga qay darajada ta'sir ko'rsatganligi bilan belgilanadi.

Hukumatning moliyaviy siyosatiga baho berish uchun va uni o'zgartirish bo'yicha tavsiya berish uchun, birinchi navbatda, butun jamiyat manfaatlari va aholining alohida guruhlari manfaatlarini ajratgan holda jamiyat taraqqiyotining aniq dasturiga, yechilishi lozim bo'lgan masalalarning muddatlari va metodlarini aniqlagan holda istiqboldagi va yaqin yillardagi vazifalarning tavsifiga ega bo'lmoq lozim. Faqat ana shunday sharoitdagina moliyaviy siyosatni amalga oshirishning konkret mexanizmini ishlab chiqish va unga xolisona baho berish mumkin.

Agar moliyaviy siyosat ijtimoiy taraqqiyot ehtiyojlarini, jamiyatdagi barcha qatlamlar va alohida guruhlarning manfaatlarini, ma'lum tarixiy sharoitni va hayotning o'ziga xos xususiyatlarini yuqori darajada hisobga oladigan bo'lsa, uning natijalari shuncha samarali bo'ladi.

Bir vaqtning o'zida, moliyaviy siyosatning muvaffaqiyati muvofiqlashtirish mexanizmining sifatli ishlab chiqarilishiga va jamiyatdagi turli qatlamlar manfaatlarini amalga oshirilishiga hamda davlat ixtiyorida bo'lgan

ob'ektiv imkoniyatlarning mavjudligiga, ya'ni jamiyat ijtimoiy tizimidagi hamda ijtimoiy ong va psixologiya holatidagi o'zgarishlarni hisobga olgan holda moliyaviy siyosatni amalga oshirilishiga, ayrim hollarda, bir-biriga qarama-qarshi ta'sir ko'rsatuvchi omillarning ta'siridan har tomonlama foydalanish mexanizmini ishlab chiqishga bevosita bog'liq.

Moliyaviy siyosat, eng avvalo, moliyaviy resurslarning maksimal hajmini shakllantirishga yo'naltirilgan bo'lishi kerak. Chunki aynan moliyaviy resurslar har qanday o'zgarishlarning moddiy asosini tashkil etadi. Shunga muvofiq ravishda moliyaviy siyosatni aniqlash va uni shakllantirish uchun davlatning moliyaviy ahvoli to'g'risida ishonchli ma'lumotlar zarurdir. Huquqiy demokratik davlatda moliyaviy statistika ko'rsatkichlari keng jamoatchilikka ham tegishli bo'lishi kerak. Moliyaviy hisobotlar esa doimiy, o'z vaqtida beriladigan, hamma olishi mumkin bo'lgan va eng asosiysi ishonchli bo'lmog'i lozim.

Moliyaviy siyosatning mazmuni u qamrab oladigan moliyaviy munosabatlar rivojlanishi yo'nalishlarining umumiy ko'lami bilan belgilanadi. Ularning tarkibiga quyidagilar kirishi mumkin:

- moliyaviy siyosatning umumiy konsepsiyasini (maqsadlari, prinsiplarini, vazifalarini, amalga oshirish bosqichlari va eng samarali metodlarini) ishlab chiqish;

- makrodaraja va bozor iqtisodiyoti sub'ektlari darajasida iqtisodiy o'sishni rag'batlantiradigan bozor iqtisodiyotining rivojlanishiga mos bo'lgan dinamik holdagi moliya mexanizmini shakllantirish;

- markazlashtirilgan va markazlashtirilmagan resurslar va moliyaviy oqimlarning samarali boshqarilishini oshirish bo'yicha choralar tizimini ishlab chiqish va amalga oshirish;

- ijtimoiy takror ishlab chiqarish va iqtisodiyotni istiqbolli restrukturizatsiya qishlashdagi rolga muvofiq ravishda ijtimoiy iqtisodiy tizimning barcha darajalari va sohalari bo'yicha moliyaviy resurslarni oqilona taqsimlashni tashkil qilish;

- iqtisodiy o'sishning joriy va istiqboldagi moliyaviy salohiyatini shakllantirish.

Davlatning iqtisodiyotga aralashuvi Davlat byudjeti xarajatlari oshishiga olib keladi va shunga muvofiq ravishda bir vaqtning o'zida davlat daromadlari oshirilishini ta'minlashga qaratilgan moliyaviy choralar ko'riladi. Daromad solig'i davlat daromadlarini oshirishdagi asosiy manbaga aylandi. Uni hisoblashda soliqqa tortishning progressiv stavkalari qo'llanildi. Soliqlarning bunday tizimi MDni taqsimlashda davlatning rolini oshirishga olib keldi.

Moliyaviy yo'nalishda har ikkala nazariy konsepsiyalar o'rtasidagi farq mohiyatan byudjet defitsitini turli xilda baholanishi bilan belgilanadi. Agar birinchi konsepsiya defitsitsiz byudjetni shakllantirish va undan foydalanish zarurligidan kelib chiqqan bo'lsa, ikkinchi konsepsiya esa byudjet defitsitining bo'lishi mumkinligiga yo'l qo'ygan va ayni zamonda iqtisodiy o'sishni rag'batlantirishda byudjet defitsitiga faol rol ajratgan.

Haqiqatdan ham XX asrning 30—60-yillarida keynscha moliyaviy siyosat deb nom olgan siyosat g'arb mamlakatlarida o'z samaradorligini isbotladi. Davlatning iqtisodiyotga aralashuvi kengayishi va tartibga soluvchi funksiyasining kuchayishi oqibatida moliyaviy munosabatlarni tashkil qilish murakkablashdi. Davlat xarajatlarini defitsitli moliyalashtirish siyosati davlat krediti rivojlanishini belgilab berdi. Uzoq va o'rta muddatli qarzlarni jalb etish ssuda kapitallari bozorining rivojlanishiga olib keldi va o'z ahamiyati bo'yicha davlat moliyaviy resurslarini shakllantirishdagi ikkinchi manbaga aylandi. Natijada MDni qayta taqsimlashda moliyaning roli yanada kuchaydi.

Sovet davlatida va ijtimoiyistik yo'nalishda bo'lgan barcha mamlakatlarda moliyaviy siyosat K.Marks (1818— 1881) va V.I.Leninning (1870—1924) nazariy konsepsiyalari ta'sirida shakllandi. Sotsialistik davlatning mohiyati va funksiyalari haqidagi markscha-lenincha nazariya sovet davlati moliyaviy siyosatining asosiy prinsipini moliyaviy markazlashtirishni belgilab berdi.

Davlatning ixtiyorida moliyaviy resurslarning katta qismi to'planishinigina emas, balki moliyaviy munosabatlarni tashkil etishda davlatning yakka hokimligini ko'zda tutuvchi moliyaviy markazlashtirish zaruriyatga aylandi. Chunki davlatning funksiyalari shu qadar kengaytirildiki, ularning eng asosiylari xo'jalik-tashkilotchilik va madaniy-tarbiyaviy funksiyalar bo'lib qoldi.

Sovet davlati iqtisodiyot va ijtimoiy soha ehtiyojlarini byudjetdan to'liq moliyalashtirdi. Jamiyat taraqqiyotini ta'minlashda davlatning roli keskin oshdi, rivojlanishning davlat rejaları yordamida ijtimoiy faoliyatning barcha sohalariga bevosita rahbarlik qildi. Bu albatta, xususiy mulk shakllari umumxalq mulkiga aylanishi bilan belgilanadi. Shunga muvofiq ravishda davlat MDni qayta taqsimlashning soliq shakllaridan ishlab chiqarish sohasida to'g'ridan-to'g'ri taqsimlashga va Davlat byudjeti orqali qayta taqsimlashga o'tdi.

Moliyaviy markazlashtirish yana shunda namoyon bo'ldiki, davlat bevosita va monopol ravishda baholarni shakllantirish, pul muomalasi, hisob-kitoblar tizimi va kredit munosabatlarini ham tartibga soldi. Shunday qilib, boshqaruv tizimini barcha qiymat elementlari butun ishlab chiqarish jarayonlarini boshqarib turuvchi yagona ma'muriy-buyruqbozlik tizimiga amalda birlashtirildi.

Bunaqangi moliyaviy siyosat bir ijtimoiy munosabatlar tizimidan insoniyat tarixi uchun mutlaqo yangi bo'lgan ikkinchi ijtimoiy munosabatlar tizimiga o'tilishini, sovet davlati oldida turgan va faoliyatining turli bosqichlarida vujudga kelgan ijtimoiy-iqtisodiy muammolarning yechilishini kafolatladi. Bu moliyaviy siyosatni yetarli darajada samarali bo'lgan moliyaviy siyosat deyish mumkin.

Bir vaqtning o'zida ijtimoiyistik lager mamlakatlariga juda katta miqdorda moliyaviy yordamlar ko'rsatildi:

- ularning taraqqiyotida ijtimoiyistik yo'nalishni ta'minlash uchun;
- ijtimoiyistik mamlakatlarni sanoati rivojlangan mamlakatlarga aylantirish uchun;
- kuchli harbiy ittifoqchilarni shakllantirish va umuman mudofa qobiliyatini mustahkamlash uchun.

Bu maqsadlarga erishish uchun xom-ashyo bazasini va eng awalo, neft va gaz qazib chiqarishni yuqori tezlashtirilgan sur'atlarda rivojlantirish talab etildi. Yangi qazilma boyliklarini o'zlashtirish (ularning geografiyasi shimoli-sharq tomonga qarab kengaya boshladi) juda katta miqdordagi moliya resurslarning bo'lishini taqozo etdi. Bu vazifalarni bajarish uchun yangi hududlarni o'zlashtirish, o'sha tumanlarga ko'plab ishchi kuchlarini migratsiya qilish, mehnatga haq to'lashning oshirilgan normalarini joriy etish zarur bo'ldi. Neft va gaz quvurlarini qurish hajmi muttasil oshib bordi. Xalqaro bozorda neft va gazning bahosi yuqori bo'lib turgan paytlarda ularni eksport qilish xarajatlarni ma'lum darajada qoplagan edi. Shunga qaramasdan, bunday moliyaviy siyosat MDni tegishii tarzda qayta taqsimlashni talab qildi. Natijada mamlakatda harbiy-sanoat kompleksi taraqqiy etgan bir tomonlama iqtisodiyot yaratildi.

Moliyaviy siyosatni ishlab chiqishda moliyaviy resurslarni taqsimlash va qayta taqsimlash negizida quyidagilarni yotishi muhim ahamiyatga egadir:

- taqsimlash munosabatlarining sub'ektlarini aniqlash, ya'ni moliyaviy resurslarning egalari va taqsimlovchilarini ajratish;

- yuridik shaxslar va aholining o'z ehtiyojlarini qondirishdagi mustaqillik darajasi va davlatning funksiyalariga bog'liq ravishda davlat ixtiyoridagi moliyaviy resurslarning markazlashtirilish darajasini aniqlash;

- birinchi darajali ijtimoiy ehtiyojlar va ularni qondirish choralari tanlash va shularga mos ravishda moliyaviy resurslardan foydalanishning ustuvor yo'nalishlarini belgilash;

- moliyaviy resurslarni shakllantirishning manbalari va metodlarini tanlash.

Moliyaviy siyosat ko'p o'lchamli tushuncha hisoblanadi. Agar umumiy holda uning sohasi jamiyat taraqqiyotining alohida bosqichlarida hukmronlik qilgan nazariy konsepsiyalardan kelib chiqqan holda iqtisodiy va ijtimoiy sohalarni boshqarishda davlatning ishtirok etish parametrlari bilan aniqlansa, uning qiymat munosabatlari elementlari bo'yicha tabaqalanishi moliya tizimining rivojlanganligiga va uning ayrim bo'g'inlari mustaqilligiga bog'liq bo'ladi.

Demokratik davlatda byudjet qonun tarzida tasdiqlanadigan hujjat hisoblanadi. Unda davlatning o'z funksiyalarini bajarish maqsadida davlat qo'lida to'plangan pul mablag'lari harakati o'z ifodasini topadi. Davlat siyosati aniqlab beradigan maqsadlarga erishish uchun pul resurslarini yo'naltirish byudjet siyosati ustuvorligini tashkil etadi. Agar maqsadga erishish milliy iqtisodiyot ta'minlaydigan mablag'lardan ko'p mablag' talab etsa, davlat qo'shimcha daromadlarni shakllantirishning quyidagi favqulodda usullarini qo'llashga majbur bo'ladi: ichki va tashqi kreditlar, milliy boylikni sotish, boylik, mullukni ijaraga berish va konsessiyalar. Byudjetning daromadlar qismini to'ldirishga doir favqulodda choralar iqtisodiy mustaqillikning yo'qolishiga olib kelishi mumkin. Buni hisobga olgan holda hokimiyat qonunchilik organlari qarz olish chegarasini oldindan belgilaydi.

Bozor iqtisodiyoti sharoitida shaxsiy tashabbusiz va jamiyatdagi barcha a'zolarining samarali mehnatisiz iqtisodiyotni tiklash murakkab bo'lib qolaveradi.

Soliqlar bozor iqtisodiyotida mehnatning asosiy rag'batlantirishni (motivatsiya qilinishini) olib qo'yadi, xolbuki mehnat daromad keltirishi lozim. Mamlakat iqtisodiyotiga soliq siyosatining ta'siri bevosita namoyon bo'ladi.

Moliyaviy siyosatning tarkibiy qismlaridan (yo'nalishlaridan) yana biri pul siyosatidir. Agar muomaladagi pul miqdori tovarlar massasi miqdoriga (pulning aylanish tezligini hisobga olgan holda) mos kelmasa, pul massasining yetmagan qismi qog'oz pullar (pullarning surrogati) hisobidan yoki xorijiy valyuta hisobidan toldiriladi. Va aksincha, agar pul massasi unga bo'lgan talabdan ortiq bo'lsa, yo pul massasining mamlakatdan chetga chiqishi (oqishi) yoki milliy valyutaning qadrsizlanishi sodir bo'ladi. Tabiiy ravishda, bu holatlarning barchasi mamlakat qonunchiligiga ham bevosita bog'liq mamlakatda xorijiy valyutaning muomalada bolishiga ruxsat beriladimi yoki yo'qmi, milliy valyuta konvertatsiya qilinadimi yoki yo'qmi? va h.k.

Tovarlar massasi cheklanganda pul emissiyasi boshqa mamlakatlarning pul birligiga nisbatan milliy pul birligi qadrsizlanishiga olib keladi.

Emissiya siyosati va milliy valyuta barqarorligi pul siyosatining tarkibiy qismlaridir (yo'nalishlaridir). Emissiya siyosati muomala uchun zarur bo'lan pulning miqdorini aniqlashdan tashqari yana boshqa bir yo'nalishga ega. Bu yo'nalish byudjet daromadlarini ko'paytirishdir. Ana shu yo'nalish alohida ehtiyotkorlikni talab etadi. Chunki ma'lum bir miqdoriy chegaradan o'tilganidan so'ng pul tizimi inflyasiyaga moyil (ta'sirchan) bo'lib qoladi, ya'ni byudjet daromadlarining real qadrsizlanishi sodir bo'lishi mumkin. Agar qandaydir bir sabablarga ko'ra davlat o'z pul tizimini tartibga solishga qodir bo'lmasa, mamlakatning iqtisodiy xavfsizligiga putur yetadi. Chunki bunday sharoitda mamlakatning milliy valyutasi boshqa kuchli valyutalarning ekspansiyasiga qarshi tura olmaydi va milliy boylikdan mahrum bo'lib qolish mumkin.

Kredit siyosati ham moliyaviy siyosatning tarkibiy qismi (yo'nalishi) bo'lib, uning namoyon bo'lishi mamlakatning krediti tizimi orqali amalga oshiriladi. Kredit tizimi ssuda kapitalining faoliyatko'rsatishini ta'minlaydi. O'z navbatida, ssuda kapitali takror ishlab chiqarish jarayonini amalga oshirishdgi muhim shart hisoblanib, aylanma mablag'larni to'ldirish va investitsiyalar uchun mablag'Marning qarzga olinishini ta'minlaydi. Iqtisodiyotning kredit sektori o'rtacha foyda normasini tenglashtirish uchun ham xizmat qiladi. Foiz stavkasi darajasi jamiyatdagi iqtisodiy faollikka salbiy ta'sir ko'rsatishi mumkin. U asossiz darajada yuqori bo'lsa, quyidagi salbiy oqibatlariga olib keladi:

- kreditlarning qaytarilmasligi;
- ishlab chiqarish sohasi va xizmatlar sohasida mahsulotlar narxining o'sishi;
- qarzga oluvchilar rentabellik darajasining pasayishi va buning oqibatda soliqqa tortiladigan bazaning qisqarishi;■
- ishlab chiqarishning qisqarishi;
- takror ishlab chiqarish jarayoni sub'ektlari daromadlari pasayishi natijasida ichki iste'mol bozorining torayishi.

Kreditning arzonlashuvi ishlab chiqarishning sog'lomlashuviga, tovarlar massasi ortishiga, tovarlar va xizmatlar bahosi pasayishiga va ana shularning natijasida esa, takror ishlab chiqarish jarayoni sub'ektlari daromadlarining oshishiga, soliqqa tortish bazasi kengayishiga va byudjet daromadlari ko'payishiga olib keladi.

Moliyaviy siyosatning tarkibiy qismi (yo'nalishi) sifatida davlatning baho siyosati monopol tovar va xizmatlar bahosi va tarifining o'zgartirilishi orqali ifodalanadi. Yer osti boyliklari, suv havzalari, temir yo'llar, elektr uzatish tarmoqlari, neft va gaz quvurlari davlatning monopol egaligidadir. Bu tarmoqlar tovarlari va xizmatlari bahosi o'sishi (ortishi) milliy xo'jalikning barcha boshqa sektorlarida baholar o'sishiga olib keladi. Bu yerda bog'lanish shunchalik ayonki, hech qanday izohga hojat yo'q. Shuning uchun ham baho siyosati iqtisodiyotni tartibga solishning muhim omili bo'lib hisoblanadi.

Investitsiya siyosati ham moliyaviy siyosatning tarkibiy qismlaridan (yo'nalishlaridan) biri bo'lib, u eng awalo, mamlakat iqtisodiyotining real sektoriga o'z va xorijiy investitsiyalarni jalb qilish uchun sharoitlar yaratish bo'yicha tadbirlar kompleksidan iborat. Bu siyosat davlat boshqaruvi va xo'jalik yurituvchi sub'ektlar moliyasini boshqarishga bog'liq turli darajalarda amalga oshiriladi. Investitsion siyosatning asosiy vazifasi mamlakat iqtisodiyotiga investorlar tomonidan moliyaviy resurslarni kiritish, mamlakatdan kapitalning «chiqib» ketmasligi va aksincha, mamlakatga xorijiy kapitallaroqimining kirib kelishi uchun sharoitlarni yaratish orqali ifodalanadi.

Ijtimoiy moliyaviy siyosat Konstitutsiyaga muvofiq mamlakat aholisining huquqlarini moliyaviy jihatdan ta'minlash bilan bog'liq. Hozirgi paytda bu siyosat, o'z navbatida, nafaqa siyosati, immigratsiya siyosati, aholining ayrim ijtimoiy guruhlariga moliyaviy yordam ko'rsatish siyosati singari sohalarni o'z ichiga oladi.

Boj siyosatini moliyaviy siyosatning tarkibiy qismi (yo'nalishi) sifatida qarash bilan birgalikda uni soliq va baho siyosatlarining ham bir qismi sifatida e'tiborga olish kerak. Chunki soliqlar va boj yig'implari tovar va xizmatlarning bahosiga bevosita ta'sir ko'rsatadi. Bir vaqtning o'zida boj siyosati mamlakat iqtisodiyotiga ta'sir ko'rsatishning o'ziga xos usuliga ham ega bo'ladi. Usulning o'ziga xosligi shundaki, bu siyosat bir tomondan, mamlakat ichki bozoriga import qilinayotgan tovarlar va xizmatlarni kengaytirishi yoki cheklashi, ikkinchi tomondan esa, mamlakatdan tovarlar va xizmatlar eksportini rag'batlantirishi yoki unga to'sqinlik qilishi mumkin. Masalan, mamlakatda mavjud bo'lmagan texnologik asbob—uskunani import qilishga 20% li boj yig'imi o'rnatilsa, bu narsa mamlakatdagi ishlab chiqaruvchilarning investitsion imkoniyatlarini kamaytiradi, ichki ishlab chiqarish o'sish sur'atlarini pasaytiradi, import mahsulotlari salmog'ini oshiradi.

Har qanday mamlakatning boj siyosati bumerang harakatiga egadir. Chunki boj undirishning cheklovchi yoki rag'batlantiruvchi hajmlarining joriy qilinishi xuddi shunday javob choraiari qo'llanilishini taqozo etadi. Boj siyosati yo'nalishi

tanlanishi mamlakat iqtisodiy ahvoriga mos kelishi kerak. Agar biz bugun oziq-ovqat va kundalik ehtiyoj tovarlarining import qilinishiga bog'lanib qolsak, bu boj stavkalarida o'z aksini topmog'i lozim. Ammo boj stavkalari rag'batlantiruvchi bo'lsa, u holda mamlakatdagi tovar ishlab chiqaruvchilar xorijiy tovarlar bilan raqobat qila olmay qoladi.

Umuman olganda, aksari hollarda mamlakatning boj siyosati bojxona bojlari va to'lovlarini oshirishga yo'naltirilgan byudjet siyosatiga bog'liq bo'ladi.

Xullas, moliyaviy siyosat va uning tarkibiy qismlari (yo'nalishlari) iimiy jihatdan asoslangan, ma'lum bir maqsadlarga erishishga yo'naltirilgan, muvofiqlashtirilgan, takror ishlab chiqarish sub'ektlarining manfaatlariga zid kelmaydigan bo'lishi kerak. Uning muvaffaqiyatli amalga oshirilishi davlat ichki va tashqi qarzlari kamayishiga, davlatning oltin-valyuta zaxiralari ortishiga, inflyasiyani jilovlashga, byudjet defitsitining kamayishiga, YalM ko'payishiga, mamlakat tovarlarining raqobatbardoshligi kuchayishiga olib kelmog'i lozim.

Moliyaviy siyosat real moliyaviy imkoniyatlarni hisobga olgan holda ishlab chiqilishi va tatbiq etilishi zarur. Xarajatlar moliya resurslarining ko'paygandagina o'sishi mumkin. Bu, eng awalo, ishlab chiqarishni moliyalashtirishni bildiradi. Iqtisodiy va moliyaviy siyosatning hamma tadbirlari, bir tomondan, aholiga o'z daromadlarini oshirish imkoniyatini berish, ikkinchi tomondan esa tadbirkorlik faoliyatini rivojlantirish uchun maqbul sharoitlarni yaratishga qaratilishi kerak.

Moliyaviy siyosatning tubdan o'zgarishiga mos ravishda moliya mexanizmi ham qayta qurilmog'i lozim. Moliya mexanizmini qayta qurishdan asosiy maqsad bozor munosabatlari zahirida ijtimoiy ishlab chiqarish samaradorligiga uning ta'sirini kuchaytirish, moliya resurslaridan foydalanish samaradorligini oshirishni ta'minlashdir. Moliya mexanizmini qayta qurish negizida korxonalar, tashkilotlar ishining yakuniy natijalarini yaxshilash uchun xo'jalik tashabbuskorligi va mas'uliyatini butun choralar bilan kuchaytirish talab qilinadi.

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INTELLECTUALIZATION OF THE PROCESS OF DIGITAL PROCESSING OF IMAGES CREATE AN ALGORITHM

Abstract. Research in the field of creating an algorithm for intellectualizing the process of digital processing of images is directly related to the development of computer vision and artificial intelligence technologies. This paper focuses on machine learning, image recognition, segmentation, filtering, object detection, and image restoration to automate and make digital image processing more efficient.

Keywords: Digital Image Processing, Intelligent Algorithms, Machine Learning, Image Recognition, Image Segmentation, Image Filtering, Pixel Processing, Digital Signal Processing, GPU Computing.

Enter

Attention to the development of information and telecommunication technologies and science began to increase from the moment our country gained independence. According to the Law of the Republic of Uzbekistan "On Informatization" [1], the task of the state policy in the field of informatization is to regulate products, services and information technologies in the information market, to stimulate the production of software products, to train specialized personnel and it consisted of improving their quality and, of course, stimulating the requirements for scientific research.

In the decision of the President of the Republic of Uzbekistan "On measures for the wider introduction and development of modern information and communication technologies" [2] normative documents for the use of modern information technologies, the introduction of computer equipment and telecommunication tools to the economic and vital public was determined.

should organize the information technology and system, taking into account the current state of the computer technology development trend in the creation of the national information system.

Intellectualization of the process of digital processing of images by foreign scientists, including R. Agrawal, T. Imielinski, A. Swami, R. Srikant. A. Savasere, E. Omiecinski, and S. Navathe, JS Park, M. – S. Chen, and SY Philip, J. Hipp, U. Guntzer, and G. Nakaeizadeh. many results are given in their works.

Research methodology

Intellectualization of images in scientific work, theory of algorithms, use of methods of intellectualization of car license plate recognition process in image processing.

Analysis results

The technology of intelligent data analysis is called Data Mining (DM) and is widely used in practice. DM usually means two things, namely searching for the required data from a large database (MB) and meaningfully exploring a large amount of raw material.



Figure 1.1. Structure of the DM multi-research environment.

DM stands for intelligent data analysis, pattern discovery environment, knowledge extension, pattern analysis, knowledge information content determination from MB, etc.

DM is a multi-research environment built on the basis of applied statistics, pattern recognition, artificial intelligence, MB theory and other such disciplines.

DM is a decision-making process based on identifying hidden patterns (information patterns) from data.

The essence and purpose of this technology is designed to reveal objective and practical useful laws from large amounts of data.

Currently, DM is gaining more specific directions depending on the type of processed data:

- TEXT MINING (KDT - Knowledge Discovering in Text - in the text knowledge q and determination);
- WEB MINING (Web Content Mining and Web Usage Mining);
- VISUAL MINING;
- CALL MINING;
- AUDIO MINING;
- IMAGE MINING;
- MINING VIDEO;
- CLOUD MINING;
- GENESIS MINING.

Image Mining is the process of searching and identifying valuable information and knowledge in large volumes of data. Describes the basic principles in Image Mining database, machine learning, statistics, image

recognition and soft computing concepts. Intelligent data analysis methods allow more efficient use of Earth observation data bank. The increasing volume of data is leading to new promising applications of surface research in the field of Earth science. For example, the use of ultra-high-resolution satellite images makes it possible to observe even small objects, when a large number of ultra-high-resolution images are processed. The development of this field leads to the creation of sensational innovations in the set of approaches, methods and algorithms that are researched and used in practical problems where the source is a video signal or a static image. As a rule, such a resource is used in an automated intelligent system, and it is analyzed by obtaining informative symbols.

Intellectualization of image processing, i.e. creating an automated system of processing, the following issues should be resolved:

- a) choosing methods of solving the problem;
- b) giving recommendations on choosing a method of solutions for a class of problems related to the given problem;
- v) synthesis of the algorithmic procedure for solving the given problem;
- g) Develop and present synthesis guidelines.

The image is two-dimensional $f(x, y)$ can be viewed as a function, where x and y are the spatial coordinates, and amplitude f is the intensity for each pair of (x, y) coordinates, or the light falling on each point h .

The result of signal discretization and quantization is always in the form of a matrix (Fig. 1.2). Let's say $f(x, y)$ image after the discretization process is represented as a matrix, and this matrix has M rows and N columns. In this case, the image is said to have width $M \times N$. (x, y) coordinate values h always have a discrete value.

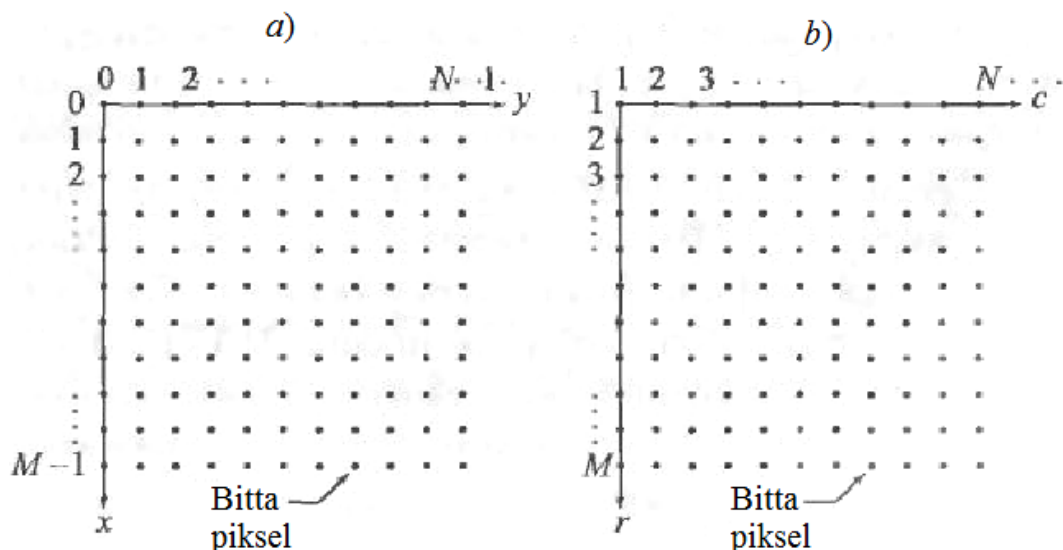


Figure 1.2. Alignment of coordinates: a) standard coordinate system; b) coordinate alignment in MATLAB system.

The coordinate system in this figure makes the digital image function look like this:

$$f(x, y) = \begin{bmatrix} f(0, 0) & f(0, 1) & \dots & f(0, N-1) \\ f(1, 0) & f(1, 1) & \dots & f(1, N-1) \\ \vdots & \vdots & & \vdots \\ f(M-1, 0) & f(M-1, 1) & \dots & f(M-1, N-1) \end{bmatrix}$$

$$\mathbf{f} = \begin{bmatrix} \mathbf{f}(1, 1) & \mathbf{f}(1, 2) & \dots & \mathbf{f}(1, N) \\ \mathbf{f}(2, 1) & \mathbf{f}(2, 2) & \dots & \mathbf{f}(2, N) \\ \vdots & \vdots & & \vdots \\ \mathbf{f}(M, 1) & \mathbf{f}(M, 2) & \dots & \mathbf{f}(M, N) \end{bmatrix}$$

So, the general view of each pixel is as follows

$$f(m, n) \tag{1.1}$$

is, where $n = 1, 2, \dots, N$ and $m = 1, 2, \dots, M$. This function is a pixel color function, and each pixel color that stores the image has a color value that is a mixture of three "colors" (for example, the RGB model of coloring, Red-red, Green-green, Blue-blue). The number of possible colors is $256 \cdot 3 = 16777216$. Changing the value of each dye produces a different color. This mode allows you to store, process and transmit an image that does not fall short of the colors observed in living nature. If 3 bytes are required to encode the color of a dot, then byte 1 represents red, byte 2 represents green, and byte 3 represents blue. The larger the byte value of the color set, the more accurate and clear this color will be. In grayscale images, the color at a point is called the pixel brightness or color gradient, and since it is between 0 and 255, the operations performed on it are simplified and the number of colors in the image is reduced by a factor of 256.

All images can be written as $F_{N \times M}$ or F_N (for the $N=M$ case). In this case, the subscript (expression) in the matrix definition always determines its order (or $N \neq M$ dimension for the case).

Each matrix representing RT is transposed, and operations such as rotation, complex addition, exponentiation, and xk operations can be applied. They can be written in the form of notations accepted for these operations. For example:

$$[F_N]^T, [F_N]^{-1}, [F_N]^*, [F_N]^k \tag{1.2}$$

The following notations are used to denote zero and unit matrices of order N :

$$[0]_N \text{ and } I_N, \text{ when } [0]_1 = 0 \text{ and } I_1 = 1. \tag{1.3}$$

In addition to simple (Cartesian) matrix multiplication, two types of matrix multiplication are used in the RT processing and detection procedures analyzed below: direct and pointwise.

A_N and B_M the correct (Kronekerov) multiplication for matrices is written as:

$$A_N \otimes B_M = C_{(NM)}, \quad (1.4)$$

where $C_{(NM)}$ the matrix NM has order.

Proper multiplication of matrices can be right and left. In the right multiplication of two matrices, the result is formed by blocks in such a way that instead of each element of the left matrix, the result of multiplying this element by all the elements of the right matrix is written. $C_{(NM)}$ - the resulting matrix will have the following form.

$$C_{(NM)} = \begin{bmatrix} a_{11}B_M & \cdot & \cdot & a_{1N}B_M \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ a_{N1}B_M & \cdot & \cdot & a_{NN}B_M \end{bmatrix}. \quad (1.5)$$

A_N and B_N the dot product of matrices is written as

$$A_N \Theta B_N = C_N, \quad (1.6)$$

In this N the ordered C_N matrix is defined as:

$$C_N = \begin{bmatrix} a_{11}b_{11} & \cdot & \cdot & a_{1N}b_{1N} \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ a_{N1}b_{N1} & \cdot & \cdot & a_{NN}b_{NN} \end{bmatrix}. \quad (1.7)$$

Adding two images is written in the following form:

$$A_{NM} = P_{NM} + D_{NM} \text{ or } A_N = P_N + D_N, \text{ if } N = M. \quad (1.8)$$

When combining several identical images, for example, the use of the "coherent stacking" procedure of different images greatly improves the quality of the resulting image.

The subtraction of two RTs is written in the following form:

$$A_{(NM)} = X_{(NM)} - Y_{(NM)} \text{ or } A_N = X_N - Y_N, \text{ if } N = M. \quad (1.9)$$

(1.9) is often used in the implementation of the "unsharp masking" procedure, which allows to prepare a clear contour image of the objects included in the given image.

Dot reproduction of a color image is carried out as follows:

$$Y_N = X_N \Theta X_N \Theta \dots \Theta X_N, \quad (1.10)$$

This is usually used to improve the quality of images.

When performing operations (1.8) - (1.10), it is necessary to monitor the value (brightness) of pixels, the values of which must be in the given range of the corresponding color model.

Image segmentation is a matter of extracting objects that differ in terms of light, geometric and other properties, as well as in essence. One of the important

tasks of segmentation is to discard information that is not used in the next stages of image processing.

There are several mathematical expressions of the problem, the generality of which is given by the homogeneity predicate. If $f(x,y)$ is a dividing function; x is a finite subset of its domain; $S = \{S_1, S_2, \dots, S_k\}$ – dividing x into K non-empty connected subsets; P_n is defined in the set S and only if two points of any subset S_i : $i \in [0, K]$ satisfy a certain homogeneity criterion. If $I("true-TRUE")$ is a predicate, then image segmentation means dividing it into $S^* = \{S_1^*, S_2^*, \dots, S_k^*\}$ parts.

The following:

- 1) $KS_i^* = x$; 2) $S_i \cap S_j^* = 0, \forall i=j$;
- 3) $\forall S_i^*$ - interconnected area;
- 4) $P(S_i^*) = True, \forall i$;
- 5) $P_n(S_i^* \cup S_j^*) = false, \forall i=j$;

P_n satisfying the conditions is called a homogeneity predicate, and whether it accepts the values "true" or "false" depends on the properties of the function $f(x,y)$.

The 1st condition is that each point belongs to a sphere, the 2nd condition is that *the spheres* do not intersect, the 3rd condition is that the points of the sphere are interconnected, the 4th condition is the properties that the points of the separated segments must satisfy, the 5th condition the condition indicates that the predicate P_n is different for the points S_i^* and S_j^* . Here it is assumed that the partitioning S^* is unique. P_n predicate as follows

$$P_n(S_i^*) = \begin{cases} true, \text{ агап } f(x,y) = \dots = f(x_m, y_m) \\ false, \text{ акс холда.} \end{cases}$$

in appearance; where $(x_m, y_m) \in S_i^*, m=1, 2, \dots, M, M$ - the number of points in S_i^* ;

or

$$P_n(S_i^*) = \begin{cases} true, \text{ агап } |f(x_m, y_m) - f(x_i, y_i)| < T, \\ false, \text{ акс холда.} \end{cases}$$

where $(x_m, y_m), (x_i, y_i)$ are arbitrary points of S_i^* , the value of the threshold given before T can be determined in the form.

So the following is the breakdown

$f(x,y) \rightarrow S(x,y), S(x,y) = \lambda_i(x,y) \in S_i^*, i=1, 2, \dots, K$; where $f(x,y)$ is the source and $S(x,y)$ is the output image, λ and λ_1 can be considered as an operator in the form of field symbol of L .

P_n depends on the relationship established between the elements (points, set of points) and called the homogeneity criterion. $P_n(x_1, x_2) = true$; ($P_n(x_1, x_2) = false$) expression means that the relationship of homogeneity between the elements x_1 and x_2 is not established, that is, the criterion of homogeneity is satisfied or not satisfied. Color, light, gradient histogram and other features of the image are usually used as such criteria.

Conclusions and suggestions

In this article, the process of recognizing registered car numbers through video images is studied, and the process of recognizing car numbers is intellectualized. As a result of intellectualization of the process of recognizing car number plates, the following practical issues were solved:

- General issues of image processing and analysis were considered;
 - MATLAB system and Image Processing Toolbox package were studied;
 - The possibility of basic functions of digital processing of images was considered;
 - Image quality assessment and filtering process were analyzed;
 - The process of determining the quality indicator of digital images according to the rating scale and its mathematical algorithm were analyzed;
 - Mathematical basis of filtering algorithms in the process of determining the image quality indicator;
 - A car number was taken as an image object, and this number was determined using various functions of the Matlab system to determine the quality indicator of the image on the rating scale;
 - Algorithms of image segmentation, contour detection, smoothing and filters were analyzed in the Matlab system;
- A decision-making intellectual tree was built to determine car mobile numbers and intellectualization was organized in the Matlab environment;
- All steps to organize the process of intellectualization of the license plate recognition process have been covered.

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ЗАНЯТОСТЬ В АВТОМОБИЛЬНОЙ ПРОМЫШЛЕННОСТИ США

Аннотация. в этой статье мы рассмотрим Соединенных Штатов как один из крупнейших производителей транспортных средств, и влияние географических сдвигов автомобильной промышленности, на занятости в отрасли Соединенных Штатов и её значение в экономике США.

Ключевые слова: Регион, занятость, автомобиль, завод, ресурс, отрасль, рынок, промышленность, предприятие.

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EMPLOYMENT IN THE US AUTOMOBILE INDUSTRY

Annotation. In this article, we examine the United States as the world's largest producer of vehicles and the impact of geographic shifts in the auto industry on U.S. employment and its importance in the U.S. economy.

Keywords: Region, employment, car, plant, resource, branch, market, industry, enterprise.

Введение. США занимает лидирующие позиции в различных сферах и уделяет большое внимание развитию своей экономики. Все отрасли важны для роста штатов, поскольку они способствуют увеличению доходов и способствуют дальнейшему росту США. Тем не менее, все еще существуют отрасли промышленности, которые следует считать чрезвычайно важными и даже решающими для эволюции США, и автомобильная промышленность является одной из них. Соединенные Штаты являются одним из крупнейших производителей транспортных средств, и их автомобили ценятся и используются во всех регионах мира. Традиционно они ассоциируются с высоким качеством, мощностью, скоростью, надежностью и другими положительными качествами.

Одним из самых мощных двигателей, сформировавших идентичность экономики США, является американская автомобильная промышленность, поскольку она создает миллионы рабочих мест в стране, предоставляя населению не только автомобили, но и рабочие места с высокой зарплатой. Между тем, с течением времени произошли значительные изменения и географические сдвиги в автомобильной промышленности страны, автомобильная отрасль вышла далеко за рамки знаковых национальных автомобильных компаний. Автомобилестроение сегодня занимается проектированием, производством, разработкой, маркетингом и продажей автомобилей. Производство автомобилей зависит от тысяч компаний, поставляющих запчасти, агрегаты и материалы, а также от обширной сети розничной торговли и технического обслуживания автомобилей [1].

Результаты. Исторически сложилось так, что вклад автомобильной промышленности в общий валовой внутренний продукт (ВВП) составлял 3-3, 5 процента. В отрасли непосредственно занято более 1,7 миллиона человек, занятых проектированием, конструированием, производством и поставкой деталей и комплектующих для сборки, продажи и обслуживания новых автомобилей. Кроме того, отрасль является крупным потребителем товаров и услуг из многих других секторов, включая сырье, строительство, машиностроение, юриспруденцию, компьютеры и полупроводники, финансовый сектор, рекламу и здравоохранение. Автомобильная промышленность ежегодно тратит от 16 до 18 миллиардов долларов на исследования и разработку продуктов, 99 процентов из которых финансируется самой отраслью. Из-за потребления промышленностью продукции многих других производственных секторов, это является основным фактором, определяющим вклад обрабатывающей промышленности в ВВП на 11,5%. [2]. Безусловно, сегодняшнюю обрабатывающую промышленность сложно представить в отсутствие автопрома.

В разные годы отрасль пережила несколько взлетов и падений, включая последствия Великой депрессии 1930-х годов, последствий финансового кризиса 2008 года, возникшего в результате переноса дефолтов и пандемия в 2020-21 гг. всё это подорвали функционирование этой отрасли и породил многочисленные проблемы, которые ей пришлось преодолевать. Ей была оказана государственная поддержка, и было одобрено специальное антикризисное вмешательство. Таким образом, жизненно важно понять, были ли эти меры успешными или нет, чтобы определить перспективы автомобильной промышленности. Однако автомобильная промышленность сталкивается с новыми и неотложными проблемами. Глобализация, цифровизация и усиление конкуренции на рынке меняют облик отрасли.

Территориальная структура автомобильной промышленности может быть различной в разных странах и регионах. Заводы по производству

автомобилей располагаются по всей территории страны и образуют специфическую территориальную структуру. Территориальная структура автомобильной промышленности США включает три отдельных региона: Средний Запад, Юго-Восточный регион и остальную часть Соединенных Штатов. С точки зрения экономико-географического районирования большая часть современной автомобильной промышленности страны сосредоточена в основном двух экономических районах - на Среднем Западе (Midwest) и на Юге (South), которые находятся внутри страны, между Великими озерами и Мексиканским заливом. Мидвест один из ключевых регионов, где расположены заводы по производству автомобилей, объединяет штаты Мичиган, Огайо, Иллинойс, Индиана и другие, и является крупнейшим центром автомобильной промышленности США [1]. Однако не всегда всё шло гладко, даже со временем в территориальной структуре автомобильной промышленности произошли изменения, которые повлияли на занятость население.

По Денниса Кунео, директора службы выбора площадки, Уолбридж заводы по сборке автомобилей являются одними из жемчужин экономического развития. На типичном автомобильном заводе будет занято до 5000 человек с заработной платой выше среднего и льготами, и будут созданы тысячи дополнительных рабочих мест. По данным Центра автомобильных исследований в Анн-Арборе, штат Мичиган, каждое рабочее место на сборочном заводе создает в общей сложности 10 рабочих мест в сфере поставщиков и вспомогательного обслуживания [5].

Географический сдвиг в сфере автомобилестроения воздействовал на изменения территориальной структуры занятости США, например, Мичиган потерял как минимум 100 000 рабочих мест с момента пика занятости в автомобильной промышленности в конце 1970-х годов. Потери в других штатах Среднего Запада, судя по всему, были компенсированы перемещением производственных рабочих мест из «большой тройки» к внешним поставщикам и увеличением притока прямых иностранных инвестиций. Огайо, Иллинойс и Миссури, возможно, незначительно увеличили или потеряли рабочие места в автомобильной отрасли, а Индиана, похоже, получила значительный чистый выигрыш. Крупные промышленные штаты северо-востока, особенно Пенсильвания, Нью-Йорк и Нью-Джерси, потеряли рабочие места в автомобильной промышленности, поскольку «большая тройка» рационализировала поставщиков и сборочные предприятия. Кентукки и Теннесси увеличили количество рабочих мест больше всего, в то время как Южная Каролина, Алабама, Северная Каролина и Техас получили рабочие места в автомобильной промышленности [9].

В 2001 году в автомобильной промышленности Мичигана было занято 90 300 человек. К 2005 году эта занятость сократилась до 65 500. В результате коэффициент местоположения отрасли — показатель

относительной концентрации занятости — снизился с 9,3 до 7,9 [7]. Занятость в производстве автомобилей в Мичигане за период 2006–2021 гг. снизилась на 17 процентов. В 2021 году в автомобильной промышленности Мичигана было занято около 41 500 человек, что на 5 900 человек больше, чем в 2020 году [6]. Автомобильная промышленность находилась под сильным давлением с целью улучшения своих показателей. Сокращение затрат и повышение производительности являются основными факторами, которые позволяют производителям автомобилей повышать свою производительность.

Как упоминалось выше, в автомобильной промышленности занято более 1,7 миллиона человек. Сегодня отрасль является крупным потребителем товаров и услуг из многих других секторов и вносит свой вклад в создание чистой занятости в экономике США, создавая почти 8 миллионов рабочих мест [2]. Статистика показывает, что занятость в автомобильной промышленности США в 2004 году составила 6 316 000 человек, при этом было создано 108 000 рабочих мест, а в 2021 году 7 250 000 и создано 16 800 рабочих мест, отрасль растет и предоставляет огромных рабочих мест это можно видеть в (табл.1). Анализируя таблицу видно, что количество сотрудников, работающих в автопроизводстве с 2012 по 2022 года увеличилось на 236 400, но в 2032 году эта цифра может сократиться на 85 100, это может связано не только больше использованием автоматизации, роботизации и компьютеризации, но и с историческим переходом от автомобилей с двигателями внутреннего сгорания (ICE) к электромобилям на аккумуляторных батареях (BEV).

Таблица 1. Занятость в производстве автомобилестроение

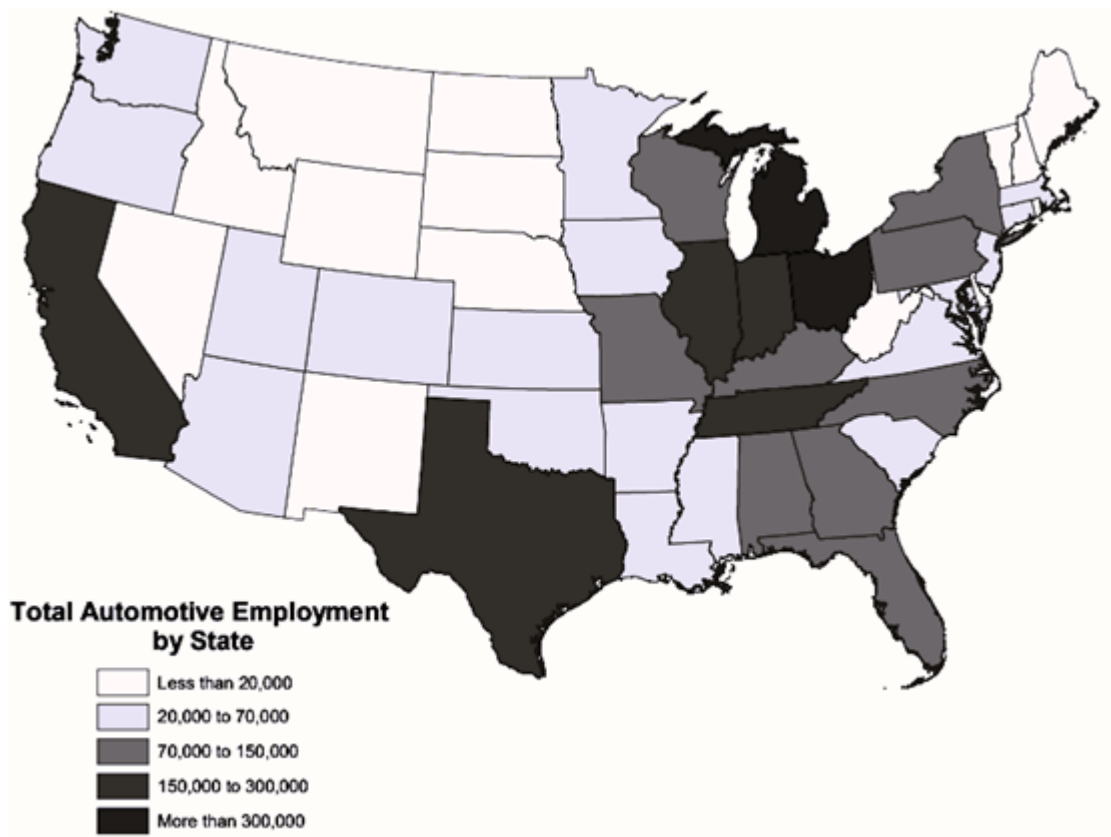
	Занятость			Изменение занятости	
	2012 г.	2022 г.	2032 г.	2012-22 гг.	2012-32 гг.
Промышленность					
Производство автомобилей	167.6	291.2	302.4	123.6	11.2
Производство кузовов автомобилей и прицепов	127.0	169.6	170.2	42.6	0.6
Производство запчастей для автомобилей	482.8	553.0	456.1	70.2	-96.9
Количество сотрудников, работающих в автопроизводстве	777400	1013800	928700	236400	-85100

Источник: <https://www.bls.gov/emp/tables/industry-employment-and-output.htm>

Примерно 4,5 процента всех рабочих мест в США поддерживаются сильным присутствием автомобильной промышленности в экономике США. Люди, занятые на этих работах, в совокупности зарабатывают более 500 миллиардов долларов в год в качестве компенсации и генерируют более 70 миллиардов долларов налоговых поступлений [2]. В перспективе отрасль

продолжит расти, и перспективы трудоустройства позитивны. Поскольку отрасль продолжает расти, тем, кто хочет работать в автомобильной промышленности, будет доступно больше рабочих мест. При наличии необходимых навыков и подготовки любой может найти работу в автомобильной промышленности и сделать успешную карьеру. В целом, автомобильная промышленность является сильной и важной отраслью экономики в Соединенных Штатах и предоставляет множество рабочих мест для американцев. На рисунке 1 можно видеть, занятость в автомобильной промышленности и отрасль обеспечивавшая значительное количество рабочих мест в каждом штате страны.

Рис. 1. Общая занятость в автомобильной промышленности в разбивке по штатам



Источник: [8].

Заключение: Подводя итог всему вышесказанному, автомобильная промышленность США реагирует на кризисы, связанные с высокими ценами на топливо, и на вызовы иностранных компаний. С помощью правительства и профсоюзов решает конкурентные задачи, стоящие перед другими иностранными конкурентами, становится более продуктивными, более заботящимися о качестве, более чуткими к потребностям своих клиентов и своих собственных сотрудников. Также, становится более компактной и сильной отраслью, и с нетерпением ожидает возможности

конкурировать по всему миру с японцами, китайцами - и любыми другими желающими — в ближайшие годы.

Сегодня, автомобильная промышленность является не только крупным работодателем в Соединенных Штатах, но и играет важную роль в экономике США, это выглядит следующим образом: Во-первых, автомобилестроение стимулирует развитие сопутствующих отраслей, таких как производство комплектующих, машиностроение, логистика и т.д. Во-вторых, создает мощный эффект притока инвестиций и благополучия для страны и ее граждан. В-третьих, является источником экспортных доходов и стимулирует научно-технический прогресс.

В заключение следует отметить, что автомобильная промышленность является важной частью научно-технического развития США и ее инноваций. Компании по производству автомобилей постоянно пытаются совершенствовать свои модели, внедрять новые технологии и создать экологически чистые автомобили. Это помогает развивать науку и технику, создавать новые рабочие места в инновационном секторе.

Кроме того, важную роль играет экспорт авто и автозапчастей в экономике штатов. Американские автомобили пользуются спросом многих стран мира из-за качества и новаторских технологий. Автомобили из США символизируют статус и славу, а также способствуют их экспорту. Несмотря на развитие автопрома в других странах, благодаря этой отрасли США до сих пор считается одним из ведущих государством в мировом автомобилестроении.

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ЭКОНОМИЧЕСКИЕ ПОТЕРИ В РЕЗУЛЬТАТЕ ДОРОЖНО-ТРАНСПОРТНЫХ ПРОИСШЕСТВИЙ

Аннотация. В последние годы в Республике Узбекистан принимается много мер по профилактике дорожно-транспортных происшествий. Но, несмотря на это, нельзя сказать, что в этом направлении есть большие положительные сдвиги. К сожалению, некоторые водители продолжают нарушать правила дорожного движения. В таких условиях некоторые специалисты и эксперты предлагают усилить наказание. Но таким путем вряд ли можно достичь основной цели. То есть, не сформировав у всех участников дорожного движения высокую правовую культуру, невозможно предотвратить дорожно-транспортные происшествия. В данной статье изложен аналитический подход к определению экономического ущерба, возникающего в результате дорожно-транспортных происшествий.

Ключевые слова: ущерб от дорожно-транспортных происшествий; оценка ущерба; учитываемый в государственной статистике ущерб; не учитываемый в государственной статистике ущерб.

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ECONOMIC LOSSES RESULTING FROM ROAD ACCIDENTS

Abstract. In recent years, the Republic of Uzbekistan has adopted many measures to prevent road traffic accidents. However, we cannot say that there have been any major positive changes in this direction. Unfortunately, some drivers continue to violate traffic rules. In such circumstances, some experts and specialists propose to increase the punishment. However, it is unlikely that the main goal can be achieved in this way. That is, it is impossible to prevent traffic accidents without forming a high level of legal culture among all road users. This

article presents an analytical approach to determining the economic damage resulting from road traffic accidents.

Keywords: damage caused by road accidents; damage assessment; damage accounted for in the state statistics; damage not accounted for in the state statistics.

Введение: Для определения объёма работ по повышению безопасности движения и ущерба, наносимого народному хозяйству в результате дорожно-транспортных происшествий, целесообразно руководствоваться «Инструкцией по учёту в проектах автомобильных дорог ущерба народному хозяйству от дорожно-транспортных происшествий». Ниже приводим расчёт ущерба от дорожно-транспортного происшествия согласно данной Инструкции.

Основная часть: ущерба, причиняемого в результате дорожно-транспортного происшествия. При определении объёма работ по улучшению безопасности дорожного движения необходимо оценить ущерб, наносимый народному хозяйству в результате дорожно-транспортного происшествия.

Ущерб от дорожно-транспортного происшествия, не попавшего в государственную статистику, можно рассчитать по следующей формуле:

$$\Pi = S + \Pi_1 + \Pi_2 \quad (1)$$

Здесь S - ущерб, вызванный повреждением транспортного средства, дорожных условий или перевозимого груза; Π_1 - затраты, которые несут другие участники дорожного движения в месте ДТП из-за потери времени и затрат на расчистку проезжей части; Π_2 - затраты, которые несет управление безопасности дорожного движения.

Средний размер ущерба по одному дорожно-транспортному происшествию, причиненного населению, определяется по следующей формуле:

$$\Pi^1 = \Pi_e n_e + \Pi_o n_o + \Pi_x n_x + S_1 + \Pi^1 + \Pi^1 \quad (2)$$

Π_e , Π_o , Π_x - ущерб, наносимый народному хозяйству в результате легких, тяжелых травм и гибели людей при дорожно-транспортных происшествиях; n_e , n_o , n_x - коэффициенты, учитывающие количество легкораненых, тяжелораненых или погибших в одном дорожно-транспортном происшествии, для загородных дорог эти коэффициенты составляют $n_e=0,06$, $n_o=0,758$, $n_x=0,182$; S_1 , Π^1 , Π^1 - соответственно показатели S , Π_1 , Π_2 в предыдущем значении.

Общий убыток, который несет народное хозяйство в экономических расчетах, определяется по формуле:

$$\Pi = 365 m_t \sum_0^{t=T} \frac{N_1^L C_{nt7.5}}{(1 + F_{nn})} \quad (3)$$

m_t -травматизм тяжести инцидента учитывающий коэффициент; N - среднегодовой размер расхода, авт/сут; L -длина дороги, км; $C_{пт7.5-7,5м}$ приходится расчетное значение ущерба, сум/авт-км; $F_{нп}$ -норма приведения затрат, приходящихся на разные сроки, 0,08.

Вывод: В статье делается вывод о том, что в настоящее время различные дорожно-транспортные происшествия, происходящие в Республике Узбекистан, наносят людям различный материальный и моральный ущерб. Анализ сложившейся ситуации также указывает на это: по данным Службы безопасности дорожного движения Департамента общественной безопасности Министерства внутренних дел Республики Узбекистан, за семь месяцев 2023 года на территории республики было зарегистрировано 4 772 дорожно-транспортных происшествия. Из них 2 453, или 51,4%, совершены по субъективным причинам, то есть в результате несоблюдения водителями правил дорожного движения. Если бы водители соблюдали правила дорожного движения, то всех вышеуказанных дорожно-транспортных происшествий можно было бы избежать. К сожалению, за прошедшие семь месяцев в Узбекистане в результате ДТП погибли 1 115 человек, 4 564 человека получили различные телесные повреждения. Вышеприведенные цифры еще раз подтверждают тот факт, что большинство участников дорожного движения не соблюдают правила дорожного движения. В результате растет количество несчастных случаев и соответственно увеличивается стоимость материального ущерба от ДТП. Вследствие чего увеличивается и потребность в оценке ущерба от ДТП, что приводит к дополнительным временным затратам и снижению финансовой стабильности. Короче говоря, происходящие дорожно-транспортные происшествия наносят людям как моральный, так и материальный ущерб.

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АБУ УСМОН- ЖОҲИЗ ВА УБАЙДИЙНИНГ ИЛМИЙ МЪРОСЛАРИ

Аннотация. Ушбу мақолада X асрнинг иккинчи ярими ва XI аср бошларида аббосийлар даврида яшаб ижод этган шоир, файласуф ва фақих Амр ибн Баҳр ал Басрий Жоҳиз ва ўзбек ижодкорлар ҳақида фикр юритилган. Ҳусусан, Жоҳизнинг аббосийлар билан бўлган муносабати тарихий манбалар асосида очиб берилган.

Калит сўзлар: Ал Жоҳиз, аббосийлар, Бағдод, Ироқ, Ал Масъуди, Мубаррид, ибн Ҳалдун, ибн Қутайба, Ватвот, Ал Хаявон, тарих, шоир, Абул Хасан Ахваш, Лугатнома, Фазоилул атрок, Убайдий, Адабул котиб.

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SCIENTIFIC HERITAGE OF ABU USMAN- JAHIZ AND UBAIDI

Abstract. This article mentions the poet, historian Al Jahiz, who lived in the second half of the 10th and early 11th centuries during the Abbasy. Based on historical sources, it reveals the relationship of Al Jahiz with the Abbasy.

Key words: al Johiz, abbosiyilar, Bagdad, Irak, al Mas'udi, Mubarrid, ibn Haldun, ibn Qutayba, Vatvot, al khayavon, historian, poet, Abul Xasan Akhvash, Lugatnome, Fazoilul atrok, Ubaydi, Adabul kotib.

Ислом миллати тарихида фақат давлат ва салтанат бошлиғи эмас, фақих, шоир, олим, илм-маданият ҳомийси ўлароқ ўчмас из қолдирган Шарқнинг буюк фарзандлари кўп бўлган. Тарихдан маълумки, биринчи ўйғониш даври ва иккинчи ўйғониш даври ҳам Шарқда бўлганлиги инкор этиб бўлмайдиган ҳақиқат.

Убайдий:

Ҳақ неъматин тўё ебон, тўғри юринг,
Эранлардек кўрингондин маъни сўринг.
Маъни олиб, маънили эл била юриб,
Маънисизлиғ хирманиға ўтлар урунг...²⁴

²⁴ Убайдий, Ҳикматлар, Тошкент-2021. 98-б.

Ҳа, шарқликлар, шоир таъкидлаганидек, соҳиби маъни бўлишган, инсониятга “маънили эл” меърос қолдирган элдир. VIII асрнинг биринчи ярими (750 м.йил) араб диёрларида ҳокимият умавийлардан аббосийларга ўтгандан сўнг, янги ҳокимият Ироқдаги Бағдод шаҳрини ўзларига давлат маркази қилиб танлайдилар. Бағдод, Басра ва Куфа шаҳарларида маданий ҳаёт анча кенг миқёсда ривож топа бошлайди. Фан ва маданиятнинг барча соҳаларида жонланиш юз бериб, илму фанга бўлган бундай эътибор бошқа ўлкалардаги олимлар диққатини ўзига тортди. Уларнинг кўплари Ироқнинг Бағдод ва Басра шаҳарларига йўл ола бошладилар. Бунда, айниқса, қуръоншунослик, ҳадисшунослик, араб тилшунослиги, таржимашунослик, араб адабий тили ва шеъриятининг гуллаб-яшнашига бўлган эътибор характерли эди. Араб шеърияти билан даврнинг илму маърифат намояндаларидан Абдулмалик ибн Қориб ибн Алий ибн Асмаъ – Асмаъий (760 – 821 м.й., 122 – 216 ҳ.й.) ва аҳли илм ҳомийси-халифа Ҳорун ар-Рашид ўз атрофларида илму фаннинг барча соҳа мутахассисларини бирлаштирган. Бу шуни кўрсатадики, маданий ҳаётда Қуръон, ҳадис, фикҳ ва шеърият ғоят муҳим ўрин тутар, адабий ҳаётда турли ижтимоий гуруҳ вакиллари қатнашар, ҳатто, халифа ҳам ўша мажлисга мухлис сифатида қатнашганлиги тарихий манбаларда зикр этилган.²⁵ Илм-фан ва адабиётнинг мислсиз даражада ривожланиши натижасида такрорланмас араб адабий мероси юзага келди. Бу мерос ҳар жиҳатдан илм-фан гуллаб яшнаган даврнинг ижтимоий маданий характеридан келиб чиқиб, ўзига хос омилларни ҳам акс эттиради.

Тарихчи Ибн Халдуннинг маълумотида кўра, ўша даврда, яъни Ҳорун ар-Рашид ва унинг ўғли Маъмун замонида илму маърифатнинг раванқ топишига катта эътибор берилган. Бағдод адабий мактабига мансуб бўлган “الكامل- Комил” муаллифи ал- Имом ибн Қутайба²⁶; “البيان و التبيين” (“ал-Баён ва ат-Табйийн”) асар муаллифи ал- Мубаррид²⁷; “النوادر” (“ан-Наводир”) муаллифи, Туркиядаги Диёрбақрда туғилиб ўсган Абу Алий ал-Қолий²⁹. Бу тўртта муаллиф ва асарлари ҳақида манбаоарда зикр этилган. Абулҳасан Алий ибн Ҳусан- ал-Масъудий (Саҳобий Абдулло ибн Масъуднинг авлоди.)³⁰ “مروج الذهب” (“Марваж уз-заҳаб”) тазкирасида қуйидагиларни баён этган: ...мутақаддимийн ва мутааххирийн олимлардан Жоҳиздек олимни кўрмадим. У “--مفتاح دخول عالم العرب” (“араб дунёсига кириш калити”).

Абу Усмон Амр ибн Баҳр – Жоҳиз 160 ҳ. – в. 255 ҳ.й.(782 м.)йилда Басрада камбағал оилада таваллуд топади. Рашидудин Ватвот “حدائق السهر في دقائق الشعر” (“Ҳадоиқ ус-сеҳр фий дақоиқиш-шеър”) асарида, Амр ибн Баҳр

²⁵ Al-Anbariy. "Mu'jam ul-Adab". Misr. 2006y.

²⁶ Имом ибн Қуттийя. "Адаб ул-котиб". Миср. 1980й.

²⁷ Ал-Имом аби ал-Аббос мхаммад бин Язйид Мубаррод. "Китоб ал-Комил". 2007й.

²⁸ Амр ибн Баҳр ал Басрий Жоҳиз. "Al-Bayaaan va al-Tabayyaan". 1444y

²⁹ Аби Али ал-Қоли "ан-Наводир". Миср. 2006й.

³⁰ Абу Ҳасан Али бин Ҳусайн ас-Саудий. "Муруж аз-Заҳаб". 1998й.

пастак бўйли, хунукрок, хушчақчақ бола бўлганлидан маҳалласидагилар “Жоҳиз” (дўланкўз) деб лақаб қўйишади, лекин оғзидан чиқадиган ҳикматлар хунуклига соя солиб турарди, деб зикр этади. Аллоҳ субҳонаху ва таоло Амр ибн Баҳрни камситилган лақаб – “жоҳиз” билан илм оламида донг тараттирди. Амр отасидан ёш етим қолади, мадрасада таълим олиш билан бирга пешиндан кейин, яъни тушдан кейин бозорда нон ва гоҳида балиқ сотар ва ундан тушган фойда билан рўзгорлари ўтарди. У бозордами ё кўчадами ҳеч қўлидан китобни қўймасди, ҳатто онаси бир неча марталаб танбеҳ берган. Баъзи заиф ривоятларга кўра, бир куни Жоҳиз ижодхонасидан чиқиб онасига оч қолгани айтади ва ундан овқат бўлса беришини сўрайди. Шунда она усти ёпилган товоқ олиб келиб олдиға кўяди ва унга, ол, болам, овқатингга қара, сенга атаб пиширдим дейди. Амр овқат солинган идишни очиб қараса, китоб-дафтар солинган, онасига ҳайратланиб савол назари билан қараганда она болам, сенинг овқатинг энди – шу, уйда ҳечвақо қолмабди дейди. Ўша кунлари у “Ҳайавон” китобини тугатган, халифа унга ўша китобдан бир нусха олиб ҳузурига келишини хабарчилари орқали айтирган эди. Жоҳиз қўлзмадан бир нусха кўчириб бериш учун сарой котибига берганди. Онанинг бу муомиласидан таъсирланган шоир кўчирилган нусхани олиб тўғри халифа ҳузурига боради. Халифа катта китобни қўлиға олиб варақлаган бўлади-да, хурсандлигидан шоирга эллик минг динар ҳадя қилади. У катта совға билан уйға, онасининг олдиға қайтади. Бундай воқеалар буюклар ҳаётида учраб турадиган ҳолат.

Шоир Убайдий айтганидек,

Тангридин агар бўлса лутфу иноят,

Бўлғусидурур борча ишим бот кифоят.

Жоҳизнинг илму маърифатга бўлган муҳаббати унинг кундан кун етук олим сифатида шаклланишиға ёрдам беради. У дастлаб маҳалласидаги мадрасада, ундан кейин ўз замонасининг машҳур олимлари Аби Убайда, Абдул малик ибн Қариб-ал-Асмаъий ва Ахвашдан таълим олади. Ўша вақтларда Асмаъий бошчилигида халифа хонадонида илмий мажлислар ўтиб турарди, олимлар суҳбати Жоҳиз учун энг роҳатбахш дамлар бўлган.

Жоҳизнинг ҳамма илмда моҳир бўлганлиги асарларида ўз аксини топган. У «кўп ва хўп» асарларида одам ва олам мавзусига қайта-қайта мурожаат қилади. Уларда одоб-ахлоқ, одамлардаги ижобий ва салбий хислат, ҳайвонот оламидаги илоҳий мўъжизалар шеърий ва насрий услубда баён этилган. Шунинг учун асарлари ҳамма замонларда қадрланиб келинган.

Абу Усмон Жоҳиз 360 га яқин асар ёзган. Аксарияти мўғуллар босқинида талафот кўрган бўлса ҳам, бир неча қисми бизгача етиб келган. Унинг энг машҳур китобларидан “البيان و التبيين” (ал-Баён ва ат-табиййн”) асарида балоғату фасоҳат илми, ундаги илми баён қисмлари, ҳадислардаги балоғат ва фасоҳат ҳақида фикр юритилади.

Бу китоб Мисрда (1333 ҳ.й.) шарҳи билан нашр қилинган. “كتاب الحيوان” (“Китоб ул-ҳайван”) асари эса 1323 ҳ.й Мисрда “Атқақаддум” нашриётида 7 мужаллад шаклида нашр этилган. Яна бир жуда машҳур бўлган ва бир неча тилларда таржима ҳам қилинган “رسائل الجاحظ” (“Расоил ул-Жаҳиз”) асари 11 мужалладли бўлиб, 1323 ҳижрий йилда Мисрда нашр этилган, ҳар бир жилд бир неча фасллардан ташкил топган. Ушбу қисмлардан бири “في مناقب الترك و عامة جند الخلافة” (“Маноқибит-турк ва оммат жундил хилофат”) асари халифанинг туркийлардан бўлган қумондони ва вазири Фатҳ ибн Ҳоқонга бағишлаб ёзилган. Бу асар 1903 м. йилда инглиз шарқшуноси Фон Флутон томонидан Лондонда нашр этилган бўлиб,³¹ бунда туркий аскарларнинг қаҳрамонликлари ва фазилатлари, халифа қўшинларидаги хизмати асносидаги фидойиликлари, ундаги туркона олийҳиммат феъл-атворлари баён этилган.

Жоҳизнинг “فضائل الاتراك” (“Фазоилул атрок”) рисоласи ҳам Мутаваккил Аббосийнинг вазири Фатҳ ибн Ҳоқоннинг илтимос ва таклифига кўра ёзилган.³² Ушбу китоб муқаддимасида: Рисолани буюк ёзувчи Абу Усмон Амр ибн Баҳр –ал-Жоҳиз туркий халқларнинг фазилатлари, қаҳрамонликлари ва олийҳимматликлари, исломий беғубор эътиқодлари батафсил баён этилган (таржима). Асар тўлиғича Миср “Матбаул-умумий” нашриётида 1898 мел.йили нашр этилган.

Унинг “كتاب المعلمين” (“Китоб ул-муаллимийн”) асарида устоз-шогирд ва таълим олиш усуллари ҳақида фикр юритилган. Асар Имоми Зарнужийнинг “تعليم المتعلمين” (“Толиби илмининг таълим олиш одоблари”) асарини эслатади.

Биз Имоми Зарнужий Жоҳиз асарларини мутолаа қилган ва ундан ўз асарида унумли фойдаланган деган тахминдамиз. Шу сингари Алишер Навоийнинг “Муҳокаматул-луғатайн”, “Маҳбубул-қулуб”, Убайдийнинг “Ғайратнома”, “Шавқнома”, “Сабрнома” асарлари ҳам мазкур асар таъсирида ёзилгани эҳтимолдан холи эмас. Чунки баён усуллари бир-бирига жуда яқин. Бизгача етиб келган Жоҳиз асарларидан катта кутубхона соҳиблари Навоий ва Убайдий қўлларида бўлган ва улар ўз ижодларида ундан унумли фойдаланганлар десак, хато бўлмайди.

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СРАВНЕНИЕ И АНАЛИЗ ВЫСОТЫ СИСТЕМ СК-42 И WGS-84

Аннотация. В данной статье в геодезических работах представлен расчет высоты заданных точек в разных системах высот по методу Молоденского. Также в этой статье показано, как использовать программу Microsoft Excel для выполнения расчетов.

Ключевые слова: Балтийское море, Normalhöhennull, Национальная геодезическая система высот 1929 года, Амстердамская система координат, GPS, WGS-84, СК-42.

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COMPARISON AND ANALYSIS OF HEIGHTS OF SK-42 AND WGS-84 SYSTEMS

Annotation. This article in geodetic works presents the calculation of the height of given points in different height systems using the Molodensky method. This article also shows how to use Microsoft Excel to perform calculations.

Key words: Baltic Sea, Normalhöhennull, National Geodetic Elevation System 1929, Amsterdam Ordnance Datum, GPS, WGS-84, SK-42.

Сегодня в процессе определения высоты пунктов в геодезических работах в разных регионах и странах используются разные системы высот. Примеры таких систем высот включают Baltic, Normalhöhennull,

Национальную геодезическую вертикальную систему отсчета 1929 года, Амстердамскую систему высот и другие системы высот. Также в геодезических исследованиях широко используются современные измерительные приборы и навигационные системы (GPS) [4].



Рисунок 1. Кронштадтская футушток



Рисунок 2. Нулевой уровень системы «Amsterdam Ordnance Datum»

Но высоты, обнаруженные в этих системах, отличаются друг от друга. Существуют различные методы нахождения разности этих систем высот, наиболее употребительным из которых является метод Молоденского [1,3].

Разницу между системами WGS-84 и СК-42 можно определить с помощью метода Молоденского. Для этого по координатам (B , L , H), полученным в системе WGS-84, можно использовать следующие формулы для определения разницы между системами WGS-84 и СК-42:

$$\left. \begin{aligned} B_{84} &= B_{42} + \Delta B \\ L_{84} &= L_{42} + \Delta L \\ H_{84} &= H_{42} + \Delta H \end{aligned} \right\} (1)$$

здесь – широта, долгота и высота B_{84} , L_{84} , H_{84} полученные в системе WGS-84;

- ширина, длина и высота B_{42} , L_{42} , H_{42} полученные в системе СК-42;

- ΔB , ΔL , ΔH разница между системой WGS-84 и системой СК-42.

Для нахождения разницы ΔB , ΔL , ΔH между системой WGS-84 и системой СК-42 используются следующие формулы:

$$\Delta B = \frac{\rho''}{M+H} [-T_X \sin B \cos L - T_Y \sin B \sin L + T_Z \cos B + \Delta a_E (N e^2 \sin B \cos B) / a_E + \frac{N \Delta e_E^2}{2} \left(\frac{N^2}{a_E^2} + 1 \right) \sin B \cos B] + (1 + e_E^2 \cos 2B) (\omega_X \sin L - \omega_Y \cos L) - \rho'' e_E^2 \mu \sin B \cos B; \quad (2)$$

$$\Delta L = \frac{\rho''}{(N+H) \cos B} (-T_X \sin L + T_Y \cos L) - \operatorname{tg} B (1 - e_E^2) (\omega_X \cos L + \omega_Y \sin L) + \omega_Z; \quad (3)$$

$$\Delta H = T_x \cos B \cos L + T_y \cos B \sin L + T_z \sin B - \frac{a_E \Delta \alpha_E}{N} + \frac{\Delta e_E^2 N \sin^2 B}{2} + e_E^2 N \sin B \cos B \left(\frac{\omega_x}{\rho''} \sin L - \frac{\omega_y}{\rho''} \cos L \right) + \mu(N + H - e_E^2 \sin^2 B). \quad (4)$$

здесь - $\Delta \alpha$ - разность коэффициентов сжатия системы WGS-84 и системы СК-42;

Δa - разность главных полуосей системы WGS-84 и системы СК-42;

e^2 - разница эксцентриситетов системы WGS-84 и системы СК-42.

Они рассчитываются по следующим формулам:

$$\Delta a = a_{84} - a_{42}, \quad \Delta \alpha = \alpha_{84} - \alpha_{42}, \quad e^2 = 2\alpha - \alpha^2 \quad (5)$$

N - рассчитывается по следующей формуле:

$$N = \frac{a}{\sqrt{1 - e^2 \sin^2 B}} \quad (6)$$

Большая полуось и эксцентриситет системы WGS-84 и системы СК-42 равны:

WGS-84: $a=6378137.000$ m, $e^2=0.00669438$.

СК-42: $a=6378245.000$ m, $e^2=0.00669342$.

Кроме того, в расчетах используются следующие значения:

$\mathbf{w} = (\omega_x, \omega_y, \omega_z)^T = (0.0'', 0.35'', 0.66'')^T$, $\mathbf{T} = (T_x, T_y, T_z)^T = (25.0, -141.0, -90.0)^T$.

При сравнении высот задаются геодезические координаты 5 точек, и они должны быть равны следующим.

Таблица 1

Т/г.	Широта	Долгота	Высота
1.	$B=38^{\circ} 20' 16,1''$	$L=66^{\circ} 06' 21,7''$	$H=790,5$ m
2.	$B=39^{\circ} 08' 05,2''$	$L=66^{\circ} 53' 07,6''$	$H=622,6$ m
3.	$B=38^{\circ} 14' 06,7''$	$L=67^{\circ} 52' 48,8''$	$H=477,5$ m
4.	$B=38^{\circ} 41' 04,1''$	$L=66^{\circ} 56' 29,3''$	$H=2690,7$ m
5.	$B=40^{\circ} 21' 24,0''$	$L=70^{\circ} 31' 25,2''$	$H=421,7$ m

Расчет и сравнение высоты выполнялось в Microsoft Excel. В Microsoft Excel создан специальный алгоритм нахождения ΔH , то есть разницы между высотами системы WGS-84 и системы СК-42 [5]. Для расчета $\sin B$, $\cos B$, $\sin L$, $\cos L$ сначала вычисляются их значения в радианах, а затем в градусах. Для всех расчетов использовались формулы Microsoft Excel. Результаты расчетов были следующими [2].

Пункт 1: WGS-84: $B=38^{\circ} 20' 16,1''$, $L=66^{\circ} 06' 21,7''$, $H=790,5$ м.

Таблица 1

	Расчетные значения	Радян	Градус
$H=$	790,5		
$T_x=$	25		
$T_y=$	-141		

$Tz=$	-90		
$\sin B=$	0,620296717	0,669120935	38,33780556
$\cos B=$	0,78436725	0,669120935	38,33780556
$\sin L=$	0,914296573	1,15376784	66,10602778
$\cos L=$	0,405045401	1,15376784	66,10602778
$a_E=$	6378137		
$N=$	6386367,252		
$\Delta a_E=$	0,00000048		
$\Delta y e^2_E=$	0,00000096		
$e^2=$	0,00669438		
$R=$	6370741,813		
$x=$	2029227,784		
$y=$	4580513,703		
$z=$	3935413,582		
$\Delta H=$	-147,8219515		

Вышеуказанная расчетная работа приведена по пункту 1, а расчетная работа по остальным пунктам может быть выполнена по приведенной выше таблице. Данные расчеты могут быть использованы в организациях, выполняющих геодезические и топографические работы на территории Узбекистана, в работах по определению разницы высот пунктов в разных системах. Также в образовательных учреждениях, его также можно использовать в образовательном процессе в высших учебных заведениях.

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ФАКТОРЫ УЛУЧШЕНИЯ КОНЦЕНТРАЦИИ ВНИМАНИЯ ВОВЛЕЧЁННОСТИ СТУДЕНТА

Аннотация. Чтобы студентам было легче втянуться в процесс, важно помнить, что преподаватели играют центральную роль, поэтому важно вовлекать их в жизнь курса, в частности, доверяя им. Термин «студенческий опыт» не нов, но он становится все более важным для учебных заведений.

Ключевые слова: образование, студент, опыт, активность, вовлечённость.

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FACTORS FOR IMPROVING STUDENT CONCENTRATION AND ENGAGEMENT

Abstract. To make it easier for students to get involved in the process, it is important to remember that teachers play a central role, so it is important to involve them in the life of the course, in particular, by trusting them. The term “student experience” is not new, but it is becoming increasingly important to educational institutions.

Key words: education, student, experience, activity, involvement.

Рискуя разочаровать тех, кто ищет секретный рецепт академического успеха личности, признаем, что существует сколько студентов, столько же методов работы.

Однако, поскольку все методы интеллектуальной работы объединяет то, что они требуют минимальной концентрации, применяются определенные основные правила. Интеллектуальная работа может быстро утомить учащихся, которые не могут к ней должным образом подготовиться. Можно максимизировать эффективность учебных занятий и защитить качество своей жизни, сводя к минимуму умственные ресурсы, затрачиваемые на концентрацию. Факторы, влияющие на концентрацию, обычно классифицируются в зависимости от того, связаны ли они с рабочей средой (внешние факторы) или личными склонностями (внутренние факторы).

Выбор благоприятной рабочей обстановки позволяет как можно дольше сохранять максимальную концентрацию. Принцип прост: внимание, которое уделяем окружающей среде, вычитается из внимания, уделяемого задаче. Чем больше возможностей отвлекаться, тем больше усилий вам придется приложить, чтобы просто подумать об учебе!

Концентрация – это направленность всей умственной деятельности человека на один объект. Концентрация – это не пассивное состояние, напротив, требует мобилизации энергии, чтобы сосредоточить внимание на поставленной задаче.

Вот некоторые аспекты рабочей среды, которые можете контролировать. Место, способствующее концентрации. Некоторые люди способны учиться даже в суете переполненного автобуса. Очевидно, что нас с такими возможностями меньшинство. Для других выбор мирного и привычного места уменьшит вероятность того, что их оторвут. Хорошее освещение и прочная опора (для отдыха оставьте любимое кресло!) также способствуют умственной работе. Прослушивание музыки иногда может помочь людям, которые беспокоятся о том, что их мысли «улетают», когда они работают. Однако нам нужно найти подходящий саундтрек. Подходящий выбор — ритм, который побуждает вас оставаться активными. Избегайте радио: дикторам и ведущим платят за то, чтобы они привлекли ваше внимание.

Рабочее место, отведенное для работы. Кажется, что место для учёбы всегда наполнен разрозненными элементами? Прежде чем приступить к работе, обязательно отложите все, что не нужно для запланированного учебного занятия (список продуктов, журналы, фотографии и т. д.). Далее проверьте, есть ли у вас под рукой все необходимые инструменты (словарь, карандаши и маркеры, учебники и т. д.). Компьютер находится на рабочем столе, выключайте экран, если не планируете его использовать. Таким образом, будет меньше соблазна прочитать электронную почту.

Подготовьтесь к интеллектуальной работе. Концентрация внимания неустойчива, потому что это некомфортное состояние умственной деятельности. Если чувствуете, что не хватает мотивации, не стесняйтесь обратиться к руководству по организации мотивации и времени. Когда концентрируетесь, просите своё сознание отпустить приятные мысли, состояние покоя для более тяжелой работы. Вот несколько советов, как улучшить личное расположение к учебе:

Сбалансированный темп жизни. Это величайший подарок, который может сделать себе человек, обучающийся в университете! Действительно, недостаток сна, стресс и отсутствие физических упражнений затрудняют концентрацию. Программа «разогрева». Достижение состояния концентрации требует постепенного погружения ума. Выполнение, составленной краткой программы подготовки может помочь

сконцентрироваться. Объединив эту последовательность действий с желанием работать, разум научится концентрироваться быстрее и легче.

Изгоните свои паразитические идеи. □ Случайные идеи – это упрямые мысли, которые могут принять форму приятных мечтаний (как заманчиво спланировать ближайшие выходные!) или неуместные беспокойства (ответ на электронное письмо, стирка белья, завершение разговора с любимым человеком и т. д.). Лучше не начинать учебную сессию, пока не разобрались в различных неприятности, которые рискуют монополизировать ваше внимание. Если эти посторонние мысли возникают во время работы, не пытайтесь их отогнать. Вполне вероятно, что они вернуться, чтобы преследовать вас. Вместо этого обратите на них внимание. Вы можете воспользоваться следующим перерывом, чтобы выполнить задачи, которые влияют на вашу концентрацию.

Делайте регулярные перерывы. Чтобы избежать перегрузки мозга, давайте себе небольшой перерыв после каждого часа работы. Вы можете воспользоваться этим временем, чтобы выпить воды и размяться. При работе за компьютером желательно через каждые двадцать минут отводить взгляд.

Ведению конспектов, во время лекций большая часть информации доступна только в формате устно. Часто недостаточно понять рассматриваемые концепции. Вам все равно придется вспомнить их в деталях спустя несколько недель, а то и месяца. Некоторые студенты не любят делать конспекты во время лекций, потому что боятся, что не смогут уделять достаточно внимания тому, что говорит преподаватель. Эти вероятно, будут удивлены, узнав, что ведение конспектов способствует концентрации внимания и облегчает запоминание! С практикой можно пожинать все преимущества активного слушания. Наиболее эффективные методы ведения заметок, как правило, соответствуют следующим трем золотым правилам:

Краткие заметки. Во время презентации невозможно все запомнить. Примечания к лекции служат для выявления сути. Только определения и наиболее важные закономерности следует отметить полностью. Примеры, которые помогут вам понять, можно записать своими словами. Кроме того, когда концепция понятна, вы можете легко отметить только основные идеи и формулировки (потому что это причина, тогда и т. д.).

Сокращения сэкономят время, если сможете впоследствии их распознать. Когда вы используете новое сокращение, напишите его значение на полях.

Верные заметки. Когда дело доходит до ведения заметок, точность содержания и читаемость так же важны, как и скорость. Хорошая подготовка позволит вашему разуму уделять больше внимания расшифровке идей. Перед каждой лекцией перечитывайте конспекты

предыдущего занятия и соответствующие тексты. Это поможет вам дольше сохранять концентрацию и снизит риск ошибок (и головных болей!).

Важно не путать конспекты курса и личные комментарии.

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ИЗУЧЕНИЕ ПРОЦЕССА РАСПРЕДЕЛЕНИЯ ВРЕДНЫХ ВЕЩЕСТВ В АТМОСФЕРЕ И СОВЕРШЕНСТВОВАНИЕ МАТЕМАТИЧЕСКОЙ МОДЕЛИ С УЧЕТОМ НОВЫХ ФАКТОРОВ

Аннотация. Необходимо разработать необходимый инструмент для решения следующих задач: изучения, индикации и мониторинга состояния атмосферы и окружающей среды промышленных территорий, а также оценки воздействия техногенных факторов. Одним из эффективных и конструктивных методов и средств решения поставленных задач является математическое моделирование и компьютерные расчетные эксперименты, с помощью которых можно качественно и количественно оценить экологическое состояние атмосферы и окружающей среды местности.

Ключевые слова: математическое моделирование, аэрозоль, уравнение диффузии, турбулентность.

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STUDYING THE PROCESS OF DISTRIBUTION OF HARMFUL SUBSTANCES IN THE ATMOSPHERE AND IMPROVING THE MATHEMATICAL MODEL TAKING INTO ACCOUNT NEW FACTORS

Annotation. It is necessary to develop the necessary tool to solve the following problems: studying, indicating and monitoring the state of the atmosphere and the environment of industrial areas, as well as assessing the impact of technogenic factors. One of the effective and constructive methods and means for solving problems is mathematical modeling and computer calculation experiments, with the help of which you can qualitatively and quantitatively assess the ecological state of the atmosphere and the environment of the area.

Keywords: mathematical modeling, aerosol, diffusion equation, turbulent.

Введение. Газовые смеси, выбрасываемые тепловыми электростанциями, заводами и производствами, автотранспортом, подвергаются сложным химическим реакциям. В результате образуются новые, более токсичные вещества, которых не было в исходных отходах. Среди них очень вредны для людей и окружающей среды неорганические вещества, оксиды азота и серы, выбросы угарного газа и диоксида углерода

и т. д. Известно, что все опасные вещества, выбрасываемые предприятиями промышленного производства в окружающую среду и атмосферу (приземный слой атмосферы), со временем оседают на земной поверхности в виде материальных веществ, а тяжелые в основном выпадают обратно под действием силы тяжести.

Литературный анализ. Вопросы создания методологии математического моделирования процессов диффузии токсичных веществ в атмосфере, связанных с загрязнением окружающей среды, построения модели, отражающей конкретный процесс, а также исследования и совершенствования численных экспериментальных методов изучения динамики параметров процесса Г.И. Марчук, В.В. Пененко, А.Е. Алоян, Е.Л. Генихович, Р.И. Бызова, Ю.А. Анохина, Л.Н.

В Республике Узбекистан прогнозированием и мониторингом процесса распространения токсичных веществ в атмосфере занимались ученики Ф.Б.Абуталиева, С.Каримбердиевой, А.Х.Бегматова, Н.Равшанова, М.Л.Арушанова и других ученых с математическим образованием. модели и методы расчета.

Одним из основных приложений теории атмосферной диффузии М. Э. Берланда является регулирование вредных выбросов. В неблагоприятных погодных условиях необходимо обеспечить чистоту воздуха в приземном слое. Эти вопросы подробно рассмотрены авторами в ряде работ, а результаты обобщены в монографии.

В нормальных условиях выбросы промышленных предприятий происходят с определенной начальной скоростью и перегревом относительно окружающего воздуха. В результате условно можно предположить, что такие выбросы производятся на определенной эффективной высоте. В таких случаях мы можем наблюдать неблагоприятные метеорологические условия, в том числе опасную скорость ветра. При этом приземная концентрация достигает наибольшего значения. Возможный выброс вредных соединений в атмосферу определяется из требования, чтобы это максимальное значение не превышало предельно допустимую концентрацию. В исследованиях автора рассмотрено влияние скорости ветра на перемещение и распространение вредных веществ в атмосфере, вредных веществ, поступающих из подземных источников, испаряющихся жидкостей, выбросов автотранспорта, промышленных отходов, образующихся при горнодобывающих и взрывных работах, с учетом факторов Турбулент провел приближенные расчеты концентраций из подземных источников на основе определенных аналитических выражений уравнения диффузии.

С целью изучения, прогнозирования и анализа процесса рассеивания аэрозольных выбросов в атмосферу была разработана математическая модель распространения вредных веществ в атмосфере, которая

описывается уравнением переноса и диффузии, основанным на законе сохранения массы.

$$\begin{aligned} \frac{\partial \theta(x, y, z, t)}{\partial t} + u \frac{\partial \theta(x, y, z, t)}{\partial x} + v \frac{\partial \theta(x, y, z, t)}{\partial y} + (w - w_g) \frac{\partial \theta(x, y, z, t)}{\partial z} + \\ + \sigma \theta(x, y, z, t) = \mu \left(\frac{\partial^2 \theta(x, y, z, t)}{\partial x^2} + \frac{\partial^2 \theta(x, y, z, t)}{\partial y^2} \right) + \\ + \frac{\partial}{\partial z} \left(k(z) \frac{\partial \theta(x, y, z, t)}{\partial z} \right) + \delta(x, y, z) I(x, y, z, t) \end{aligned} \quad (1)$$

с начальными и граничными условиями:

$$\theta(x, y, z, 0) = \theta_0(x, y, z) \quad (2)$$

$$\theta(x, y, z, t) \Big|_{x=0, x=L_x} = \theta(x, y, z, t) \Big|_{y=0, y=L_y} = 0 \quad (3)$$

$$-k(z) \frac{\partial \theta(x, y, z, t)}{\partial z} = \beta(x, y) \theta(x, y, z, t), \quad z = 0, \quad (4)$$

$$k(z) \frac{\partial \theta(x, y, z, t)}{\partial z} = 0, \quad z = L_z \quad (5)$$

Здесь $\theta(x, y, z, t)$ концентрация размножающегося вещества; t - время; x, y, z - Декартовы координаты; u, v, w - составляющие скорости ветра по направлениям x, y, z в соответствии; w_g - скорость осаждения частиц; k - коэффициент турбулентного перемешивания; μ - коэффициент диффузии; σ - коэффициент поглощения; β - коэффициент взаимодействия с поверхностью внизу; $I(x, y, z, t)$ - источник питания, δ - Функция Дирака.

ЗАКЛЮЧЕНИЕ

Как видно из постановки задачи (1)-(5), она описывается уравнением в частных производных с сосредоточенными параметрами. Таким образом, мы можем анализировать движение и распределение частиц соли и пыли, распространение аэрозолей из сухих морей, водоемов, промышленных объектов и промышленных отходов путем решения многомерных уравнений в частных производных и создания математической модели. Для ее решения необходимо изучить соответствующие начальные и граничные условия и входные данные.

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ЭКОЛОГИЧЕСКИЕ АСПЕКТЫ НЕМАТОД РОДА НАЕМОНCHUS (COVBOLD, 1898) В СИСТЕМЕ “ПАРАЗИТ–ХОЗЯИН”

Аннотация. В настоящее время зарегистрировано 13 видов рассматриваемого рода, паразитирующих на сычуге копытных животных. В качестве окончательных хозяев этого паразита отмечены копытные семейства Cervidae (1), Antilocapridae (1), Giraffidae (1), Bovidae (12) и Camels (2). Отдельные популяции вида Haemonchus зарегистрированы в Азии, Европе, Америке, Африке и Австралии. Соотношение полов у Haemonchus contortus между самками и самцами составляет 1:5. Одна самка откладывает от 150 до 10 000 яиц в день.

Ключевые слова: нематода, морфология, личинка, морфометрия, крупного рогатого скота, овец, Haemonchus contortus, Haemonchus placei.

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ECOLOGICAL ASPECTS OF NEMATODES OF THE GENUS HAEMONCHUS (COVBOLD, 1898) IN THE “PARASITE–HOST” SYSTEM

Abstract. Currently, 13 species of the considered genus parasitizing the abomasums of ungulate animals have been recorded. The ungulates of the family of Cervidae (1) Antilocapridae (1), Giraffidae (1), Bovidae (12) and Camels (2) were recorded as definitive hosts of this parasite. Individual populations of the Haemonchus species were recorded in Asia, Europe, America, Africa and Australia. Sex ratio in Haemonchus contortus between females and males is 1:5. One female lays from 150 to 10.000 eggs per day.

Key words: nematode, morphology, larva, morphometry, cattle, sheep, Haemonchus contortus, Haemonchus placei.

Общеизвестно, что необходимость выяснения механизмов адаптации паразита к изменяющимся условиям среды их обитания и функциональных взаимосвязей между партнерами, представляют чрезвычайный интерес для оптимизации методов и разработки средств профилактики заболевания.

Следовательно, знание механизмов формирования фаунистических комплексов гельминтов позволит установить ареалы распределения паразита по хозяевам, изучить структуру популяции и определить

взаимодействие между хозяевами и паразитами, а также прогнозировать основы идентификации биотических и абиотических детерминантов сообществ «паразит-хозяин». Наличие информации о биологической разнообразии гельминтов является критически важной основой для определения реакций при преобладающих условиях экологического изменения в системе «паразит-хозяин».

Кроме того, познание механизмов регуляции численности паразитов возможно, главным образом, на популяционном уровне, поскольку последняя является формой существования вида.

В настоящее время по литературным данным [1,2,4] и материалам собственных исследований в мировой фауне зарегистрировано 13 видов нематод рода *Haemonchus* Cobbold, 1898, паразитирующих в сычуге копытных. В качестве дефинитивных хозяев отмечены копытные семейств – Bovidae (12 видов), Cervidae (1 вид), Giraffidae (1 вид), Antilocapridae (1 вид) и Camelidae (2 вида). Отдельные популяции видов гемонхов зарегистрированы в экосистемах Азии, Европы, Америки, Африки и Австралии.

Эти нематоды широко распространены и в биогеоценозах Узбекистана и признаются в качестве наиболее патогенных гельминтов жвачных животных. Потери, наносимые животноводству этими паразитами, существенны [1, 2, 5].

Гемонхи диких и домашних животных довольно интенсивно изучаются и накоплен разносторонний материал по этим нематодам. Однако многие вопросы, касающиеся экологии гемонхов остаются еще недостаточно выясненными и в частности: особенности расселения, соотношение полов, плодовитость и другие.

Материалом для экологической характеристики служили яйца и половозрелые гемонхи от естественно зараженных овец в условиях Узбекистана.

Исследования показали, что гемонхи обитают на слизистой поверхности сычуга, при этом их концентрация была наибольшей в фундальной и кардиальной частях.

Для изучения соотношения полов, определяли индекс пола (ИП), то есть отношение количества самок к самцам изучаемого вида. У часто встречаемых и менее плодовитых видов нематод отмечаются изменения ИП по сезонам года. В апреле–июне, августе–октябре и позже ИП *H. contortus* возрастал до 2.0–3.0 с колебаниями в течение года от 0.3–2.8. Количество самок *H. contortus* в течение года было в 3 раза больше, чем самцов и составило 1:5.

Таким образом, ИП бывает высоким в популяциях со значительным числом особей обоих полов. У *H. contortus* он в 2.5 раза выше и достигает максимума в сезоны, когда во внешней среде присутствуют наиболее благоприятные условия для развития инвазионных личинок.

Необходимо отметить, чем выше плодовитость самок рода *Haemonchus*, тем ниже его индекс пола и наоборот.

О плодовитости гемонхов можно судить, по количеству яиц, откладываемых одной самкой за сутки, или по числу яиц, которые обнаруживаются в 1 г фекалий животных в пересчете на одну особь или самку вида. При исследовании животных на наличие кишечных стронгилят выяснено, что самыми плодовитыми являются гемонхи. Одна самка за сутки откладывает от 150 до 10000 яиц.

При определении соотношения количества половозрелых особей *H. contortus* и наличия яиц в одном шарике фекалий овец массой 0.3–0.5 г. оказалось–1:1.2. По нашим наблюдениям отмечено, что самки *H. contortus* откладывают в 6–8 раз больше яиц, чем *Trichostrongylus sp.* или *Ostertagia sp.*

Отмеченные нами и многими другими исследователями колебания плодовитости гемонхов зависели от ряда причин, среди которых следует выделить факторы, определяющие сезоны года. Ведущими из них являются температура и влажность окружающей среды. Это подтверждено и нашими экспериментальными исследованиями.

Плодовитость гемонхов, как показали исследования, находится в коррелятивной связи с размерами тела и возрастом самок нематод.

Самки *H. contortus* начинают откладывать максимальное количество яиц через 30–40 суток после заражения животных. Этот подъем зависит от вида гельминта, напряженности вызываемых им у хозяина иммунологических реакций и многих других, не всегда ясных причин и длится от 6–9 суток до 1–2 месяцев. После этого число яиц постепенно снижается и, наконец, их выделение совершенно прекращается.

Нами отмечено резкое увеличение плодовитости гемонхов весной, после поедания овцами молодых злаковых трав.

На основании исследований и литературных данных полагаем, что суточная яйцепродукция гемонхов изменяется по сезонам, что находится в зависимости от репродуктивной активности нематод.

Указанная саморегуляция стронгилят тесно связана с экологией гельминтов и их хозяев и, разумеется, не всегда четко проявляется в опытах и может нарушаться в естественных условиях. В последнем случае гемонхи или не приживаются в хозяевах, или развиваются такие паразито–хозяинные отношения, при которых животные чрезмерно перенаселяются гемонхами и тяжело болевают.

В связи с этим мы полагаем, что любые противогельминтозные мероприятия должны начинаться с экологического анализа конкретной паразитологической ситуации и прежде всего с выяснения и устранения причин, вызывающих нарушения саморегуляции гемонхов в экосистемах, в состав которой входят и эти нематоды.

Гемонхи развиваются без промежуточных хозяев (рис.). Личинки, вышедшие из яиц развиваются во внешней среде. Они малоустойчивы к высушиванию. В биогеоценозах Узбекистана выживают в летнее время 2–3 дня, в весеннее–до 65 дней, в осеннее–зимнее, когда температура воздуха и почвы низкая, а влажность высокая, инвазия сохраняет жизнеспособность до 5 месяцев.

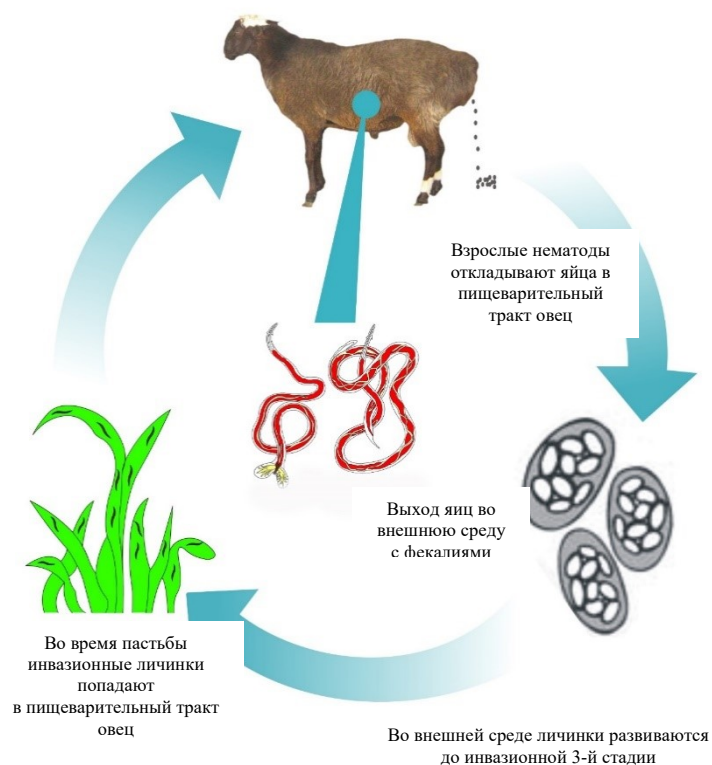


Рис. Цикл развития нематод рода *Haemonchus* Cobbold, 1898

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МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ НЕМАТОД РОДА HAEMONCHUS

*Аннотация. Изучены морфологические особенности нематод рода *Haemonchus* Cobbold, 1898, который представлен двумя видами *H. contortus* Rudolphi, 1803 и *H. placei* Place, 1893. На основе морфологических исследований выяснена самостоятельность двух видов гемонхов - *Haemonchus contortus* и *Haemonchus placei* паразитирующих у овец и крупного рогатого скота.*

*Ключевые слова: нематода, морфология, личинка, морфометрия, крупного рогатого скота, овец, *Haemonchus contortus*, *Haemonchus placei*.*

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MORPHOLOGICAL FEATURES OF NEMATODES OF THE GENUS HAEMONCHUS

*Abstract. The morphological features of the nematodes of the genus *Haemonchus* Cobbold, 1898, which is represented by two species of *H. contortus* Rudolphi, 1803 and *H. placei* Place, 1893, were studied. Based on morphological studies, the independence of two species of gemonchus, *Haemonchus contortus* and *Haemonchus placei* parasitizing in sheep and cattle, was determined.*

*Key words: nematode, morphology, larva, morphometry, cattle, sheep, *Haemonchus contortus*, *Haemonchus placei*.*

Для анатомо-морфологические характеристики гельминтов рода *Haemonchus* в фермерских и дехканских хозяйствах Сурхандарьинской, Кашкадарьинской, Наманганской областей, а также убойных пунктах городов Ташкента и Намангана проводились полные гельминтологические вскрытия овец по методу К.И.Скрябина [2,3]. Капрологические исследования проводили по общепринятым методам Бермана-Орлова [1]. Материалом служили яйца и половозрелые особи *Haemonchus contortus* от спонтанно зараженных овец в условиях Узбекистана.

Представители рода *Haemonchus* значительно отличаются от других трихостронгилид относительно крупными размерами.

У жвачных животных Узбекистана зарегистрированы гемонхи следующих видов: *Haemonchus contortus*, *H. placei* и *H. longistipes*.

Морфология яиц и инвазионных личинок гемонхов. Размеры яиц нематод большей частью зависят от особенностей их развития. Яйца гемонхов не содержат большого количества питательного материала, так как развитие в них идет лишь до появления личинок 1 возраста (личинок–1 стадии). Размеры яиц: длина 82.3 ± 0.35 и ширина 41.9 ± 0.34 мкм (рис.1).

У яиц гемонхов протеиновая оболочка отсутствует. Яйца характеризуются мощной скорлупой, которые проходят длительное развитие во внешней среде. Она играет защитную роль, охраняя яйцо от воздействия ряда неблагоприятных факторов и, в первую очередь, - высыхания. Личинки, развивающиеся в таких яйцах, в течение длительного времени могут сохранять жизнеспособность. Яйца гемонхов имеют тонкую скорлупу, хотя она также состоит из нескольких оболочек. Личинки в таких яйцах развиваются в течение нескольких дней, после чего выходят в окружающую среду, где и происходит развитие до инвазионной стадии.

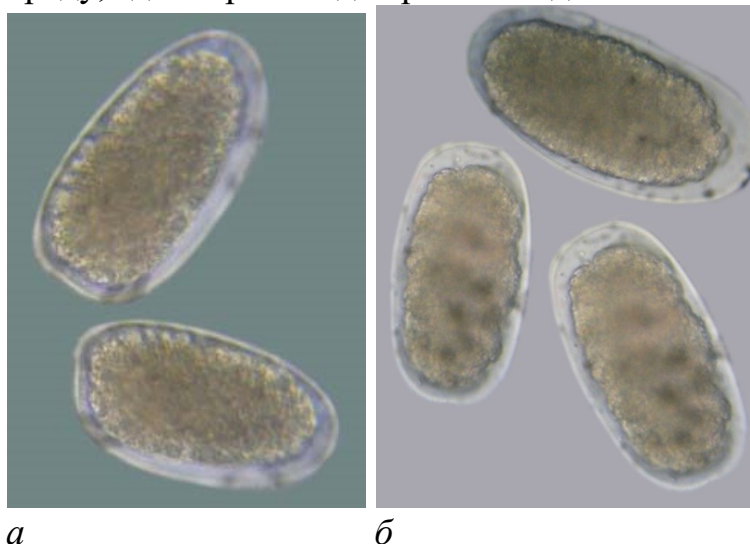


Рис. 1. Яйца *Haemonchus contortus* Rudolphi, 1803 (а), *H. placei* Place, 1893 (б) (ок. 10, об.100) (оригинал)

Инвазионные личинки гемонхов характеризуются следующими признаками: размерами пищевода, кишечника и хвостового конца, числа и формы кишечных клеток.

Личинки небольшого размера: 0.7–0.8 мм длины, с нитевидно оканчивающимся хвостовым концом. Пищевод сравнительно короткий и составляет 0.15–0.17 мм. Кишечных клеток 14, треугольной формы. Две последние клетки кишечника неравной длины, веретенообразной формы. Экскреторное отверстие находится на заднем конце тела.

Морфология самцов гемонхов: *Haemonchus contortus* Rudolphi, 1803 и *H. placei* Place, 1893. Самец *Haemonchus contortus* Rudolphi, 1803 (по оригинальным материалам). Длина тела 20.31 ± 0.43 мм, максимальная

ширина вблизи основания бursы 351 ± 10.52 мкм. Длина пищевода 1.82 ± 0.04 мкм. Нервное кольцо расположено на расстоянии 261 ± 7.62 мкм, а экскреторное отверстие - 301.3 ± 7.47 мкм от переднего конца тела. Половая бурса хорошо развита, с двумя крупными латеральными и небольшой ясно очерченной дорзальной лопастью, которая может быть асимметричной (рис.2.,3.). Вентральные ребра начинаются общим стволом и, расходясь вершинами, направлены вперед. Латеральные ребра также начинаются общим стволом, причем постеро-латеральное отходит первым и направлено, как и медио-латеральное, назад. Экстерно-дорзальные ребра тонкие, длинные и отходят самостоятельно от дорзального, которое небольшого размера и бифуцирует в дистальной части. Спикулы коричневого цвета, наибольшая их ширина вблизи проксимального конца, по направлению к дистальному концу они сужены, сильно утончены и заканчиваются характерным вздутием (рис.2.).

Длина левой спикулы 509.9 ± 7.95 мкм, а правой 511.5 ± 7.91 мкм. Каждая спикула имеет в суживающейся части один острый, как у гарпуна, шипик, находящийся на различном расстоянии от дистального конца: у правой спикулы - 53 ± 0.72 мкм, а у левой - 22.2 ± 0.47 мкм. Рулек коричневого цвета, несколько светлее спикул, челнокообразный, длиной 271.7 ± 5.21 мкм.

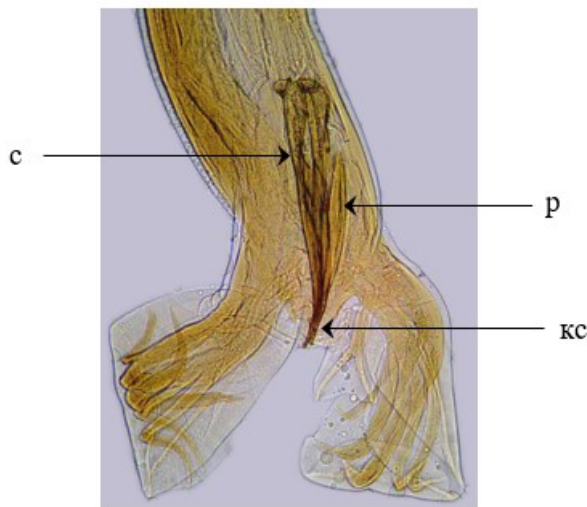


Рис.2. Хвостовой конец самца *Haemonchus contortus* Rudolphi, 1803: р-рулек, кс-конец спикулы, с-спикулы (ок.10, об.40) (оригинал)

Самец *H. placei* Place, 1893 (по оригинальным материалам). Длина тела 20.37 ± 0.35 мм, максимальная ширина (вблизи основания бursы) 368.25 ± 8.87 мкм. Длина пищевода 1.89 ± 0.04 мкм. Нервное кольцо располагается в передней части тела и размер 282.7 ± 7.42 мкм. Экскреторное отверстие 310.7 ± 4.97 мкм. Длина рулька 243.24 ± 7.35 мкм. Длина левой спикулы 539.7 ± 6.56 мкм, а правой - 540.2 ± 6.42 мкм (рис.3).

Каждая спикула имеет шипик. Длина левой спикулы от крючка до его дистального конца 29.67 ± 0.74 мкм, а правой - 58.94 ± 0.91 мкм.

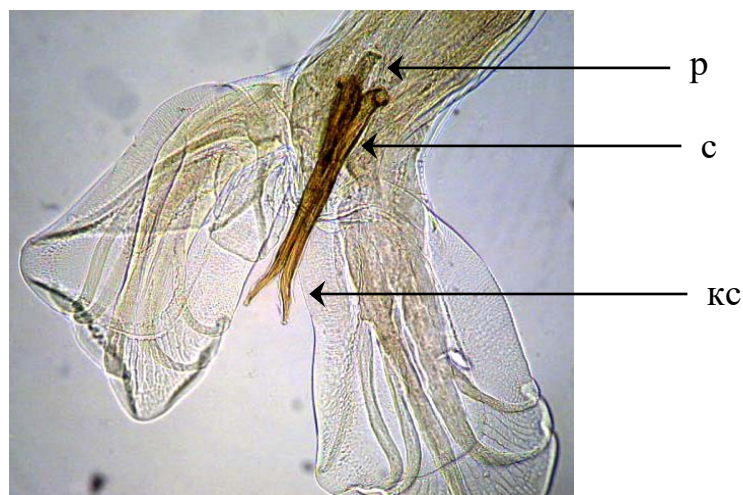


Рис. 3. Хвостовой конец самца *Haemonchus placei* Place, 1893: р—рулек, с—спикулы, кс—конец спикулы (ок.10, об.40) (оригинал)

Таким образом, по данным наших исследований у *H. contortus* длина левой спикулы составила 509.9 ± 7.95 мкм, а правой 511.5 ± 7.91 мкм. Каждая спикула имеет в суживающейся части один острый, как у гарпуна, шипик, находящийся на различном расстоянии от дистального конца: у правой спикулы 53 ± 0.72 мкм, а у левой 22.2 ± 0.47 мкм. В то время как у *H. placei* длина левой спикулы 539.7 ± 6.56 мкм, правой 540.2 ± 6.42 мкм. Шипик находится на различном расстоянии от дистального конца: у правой спикулы 58.94 ± 0.91 мкм, у левой 29.67 ± 0.74 мкм.

Исследуя морфологические признаки гемонхов мы обнаружили, что у *H. placei* спикулы искривлены слегка вправо и наружный край от крючка до кончика левой спикулы выпуклый, тогда как у *H. contortus* спикулы прямые, а наружная сторона от крючка до кончика левой спикулы вогнута.

Анализ проведенных исследований показал, что гемонхи овец и крупного рогатого скота отличаются морфологически. Морфологические различия - расположение и размеры спикул *H. contortus* и *H. placei*. У первого вида: длина левой спикулы 509.9 ± 7.95 мкм и правой 511.5 ± 7.91 мкм, расстояние от крючка до дистального конца спикулы равно: правой 53 ± 0.72 мкм и левой 22.2 ± 0.47 мкм. Кроме того, у *H. placei* спикулы вытянуты с некоторым искривлением, а левая от крючка до кончика выпукла. В то время как у *H. contortus* спикулы с прямыми дистальными концами.

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ИСПОЛЬЗОВАНИЯ НОВЫХ ТЕХНОЛОГИЙ И УПРАВЛЕНИЯ ПРОЦЕССАМИ В ПРИЗАБОЙНОЙ ЗОНЕ СКВАЖИН

Аннотация. В статье рассмотрены вопросы создания новых технологий управления процессами в призабойной зоне скважины и методы эффективности влияния электрического поля на процесс нефтеизвлечения. Показана также возможность электроосмотического воздействия на вытеснение нефти водой.

Ключевые слова. Призабойная зона, нефтеизвлечения, нефтегазоотдача, пласт, извлечения, углеводород, недра, поверхностно-активные вещества, прискважинная зона, внутрипластовое горение, гидроразрыв пласта.

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USE OF NEW TECHNOLOGIES AND PROCESS CONTROL IN THE BORTHWELL ZONE OF WELL

Annotation. The article discusses the issues of creating new technologies for controlling processes in the near-wellbore zone and methods for the effectiveness of the influence of the electric field on the oil recovery process. The possibility of electroosmotic action on the displacement of oil by water has also been shown.

Key words. Bottom-hole zone, oil recovery, oil and gas recovery, reservoir, extraction, hydrocarbon, subsoil, surfactants, near-well zone, in-situ combustion, hydraulic fracturing.

Повышение эффективности извлечения углеводородов из недр в значительной мере зависит от создания новых технологий управления процессами в призабойной зоне. Призабойная зона, эта область, принадлежащая одновременно пласту и самой скважине. В ней не только сосредотачиваются, но и усиливаются многие осложнения, сопровождающие процесс извлечения углеводородов из нефтяных и газовых пластов. Их многообразие и сложность послужили причиной появления значительного количества различных методов и технологии интенсификации добычи нефти.

В настоящее время по различным причинам простаивает большое количество скважин. Для интенсификации добычи нефти и газа, повышения нефтегазоотдачи пластов на разных этапах разработки месторождений углеводородов широко применяются более 70 различных по эффективности технологий и методов воздействия.

Достаточно эффективным стало применение гидроразрыва пластов (ГРП) для создания глубоких дополнительных каналов в пласте. Благодаря этому воздействию изменяются характеристики не только призабойной зоны, но и самого пласта; за счет этого соседние скважины интенсифицируют свой режим работы. Однако технология ГРП требует значительных затрат, сложного технологического оборудования, и при воздействии в зонах вблизи водонефтяного контакта (ВНК) чаще всего в результате гидроразрыва пласта вместо нефти получают воду.

Исследования показывают, что одним из эффективных методов интенсификации добычи нефти может явиться электровоздействие на продуктивный пласт.

В работе [1] рассматривается использование в качестве дополнительного фактора, способствующего движению воды в пласте воздействие электрического поля на забое скважины. Электрическое поле может изменять конфигурацию гидродинамического поля, что, в сущности и является основой электроосмотического воздействия на процесс фильтрации.

Подробно теория электроосмоса, рассматривается в работах [2, 3], необходимо отметить, что электроосмос широко применяется в гидротехнической промышленности [4] при закреплении грунтов.

В 1993г на первой международной конференции по механике грунтов Л.Казагранде, был предложен метод обработки глинистых грунтов постоянным током, при помощи которого несущая способность грунтов повышается в пять-десять раз. По этому методу через глинистый грунт жидкой консистенции (содержание влаги до 80%) пропускается постоянный ток 8-14А и напряжением 300-500В, до тех пор, пока грунт не затвердевает.

Успешному распространению метода Казагранде способствовали работы К.Энделя и Е.Гофмана [4]. Они подтвердили улучшение физико-механических свойств глин после обработки их постоянным током.

Затраты электроэнергии определяются удельной проводимостью грунта и зависят от расположения электродов. В реальных условиях, судя по данным исследований производительность насосных установок увеличилась до $0,16 \text{ м}^3/\text{кВт}\cdot\text{ч}$. На освобождение от воды грунта с влагоемкостью 10%, удельной проводимостью $\gamma=4,5\cdot 10^{-1} \text{ 1/ом}\cdot\text{см}$ и коэффициентом $k_2=0,1\text{м}$ / требовалось $0,9 \text{ кВт}\cdot\text{ч}$ на 1м^3 .

Эффективность действия электрического поля определяется коэффициентом K имеющим размерность м/в, т.е. определяющим, скольким метрам пьезометрического напора соответствует единица приложенного напряжения. В случае полного совпадения граничных поверхностей электрического и гидродинамического поля конфигурация последнего не изменяется и воздействие электрического поля эквивалентно изменению величины пьезометрического напора.

Во всех случаях применение электроосмотического воздействия приводило к выделению из образца дополнительного количества нефти, что вело, очевидно, к уменьшению остаточной нефтенасыщенности. Увеличение нефтеотдачи оказывалось в пределах нескольких процентов от первоначального содержания нефти. Однако, авторы работ не смогли разобраться во влиянии солевого состава вытесняющей воды на нефтеотдачу, что и было отмечено ими в выводах. Как известно, минерализованные воды нефтяных месторождений относятся к типичным электролитам - водным растворам солей и по составу относятся к хлоркальциевым, хлормagneиным, гидрокарбонатнонатриевым и др.водам.

Нефть, состоящая, в основном, из смеси различных углеводородов, является диэлектриком. Однако, электропроводность пластовой нефти несколько отличается от электропроводности той же нефти на поверхности. В пластовых условиях нефть находится в равновесии с погребенной водой, частично насыщена влагой и газом. Нефть - вода - газ в порах находятся в динамическом равновесии. Нефть ввиду большого сопротивления, не поддается электролизу. При электрообработке пластов происходит преобразование электрической энергии в тепло, которое сопровождается температурными изменениями, испарением и конденсацией влаги, химическими реакциями (электролиз), электроосмосом, электрофорезом и механическими деформациями скелета породы. Приэлектрообработке

пласта вокруг проводников с током возникает магнитное поле, которое действует на заряженные частицы и оказывает силовое воздействие на соседние проводники с током. Частицы жидкости, находящиеся в низкопроницаемых прослоях, будут испытывать, кроме сил давления, действие электрических и магнитных сил. Электрический ток возбуждает магнитное поле и обладает намагничивающей силой, численно равной самой силе тока. Магнитное поле действует на магнитные вещества, растворенные в жидком и твердом диэлектрике; последние намагничиваясь, усиливают магнитное поле. Особенно усиливается поле, когда содержатся ферромагнитные вещества и обуславливают дополнительные механические силы.

Таким образом, возникающие при электрообработке пластов магнитные и электрические силы позволяют эффективно дренировать неоднородные пласты и извлечь остаточную нефть из неработающих прослоев.

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УСЛОВИЯ ФОРМИРОВАНИЯ ЦИФРОВОЙ ЭКОНОМИКИ В РЕСПУБЛИКЕ УЗБЕКИСТАН

Аннотация. В современном мире для достижения высокого уровня развития владение цифровыми знаниями и современными информационными технологиями является требованием времени. Внедрение цифровых технологий и их использование во всех сферах жизни общества проложит путь к эффективному социально-экономическому развитию. В настоящее время информационные технологии все глубже проникают во все сферы и становятся ключевым фактором развития.

Ключевые слова: цифровая экономика, информационные технологии, социально-экономическое развитие, цифровые технологии, информационно-коммуникационные технологии (ИКТ).

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CONDITIONS FOR FORMING A DIGITAL ECONOMY IN THE REPUBLIC OF UZBEKISTAN

Abstract. In modern world, achieving a high level of development, the possession of digital knowledge and modern information technologies is a requirement of the time. The introduction of digital technologies and their usage in all spheres of society will clear the way for effective socio-economic development. At the present time, information technologies are penetrating deeper into all areas and become a key factor in development.

Keywords: Digital economy, information technologies, social and economic development, digital technologies, information and communication technologies (ICT).

В современном мире стремительно развивающуюся цифровую экономику часто называют электронной экономикой, интернет-экономикой, нематериальной экономикой. В настоящее время в странах G-20 цифровая экономика генерирует более 4% ВВП. В Великобритании,

которая является лидером в этой области, на цифровую экономику приходится 12% ВВП. Ясно, что эта тенденция будет продолжаться и углубляться.

Важно отметить, что Президент Республики Узбекистан Ш.Мирзиёев уделяет огромное внимание цифровой трансформации страны. «Хотя формирование «цифровой экономики» потребует соответствующей инфраструктуры, огромных средств и трудовых ресурсов, заниматься этим следует уже сегодня, иначе завтра будет поздно. На следующие пять лет приоритетной задачей для Узбекистана будет ускоренный переход на цифровую экономику», отметил Глава государства.

Вклад Интернета и ИТ в развитие цифровой экономики, безусловно, высок. Согласно исследованию Digital Dividends Всемирного банка, 10-процентное увеличение скорости интернета приведет к росту ВВП страны. В развитых странах этот показатель составляет 1,21%, а в развивающихся — 1,38%. Так, если скорость интернета удвоится, ВВП составит 13-14 %.

Эти цифры показывают, насколько актуальна и важна цифровая экономика в развитии экономики страны.

Повышение роли и значения цифровой экономики в ВВП страны невозможно без стремительного развития информационно-коммуникационных технологий. Эти процессы тесно взаимосвязаны и имеют причинно-следственные связи.

Переход к цифровой экономике — непростая задача. Для этого должны быть созданы ряд условий:

1. Необходимо создать нормативно-правовую базу для формирования цифровой экономики. С этой целью принят ряд законов Республики Узбекистан, указов и постановлений Президента Республики Узбекистан, постановлений и распоряжений Кабинета Министров Республики Узбекистан, нормативных документов отраслевых структур. В связи с этим Президент Республики Узбекистан в июле 2018 года о мерах по развитию цифровой экономики в Республике Узбекистан, в ноябре 2018 года о мерах по дальнейшей модернизации цифровой инфраструктуры по развитию цифровой экономики, в апреле 2020 года о внедрении цифровой экономика и электронное правительство. Достаточно назвать постановления и указы от октября 2020 г. об утверждении Концепции развития науки на период с октября 2020 г. по 2030 г. и о развитии биотехнологии в ноябре 2020 г.

В своем Послании Олий Мажлису 24 января 2020 года Президент Республики Узбекистан Шавкат Мирзиёев подчеркнул, что в этом году мы должны совершить коренной поворот в развитии цифровой экономики. В первую очередь поставлена задача полной цифровизации строительства, энергетики, сельского и водного хозяйства, транспорта, геологии, кадастра, здравоохранения, образования, архивов.

2. Переход к цифровой экономике зависит от общего уровня развития экономики страны, ее инновационной структуры. Инновационная

деятельность в Республике Узбекистан регулируется и поддерживается государством. Основными механизмами этой деятельности являются создание законодательной базы, льготное налогообложение, приоритет в кредитовании, государственном и негосударственном, использование отраслевых средств, государственное финансирование крупных программ и другие. Кроме того, в стране ведется работа по реорганизации системы управления научно-инновационной деятельностью, совершенствованию институциональной базы управления инновационным процессом.

3. Повышение роли и значения цифровой экономики в ВВП страны невозможно без стремительного развития информационно-коммуникационных технологий. Это процессы, которые тесно взаимосвязаны и имеют причинно-следственные связи.

В связи с этим была принята программа комплексного развития Национальной информационно-коммуникационной системы Республики Узбекистан, создано Министерство информационных технологий и связи Республики Узбекистан. Основная цель этих мер – полное обеспечение населения страны информационно-коммуникационными товарами и услугами. Этот сектор должен стать одним из ключевых факторов, определяющих развитие национальной экономики.

Из года в год постоянно увеличиваются услуги связанные с компьютерным программным обеспечением, предлагаемые предприятиями, работающими в системах связи, информации и телекоммуникаций. Через государственные сайты и электронные ресурсы предоставляются сотни видов интерактивных услуг. Растет количество государственных информационных ресурсов и информационных систем, растет уровень пропускной способности сети Интернет, и, как следствие, увеличивается число ее пользователей. На сегодняшний день количество пользователей Интернета в Узбекистане превысило 27 миллионов, из них более 25 миллионов пользователи мобильного Интернета. Ежегодно десятки учреждений подключаются к высокоскоростному Интернету. Разработана программа «Цифровой Узбекистан – 2030». Цифровая экономика меняет облик всей экономики. Сейчас компании все чаще вкладывают средства в нематериальные активы (программное обеспечение, технологии), а не в недвижимость, машины и оборудование.

В 2019 году информационно-коммуникационные технологии составили 5% мирового ВВП. В 2020 году этот показатель, по прогнозам, превысил 9%. Доля ИКТ в ВВП флагманской в этом отношении Республики Корея составляет около 12 %, в Швеции и США – около 7 %, а в Узбекистане этот показатель составляет всего 2,2 %. Поставлена задача о резком сокращении отставания в этом отношении.

4. Переход к цифровой экономике требует повышения численности и качества рабочей силы отрасли. В Ташкенте действует Университет Инха, одно из ведущих высших учебных заведений Республики Корея в сфере

ИКТ. В Ташкенте и Андижане открылись филиалы двух индийских университетов, специализирующихся в области ИКТ. Ташкентский университет информационных технологий готовит кадры в области вычислительной техники, разработки программного обеспечения, телекоммуникационных технологий, телевизионных технологий. Подписан Указ Президента Республики Узбекистан о создании в Ташкенте Японского цифрового университета.

Президент Республики Узбекистан Ш.М. Мирзиёев 7 октября 2020 года подписал указ «Об утверждении Стратегии „Цифровой Узбекистан – 2030“ и мерах по ее эффективной реализации». В стратегию вошло свыше 220 приоритетных проектов, содержащих усовершенствование системы электронного правительства, развитие отечественного рынка программных продуктов также информационных технологий.

В Указе Президента Республики Узбекистан “О стратегии развития нового Узбекистана на 2022-2026 годы” поставлена цель об определении развития цифровой экономики в качестве основного «драйвера» с обеспечением увеличения ее объема как минимум в 2,5 раза. Охват всех населенных пунктов, социальных объектов и магистральных автомобильных дорог широкополосными сетями путем дальнейшего развития цифровой инфраструктуры. Увеличение до конца 2026 года уровня цифровизации производственных и операционных процессов в реальном секторе экономики, в финансовой и банковской сферах до 70 процентов. Увеличение объема индустрии программных продуктов в пять раз, их экспорта — в десять раз с доведением до 500 миллионов долларов США.

Работа ведется в двух направлениях:

1. Цифровая трансформация регионов;
2. Цифровая трансформация отраслей.

В настоящий момент некоторые элементы уже успешно функционируют в нашей стране, а также учитывая оцифровку документов и коммуникаций, разрешение электронной подписи, общение с государством также переходит на виртуальную платформу.

Основные направления дальнейшего развития сектора информационно-

коммуникационных технологий (ИКТ):

- более эффективное использование ИКТ в бизнесе и государственном управлении;
- подготовка квалифицированных кадров в области ИКТ;
- подготовка инвестиционных политик в области ИКТ;
- стимулирование эффективной конкуренции между поставщиками электронных коммуникационных сетей и услуг;
- увеличение потенциала в области исследований и инноваций в секторе ИКТ;
- эффективное сотрудничество с международными организациями в

целях своевременного предоставления статистических данных о состоянии

развития сектора ИКТ и информационного общества.

Приоритетом развития цифровой экономики в нашей стране является обеспечение быстрого роста экономики Узбекистана, шаг в ногу со временем, а также ускорение интеграции нашей страны на международной арене и, как следствие, включить Узбекистан в список демократических, экономически развитых стран. Поставленные государством задачи и принимаемые меры являются условиями развития цифровой экономики в различных сферах социальной и экономической жизни.

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МАТЕМАТИЧЕСКИЕ МОДЕЛИ В ЭКОНОМИЧЕСКИХ ЗАДАЧАХ И ЕЕ РЕШЕНИЕ С ПОМОЩЬЮ СИСТЕМЫ АЛГЕБРАИЧЕСКИХ УРАВНЕНИЙ

Аннотация. В данной статье описывается роль и значимость математических моделей в экономических задачах. А также, в статье показано решения экономических задач с применением системы алгебраических уравнений.

Ключевые слова: математические модели, экономические задачи, алгебраические уравнения, метод Крамера.

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MATHEMATICAL MODELS IN ECONOMIC PROBLEMS AND ITS SOLUTION USING A SYSTEM OF ALGEBRAIC EQUATIONS

Abstract. This article describes the role and significance of mathematical models in economic problems. And also, the article shows solutions to economic problems using a system of algebraic equations.

Keywords: mathematical models, economic problems, algebraic equations, Cramer's method.

В данное время математические модели применяются во многих сферах науки, такие как физика, химия, биология, а также в технических и экономических направлениях науки. В основном математические модели можно разделить на три вида: аналитические, численные и статистические. Математическое моделирование является мощным инструментом для исследования и анализа различных явлений и процессов. Оно позволяет предсказывать результаты, оптимизировать решения и принимать более обоснованные решения в различных областях науки.

А также, математическое моделирование позволяет выделить для исследования наиболее важные свойства объекта, абстрагируясь от несущественных его характеристик. Часто моделирование позволяет сформулировать новые гипотезы и получить новые знания об объекте, которые при его исследовании были недоступны.

В математических моделях используются: формулы, уравнения, неравенства, системы уравнений, которые дают возможность с некоторой точностью описывают явления и процессы, происходящие в оригинале.

Например, финансовые состояния предприятия и ее оценки, можно показать с помощью математических моделей, используя математические формулы и таблицы, и решая их, с помощью систем линейных алгебраических уравнений, в котором можно выражать межотраслевые балансы предприятия, промежуточное потребление и производственные связи; структура конечного использования ВВП; стоимостная структура ВВП; перераспределение национального дохода. Этот метод является отражением межотраслевых балансов затраты и выпуска. Чтобы все это описать потребуется система линейных алгебраических уравнений, состоящее, например, из 2-х, 3-х или же n уравнений с n неизвестными, где n – количество отраслей, формирующих ВВП. И все это можно рассмотреть в такой вот форме:

$$\begin{cases} a_{11}x_1 + a_{1n}x_n = c_1 \\ \dots \dots \dots \dots \dots \dots \\ a_{n1}x_1 + a_{nn}x_n = c_n \end{cases}$$

Здесь в СЛАУ $x_j, (j = 1, \dots, n)$ – валовой продукт (объем производства) отрасли j, y_i – объемы конечного продукта отрасли $j, [a_{ij}]_{n \times n}$ – матрица коэффициентов прямых затрат, целесообразно привести компактную матричную форму записи рассматриваемой системы линейных уравнений:

$$AX + Y = X$$

и привести ее решение с помощью обратной матрицы относительно вектора-столбца X или Y вектора-столбца.

Рассмотрим составление математических моделей в двух простых экономических задачах.

Пример. Торговой фирме нужно купить пшеницы двух сортов: 1-сорта и 2-сорта в следующих соотношениях: 5 тонн 1-сорта и 8 тонн 2-го сорта с общей суммой 92 тысяч сумов или же закупить 8 тонн пшеницы 1-го сорта и 5 тонн 2-го сорта. Торговая фирма заключает остановиться на первом варианте, так как при этом экономится сумма денег, для того чтобы купить 2-х тонн 1 сорта. Какая цена пшеницы 1-сорта и 2-го сорта?

Решение. Обозначим через x и y соответственно стоимость пшеницы 1-сорта и 2-го сорта. Тогда условие задачи можно переписать в виде следующего уравнения:

$$\begin{cases} 5x + 8y = 92 \\ 8x + 5y = 92 + 2x \end{cases}$$

Решим эту систему уравнений методом Крамера:

$$\begin{cases} 5x + 8y = 92 \\ 6x + 5y = 92 \end{cases}$$

$$\Delta = \begin{vmatrix} 5 & 8 \\ 6 & 5 \end{vmatrix} = 25 - 48 = -23, \Delta x = \begin{vmatrix} 92 & 8 \\ 92 & 5 \end{vmatrix} = 460 - 736 = -276,$$

$$\Delta y = \begin{vmatrix} 5 & 92 \\ 6 & 92 \end{vmatrix} = 460 - 552 = -92,$$

$$x = \frac{\Delta x}{\Delta} = \frac{-276}{-23} = 12, y = \frac{\Delta y}{\Delta} = \frac{-92}{-23} = 4,$$

$$\begin{cases} x = 12 \\ y = 4 \end{cases}$$

Ответ. 12 тысяч сумов это стоимость пшеницы 1-го сорта и 4 тысяч сумов стоимость пшеницы 2-го сорта.

Пример. Фабрика изготавливает продукции трех видов: кресла, диван и шкафы, используя сырье трех типов. Известна норма расхода на единицу изделия и объем расхода сырья на одну неделю (указаны в таблице). Найти еженедельный объем выпускаемой продукции каждого вида.

Вид сырья	Норма расхода сырья на ед. изд.			Недельный расход сырья в условных единиц
	Кресла	Диван	Шкафы	
S ₁	1	2	0	260
S ₂	2	0	3	460
S ₃	1	2	1	360

Пусть x_1, x_2, x_3 -еженедельный объем выпуска кресла, диванов и шкафов соответственно.

Составим систему уравнений

$$\begin{cases} x_1 + 2x_2 = 260 \\ 2x_1 + 3x_3 = 460 \\ x_1 + 2x_2 + x_3 = 360 \end{cases}$$

Решим эту систему уравнений методом Крамера:

$$\Delta = \begin{vmatrix} 1 & 2 & 0 \\ 2 & 0 & 3 \\ 1 & 2 & 1 \end{vmatrix} = 0 + 6 + 0 - 0 - 6 - 4 = -4$$

$$\Delta x = \begin{vmatrix} 260 & 2 & 0 \\ 460 & 0 & 3 \\ 360 & 2 & 1 \end{vmatrix} = 0 + 2160 + 0 - 0 - 1560 - 920 = -320$$

$$\Delta y = \begin{vmatrix} 1 & 260 & 0 \\ 2 & 460 & 3 \\ 1 & 360 & 1 \end{vmatrix} = 460 + 780 + 0 - 0 - 1080 - 520 = -360$$

$$\Delta z = \begin{vmatrix} 1 & 2 & 260 \\ 2 & 0 & 460 \\ 1 & 2 & 360 \end{vmatrix} = 0 + 920 + 1040 - 0 - 920 - 1440 = -400$$

$$x = \frac{\Delta x}{\Delta} = \frac{-320}{-4} = 80, y = \frac{\Delta y}{\Delta} = \frac{-360}{-4} = 90, z = \frac{\Delta z}{\Delta} = \frac{-400}{-4} = 100$$

Ответ. **Еженедельный объем выпускаемых продукции: 80 штук кресел, 90 штук диванов и 100 штук шкафов.**

Такое объяснение математической темы обычно представляет интерес для студентов экономического направления. Они здесь четко увидят необходимость изучения математических тем, связанные с матрицами, с обратными и транспонированными матрицами, оперировать их с понятиями определителя, алгебраическими дополнениями, минорами или же системами уравнений, а также начнут понимать важность изучения этих тем и научиться непосредственно их вычислять.

В дальнейшем на семинарских занятиях или же на лекциях по высшей математике, при решении задачи или примеры такого характера будет лучше, если остановиться на математических моделях с применением матриц, системы уравнений в экономике и т.д.е. Так, например, задачи с профессионально ориентированным содержанием, в частности, на составление оптимального решения проблемы в деятельности промышленного предприятия или же при оценке эффективности деятельности субъекта хозяйствования через основные показатели качества и производительности труда.

Сделаем вывод: математическое моделирование нужно для того, чтобы: понять, как устроен конкретный объект: какова его структура, внутренние связи, основные свойства, законы развития, саморазвития и взаимодействия с окружающей средой; научиться управлять объектом или процессом, определять наилучшие способы управления при заданных целях и критериях; прогнозировать прямые и косвенные последствия реализации заданных способов и форм воздействия на объект.

Модели используются во многих сферах жизни: в управляющих организациях, в производстве, в потребительских коммунальных услугах, а также в услугах обслуживания жилого фонда, которые относятся к числу сложных, многокритериальных и динамических аспектов, для решения задач, которых будет целесообразно использовать математические модели.

Итак, чтобы построить математическую модель при решении экономических задачах, или же в задачах других направлений нужно построить следующие этапы: 1) цель исследования (анализ, прогноз, управленческое решение), определяются экономические переменные модели). 2) Анализ изучаемого объекта в нем формируется информация известная до начала исследования. 3) Определить вид модели, в котором выражается в математическая форма и взаимосвязь между переменными. 4) Сбор необходимых статистических информации 5) Привести статистический анализ модели, где оценивается точность, значимость её

параметров и модели в целом. б) Оценить соответствие модели реальному экономическому процессу.

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ПОТЕРИ МОЩНОСТИ В КАБЕЛЬНЫХ ЛИНИЯХ, ПИТАЮЩИХ НЕЛИНЕЙНЫЕ НАГРУЗКИ

Аннотация. В статье приведены основные сведения и проведён обзор средств и характеристик силовых кабелей, применение современных силовых кабелей является эффективным способом снижения потерь мощности в электрических сетях, что в свою очередь повышает экономическую и экологическую эффективность производства.

Ключевые слова: мощность, счетчик, сигнал, нагрузка, кабель, изоляция, система, эксперимент.

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POWER LOSSES IN CABLE LINES SUPPLYING NON-LINEAR LOADS

Annotation. The article provides basic information and reviews the means and characteristics of power cables; the use of modern power cables is an effective way to reduce power losses in electrical networks, which in turn increases the economic and environmental efficiency of production.

Keywords: power, counter, signal, load, cable, insulation, system, experiment.

Потери мощности в линиях электропередачи (кабельных линиях, воздушных проводах) всегда происходят в зависимости от различных физических явлений. Среди источников потерь мощности в линиях основная причина – нагрев проводника при протекании тока. Энергия выделяется в виде джоулей тепла.

Характер и мощность нагрузок, питаемых ЛЭП, на стадии проектирования должны исключать перегрузку кабеля. В основном следует выделить нелинейные нагрузки, которые генерируют высшие гармоники тока в питающей сети. Эти типы нагрузки отрицательно влияют на линию передачи. Высшие гармоники существенно влияют на потери мощности и вызывают повышение температуры проводника кабеля. Предположим, что проводники работают в этих условиях длительное время. Это может

привести к ухудшению изоляции и серьезному повреждению питающих кабелей. Выход из строя оборудования влияет на экономические потери производственных предприятий из-за незапланированных простоев и отключений. Это также порождает дополнительные затраты, связанные с ремонтом установки. Затраты и сроки ремонта, особенно для подземных кабельных линий, очень велики, поэтому их возникновение следует свести к минимуму.

В данной работе представлен упрощенный метод расчета потерь активной мощности и сопоставление его со стандартным методом МЭК (Международная электротехническая комиссия) -60287-1-1:2006 + А1:2014 и вторым методом с использованием функции Бесселя. Полученные результаты могут стать отправной точкой для расчета распределения температуры для различных тепловых закладок или определения оптимального диаметра и изоляции жилы кабеля.

Общим элементом для всех используемых методов расчета потерь активной мощности в силовых кабелях является определение результирующего сопротивления $R_{AC(\text{ч})}$ для заданного порядка гармоник тока (ч). В каждом методе учитываются как эффект уменьшения амплитуды электромагнитных волн, так и эффект близости.

Первый метод основан на функции Бесселя. Он позволяет найти решение уравнения в полярных системах координат, связанных с распространением волн и сферическими потенциалами. В расчетах изменение сопротивления проводника, вызванное эффектом уменьшения амплитуды электромагнитных волн, учитывается как поправочный коэффициент сопротивления R_{DC} . Второй метод позволяет получить потери активной мощности по результирующему поверхностному сопротивлению с учетом глубины проникновения тока при равномерном протекании тока по сечению, имеющему большую глубину и ширину. Следующий аналитически описан французским исследователем Левассером на основе наблюдения эффект уменьшения амплитуды электромагнитных волн и использования частотных изменений в расчетах эффекта Кельвина. Наиболее популярный метод расчета потерь активной мощности описан в стандарте МЭК -60287-1-1:2006 + А1:2014. В этом методе используются факторы, коррелирующие эффект уменьшения амплитуды электромагнитных волн.

В применяемых в настоящее время методах увеличение сопротивления для основной частоты учитывается независимо от площади поперечного сечения кабеля. В таких малых сечениях (например, 25 мм²) глубина проникновения тока за счет эффекта уменьшения амплитуды электромагнитных волн больше радиуса жилы низковольтного кабеля. Отсюда следует вывод, что эффект уменьшения амплитуды электромагнитных волн в данном случае не возникает, а ранее упомянутые методы вносят погрешность в расчет величины потерь активной мощности.

Однако в новом методе учитывается коэффициент глубины проникновения относительно радиуса рассматриваемой жилы кабеля.

Провести лабораторный эксперимент сложно из-за относительно высоких среднеквадратичных значений тока и суммарного гармонического искажения тока (СГИ_T), необходимых для широкого диапазона площадей поперечного сечения низковольтных кабелей. Поэтому в данной работе потери мощности из-за эффекта уменьшения амплитуды электромагнитных волн используются только для теоретических расчетов для сравнения различных методов.

Основной вклад этой работы можно резюмировать следующим образом:

1. Презентация нового метода расчета потерь активной мощности на основе коэффициента глубины проникновения тока (КГП) в зависимости от анализируемой частоты тока.

2. Сравнение нового метода с уже существующими методами.

3. Прирост активной мощности для искаженных токов сравнивается с идеальной синусоидой 50 Гц для трех методов расчета.

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СОЗДАНИЕ ЦИФРОВЫХ КАРТ НА ОСНОВЕ МОДЕЛИ БАЗЫ ДАНЫХ ГИС МИРОВОГО КАДАСТРА РАСТИТЕЛЬНОСТИ

Аннотация: Научная статья посвящена разработке критериев оценки своих объектов в области кадастра, а также налаживанию информационного обмена между базами данных с другими государственными кадастрами.

Ключевые слова: ArcGIS, атрибутивные данные, пространственные, клиент-серверные, антропогенные.

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CREATION OF DIGITAL MAPS BASED ON THE GIS DATABASE MODEL OF THE WORLD VEGETATION CADASTRE

Abstract. The aim of the scientific article is to develop criteria for evaluating objects in the field of cadastre and establish information exchange between other state cadastres and databases.

Key words: ArcGIS, attributive data, spatial, client server, anthropogenic.

Введение. В настоящее время мировое государство кадастр, основанный на технологиях, не только развивается, но и приобретает все большее значение как профессия.

Методология. Информация является решающим фактор в создании, эффективном управлении всех кадастров, независимо от того, какую функцию они выполняют. Для создания кадастровой базы данных

исследуемого растительного мира целесообразно осуществлять процессы сбора данных, управления ими, систематизации, обновления и распространения преимущественно с помощью программы Microsoft Excel. База данных в Microsoft Excel имеет архитектуру работы с несколькими клиентами, также возможно интегрировать эту базу данных в базу данных ArcGIS. Чтобы собрать информацию кадастра растительного мира, необходимо провести следующие этапы:

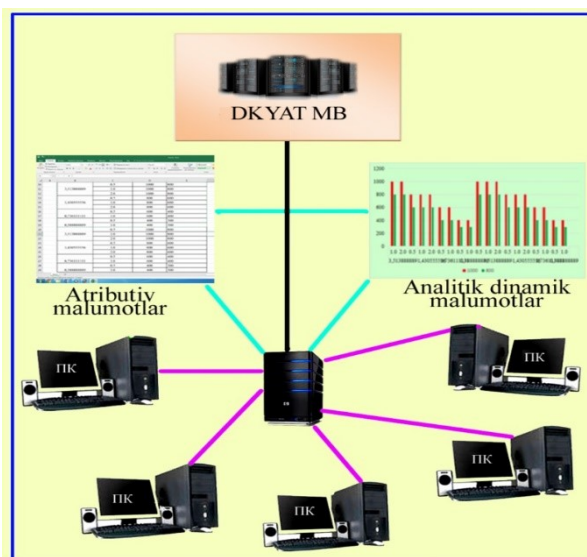
ввод справочника координат, выбранного для генерации пространственных данных о местоположении и распределении объектов (координаты и т.д.);

свойства объектов включают в себя качественные и количественные показатели (атрибутивные данные).;

изучение критериев и их обоснования между этими двумя типами данных (пространственными и атрибутивными) которые обеспечивают интеграцию между ними;

нумерация, обработка и т.д. картографических материалов и материалов дистанционного зондирования, представляющих объекты по их координатам.

Результат. Стоит отдельно отметить, что в программе Microsoft Excel одни и те же данные в сети могут использовать сразу несколько пользователей, то есть он позволяет вам получить доступ к одному или нескольким файлам базы данных с компьютеров клиента 1-рисунок.



1-Рис. Структура базы данных ЁДДК ГАТ.

Архитектура "клиент-сервер" предусматривает наличие серверного компонента, который обеспечивает исключение данных, их ограничение, использование клиентами, а также безопасность. Например, Microsoft Excel получает запросы от клиентских компьютеров, которые сервер выполняет на компьютере, а затем возвращает только запрошенные данные. Таким

образом, на сервер передается команда на исключение одной записи из таблиц, которая будет содержать около 10 тысяч записей, серверное программное обеспечение выполняет эту команду, и клиенту возвращается только запись, доступная для поиска 2-рисунок.

119. Эфемеридли жуугули-ок саксовули на эфемер-жуусили (шт/га)																																
№	Угьисвилсар ном	Бакор			Ё			Куз			Кши			Бакор-ё			Бакор-куз			Бакор-кши			Ё-куз			Ё-кши			Куз-кши			
		Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)		
71	1	Жууш	0,8	0,5	0,07	0,8	0,4	0,03	1,2	0,44	0,04	1,0	0,3	0,03	0,8	0,4	0,03	1,2	0,44	0,04	1,0	0,3	0,03	1,2	0,44	0,04	1,0	0,3	0,03	1,2	0,44	0,04
72	2	Жуугун	0,5	0,2	0,04	0,9	0,3	0,05	1,1	0,4	0,02	0,6	0,2	0,008	0,9	0,3	0,05	1,1	0,4	0,02	0,6	0,2	0,008	1,1	0,4	0,02	0,9	0,3	0,05	1,1	0,4	0,02
73	3	Ок саксавул	0,8	0,5	0,07	0,7	0,42	0,05	1,2	0,6	0,05	0,8	0,4	0,02	0,8	0,5	0,07	1,2	0,6	0,05	0,8	0,4	0,02	1,2	0,6	0,05	0,8	0,4	0,02	1,2	0,6	0,05
74	4	Турши эфемерлар	0,9	0,7	0,05	0,7	0,34	0,03	0,4	0,2	0,01	0,2	0,03	0,004	0,9	0,7	0,05	0,9	0,7	0,05	0,9	0,7	0,05	0,7	0,34	0,03	0,7	0,34	0,03	0,4	0,2	0,01
75	77	Жами:	3	1,9	0,23	3,1	1,46	0,16	3,9	1,64	0,12	2,6	0,9	0,062	3,4	1,9	0,2	4,4	2,14	0,16	3,3	1,6	0,11	4,2	1,78	0,14	3,4	1,24	0,13	3,9	1,64	0,12

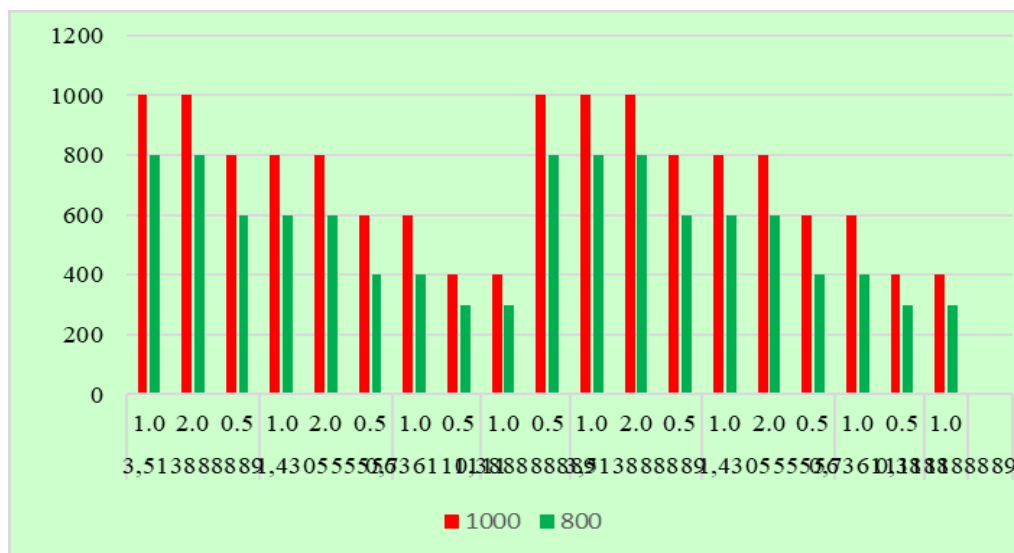
124. Илокли-жуусили-ок саксовули на шрафт-кора саксовули(шт/га)																																
№	Угьисвилсар ном	Бакор			Ё			Куз			Кши			Бакор-ё			Бакор-куз			Бакор-кши			Ё-куз			Ё-кши			Куз-кши			
		Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)	Оуру барилги	Хулаларуи (оурк-маса-уудилал)
81	1	Жууш	0,6	0,4	0,05	0,6	0,3	0,02	0,9	0,33	0,03	0,8	0,3	0,02	0,6	0,3	0,02	0,9	0,33	0,03	0,8	0,3	0,02	0,9	0,33	0,03	0,8	0,3	0,02	0,9	0,33	0,03
82	2	Жуугун	0,6	0,23	0,05	0,8	0,3	0,05	1,1	0,4	0,02	0,6	0,2	0,008	0,8	0,3	0,05	1,1	0,4	0,02	0,6	0,2	0,008	1,1	0,4	0,02	0,8	0,3	0,05	1,1	0,4	0,02
83	3	Ок саксавул	0,7	0,4	0,06	0,8	0,5	0,05	1,2	0,6	0,05	1,1	0,5	0,02	1,2	0,6	0,05	1,1	0,5	0,02	1,2	0,6	0,05	1,1	0,5	0,02	1,2	0,6	0,05	1,1	0,5	0,02
84	4	Илокли	0,6	0,5	0,06	0,4	0,3	0,02	0,3	0,2	0,009				0,6	0,5	0,06	0,6	0,5	0,06	0,6	0,5	0,06	0,4	0,3	0,02	0,4	0,3	0,02	0,3	0,2	0,009
85	5	Турши Угил шралар				0,6	0,3	0,03	0,7	0,23	0,02	0,5	0,2	0,007	0,6	0,3	0,03	0,7	0,23	0,02	0,5	0,2	0,007	0,7	0,23	0,02	0,6	0,3	0,03	0,7	0,23	0,02
86	6	Турши эфемерлар	0,8	0,6	0,05	0,5	0,24	0,02	0,4	0,2	0,01	0,2	0,06	0,004	0,8	0,6	0,05	0,8	0,6	0,05	0,8	0,6	0,05	0,5	0,24	0,02	0,5	0,24	0,02	0,4	0,2	0,01
87	77	Жами:	3,3	2,1	0,27	3,7	1,9	0,19	4,6	2,0	0,139	3,2	1,3	0,059	4,2	2,5	0,26	5,3	2,7	0,23	4,4	2,3	0,17	4,8	2,1	0,16	4,2	1,94	0,16	4,6	2,0	0,14

2-рис. Система поиска в программе Microsoft Excel

В этом случае сетевой график на некоторое время сокращается, общая производительность выполняется по отношению к вычислительной мощности компьютера-сервера (т.е. скорость работы процессора и объем оперативной памяти). Программа, разработанная для сбора кадастровых данных о растительном мире, называется "База данных ЁДДК ГАТ".

Работа по сбору, обработке, систематизации и представлению кадастровых данных в соответствии с данной программой осуществляется в соответствии с правилами процедуры представления кадастровых данных растительного мира. Эта система представляет собой электронную кадастровую книгу, сформированную на основе базы данных, которая включает в себя тысячи кадастровых данных. Эта база данных является составной частью системы всемирного кадастра растений.

С помощью этого модуля отчетности были проанализированы показатели по основным показателям объектов и создаются отчеты и диаграммы. Информация из базы данных также может быть использована в виде текста, таблицы, диаграммы 3-рисунок.



3-рис. Получение информации из базы данных в виде диаграммы

Основанная на программном комплексе ГАТ, эта база данных обеспечивает основу для прямого обмена информацией с государственным земельным кадастром, государственным кадастром зданий и сооружений, государственным кадастром геодезии и картографии и другими кадастровыми базами данных. Он предназначен для обмена информацией между существующими базами данных государственных баз данных и базой данных земельной информационной системы.

Заключение. Целью разработки и внедрения является разработка критериев оценки кадастровых объектов и налаживание информационного обмена между другими государственными кадастрами и базами данных.

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ВОЗДУШНАЯ СЕПАРАЦИЯ ВЕРМИКУЛИТОВЫХ РУД ТЕБИНБУЛАКСКОГО МЕСТОРОЖДЕНИЯ

Аннотация. В статье указаны основные свойства природного вермикулита, рассмотрены анализы минералого-технологических особенностей вермикулитового сырья. Приведены сведения о вермикулитовых рудах Тебунбулакского месторождения. А также рассмотрены вопросы разработки схемы обогащения, целью которой является получение сырья для теплоизоляционных и облицовочных плиток.

Ключевые слова: минералы, вермикулит, выхретоковой сепаратор, пневматический сепаратор, дробление, грохочение, сушка, теплоизоляция, температура, извлечения.

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AIR SEPARATION OF VERMICULITE ORES OF THE TEBINBULAK DEPOSIT

Abstract. The article indicates the main properties of natural vermiculite, analyzes the analysis of the mineralogical and technological features of vermiculite of sungulite raw materials. Information is given that the first appeared vermiculite ores of the Karauzyaksky deposit, as well as the development of a beneficiation scheme, the purpose of which is to obtain raw materials for heat-insulating and facing tiles.

Key words: minerals, vermiculite, effluent separator, pneumatic separator, crushing, screening, drying, thermal insulation, temperature, extraction.

Вермикулит имеет малый объемный вес, пористость, низкий коэффициент теплопроводности, а также минеральный состав, обеспечивающий высокую огнестойкость и биостойкость, ставят его на одно из первых мест среди других теплоизоляционных материалов. Из него готовят сухие строительные смеси, производят огнезащитные плиты и краски, применяется для изоляции тепловых агрегатов, для звукоизоляции помещений, при разливке стали и т.п. В промышленности экономически развитых стран вермикулит применяют для производства более ста наименований продукции.

Методы и результаты исследований. Вермикулитовые руды Тебунбулакского месторождения являются типичными образованиями коры выветривания. В приповерхностной части они представлены рыхлыми мелко-среднезернистыми породами, часто с комковатой структурой. Комки имеют размер 3–7 см и легко рассыпаются на мелкие частицы. На глубине породы более плотные, но также слабо сцементированные.

Гранулометрический состав руд непостоянный (табл. 1). В целом преобладает фракция менее 5мм (от 55 до 98%, в среднем около 83%). Содержание фракции более 10мм (в основном мягкие комки) - от нескольких процентов до 15-30%, фракции 5-10 мм - в основном на уровне 2-5%, содержание фракций 5-0,6 и 0,6-0 мм примерно равное.

Таблица 1

Гранулометрический состав руд Тебунбулакского месторождения

№ п/п	№ проб	Фракции, мм, %					
		+10	-10+5	+5	-5+0	В том числе	
						-5+0,6	-0,6+0
1	П-01т	31,2	24,8	56,0	44,0	39,5	4,5
2	П-02т	0,7	1,2	1,9	98,1	42,9	55,2
3	П-03т	2,0	2,8	4,8	95,2	45,9	49,3
4	П-04т	2,2	4,0	6,2	93,8	52,8	41,0
5	П-35	-	-	33,6	66,4	41,6	24,8
6	П-36	-	-	2,2	97,8	62,1	35,7
7	П-41	-	-	14,9	85,1	58,2	26,9

8	П-49	-	-	45,0	55,0	40,7	14,3
9	П-48	-	-	22,5	77,5	42,1	35,4
10	П-50	3,3	2,3	56	94,4	46,1	48,3

Главными минералами руд являются вермикулит, пироксен, амфибол, второстепенные - карбонат, титаномагнетит, иллингсит, гидрохлорит, монтмориллонит, хризотил - асбест, гипс, окислы железа. Титаномагнетит в значительной степени мартитизирован. Содержание его колеблется от 0,5-1,0 до 5-10%, реже 15-20%. По минеральному составу руды преимущественно вермикулит-пироксеновые с содержанием пироксена от 60 до 90%.

Содержание вермикулита в рудах крайне неравномерное - от первых десятых долей процента до 35-38%, в жиллообразных скоплениях до 50-65%. Отчетливой закономерности распределения вермикулита на глубину не наблюдается.

Большая часть проб проанализирована с применением специальной аппаратуры (трубчатая виброэлектropечь ЛВЭ ТП-1, виброэжекционный воздушный сепаратор ВЭП-1), что значительно повысило точность анализов.

По содержанию вермикулита руды можно условно подразделить на 3 типа: бедные руды с содержанием 5-10%, средние (10-20%) и богатые (более 20%). Однако оконтуривание руд с различным содержанием вермикулита из-за неравномерности его распределения не представляется возможным.

Для создания оптимальной схемы обогащения вермикулитовая руда Тебунбулакского месторождения с содержанием вермикулита в нём 10,16% была испытана на обогатимость по разработанной схеме (рис. 1).

Технологическая схема включает одностадийное дробление, извлечение из руд железосодержащих, цветных металлов и других примесей, сортировку на грохотах на получаемые фракции и воздушной сепарацией.

Для отделения фракции более 4мм руду подвергли грохочению. Фракция более 4мм подается в дробилку для дробления с последующим возвращением дробленного продукта на грохочения. При механическом воздействии зерна вермикулита легко раскрепляются по плоскостям спайности, образуя очень тонкие слабо вспучивающиеся чешуйки, поэтому при дроблении необходимо исключить и чрезмерное расщепление вермикулита.

По своей структуре и свойствам вермикулит существенно отличается от других природных каменных материалов, дробление которых с успехом может вестись на молотковых, щековых и валковых дробилках. Способность вермикулита расслаиваться на тонкие пластинки и, в ряде случаев, довольно высокая вязкость не позволяет использовать существующие дробильные установки для его дробления.

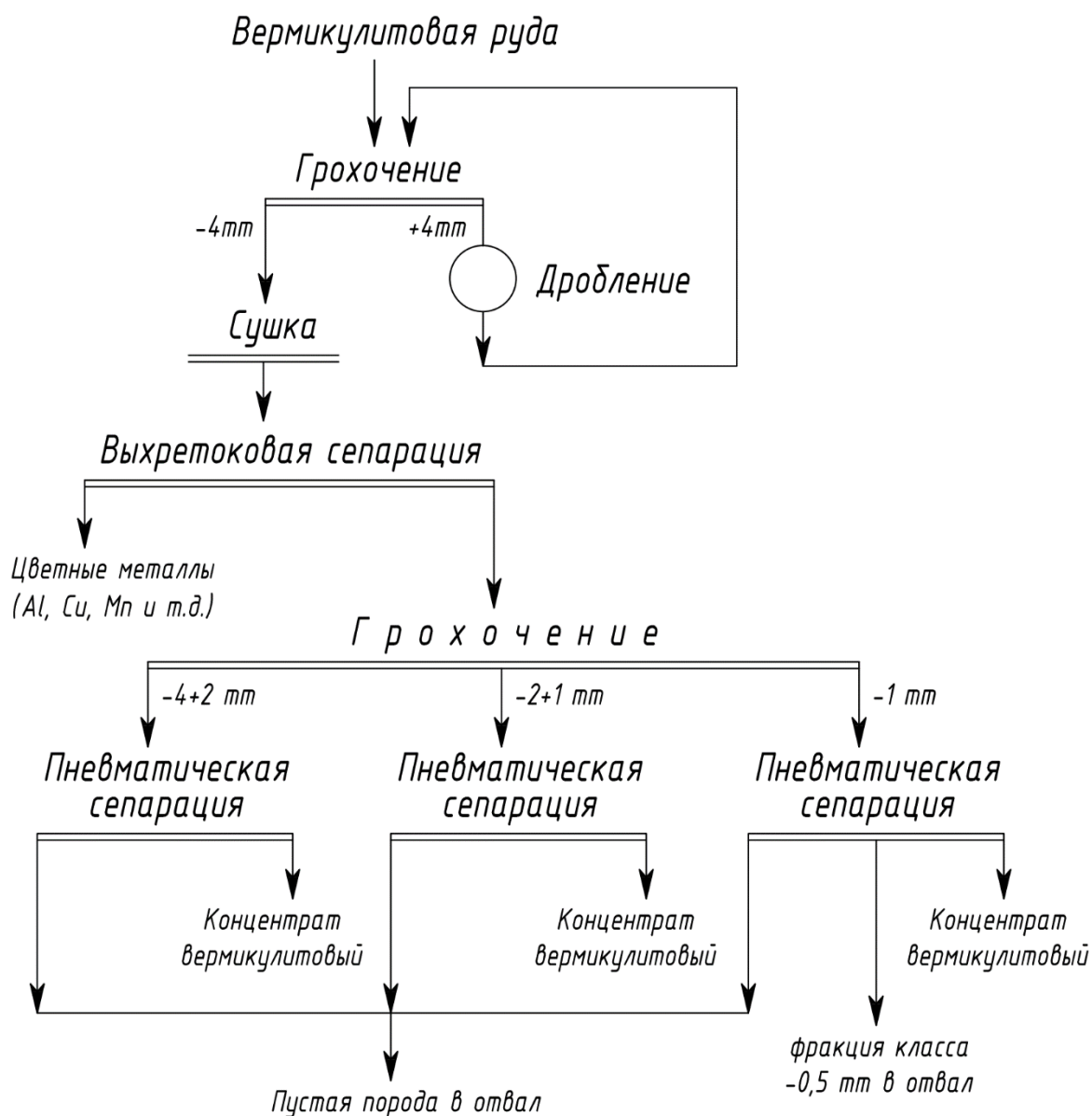


Рис. 1. Технологическая схема сухого обогащения вермикулитовых руд

Физические свойства вермикулита, а также указанные выше требования к дробленому материалу требуют, чтобы дробление вермикулита производилось не ударным или раздавливающим воздействием, а резанием или одновременно действующими резанием и ударом.

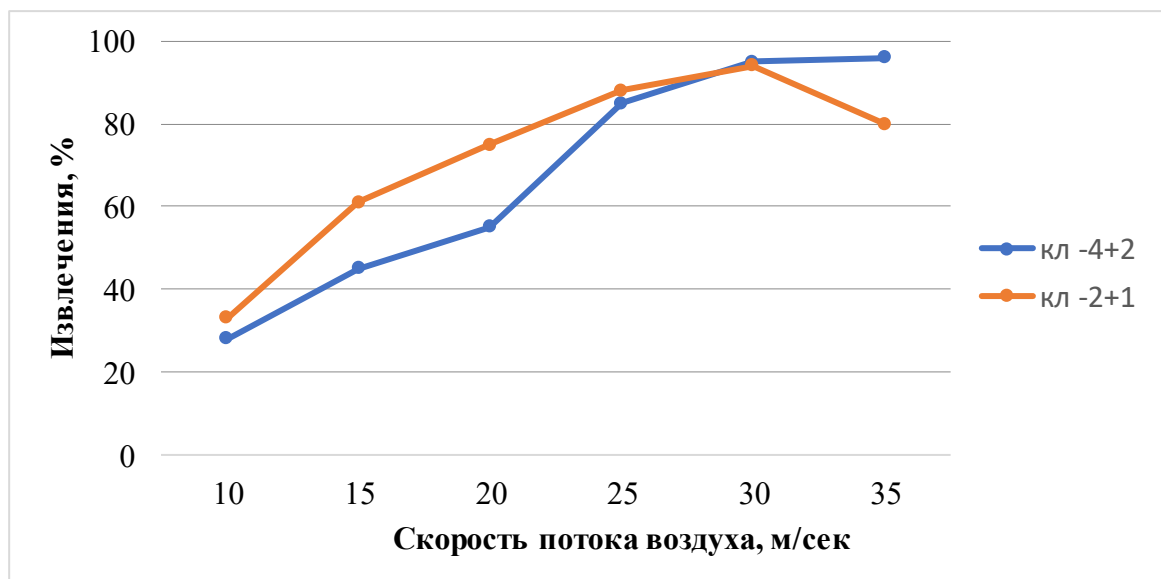


Рис. 2. Зависимость извлечения вермикулита в концентрат от скорости потока воздуха воздушного сепаратора

Сравнению с другими минералами в руде, уносится потоком воздуха и попадает в дальний приёмник.

Результаты исследования показывают, что начальная скорость основной струи воздуха для разделения зерна вермикулита от пустой породы должна быть в границах 25-30 м/с.

Таблица 2

Распределение вермикулитового концентрата по фракциям

Фракция	Выход концентрата, %	Содержание вермикулита в концентрате, %	Извлечение вермикулита в концентрат, %
-4+2 мм	4,0	85,0	33,46
-2+1 мм	3,97	85,0	33,21
-1+0 мм	3,50	85,0	29,28
Итого	11,47	85,0	95,95

Таким образом, в результате проведенных исследований по разработанной схеме был получен вермикулитовый концентрат фракций -4+2мм, -2+1мм и -1мм с извлечением вермикулита в концентрат 95,95%, выходом концентрата 11,47% и содержанием вермикулита в концентрате 85%. Распределение вермикулитового концентрата по фракциям приведено в табл. 2.

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**К ВОПРОСУ ПОДГОТОВКИ БУДУЩИХ УЧИТЕЛЕЙ
ДОШКОЛЬНОГО ОБРАЗОВАНИЯ К ИЗОБРАЗИТЕЛЬНОЙ
ДЕЯТЕЛЬНОСТИ В ДЕТСКОМ САДУ**

Аннотация. Данная статья посвящена актуальным вопросам подготовки будущих учителей дошкольного образования к изобразительной деятельности в детском саду. В статье дан краткий обзор месту и роли учебного предмета «Методика обучения изобразительной деятельности» в эстетическом воспитании и художественном образовании дошкольников.

Ключевые слова: дошкольное образование, изобразительная деятельность, эстетическое воспитание, художественное образование, декоративно-прикладное искусство, лепка, аппликация, орнамент, педагогический феномен.

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**ON THE ISSUE OF PREPARING FUTURE PRE-SCHOOL
EDUCATION TEACHERS FOR VISUAL ACTIVITIES IN
KINDERGARTEN**

Annotation. This article is devoted to the topical issues of preparing future preschool teachers for teaching visual arts in kindergarten. The article provides a brief overview of the place and role of the educational subject "Methods of Teaching Visual Activity" in the aesthetic and art education of preschool children.

Key words: Preschool education, visual arts, aesthetic education, art education, arts and crafts, modeling, applique, ornament, pedagogical phenomenon.

Подготовка будущих педагогов – наставников дошкольного образования, осуществляемая в рамках направления образования «Дошкольное образование» в педагогических институтах Узбекистана имеет комплексный характер. Она, кроме всего прочего, включает в себя художественное образование, эстетическое воспитание и методическую подготовку студентов, которые должны получить свою реализацию во взаимосвязи и взаимодействии на всех видах занятий, предусмотренных типовой учебной программой «Тасвирий фаолиятга ўргатиш методикаси» (1), предусмотренной учебным планом в 3-м семестре в объеме 150 часов (30 лекционных, 30 практических и 90 часов самостоятельных занятий).

В целях обеспечения стабильной социально - духовной среды в обществе предусмотрено внедрение новых подходов по сохранению и широкой популяризации и развитию национальных ценностей и духовного наследия узбекского народа.

Как справедливо отмечает ведущей российский ученый в области художественного образования и эстетического воспитания детей дошкольного возраста Т.С. Комарова: - «Реализация эстетического воспитания и художественного образования в разных возрастных группах предусматривает:

- развитие интереса к различным видам искусства (литература, изобразительное, декоративно-прикладное искусство, музыка, архитектура и др.), формирование первых представлений о прекрасном в жизни и искусстве, способности воспринимать его;

- формирование художественно-образных представлений и мышления, эмоционально-чувственного отношения к предметам и явлениям действительности, воспитание

эстетического вкуса, эмоциональной отзывчивости на прекрасное;

- развитие творческих способностей в рисовании, лепке, аппликации, художественно-речевой, музыкально-художественной деятельности;

- обучение основам создания художественных образов, формирование практических

навыков работы в различных видах художественной деятельности;

- развитие сенсорных способностей восприятия, чувства цвета, ритма, композиции,

умения элементарно выражать в художественных образах предметы и явления действительности, решение творческих задач;

- приобщение детей к лучшим образцам отечественного и мирового искусства (2,с 37)

Взросший за годы независимости интерес к богатейшему многовековому художественному наследию нашего народа, выдвинул в качестве актуальной важнейшую задачу углубленного изучения традиционных форм его материальной и духовной культуры как

педагогического феномена в деле воспитания гармоничной личности, в том числе и детей дошкольного возраста.

Как отмечают известные педагоги и ученые в сфере дошкольного образования, программирование эстетического воспитания имеет принципиальное значение, так как в программе реализуется идея всестороннего и гармонического формирования личности ребенка. В современных условиях, на наш взгляд, должно быть разработана универсальная программа, призванная установить общие принципы эстетического воспитания, объединяющая все виды художественной деятельности.

И в такой программе должны найти своё отражение следующие положения:

- в соответствии с целью всестороннего развития устанавливаются связи эстетического воспитания с нравственным, умственным и физическим развитием;

- искусство как средство воспитания привлекается с первых месяцев жизни ребенка, на каждой ступени дошкольного детства реализуется последовательное приобщение детей к нему.

Учитывая вышесказанное, мы поставили перед собой цель такого построения содержания занятий по рисованию, где бы все виды рисования (предметное, сюжетное и декоративное) были соотнесены между собой и могли «работать» друг на друга. Системообразующими элементами в рисовании должны были стать, на наш взгляд, средства художественной выразительности, живописи и рисунка - линия, композиция, цвет.(1 фото)



Фото 1. Дет. сад №54. Урок рисования ведёт магистр В. Асадова

Как подчеркивает узбекский ученый Ш. Т. Хасанова, исходя из местных условия, что некоторые изобразительные задачи, поставленные

программой, более специфичны для какого-то одного вида рисования (для предметного – обучение изображению форм предметов, для декоративного – обучение передаче цвета и цветовых соотношений в рисунке), но они же являются общими для всех других его видов.(3,с2) Так, для предметного рисования специфичными будут задачи, направленные на овладение детьми изображением формы предметов. Особый упор мы сделали на народное декоративно – прикладное искусство Узбекистана, в частности Бухары. Художественное ремесло Бухары представляет собой уникальный феномен национального искусства. Исследование этой к настоящему времени малоисследованной темы в сравнительном контексте социально-политических и художественных процессов играет важную роль в установлении общей периодизации развития традиционного искусства Узбекистана. Эффективность исследования, а также весь круг вопросов, связанных с глубоким анализом орнаментальной системы художественного ремесла Бухары XIX-XX веков зависит от раскрытия исторической динамики развития художественного ремесла Бухарского региона, выявлению роли и значения орнамента в формировании локальных особенностей традиционных центров. (Фото 2)



Фото 2. Дет. сад №54. Урок декоративного рисования. В. Асадова

Школа орнаментального искусства Бухары и прежде привлекало внимание учёных. Но так как исследования носили преимущественно этнографический характер, они практически не касались анализа его художественного и смыслового значения. И использование уникального искусства орнамента Бухары как педагогического феномена в эстетическом

воспитании и художественном образовании дошкольников имеет свою актуальность в педагогике Узбекистана.

Мы полагаем, что, если в каждом виде рисования направлять внимание ребенка на решение специфических для данного вида задач, постепенно усложняя их (и, разумеется, не забывая о решении других задач, являющихся общими для всех видов рисования), то это может дать более высокий результат в обучении декоративной и изобразительной деятельности. При этом нами соблюдался принцип систематичности и последовательность и его составные компоненты: взаимосвязь; последовательность и постепенность; повторность; временное соотнесение программных задач; жизненность программного материала.

На основании выделенных положений нами было разработано и проверено содержание обучения разным видам рисования детей старшего дошкольного возраста, особенно орнаментов и узоров прикладного искусства Бухары. Дидактическая последовательность обучения строилась на следующих принципах:

Обучения детей передаче формы орнаментов и предметов и величинных соотношений их частей. На этих занятиях мы вели детей от изображения предметов округлых форм к изображению предметов сложной прямолинейных форм, затем к изображению предметов сложной конфигурации.

Далее обучение детей композиционному построению рисунка (с одновременным закреплением и расширением умений, приобретенных при обучении изображению формы предметов и передаче цветовых отношений в рисунке).

Очень важно обучение детей передаче цвете и цветовых соотношений в рисунке (во взаимосвязи с обучением другим средствам художественной выразительности). На занятиях мы знакомили детей со способами передачи цвета в рисунках образцов народного декоративно-прикладного искусства, а затем к творческому использованию цвета в собственных рисунках.

Весь процесс обучения декоративному рисованию мы условно подразделили на два этапа. На первом этапе доминирующей была работа над овладением формой орнаментов и узоров, на втором – композицией. На первом – преобладали занятия предметного рисования, на втором – сюжетного.

В целом результаты нашего исследования показали, что содержание занятий по рисованию, основанное на взаимосвязи всех его видов, способствовало эстетическому обогащению детей, овладению ими средствами художественной выразительности и умелому применению этих средств в своих рисунках.

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ФАКТОРЫ РАЗВИТИЯ ПРЕДПРИНИМАТЕЛЬСТВА В СЕЛЬСКОМ ХОЗЯЙСТВЕ

Аннотация. Статья основана на специфике сельского хозяйства и роли в нем предпринимательства. Также были изучены и проанализированы мнения ученых, проводящих исследования в области аграрного предпринимательства. Представлены современные проблемы и перспективы сельского хозяйства Республики Узбекистан. Выказаны предложения и рекомендации по нехватке специалистов в области сельского хозяйства и решению существующих проблем в сфере предпринимательства.

Ключевые слова: сельское хозяйство, предпринимательство, агробизнес, технология, эффективность, качество продукции.

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FACTORS OF ENTREPRENEURSHIP DEVELOPMENT IN AGRICULTURE

Annotation. The article is based on the specifics of agriculture and the role of entrepreneurship in it. The opinions of scientists conducting research in the field of agricultural entrepreneurship were also studied and analyzed. Modern problems and prospects of agriculture of the Republic of Uzbekistan are presented. Suggestions and recommendations were made on the lack of specialists in the field of agriculture and the solution of existing problems in the field of entrepreneurship.

Key words: agriculture, entrepreneurship, agribusiness, technology, efficiency, product quality.

Сельское хозяйство является одной из самых важных отраслей в мире. Можно сказать, что сельское хозяйство не только обеспечивает всех людей едой, но и обеспечивает их занятость. Реализация этого зависит от совместной деятельности в сфере предпринимательства и сельского хозяйства. Это сотрудничество будет способствовать стабилизации экономики и глобальному экономическому развитию. В условиях

глобального экономического развития предпринимательство сталкивается с рядом вызовов, задач и препятствий, обусловленных спецификой сельского хозяйства и связанными с ним рисками. Поэтому необходимо формировать высокоэффективное, конкурентоспособное предпринимательство в сельском хозяйстве.

По мнению А. Н. Асаула [1], предпринимательство – это специфический вид экономической деятельности, суть которого заключается в стимулировании общественного спроса на конкретные потребности ее участников посредством рыночного обмена и работе по получению конкурентных преимуществ за счет рыночных диспропорций.

Предпринимательство в сельском хозяйстве предполагает участие определенных субъектов и объектов предпринимательской деятельности. По мнению И.В. Украинцевой [2], субъектами хозяйствования являются сами предприниматели, которые осуществляют хозяйственную деятельность и несут полную ответственность.

Согласно мнения Смита: «Мы не верим в щедрость повара или пекаря, которые едят, мы считаем, что они пытаются продать частную собственность, преследуют свои интересы и являются «невидимым мошенником». Это достигается теми, кто этого не представляет» [6].

Это означает, что предприниматель выполняет не только индивидуальные задачи, направленные на обогащение, но и социальные функции скрытого характера.

Эта задача малого бизнеса важна в условиях либерализации национальной экономики. Поскольку крупные предприятия, составляющие основу нашей республики, имеют высокий уровень зависимости от государства, их сложно рассматривать как свободных субъектов рынка. Второй задачей малого бизнеса должна стать его скрытая, интегративная функция [7]. Фирмы, выполняющие эту функцию, называются коммутаторами.

Важность малых фирм для экономики заключается в их гибкости. Об уровне развития малого бизнеса можно судить по способности национальной экономики адаптироваться к часто меняющимся рыночным условиям [8].

Российский журнал “Генеральный директор” [3] выделяет две основные направления глобальные проблемы:

➤ уровень нуждающихся в продуктах питания и отсталость аграрных отношений. Во многих развивающихся странах их сельское хозяйство не в состоянии обеспечить население продовольствием и удовлетворить его потребности в продуктах питания. Вот почему многие страдают от голода. Ведь несмотря на то, что производство растет, число голодающих все равно составляет большинство. По данным Фонда народонаселения ООН, по состоянию на 1 января 2021 года количество бездомных в мире в настоящее время составляет около 1 181,25 миллиона человек [11], что составляет

около 15 процентов от общей численности населения. Учитывая, что 60 процентов населения мира проживает в азиатских странах, это означает, что в этих странах проживает большое количество населения, которое не может удовлетворить основные потребности. В развитых странах также 17,6 млн (12,1%) [12] бедняков с доходами ниже прожиточного минимума. Число бедных в Европейском союзе составляет 85 миллионов человек (17%), а в США — 40 миллионов [13]. составляет одно лицо. В данном контексте эта проблема является первой и наиболее важной.

➤ Вторая мировая проблема связана с аграрными отношениями. Оно возникло из-за различий в развитии сельского хозяйства в разных странах. В некоторых странах аграрный сектор находится на высоком уровне за счет применения новых высокоэффективных технологий и методов роста. Однако в некоторых странах в силу пережитков прошлого формы и отношения собственности, соответствующие рыночным отношениям, не установились должным образом. Этот разрыв создает трудности в сельскохозяйственных отношениях между странами. Эта ситуация затронет и Республику Узбекистан.

Предпринимательство в Узбекистане имеет свои проблемы в сельском хозяйстве. Во-первых, основной проблемой как в нехватке кадров, так и в их профессиональной подготовке являются кадры.

Современное развитие сельского хозяйства базируется на последних достижениях науки и новых технологиях, что требует определенной классификации кадров. В настоящее время доходы от сельского хозяйства в стране снизили потребность в квалифицированных кадрах. Поэтому небольшое количество студентов учится в сельскохозяйственных вузах. Ситуация усугубляется оттоком трудовых ресурсов в крупные города и развитые страны.

Вторая проблема касается малого бизнеса в аграрном секторе. Им не хватает капитала для улучшения производства. Существует также проблема отсутствия долгосрочных инвестиций. Все это приводит к еще одной проблеме – снижению качества продукции.

При увеличении объемов производства сельскохозяйственной продукции смена форм собственности приводит к увеличению уровня безработицы сельского населения. В последние годы из-за отсутствия предпринимательских навыков у специалистов сельского хозяйства увеличился приток предпринимателей из других отраслей. Сокращение числа специалистов в этой области за прошедшие годы негативно отразилось на сельскохозяйственном предпринимательстве.

Кроме того, можно выделить несколько перспективных направлений развития Республики Узбекистан. Во-первых, замещение импорта. Поэтому помимо запрета на ввоз некоторых товаров следует уделить внимание развитию, производству и расширению местных производителей.

Вторая перспектива Узбекистана в сельском хозяйстве – возрастающая роль государства. Этого можно добиться за счет расширения существующих местных программ, создания нового обязательного государственного страхования сельскохозяйственных рисков, увеличения финансирования и создания более дешевых кредитов.

В настоящее время инвестирование практически во все сегменты сельского хозяйства является очень рискованным делом. Но для качественного развития местному агропромышленному комплексу необходим значительный приток инвестиций, которые помогут ему выйти на новый уровень. Нам также необходимо совершенствовать технологии и развивать собственную научную базу.

Следует поддерживать исследования и различные эксперименты для улучшения форм ведения сельского хозяйства и выявления живых организмов, более устойчивых к вредителям и изменению климата. Не менее важно подготовить квалифицированных специалистов, которые будут отвечать за аграрные вузы страны.

В связи с этим необходимо усилить организационно-экономические мероприятия в области и ее районах по повышению уровня развития предпринимательской деятельности в сельском хозяйстве и занятости населения. Также важно обеспечить мобильность субъектов хозяйствования и имеющихся трудовых ресурсов, повысить их квалификацию, сохранить имеющийся опыт людей.

С этой целью, на наш взгляд, формирование системы повышения квалификации трудовых ресурсов по двум направлениям позволит создать конкурентную среду между предпринимателями и трудовыми ресурсами на сельском рынке труда, а также между трудовыми ресурсами и предпринимателями. Для формирования этой ситуации необходимо ввести механизм поэтапной подготовки и переподготовки кадров.

Следующим направлением развития является международное сотрудничество. Вот и все. Развивающиеся страны получают помощь в виде материальной и финансовой поддержки со стороны развитых стран, а также в перенятии их опыта и способов ведения бизнеса. Это поможет преодолеть отсталость отдельных стран и сельскохозяйственных структур, выявить их потенциал.

В заключение, сегодня, как и любая другая отрасль экономики, сельское хозяйство имеет свои проблемы, которые мешают его быстрому развитию и совершенствованию. Но по мере их изучения появляется много перспективных направлений для укрепления позиций и будущего роста. Предпринимательство в сельском хозяйстве распространяется по всему миру, создавая множество возможностей для международного сотрудничества. Это может быть полезно даже в отдельных странах, в ускорении их развития и раскрытии их потенциала, в поднятии мировой экономики на новый уровень в целом.

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ТЕОРЕТИЧЕСКИЕ АСПЕКТЫ РАЗВИТИЯ УПРАВЛЕНЧЕСКОЙ КУЛЬТУРЫ ПЕДАГОГОВ

Аннотация. Для раскрытия проблемы развития управленческой культуры будущего специалиста дошкольного образования необходимо понимание сущности категории «управленческой культуры», осмысления этого качества у специалистов дошкольного образования. Формирование управленческой культуры требует комплексного подхода к его исследованию и раскрытию данных философских, психологических и педагогических наук, позволяющих более глубоко понять, и обогатить эмпирический опыт дошкольной и вузовской практики.

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THEORETICAL ASPECTS OF DEVELOPMENT OF MANAGEMENT CULTURE OF TEACHERS

Annotation: To uncover the problem of developing the management culture of a future preschool education specialist, it is necessary to understand the essence of the category of “managerial culture” and to comprehend this quality among preschool education specialists. The formation of management culture requires an integrated approach to its research and disclosure of data from philosophical, psychological and pedagogical sciences, which allows us to more

deeply understand and enrich the empirical experience of preschool and university practice.

В настоящее время категория «управленческая культура», «педагогическая культура» все чаще звучит в научно-практическом контексте. На фоне вариативного толкования этого словосочетания мы рассматриваем управленческо-педагогическую культуру как целостный феномен, который не может быть описан через простую сумму составляющих. Это особое состояние человека, профессиональным занятием которого является педагогическое управление, в широком понимании как специфическая область работы с человеком.

Ведущими категориями нашего исследования являются понятия: «культура», «педагогическая культура», «управление», «педагогический менеджмент», «управленческая культура». Раскрывая содержание указанных понятий, мы обнаружили разное их толкование. Одним из самых спорных моментов в понимании культуры является ее определение. Сейчас существует сотни определений культуры, причем, среди них есть такие, которые противоречат друг другу (определение культуры как нормы и как преобразования стандартов, как адаптации человека к обществу и как преодоления социальной инерции, как накопленного опыта и как самореализации личности)

Обратимся к пониманию категории «культура» в современном культурологическом обосновании. Философы рассматривают культуру «как деятельность людей по воспроизведению и обновлению социального бытия, а также включаемые в эту деятельность ее продукты и результаты». Если на ранних этапах человеческого общества главной формой была традиция, обеспечивающая сохранение социальной организации, то затем все более значимой становится инновация, а в последние десятилетия - взаимодействия различных традиций и различных инноваций.

В отечественной культурологии доминируют два исследовательских направления. С середины 60-х годов культура рассматривалась как совокупность материальных и духовных ценностей, созданных человеком. концепция интерпретации культуры заключается в вычислении той сферы бытия человека, которую можно назвать миром ценностей. Сторонники деятельностной концепции усматривают в такой трактовке понятия культуры известную ограниченность. По их мнению, аксиологическая интерпретация замыкает культурные явления в относительно узкой сфере, тогда как «культура, диалектически реализующийся процесс в единстве его объективных и субъективных моментов, предпосылок и результатов». Деятельностный подход к культуре конкретизируется по двум направлениям: - одно рассматривает культуру в контексте личностного становления; другое - характеризует ее как универсальное свойство общественной жизни. Эти авторы в отечественной культурологической

литературе последних десятилетий известны как активные защитники технологического осмысления сущности культуры. В соответствии с термином «педагогический менеджмент», активно используется понятие «управленческая культура», хотя к его определению нет однозначного подхода. Так В.А.Сластенин указывает: "Управленческая культура представляет собой меру и способ творческой самореализации личности руководителя в разнообразных видах управленческой деятельности, направленной на освоение, передачу и создание ценностей и технологий в управлении школой" Н.М.Таланчук рассматривает управленческую культуру как мастерство, как «меру совершенства деятельности руководителя по реализации объективных управленческих функций при решении конкретных задач управления воспитательным процессом».

Противоположным является представление В.Л.Бенина о сути «педагогической культуры» как *интегративной характеристики педагогического процесса*^ «включающего единство как непосредственной деятельности людей при передаче накопленного социального опыта, так и результатов этой деятельности, закрепленных в виде знаний, умений, навыков и специфических институтов такой передачи от одного поколения к другому». Данная характеристика наиболее наглядно проявляется в трех основных показателях: *социально- педагогическом* (степень общественного осознания того, что субъектом воспитания выступает каждый); *аксиологическом* (отношения к знаниям как ценности); *дидактическом* (основные принципы воспитания и обучения). Ученый полагает, что педагогическая культура как явление неразрывно связывает две общественные системы: педагогику и культуру - и требует определения ее статуса как в системе педагогики, так и в системе культуры.

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КОММУНИКАТИВНЫЕ ПОТРЕБНОСТИ СТУДЕНТОВ — ОДНО ИЗ ВЕДУЩИХ ПОНЯТИЙ ИНТЕНСИВНОЙ ТЕХНОЛОГИИ ОБУЧЕНИЯ

Аннотация. Данная статья помогает целенаправленно найти ориентир и мотивацию для подтягивания интереса к дальнейшему изучению языка. В статье даны показатели эффективности обучения тем или иным путём. Важно отметить, что дано рациональная оценка материалу для обучения с точки зрения эффективности для облегченного осмысленного понимания для студентов.

Ключевые слова: коммуникация, мотивация, индивидуализация, коммуникативная компетенция, познавательный интерес, прогрессивное обучение, речевая разновидность, целесообразность, осмысление, содержательность.

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COMMUNICATION NEEDS OF STUDENTS IS ONE OF THE LEADING CONCEPTS OF INTENSIVE LEARNING TECHNOLOGY

Annotation. This article helps to purposefully find a benchmark and motivation for pulling interest in further study of the language. The article gives indicators of the effectiveness of teaching in one way or another. It is important

to note that a rational assessment of the material for learning from the point of view of efficiency is given for a facilitated meaningful understanding for students.

Key words: Communication, motivation, individualization, communicative competence, cognitive interest, progressive learning, speech variety, expediency, comprehension, meaningfulness.

Коммуникация, мотивация, индивидуализация — ведущие понятия методики преподавания русского языка. Эта триада обеспечивает сравнительно высокие результаты в тестах успеваемости, активности, прилежания и интереса.

Никакая деятельность, в том числе и речь, невозможна без потребности в ней. Это потребность выражать свои мысли, делиться ими, обмениваться информацией в процессе общественного производства и других видов социальной деятельности, выражать свои чувства, намерения, стремления.

Коммуникативная компетенция — это овладение разными видами речевой деятельности на русском языке[33].

Овладение коммуникативной компетенцией является важнейшей целью обучения русскому на современном этапе развития. В силу этого учебный процесс по русскому языку предполагает решение реальных или правдоподобно имитированных задач общения в сферах речевой деятельности, отвечающих требованиям учащихся. Узконаправленная, конкретная мотивация студентов под влиянием учебной мотивации, формируемой путем развития познавательного интереса к предмету, широкого знакомства с историей, культурой, вопросами развития медицины, с известными учеными-медиками, может перерасти в универсальную мотивацию.

Любая профессиональная компетенция опирается на интеллектуальный потенциал и социальную активность ее носителя, предполагает развитие логического мышления, аналитико-моделирующих умений, осмысления и обобщения признаков и связей явлений, способов действия из одних видов деятельности в другие. В этой связи можно говорить о базовой компетенции, включающей широкие фоновые знания и типовые умения, как основе любой профессиональной, предметной и частной компетенции.

Для студентов следует считать подготовку к учебно-профессиональной сфере деятельности, отличающихся определённым своеобразием:

1. подготовка к практическим занятиям,
2. сдача контрольных работ и тестов

³³ Зимняя И.А. Понимание как результат рецептивных видов речевой деятельности // Психология и методика обучения чтению на иностранном языке: Сб. научн. тр. / МГПИИЯ им. М. Тореза. Вып. 130. М., 1978.

3. консультации
4. подготовка докладов и сообщений,
5. неформальное общение внутри учебной группы, потока и т.д.

Потребность такого общения возникает у них ещё до начала конкретного коммуникативного акта. Эта потребность порождается самой учебной деятельностью студента, вытекает из неё. Поэтому определение необходимых для студента навыков и умений речевого общения надо начинать с анализа деятельности обучаемых в условиях реальной коммуникации. При этом конкретную мотивацию его речевого поведения приобретает, когда появляется конкретный партнёр по общению.

Анализ коммуникативных потребностей студентов показал, что чтение и аудирование являются основными источниками получения профессионально значимой информации для учащихся в период обучения в вузе.

Обучение языку на современном этапе, постулирует коммуникативная методика, должно быть максимально приближено к условиям и целям реального использования языка каждой возрастной, социальной и дифференцированной по образовательному признаку категорией учащихся. Такая задача предполагает тщательное изучение коммуникативных потребностей тех, кто учится языку. На этой основе выделяется языковой материал, входящий в разнообразные речевые формы и формулы, обеспечивающие удовлетворение этих потребностей. Учебное занятие разворачивается таким образом, что, создавая напряжение речевой потребности, проблемная ситуация позволяет удовлетворить эту потребность через предъявление и активизацию соответствующего речевого материала. И здесь возникают следующие вопросы:

1. Как соотносятся цели и задачи обучения и выделяемые в связи с ними коммуникативные потребности обучаемых, и как они соотносятся с особенностями языкового и речевого материала? Насколько этим особенностям соответствует воплощение коммуникативных потребностей?

2. Как соотносится способ отбора языкового материала для того или иного типа обучения с применяемым коммуникативным принципом обучения? Как при этом соблюдается принцип системности подачи материала? Какие свойства языкового и речевого материала учитываются при отборе материала для обучения разным видам речевой деятельности?

Коммуникативная компетенция соотносится и в обучении, и в реальном употреблении в речи носителей языка таким образом, что каждая последующая из названных компетенций обеспечивается предыдущей. Предполагается, что в учебном процессе перейти от первой компетенции ко второй можно через отработку речевых операций, а для этого необходимо установить должную пропорцию в комплексном применении системного, функционального и собственно коммуникативного подходов. Методика должна быть гибкой и многообразной, как гибок и многообразен сам язык.

В настоящее время создание любого коммуникативно ориентированного учебника начинается с установления коммуникативных потребностей учащихся. Предполагается, что если установить их совокупность, то уже одним этим обеспечивается коммуникативный, т.е. наиболее современный и прогрессивный, тип обучения. Доминирующей функционально-речевой разновидностью является язык специальности. Практика убеждает, что на изучение языка специальности целесообразно планировать не 40, а 80-85% учебного времени, проводя отбор и минимизацию подлежащего изучению языкового материала по различным спец.дисциплинам и определив уровень требуемой коммуникативной компетенции, перечень навыков и умений, которые необходимо сформировать.

Процесс обучения языку специальности исключает подмену занятий по специальности, носит упреждающий характер, имеет своей конечной целью формирование у студента языковой и речевой компетенции, достаточной для чтения учебниковых текстов по спец.дисциплинам, прослушивания лекций преподавателей, участия в семинарских занятиях, выполнения заданий по спец.предметам в устной и письменной форме.

Тематика каждого урока дается заранее с предварительной установкой: читаем и говорим о людях, медицине и стране:

1. Здоровье — это дар природы.
2. Выдающийся офтальмолог (С. Федоров).
3. Охрана материнства и детства.
4. Международная деятельность Общества Красного Креста Здоровье и долголетие.
5. Арал и здоровье населения Каракалпакии.

На продвинутом этапе обучения при работе над дальнейшим повышением профессиональной компетенции полезно использовать художественные тексты, которые вводили бы учащихся в сферу их будущей профессиональной деятельности. Решение этой задачи диктует необходимость подбора художественных текстов, в которых находила бы отражение практическая работа специалистов. Работа над текстами должна быть построена таким образом, чтобы учащиеся не только увидели речевое своеобразие текста, глубоко и полностью осмыслили содержательную его сторону, но и почувствовали рабочую атмосферу, в которой трудятся их будущие коллеги.

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ПЕРСПЕКТИВЫ РАЗВИТИЯ РЫНКА ФОНДОВ ЧЕРЕЗ ИСЛАМСКИЕ ЦЕННЫЕ БУМАГИ В ЦИФРОВОЙ ЭКОНОМИКЕ

Аннотация. Перспективы развития фондового рынка через исламские ценные бумаги в условиях цифровой экономики являются сегодня одной из актуальных тем в финансовой системе. Поэтому в ходе исследования была проведена большая работа в рамках темы. Среди прочего были изучены другие исследовательские работы по теме, мнения отечественных и зарубежных ученых, научные статьи и локальные нормативные документы по теме. С целью повышения практической ценности научной работы были изучены международные исламские финансы и исламские ценные бумаги на основе статистических данных в научных журналах, на основе изученных и проанализированных данных исламские ценные бумаги в развитии фондового рынка в условиях цифровой экономики. Разработаны научно-практические выводы и предложения о перспективах народа.

Ключевые слова: Исламские финансы, исламские ценные бумаги, исламский фондовый рынок, развивающиеся финансовые рынки, цифровая экономика, финансовые технологии, выпуск, инвестор, сукук.

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PROSPECTS FOR THE DEVELOPMENT OF THE FUND MARKET THROUGH ISLAMIC SECURITIES IN THE DIGITAL ECONOMY

Annotation. The prospects for the development of the stock market through Islamic securities in the digital economy are today one of the hot topics in the financial system. Therefore, in the course of the study within the framework of the topic, a lot of work was done. Other research papers were studied, including the opinions of domestic and foreign scientists, scientific articles and local regulatory documents on the topic. In order to increase the practical significance of scientific work, international Islamic finance and Islamic securities were studied on the basis of statistical data in scientific journal. Based on the studied and analyzed information, scientific and practical conclusions and proposals have been developed on the prospects of Islamic securities in the development of the stock market in the digital economy.

Key words: Islamic finance, Islamic securities, Islamic stock market, emerging financial markets, digital economy, financial technology, emission, investor, sukuk.

Введение. В рамках Стратегии действий по пяти приоритетным направлениям развития Республики Узбекистан в 2017-2021 годах за истекший период принято около 300 законов, более 4 тысяч постановлений Президента Республики Узбекистан, направленных на принятие коренная реформа всех сфер государственной и общественной жизни. В рамках реформирования народного хозяйства были приняты меры по либерализации внешнеторговой, налоговой и финансовой политики, поддержке предпринимательства и обеспечению неприкосновенности частной собственности, организации глубокой переработки сельскохозяйственной продукции, обеспечению опережающего развития регионов. [1].

28 января 2022 года в результате общественного обсуждения Указом Президента Республики Узбекистан № ПФ-60 разработана Стратегия развития Нового Узбекистана на 2022-2026 годы на основе принципа «От стратегии действий к была утверждена стратегия развития» и названа «Государственная программа по уважению человеческого достоинства и реализации в год активного соседства». [2].

Акцентировано внимание на развитии фондового рынка как особой цели в направлении 3-го направления стратегии развития «Опережающее развитие национальной экономики и обеспечение высоких темпов роста». 27-я цель: «Для увеличения финансовых ресурсов в экономике оборот фондового рынка будет увеличен с 200 миллионов долларов США до 7 миллиардов долларов США в следующем году». Таким образом, перечислены несколько шагов, а именно: [2].

Постепенная либерализация движения капитала в Республике Узбекистан и приватизация крупных предприятий и долей в них, в том числе через биржу.

Таких, как завершение процессов трансформации в коммерческих банках с государственной долей и увеличение доли частного сектора в банковских активах до 60 процентов к концу 2026 года.

В Послании Президента Республики Узбекистан Шавката Мирзиёева Парламенту от 29 декабря 2020 года настало время создать правовую базу для внедрения исламских финансовых услуг в Республике Узбекистан. В связи с этим он подчеркнул, что будут привлечены специалисты Исламского банка развития и других международных финансовых организаций. Также Перед ЦБ поставлена задача рассмотреть законопроект о небанковских кредитных организациях до 1 февраля 2021 года в целях усиления конкуренции на финансовом рынке, а также создания правовой базы для внедрения исламских финансовых механизмов. [3]

Литературный обзор. Актам Магьере и Хусейн Абдох [4] в своей статье «Корреляция между золотом и исламскими ценными бумагами» исследуют динамическую корреляцию доходности между золотом и исламскими ценными бумагами за период 2006–2019 годов. Результаты этого показали, что золото не работает в качестве диверсификатора, хеджирования или актива-убежища для исламских портфелей в среднесрочной и долгосрочной перспективе, особенно в условиях бычьего и медвежьего рынка золота.

Afees A. Salisuab, Muneer Shaikc [5] заявили следующее в своей статье об исламских фондовых индексах и пандемии COVID-19. В связи с пандемией COVID-19 мы строим однофакторную прогностическую модель доходности акций, которая включает индекс неопределенности (UPE) для пандемий и эпидемий. В частности, мы исследуем, являются ли исламские акции уязвимыми или имеют лучший потенциал хеджирования по сравнению с их обычными аналогами. В целом, мы считаем, что исламские акции можно использовать для хеджирования, в то время как обычные акции уязвимы для неопределенностей из-за пандемий в разные временные рамки. В частности, во время пандемии COVID-19, хотя эффективность хеджирования исламских акций снижается, что лучше, чем плохие показатели традиционных акций. Результат остается тем же после контроля нашей модели цен на нефть, геополитического риска и неопределенности экономической политики. Мы оцениваем прогностическую силу UPE как для периодов внутри выборки, так и для периодов вне выборки, сравнивая эффективность прогноза модели внутри выборки. Результаты ученых показывают, что учет информации UPE при оценке акций очень важен для принятия инвестиционных решений.

Саид А., Грасса Р. [6] «Детерминанты развития рынка сукук: влияют ли макроэкономические факторы на построение конкретной структуры сукук?» В его научном исследовании было изучено 6 факторов, влияющих на рынок сукук в 10 странах за 2003-2012 гг., и изучено влияние 21 фактора на сукук. Сити Сара и др. (2019) в своей статье «Контракты сукук, структуры и механизмы ценообразования: критическая оценка» исследуют контракты, структуры и механизмы ценообразования сукук. В частности, в этом исследовании рассматриваются несколько инструментов сукук, рассматриваются существующие структуры, демонстрируются механизмы ценообразования сукук и обсуждаются ключевые проблемы каждого типа сукук. Документ также рассматривает возможные решения проблем, обсуждаемых в данном исследовании. Таким образом, предполагается, что учащиеся могут понять важные технические элементы сукук и отличить сукук от обычных облигаций, а также оценить дух исламских финансов.

Аброров Сирожиддин и Имамназаров Джахонгир [7] в статье «Исламские финансы: новые возможности для Узбекистана», исламские финансы, в частности, сукук – рост размера и значения исламских ценных

бумаг на мировом финансовом рынке, развитие исламских финансов в Узбекистане анализируется текущая ситуация. Также представлены результаты опроса, связанные с внедрением и развитием исламских финансов в Узбекистане.

Аброров Сирожиддин Зухридин оглы [8] в статье «Анализ развития рынка сукук в странах мира» утверждает, что сукук – исламские ценные бумаги, которые были введены как новый инструмент мировой финансовой системы в 21 веке, В последние годы динамично развивается мировая финансовая. Констатируется, что тот факт, что она показала тенденцию роста даже в период экономического кризиса и пандемии COVID-19, повышает интерес к ней. В статье анализируется развитие сукук в период 2001-2020 гг. Статистические показатели Малайзии и Турции в этом отношении изучались отдельно.

Методология исследования. В статье используются методы научной абстракции, описательной статистики, экспертной оценки, группировки, динамического анализа.

Анализ и обсуждение результатов. Сукук, исламский финансовый инструмент, является одним из видов ценных бумаг, которые бурно развиваются в последние годы, и наиболее привлекательным аспектом для инвесторов является то, что доходность ценной бумаги параллельна доходности проекта.

Исламские ценные бумаги сукук как беспроцентный инструмент привлечения капитала появились 30 лет назад, но развитие рынка относится к 2001 году. Первый сукук был выпущен в Малайзии в 1990 году, а после длительного перерыва ценные бумаги сукук начали активно торговаться в 2001 году. На сегодняшний день финансовый инструмент сукук доказал свою жизнеспособность в качестве альтернативного средства привлечения среднесрочных и долгосрочных инвестиций и создания огромной базы инвесторов.

Сукук означает юридический документ, акт и сертификат на арабском языке, и он рассматривается как инвестиционный сертификат, который подтверждает право собственности на материальные активы и услуги определенного проекта, то есть стоимость соответствующей доли в активах. Как известно, исламское право не допускает процентного дохода. Исходя из этого, инвестиционные принципы сукук запрещают начисление и выплату процентов. При этом уровень доходности акции напрямую связан с доходностью проектов. Таким образом, сукук представляет собой долю в финансируемом проекте.

В последние годы возрастает значение использования сукук - исламского инструмента. Рынок сукук быстро развивается. Инвесторы и эмитенты проявляют все больший интерес к реализации новых проектов в этой сфере.

Согласно ежегодным отчетам Международного исламского финансового рынка [9] (рис. 1), глобальная эмиссия сукук составила 141,3 млрд долларов США в 2001-2008 годах и 37,9 млрд долларов США с 2011 года. Только в 2017 году было выпущено сукук на 67,8 млрд долларов США меньше, чем в 2016 году. 2021 году составил 145,7 млрд долларов США, показав темп роста на 18,32% по сравнению с 2020 годом. К концу 2022 года выпуск сукук на первичный рынок был равен 174,6 млрд долларов США и увеличился на 16,5% по сравнению с 2021 годом. Анализируя данные на приведенном выше рисунке, рынок сукук имеет тенденцию к росту в течение последних двух десятилетий, и 2020 год показал самый высокий уровень. Количество сукук, выпущенных в эти годы, равно 1,



Фигура 1. Мировой выпуск сукук в 2003-2022 годах, в миллиардах долларов США [10]

На рисунке 2 ниже мы можем видеть динамику роста длинных и краткосрочных ценных бумаг сукук. Мы видим, что в период с 2003 по 2010 год стоимость долгосрочных сукук составляла 114,4 млрд долларов США, а стоимость краткосрочных сукук — 26,9 млрд долларов США. К 2016 году мы видим, что долгосрочная и краткосрочная стоимость сукук стали очень близки друг к другу.



Фигура 2. Выпуск долгосрочных и краткосрочных сукук по всему миру в 2003-2022 гг., в миллиардах долларов США [10]

В настоящее время в самых передовых и ведущих местах мира есть банки, государственные организации и несколько других компаний, выпускающих сукук. Мы рассмотрим несколько выпусков сукук именно в таких компаниях.

2 сентября 2020 года правительство Дубая, Объединенные Арабские Эмираты, выпустило на рынок сукук на сумму 1 миллиард долларов США Министерством финансов. Срок выпуска сукук составляет 10 лет, то есть он будет погашен до 2030 года. Маржа прибыли Сукук составила 2,8 процента. Эмитентами являются Dubai Islamic Bank, Emirates National Bank, First Abu Dhabi Bank и Standard Chartered Bank. (Таблица 1)

Таблица 1

Характеристики сукук, выпущенных правительством Дубая в 2020-2030 гг. [11]

Место выдачи	Финансовый рынок Дубая
Эмитент	Департамент финансов Дубая
Ответственный	Правительство Дубая
Количество	1 миллиард долларов США
Эмитируемый инструмент	ценные бумаги сукук
Срок	10 лет
Повторная ставка	100%
Норма прибыли	2,8%
Эмитенты	Исламский банк Дубая, Национальный банк Эмиратов, First Abu Dhabi Bank и Standard Chartered Bank

Если мы посмотрим на типы инвесторов, которые купили выпущенные сукук, мы увидим, что фонды лидируют с 52 процентами, за

ними следуют банки с 44 процентами и другие организации с 4 процентами, мы сможем увидеть агентства (рис. 3)

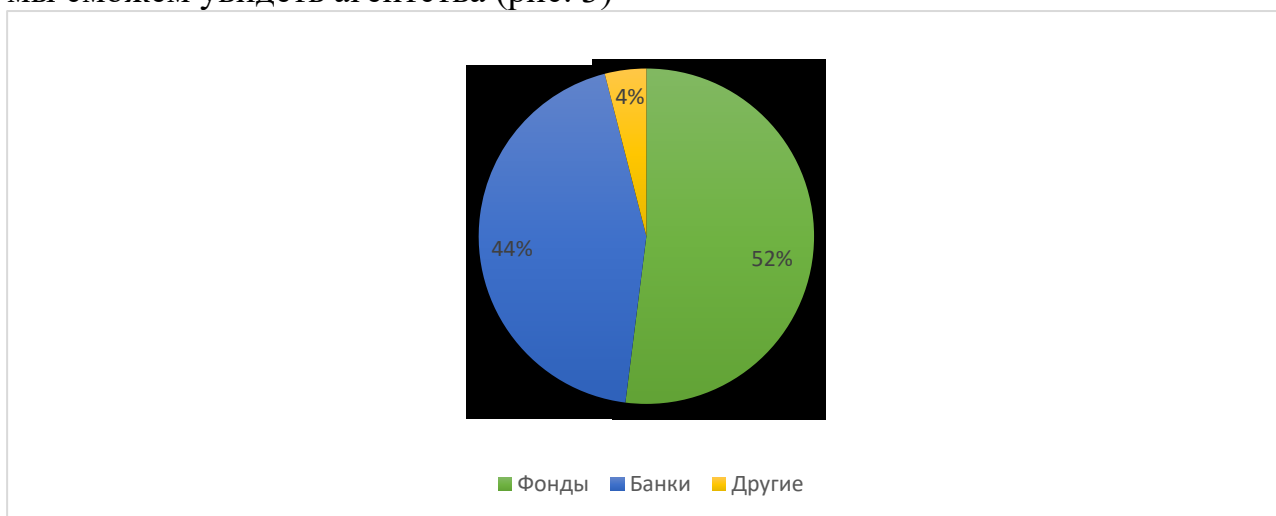


Рисунок 3. Инвесторы, купившие сукук, выпущенные правительством Дубая в период 2020-2030 гг. [11]

Если посмотреть по географическому положению, то явным лидером является Ближний Восток с 48%, а на втором месте европейский регион с 26%. Это еще раз показывает, что объем исламских финансов и исламских ценных бумаг увеличивается в Европейском регионе. Азия находится на третьем месте с 16 процентами, и мы видим, что оставшиеся 10 процентов приходятся на другие регионы (Рисунок 4).

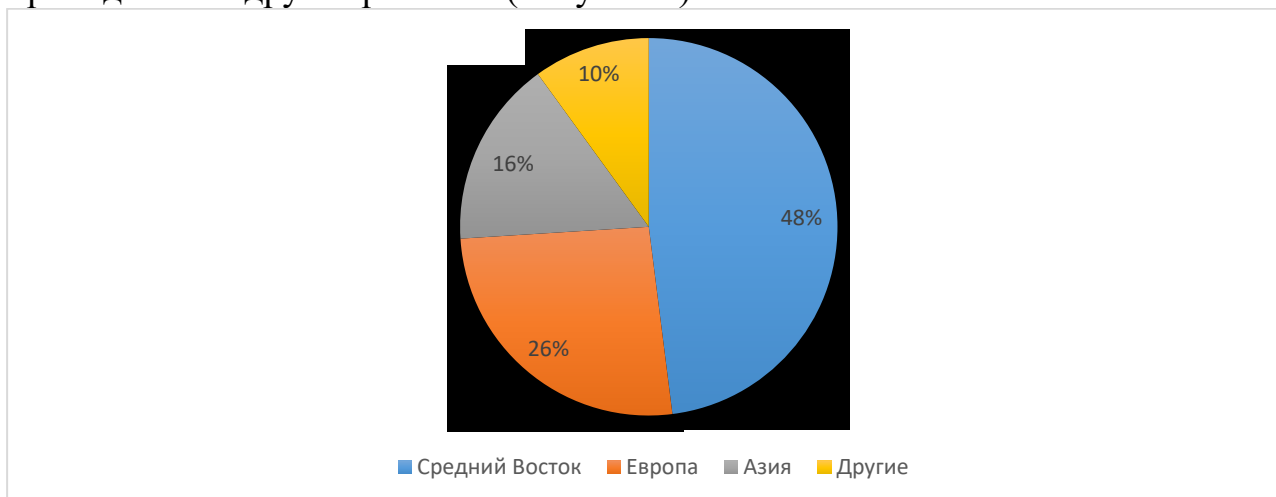


Рисунок 4. Географическое расположение инвесторов, купивших сукук, выпущенные правительством Дубая в 2020-2030 гг. [11]

Национальный коммерческий банк Саудовской Аравии [12] также выпустил собственную исламскую ценную бумагу сукук. Мудораба была выбрана в качестве типа сукук. Мудораба – это особый вид партнерства, при котором одна сторона предоставляет средства (инвестиции), а другая сторона управляет бизнесом (то есть предприятием или бизнес-проектом) в

рамках партнерства. Донор называется «роббул мол» (что в переводе с арабского означает «владелец собственности/имущества/средств или инвестор»), а менеджер проекта – «мудариб». Стоимость этого выпуска составила 1,3 миллиарда долларов США. В национальной валюте Саудовской Аравии он составил 4,7 млрд саудовских риалов (табл. 2).

Таблица 2

Характеристики сукук, выпущенного NBC Bank of Saudi Arabia [12]

Объем эмиссии	1,3 миллиарда долларов США (4,7 миллиарда саудовских риалов)
Тип сукук	Мудараба
Вымирание	Без дедлайна
Валюта	Доллары США
Цена вопроса	100 долларов
Норма прибыли	3,5%
Право погашения эмитента	6 лет, можно вернуть через 5,5 лет
Листинг	ISM (Лондон) LCE

Амортизационный период выпуска непрерывный, только через 5,5 лет устанавливается их изъятие. Конечно, это будут решать инвесторы. Цена сукук установлена на уровне 100 долларов США, а маржа прибыли составляет 3,5 процента. Норма прибыли Mudoraba Sukuk фиксируется заранее.

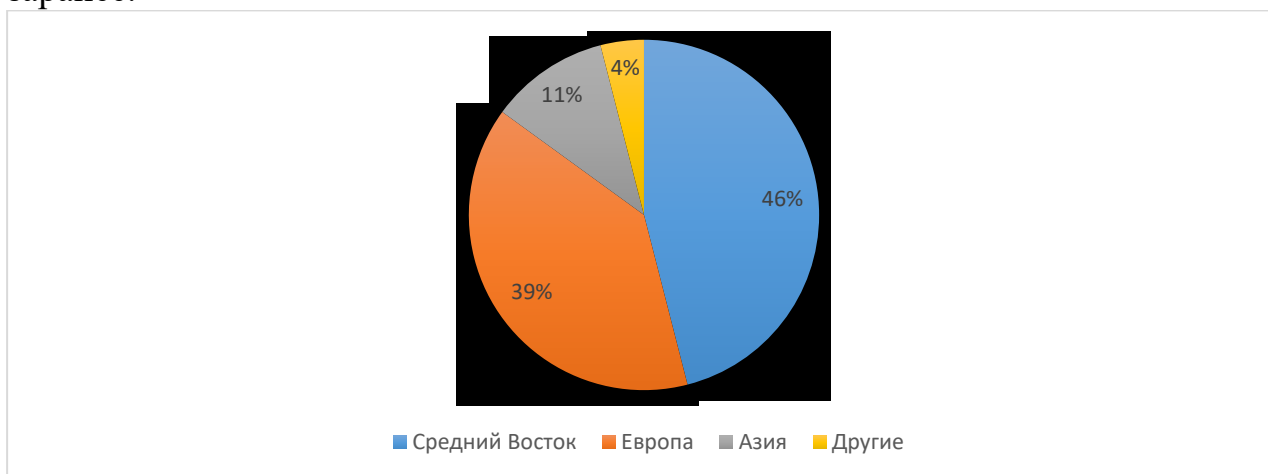


Рисунок 5. Географическое положение инвесторов, купивших сукук мудараба, выпущенных NBC Bank, Саудовская Аравия [12]

Большая часть выпущенных NBC Bank мудараба сукук была куплена в ближневосточном регионе, т.е. 46%, соответственно, второе место занял европейский регион с 39%, а азиатский регион занял третье место с 11%. На остальные регионы приходится оставшиеся 4 процента.

В качестве основного покупателя выпущенных сукук фонды явно лидируют (Рисунок 6), то есть 60 процентов, за ними следуют банки с 25 процентами и частные банки с 15 процентами.

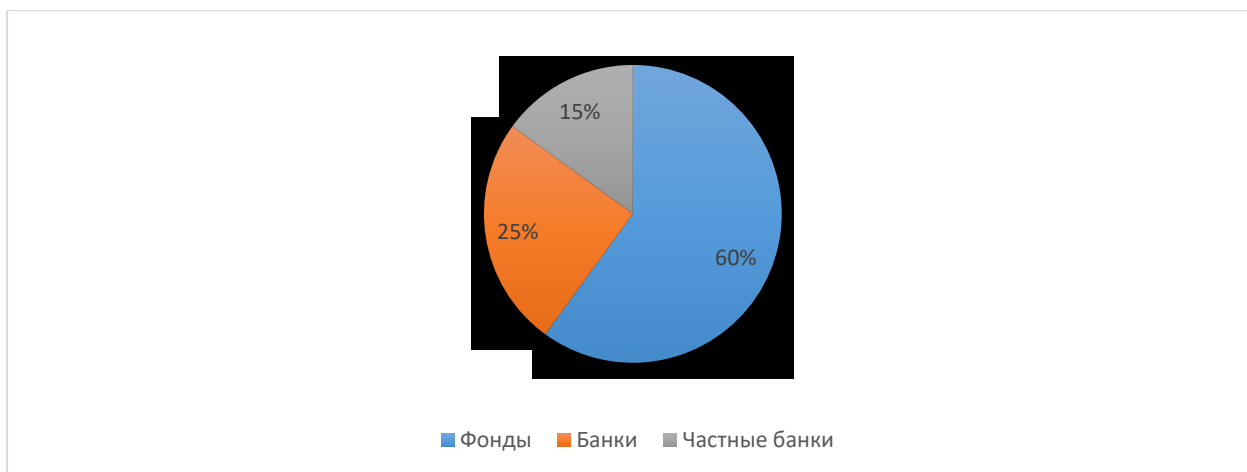


Рисунок 6. Инвесторы, купившие мудараб сукук, выпущенные NBC Bank, Саудовская Аравия [12]

В сентябре 2020 года компания Electricity Global Sukuk в Саудовской Аравии выпустила арендные исламские ценные бумаги сукук на сумму 1,3 миллиарда долларов. (Таблица 3)

Таблица 3

Особенности сукук, выпущенного глобальной компанией Saudi Arabia Electricity. [11]

Эмитент	Саудовская Аравия Электричество Глобальная кампания
Тип сукук	Аренда сукук
Объем выпуска и цена	\$650 млрд на 5 лет, 1,7%; \$650 млрд на 10 лет, 2,4%
Вымирание	5 лет и 10 лет
Валюта	Доллары США
Дата выхода	10 сентября 2020 г.
Листинг	Евронекст Дублин

Погашение этой эмиссии дает норму прибыли 1,7 процента при покупке объема в 650 миллиардов долларов США сроком на 5 лет и 2,4 процента объема, равного 650 миллиардам долларов США, сроком на 10 лет. В этом случае амортизация эмиссии устанавливается соответственно на 10 или 5 лет.

Основная часть выпущенных сукук приходится на ближневосточный регион через 5 и 10 лет и является опережающим (рисунок 7), то есть 47 процентов на 5 лет и 70 процентов на 10 лет соответственно придет. Второе место занимает азиатский регион, на который приходится 27% объема 5-летних и 17% 10-летних сукук. После этого мы видим, что европейский регион соответствует 23 процентам на 5 лет и 12 процентам на 10 лет. Мы можем заметить, что 3 и 1 процент соответствуют другим образцам соответственно.

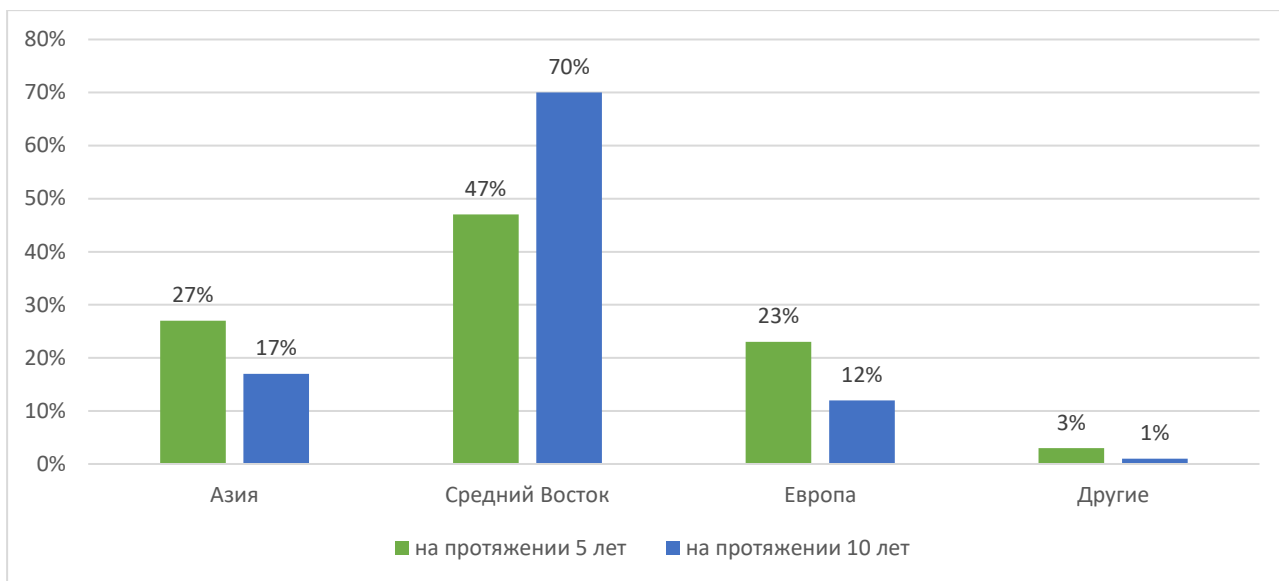


Рисунок 7. Географическое положение инвесторов, купивших сукук, выпущенный Саудовской Аравией Electricity Global Campaign [11]

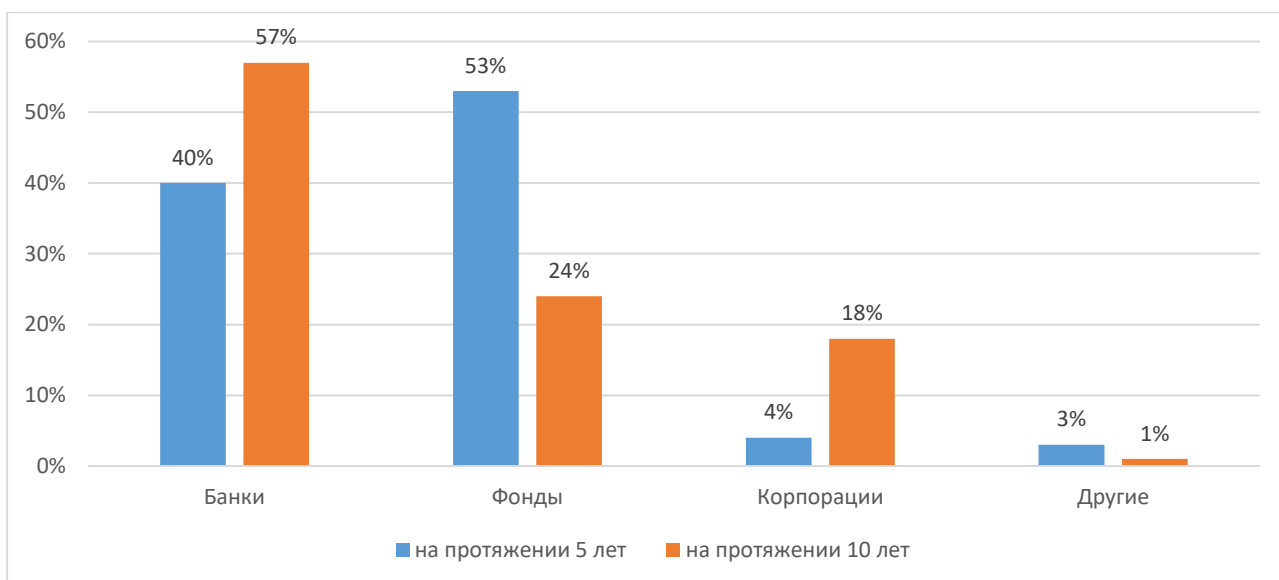


Рисунок 8. Инвесторы, купившие сукук, выпущенные Глобальной кампанией по электричеству Саудовской Аравии [11]

Мы видим, что фонды лидировали: 53 процента инвесторов купили 5-летние сукук, выпущенные Electricity Global из Саудовской Аравии (Рисунок 8). На втором месте банки с 40 процентами, на третьем — корпорации с 4 процентами, а остальные — с 3 процентами. И за 10 лет мы видим, что проценты изменились. Мы видим, что банки лидируют с 57 процентами, на втором месте фонды с 24 процентами, на третьем - корпорации с 18 процентами, а остальные инвесторы - с 1 процентом.

Выводы и предложения. Судя по всему вышеприведенному анализу, мы видим, что выпуск исламских ценных бумаг увеличивается из года в год, а это, в свою очередь, увеличивает их объем на фондовых рынках.

Вышеприведенный анализ, таблицы и рисунки основаны на данных, собранных в 21 веке, то есть с 2001 года по сегодняшний день.

Судя по данным, мы видим, что выпуск сукук был выпущен 30 лет назад. Мы видим, что первый выпуск сукук был выпущен правительством Малайзии. Выпуск сукук составил 141,3 миллиарда долларов США в 2001-2008 годах, а с 2009 по 2020 год мы можем увидеть более 1 триллиона долларов США. Это означает, что рынок сукук последние десять лет находится в восходящем тренде, и 2020 год показал самый высокий уровень. Мы видим, что сумма сукук, выпущенных за 20-летний период с 2001 по 2020 год, составила 1,4 триллиона долларов США.

Из анализа видно, что сукук выпускается в виде долгосрочных и краткосрочных сукук. Соответственно, мы видим, что сумма выпущенных долгосрочных сукук больше по объему и количеству по сравнению с краткосрочными сукук. То есть исходя из данных 2020 года мы видим, что выпуск долгосрочных сукук составил 117,9 млрд долларов США, а выпуск краткосрочных сукук составил 56,7 млрд долларов США.

Если мы посмотрим на страны Ближнего Востока в разделе страны, мы увидим, что они являются основной страной-эмитентом сукук. В этом случае мы видим, что Исламский банк Дубая выпустил 1 миллиард долларов США, Национальный коммерческий банк Саудовской Аравии выпустил 1,2 миллиарда долларов США, а компания Саудовской Аравии выпустила сукук на 1,3 миллиарда долларов США.

На основании всего вышеприведенного анализа можно сказать, что сукук в Узбекистане не существует. Из анализа можно сделать вывод, что на фондовом рынке Узбекистана ограничен набор финансовых инструментов, высокое участие государства и низкий объем продаж. Мы считаем, что введение сукук, считающейся исламской ценной бумагой, будет способствовать развитию сектора с целью повышения удобства рынка капитала Республики Узбекистан для всех категорий инвесторов.

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ИССЛЕДОВАНИЕ ГЕОМЕТРИЧЕСКИХ ХАРАКТЕРИСТИК СОРТА МАША 'КАХРАБА' ЕГО ПЛОТНОСТЬ СТЕБЛЕЙ, СТРУЧКОВ И СЕМЯН

Аннотация. В данной работе рассматривается исследование геометрических характеристик сорта маши 'Кахраба' и его плотности стеблей, стручков и семян. Авторы предоставляют комплексный анализ основных геометрических параметров растений данного сорта, включая длину и диаметр стеблей, размеры стручков и семян. В работе анализируется плотность распределения стеблей, стручков и семян на определенной площади, что позволяет получить представление о структуре и особенностях сорта 'Кахраба'.

Ключевые слова: исследование, геометрические характеристики, маш, 'Кахраба', плотность, стебли, стручки, семена, сельское хозяйство, сорт.

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STUDY OF THE GEOMETRIC CHARACTERISTICS OF THE MUNG BEAN VARIETY 'KAKHRABA', ITS DENSITY OF STEMS, PODS AND SEEDS

Abstract. This paper examines the geometric characteristics of the mung bean variety 'Kakhraba' and its density of stems, pods and seeds. The authors provide a comprehensive analysis of the main geometric parameters of plants of this variety, including the length and diameter of the stems, the size of the pods and seeds. The work analyzes the distribution density of stems, pods and seeds over a certain area, which allows us to get an idea of the structure and characteristics of the 'Kakhraba' variety.

Key words: research, geometric characteristics, mung bean, 'Kakhraba', density, stems, pods, seeds, agriculture, variety.

Введение. Сорт маша 'Кахраба' является объектом повышенного интереса среди селекционеров и агрономов благодаря своим уникальным свойствам и потенциалу для улучшения сельскохозяйственного производства. Однако, чтобы полностью оценить его ценность и потенциал, необходимо провести исследование его геометрических характеристик, включая плотность стеблей, стручков и семян. Сорт маша 'Кахраба' является результатом длительного селекционного процесса, направленного на создание устойчивого и высокоурожайного вида этого злакового растения. Его история уходит корнями в глубокое прошлое, в эпоху, когда сельское хозяйство стало ключевым фактором в жизни человечества. Первые упоминания о сорте 'Кахраба' встречаются в архивах и документах, связанных с развитием сельского хозяйства в регионах, где маш была широко распространена. Со временем благодаря усилиям селекционеров и сельскохозяйственных ученых, этот сорт стал одним из наиболее популярных и востребованных среди фермеров и аграриев. Сорт маша 'Кахраба' широко используется в сельском хозяйстве для производства пищевых культур и кормовых добавок. Его урожай применяется в пищевой промышленности для производства различных продуктов, таких как мука, крупы, кондитерские изделия и другие. Кроме того, маш 'Кахраба' также используется в качестве корма для скота и домашней птицы, благодаря своему высокому содержанию белка и питательных веществ.

Методология. Предлагаю ознакомиться с методикой исследования геометрических характеристик сорта маша 'Кахраба', которая поможет провести комплексный анализ его структуры и параметров.

1. Выбор образцов: Для начала необходимо выбрать представительные образцы растений сорта 'Кахраба'. Оптимальным подходом будет случайная выборка из различных участков поля или плантации.

2. Измерение геометрических параметров: Далее проводится измерение основных геометрических параметров растений, таких как длина и диаметр стеблей, длина и ширина стручков, а также размеры семян. Это можно осуществить с помощью линейки, сантиметровки и других измерительных инструментов.

3. Оценка плотности стеблей, стручков и семян: Для оценки плотности стеблей, стручков и семян необходимо выбрать определенную площадь или объем, в пределах которого будут производиться измерения. Затем подсчитывается количество стеблей, стручков и семян в выбранной области, и на основе полученных данных рассчитывается их плотность.

4. Статистическая обработка данных: После проведения измерений необходимо произвести статистическую обработку полученных данных. Это включает в себя расчет средних значений, стандартного отклонения, а также проведение корреляционного анализа между различными геометрическими параметрами.

5. Интерпретация результатов: Полученные результаты позволят сделать выводы о геометрических характеристиках сорта маши 'Кахраба', его структуре и особенностях. Эти выводы могут быть использованы для оптимизации условий выращивания, улучшения урожайности и качества продукции.

Это основные шаги методики исследования геометрических характеристик сорта маши 'Кахраба', которая позволит получить полное представление о его структуре и параметрах.

Результат. После проведения исследования геометрических характеристик сорта маши 'Кахраба' по предложенной методике были получены следующие результаты: Длина и диаметр стеблей: Средняя длина стеблей составила 45 см, с диаметром в районе 5 мм. Длина и ширина стручков: Средняя длина стручков составила 10 см, а ширина - 1.5 см. Размеры семян: Средний размер семян составил 1 см в длину и 0.5 см в ширину. Плотность стеблей, стручков и семян: Плотность стеблей составила примерно 20 стеблей на квадратный метр. Плотность стручков была оценена в среднем как 15 штук на квадратный метр. Плотность семян составила около 200 штук на квадратный метр. Статистическая обработка данных: Проведенный анализ данных показал статистически значимые различия между геометрическими характеристиками стеблей, стручков и семян сорта 'Кахраба'. Кроме того, была выявлена положительная корреляция между длиной стеблей и количеством семян на растении. Эти результаты позволяют сделать вывод о структуре и параметрах сорта маши 'Кахраба', что имеет важное значение для его дальнейшей селекции и выращивания. В частности, на основе этих данных можно разработать стратегии улучшения урожайности и качества продукции этого сорта.

В заключение, исследование геометрических характеристик сорта маши 'Кахраба' представляет собой важный шаг в понимании его структуры

и особенностей. Полученные результаты позволяют сделать несколько ключевых выводов. Во-первых, выявлены основные геометрические параметры стеблей, стручков и семян этого сорта, что дает возможность более точно определить его характеристики и потенциал. Во-вторых, оценена плотность распределения стеблей, стручков и семян на площади, что имеет важное значение для оптимизации выращивания и управления урожайностью. И наконец, статистическая обработка данных подтвердила наличие значимых различий между геометрическими характеристиками растений, что позволяет делать обоснованные выводы и предположения о влиянии этих параметров на производственные характеристики сорта 'Кахраба'. На основе этих результатов можно рекомендовать дальнейшее изучение и селекционные работы с данным сортом с целью улучшения его показателей урожайности, адаптации к различным климатическим условиям и повышения качества продукции. Таким образом, исследование геометрических характеристик сорта маши 'Кахраба' играет важную роль в дальнейшем развитии сельского хозяйства и повышении его эффективности.

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АНАЛИЗ ФИЗИЧЕСКИХ ПАРАМЕТРОВ СОРТА МАШИ БОБОВ 'ДУРДОНА' ЕГО МАССА, ФОРМА И РАЗМЕРЫ КОМПОНЕНТОВ

Аннотация. В данной работе рассматривается методика комплексного анализа физических параметров сорта маша бобов 'Дурдона'. В процессе исследования анализируются такие аспекты, как масса, форма и размеры компонентов растения. Предлагаемая методика включает несколько этапов: подготовка образцов, определение массы, измерение размеров, анализ формы с использованием цифровой обработки изображений, статистическая обработка данных и интерпретация результатов.

Ключевые слова: Маш, 'Дурдона', масса, форма, размеры, методика, анализ, параметры, агрономия, селекция.

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ANALYSIS OF THE PHYSICAL PARAMETERS OF THE MUNG BEAN VARIETY 'DOURDONA' - ITS WEIGHT, SHAPE AND DIMENSIONS OF COMPONENTS

Abstract. This paper discusses the methodology for a comprehensive analysis of the physical parameters of the mung bean variety 'Durdona'. During the research, aspects such as the mass, shape and size of plant components are analyzed. The proposed methodology includes several stages: sample preparation, mass determination, dimensional measurement, shape analysis using digital image processing, statistical data processing and interpretation of results.

Key words: Mash, 'Durdona', weight, shape, size, methodology, analysis, parameters, agronomy, selection.

Введение. Сорт маша бобов 'Дурдона' - это один из значимых объектов агрономических исследований, так как маша бобы являются важным культурным растением во многих регионах мира, включая Узбекистан. Исследование физических параметров этого сорта, таких как его масса, форма и размеры компонентов, имеет большое значение как для оптимизации производства, так и для развития новых сортов с улучшенными характеристиками. В данной работе мы проведем анализ указанных параметров сорта маша бобов 'Дурдона' с целью более глубокого понимания его физических характеристик и возможных путей для повышения его продуктивности и качества.

Одной из главных проблем, стоящих перед исследованием физических параметров сорта маша бобов 'Дурдона', является необходимость точного и надежного измерения его массы, формы и размеров компонентов. Для достижения этой цели необходимо разработать методику, которая будет учитывать специфические особенности структуры и состава этого растения, а также учитывать различные внешние факторы, которые могут влиять на результаты измерений. Также важно обеспечить достаточную точность и воспроизводимость результатов для обеспечения надежных данных для анализа.

Для решения данной проблемы требуется разработка специализированных инструментов и методик измерения, которые будут адаптированы к конкретным особенностям сорта маша бобов 'Дурдона'. Такие методики должны учитывать различные параметры, такие как размер и форма бобов, их масса, а также структуру и состав других компонентов растения. Также необходимо учитывать условия проведения измерений, такие как влажность и температура окружающей среды, которые могут оказывать влияние на результаты.

Разработка и внедрение таких методик измерения могут значительно улучшить качество и достоверность данных, полученных в ходе анализа физических параметров сорта маша бобов 'Дурдона', и способствовать более глубокому пониманию его характеристик и возможностей для дальнейшего улучшения.

Методология. Предлагаю изучить данную методику под названием "Комплексный анализ физических параметров сорта маши бобов 'Дурдона'".

Методика комплексного анализа физических параметров сорта маши бобов 'Дурдона' включает в себя несколько этапов, направленных на получение точных и воспроизводимых данных о массе, форме и размерах компонентов растения.

Первым этапом является подготовка образцов для анализа. Образцы бобов сорта 'Дурдона' должны быть собраны с различных участков поля, чтобы обеспечить репрезентативность данных. Каждую партию бобов необходимо тщательно очистить от посторонних примесей и высушить до постоянной массы при температуре 60°C в течение 48 часов. Это позволит исключить влияние влаги на результаты измерений.

Второй этап - определение массы бобов. Для этого необходимо использовать аналитические весы с точностью до 0,001 г. Каждый образец следует взвешивать отдельно, записывая массу с точностью до третьего знака после запятой. Для повышения точности измерений рекомендуется проводить взвешивание не менее трех раз и вычислять среднее значение массы для каждого образца.

Третий этап - измерение размеров бобов. Для измерения длины, ширины и толщины бобов используется цифровая штангенциркуль с точностью до 0,01 мм. Каждый образец следует измерять в трех различных точках, чтобы учесть возможные вариации в форме. Полученные данные заносятся в таблицу для последующей обработки.

Четвертый этап - анализ формы бобов. Для этого используется метод цифровой обработки изображений. Бобы размещаются на сканере, который создает высококачественные изображения каждого образца. Затем с помощью специализированного программного обеспечения анализируются контуры бобов, вычисляются такие параметры, как коэффициент формы, отношение длины к ширине и другие характеристики. Этот метод позволяет точно оценить геометрические параметры бобов и выявить возможные отклонения от нормы.

Пятый этап - статистическая обработка данных. Все полученные данные подвергаются статистическому анализу с использованием программного обеспечения, такого как Microsoft Excel или R. Рассчитываются средние значения, стандартные отклонения и коэффициенты вариации для каждого параметра. Также проводится корреляционный анализ для выявления взаимосвязей между различными физическими параметрами.

Шестой этап - интерпретация результатов. На основании полученных данных делаются выводы о физических параметрах сорта маши бобов 'Дурдона'. Анализируются возможные причины выявленных отклонений и разрабатываются рекомендации по улучшению агротехнических приемов и селекционной работы для повышения качества, и продуктивности сорта.

Заключительный этап - валидация методики. Для подтверждения надежности и воспроизводимости предложенной методики рекомендуется провести повторные исследования на других образцах и сравнить полученные результаты с данными, полученными ранее. Это поможет убедиться в точности методики и ее применимости в различных условиях.

Таким образом, комплексный анализ физических параметров сорта маши бобов 'Дурдона' позволяет получить точные и достоверные данные о массе, форме и размерах компонентов, что является основой для дальнейших исследований и улучшений в области агрономии и селекции.

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РОЛЬ УЧЕНЫХ В ИССЛЕДОВАНИИ МОРФОЛОГИЧЕСКОГО СОСТАВА МАШИ БОБОВ

*Аннотация. В данной работе рассматриваются исследования маша (*Vigna radiata*), проведенные различными учеными, с акцентом на морфологический состав и физико-механические свойства семян. Анализируются труды таких исследователей, как E. Isik, H. Unal, Y. Tekin, N. Izli, P.H. Vakane, R.V. Pawar, M.B. Khedkar, T.A. El-Adawy, H. Canci, C. Toker, A.A. El-Bedawey, E.H. Rahma, H.C. Alpsoy, A.E. El-Beltagy и R. Okursoy, которые внесли значительный вклад в понимание структуры, прочности, химического состава и агротехнических аспектов выращивания маша.*

Ключевые слова: Маш, морфология, физические, механические, свойства, семена, исследование, агротехника, анализ, состав.

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THE ROLE OF SCIENTISTS IN THE STUDY OF THE MORPHOLOGICAL COMPOSITION OF MUNG BEANS

Abstract. This paper discusses research on mung bean (Vigna radiata) conducted by various scientists, with an emphasis on the morphological composition and physical and mechanical properties of the seeds. The works of such researchers as E. Isik, H. Unal, Y. Tekin, N. Izli, P.H. are analyzed. Bakane, R.V. Pawar, M.B. Khedkar, T.A. El-Adawy, H. Canci, C. Toker, A.A. El-Bedawey, E.H. Rahma, H.C. Alpsyoy, A.E. El-Beltagy and R. Okursoy, who made significant contributions to the understanding of the structure, strength, chemical composition and agronomic aspects of mungbean cultivation.

Key words: Mung bean, morphology, physical, mechanical, properties, seeds, research, agricultural technology, analysis, composition.

Исследования маша (*Vigna radiata*) включают изучение его морфологического состава, а также физических и механических свойств различных компонентов. В этом обзоре представлены работы ключевых ученых, которые занимались этими аспектами исследования маша.

Е. Isik и H. Unal эти исследователи сосредоточились на изучении физических свойств маша, таких как размер, форма, плотность и механические свойства семян. В их работах рассматриваются методы определения основных физических характеристик, которые важны для обработки и хранения маша.

Y. Tekin и N. Izli исследовали механические свойства маша, такие как прочность на сжатие и устойчивость к механическим повреждениям. Они также изучали влияние различных факторов на эти свойства, включая влажность и температуру хранения.

P.H. Bakane, R.V. Pawar и M.B. Khedkar эти ученые исследовали влияние различных условий обработки на физико-механические свойства маша. В их работах рассматриваются аспекты, такие как обработка теплом и воздействие различных химических веществ на механическую прочность и структуру семян маша.

T.A. El-Adawy провел исследования по изучению химического состава маша и его питательных свойств. В его работах рассматриваются содержание белков, углеводов, витаминов и минералов, а также их изменения в процессе обработки и хранения.

H. Canci и C. Toker изучали генетическую изменчивость и селекционные аспекты маша. Они анализировали морфологические и агрономические характеристики различных сортов маша, что позволяет улучшать методы селекции и повышать урожайность.

A.A. El-Bedawey и E.H. Rahma сосредоточились на исследовании физиологических и биохимических свойств маша. В их работах изучаются процессы прорастания, фотосинтеза и другие физиологические процессы, которые влияют на рост и развитие растения.

H.C. Alpsyoy и A.E. El-Beltagy эти ученые исследовали влияние различных агротехнических приемов на рост и развитие маша. Они

анализировали эффективность удобрений, орошения и других методов, направленных на улучшение урожайности и качества семян.

R. Okursoy занимался изучением постуборочной обработки маша, включая аспекты хранения и транспортировки. В его работах рассматриваются методы минимизации потерь и улучшения качества семян в процессе хранения.

Для исследования физических и механических свойств маша (*Vigna radiata*) можно использовать методику, включающую несколько ключевых этапов. На первом этапе проводится сбор образцов маша, которые должны представлять разные сорта и быть выращены в различных агротехнических условиях. Это обеспечит более обширное понимание влияния различных факторов на свойства семян. На втором этапе проводится подготовка образцов. Семена очищаются от примесей и проходят визуальную оценку для исключения поврежденных и аномальных экземпляров. Затем отбираются репрезентативные пробы для дальнейших измерений. Далее проводится измерение морфологических характеристик. Используется микроскоп и калипер для определения таких параметров, как длина, ширина, толщина и масса семян. Эти данные фиксируются и анализируются для выявления вариаций между разными образцами. Следующим этапом является измерение физических свойств. Для определения плотности семян применяется метод вытеснения воды в измерительном цилиндре. Объем вытесненной воды, и масса семян используются для расчета плотности. Для исследования механических свойств семян используется прибор для тестирования на сжатие. Семена помещаются под пресс, и измеряется сила, необходимая для разрушения семян. Этот тест повторяется для каждого образца несколько раз для обеспечения достоверности данных. Полученные данные анализируются с использованием статистических методов. Средние значения, стандартные отклонения и коэффициенты вариации рассчитываются для каждого параметра. Также проводится корреляционный анализ для выявления взаимосвязей между морфологическими и механическими характеристиками. На заключительном этапе результаты интерпретируются с учетом агротехнических условий выращивания. Делается вывод о влиянии различных факторов на физические и механические свойства семян маша. Рекомендации по оптимизации агротехнических приемов разрабатываются на основе полученных данных.

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ФИЗИКО-МЕХАНИЧЕСКИЙ ПРОФИЛЬ СОРТА МАШИ БОБОВ «ТУРОН» ЕГО АНАЛИЗ РАЗМЕРОВ, МАССЫ И УГЛОВ ТРЕНИЯ

Аннотация. В данной работе рассматриваются физико-механические свойства сорта маши бобов "Турон" с целью предоставления комплексного анализа его размеров, массы и углов трения. Методика исследования включает в себя подготовку образцов зерен, измерение их размеров, определение массы единицы объема и анализ углов трения на различных поверхностях.

Ключевые слова: размеры, масса, углы трения, маши бобов, Турон, анализ, методика, исследование, физико-механические свойства, сельскохозяйственные процессы.

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PHYSICO-MECHANICAL PROFILE OF THE MUNG BEAN VARIETY "TURON" AND ITS ANALYSIS OF DIMENSIONS, MASS AND FRICTION ANGLES

Abstract. This paper examines the physical and mechanical properties of the "Turon" mung bean variety in order to provide a comprehensive analysis of its size, mass and friction angles. The research methodology includes preparing grain samples, measuring their sizes, determining the mass per unit volume, and analyzing friction angles on various surfaces.

Key words: dimensions, mass, friction angles, beans, Turon, analysis, methodology, research, physical and mechanical properties, agricultural processes

Введение. Маш (*Vicia faba*) – это однолетнее растение, которое широко используется в сельском хозяйстве благодаря своей пищевой и кормовой ценности. Один из наиболее распространенных сортов маши - "Турон", известный своим высоким урожаем и адаптацией к различным климатическим условиям. В современном сельском хозяйстве эффективное использование маши требует понимания ее физико-механических свойств, таких как размеры, масса и углы трения. Эти параметры играют важную роль в процессах сбора, транспортировки и хранения маши, а также в оптимизации сельскохозяйственных процессов.

Методология. "Методика анализа физико-механических свойств сорта маши бобов "Турон" Данная методика предназначена для систематического изучения физико-механических характеристик сорта маши бобов "Турон", включая размеры, массу и углы трения. В первую очередь, необходимо подготовить образцы зерен маши "Турон" для анализа. Это включает в себя отбор репрезентативных образцов из показательных участков, а также их очистку от посторонних примесей. После подготовки образцов следует провести измерение размеров зерен, используя подходящие инструменты, например, цифровой калипер. Замеры должны быть произведены по нескольким осям для получения более точных данных. Далее, для определения массы единицы объема маши "Турон", необходимо взвесить определенное количество зерен и измерить их объем. Это позволит вычислить плотность материала и, следовательно, массу единицы объема. Для анализа углов трения между зернами маши "Турон" и различными поверхностями можно использовать специальные установки или испытательные стенды. Зерна помещаются на поверхность, которая подвергается воздействию определенной силы или нагрузки, а затем измеряется сила трения и угол сдвига. Важно учитывать, что проведение всех измерений и анализов должно осуществляться в контролируемых условиях, чтобы исключить влияние внешних факторов на результаты. После получения данных их следует обработать статистически и сделать выводы о физико-механических свойствах сорта маши бобов "Турон".

Результат. После проведения исследования физико-механических свойств сорта маши бобов "Турон" согласно предложенной методике были получены следующие результаты:

Средний диаметр зерна составил 1.2 см, а средняя длина - 1.5 см. Измерения проводились на выборке из 100 зерен, и стандартное отклонение по каждому параметру составило 0.1 см, что говорит о небольшой вариабельности размеров зерен в исследуемой партии.

Проведенные измерения показали, что средняя масса 1 см³ маши бобов "Турон" составляет 0.8 г. Это значение может быть использовано для расчета объема зерен в крупных партиях и определения массы на объем.

Углы трения между зернами маши "Турон" и различными поверхностями составили в среднем 25° для стальных поверхностей и 30° для пластиковых. Эти данные могут быть полезны при разработке оборудования для сбора и транспортировки маши, а также при моделировании процессов сельскохозяйственной технологии.

Результаты исследования позволяют лучше понять физико-механические свойства сорта маши бобов "Турон" и могут быть использованы для оптимизации сельскохозяйственных процессов, направленных на его производство, сбор и использование.

Понимание физико-механических свойств сорта маши "Турон" имеет важное значение для сельскохозяйственной практики. Эти данные могут быть использованы для оптимизации процессов сбора, транспортировки и хранения маши, что в свою очередь способствует повышению эффективности производства и улучшению качества сельскохозяйственной продукции.

Основываясь на выше указанной информации, можно сделать выводы что, данное исследование представляет собой важный вклад в развитие сельского хозяйства и может быть полезным для сельскохозяйственных производителей, ученых и специалистов в области сельского хозяйства.

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СЕЛЬСКОХОЗЯЙСТВЕННЫХ
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АНАЛИЗ ПЛАСТОВОЙ НЕФТИ МЕСТОРОЖДЕНИЯ ГАРМИСТОН

Аннотация. Целью работы является определение массовой доли связанной воды, содержание механических примесей, содержание серы, вязкость нефти, содержание хлористых солей, содержание акцизных смол. Зная этот параметр, мы сможем эффективно разработать месторождения.

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ANALYSIS OF RESERVED OIL OF THE GARMISTON FIELD

Annotation. The purpose of the work is to determine the mass fraction of bound water, the content of mechanical impurities, the sulfur content, the viscosity of oil, the content of chloride salts, the content of excise resins. Knowing this parameter, we will be able to effectively develop deposits.

Пластовые воды – обычные спутники нефтяных и газовых месторождений. Они встречаются в пластах-коллекторах, которыми контролируются нефтяные и газовые залежи, или образуют самостоятельные чисто водоносные пласты.

Со скважин №10, 11, 12, 20 месторождения Гармистон были отобраны пробы пластовой нефти для полного анализа. Результаты анализов пластовой нефти приведены в Таблице №25

Таблица 25 – Результаты анализа пластовой нефти.

№	Месторождения	№ скв.	Плотность g/cm ³ при 20С	Массовая доля воды %	Массовая доля механически примесей %	Массовое содержание общей серы %	Кинематическая вязкость при 50°С, сСт	Динамическая вязкость при 50°С, сП мПа*с	Концентрация хлористых солей мг/л	Акцизные смолы %
1	Гармистон	10	0,9500	71,0	8,53	0,47	73,989	70,28	24565,5	80,0
2		11	0,9810	41,0	6,13	1,02	44,08	43,24	4032,1	84,0
3		12	1,001	56,0	7,50	1,00	69,71	69,77	24044,3	88,0
4		20	0,9560	69,0	7,96	0,81	–	–	23057,30	86,4
Среднее			0,9720	59,25	7,53	0,83	62,593	61,10	18924,8	84,60

Скважина №10 месторождения Гармистон введена в эксплуатацию 31.01.2021 г. Способ эксплуатации – механизированный ШГН. Дебит жидкости 93,6 м³/сутки, нефть 24,381 т/сутки, обводнённость скважины 70,6%. Нарботка 92 суток.

Нефть скважины №10 месторождения Гармистон:

- плотность нефти при 20°С равен 0,9500 g/cm³, битуминозная класс–4 (норма более 0,895 g/cm³);
- массовая доля связанной воды 71,0% (норма 2-3 группа не более 1,0%);
- содержание механических примесей 8,53% (норма не более 0,05%);
- содержание серы равен 0,47%, малосернистая класс–1 (норма до 0,60%);
- вязкость нефти 70,28 мПа·с, с высокой вязкостью класс нефти–4 (норма 30,1 – 200,0 мПа·с);
- содержание хлористых солей 24565,5 мг/л (норма не более 900 мг/л);
- содержание акцизных смол 80,0%, высокосмолистая тип–3 (норма более – 15%).

Скважина №11 месторождения Гармистон способ эксплуатации - механизированный ШГН. Дебит жидкости 76,2 м³/сутки, нефть 38,415 т/сутки, обводнённость скважины 43,1%.

Нефть скважины №11 месторождения Гармистон:

- плотность нефти при 20°С равна 0,9810 g/cm³, битуминозная класс–4 (норма более 0,895 g/cm³);
- массовая доля связанной воды 41,0% (норма 2-3 группа не более 1,0%);
- содержание механических примесей 6,13% (норма не более 0,05%);
- содержание серы равен 1,02%, сернистая класс–2 (норма 0,61 – 1,80%);

- вязкость нефти 43,24 мПа·с, с высокой вязкостью класс–4 (норма 30,1 – 200,0 мПа·с);
- содержание хлористых солей 4032,1 мг/л (норма не более 900 мг/л);
- содержание акцизных смол 84,0%, высокосмолистая тип–3 (норма более 15%).

Скважина №12 месторождения Гармистон введена в эксплуатацию 07.02.2021 г. Способ эксплуатации – механизированный ШГН. Дебит жидкости 24,1 м3/сутки, нефть 9,972 т/сутки, обводненность скважины 53,3%. Нарботка 85 суток.

Нефть скважины №12 месторождения Гармистон:

- плотность нефти при 20°С равен 1,001 g/cm³, битуминозная класс–4 (норма более 0,895 g/cm³);
- массовая доля связанной воды 56,0% (норма 2-3 группа не более 1,0%);
- содержание механических примесей 7,50% (норма не более 0,05%);
- содержание серы равен 1,0%, сернистая класс–2 (норма 0,61 – 1,80%);
- вязкость нефти 69,77 мПа·с, с высокой вязкостью класс–4 (норма 30,1 – 200,0 мПа·с);
- содержание хлористых солей 24044,3 мг/л (норма не более 900 мг/л);
- содержание акцизных смол 88,0%, высокосмолистая тип–3 (норма более – 15%).

Скважина №20 месторождения Гармистон введена в эксплуатацию 20.11.2020 г. Способ эксплуатации – механизированный ШГН. Дебит жидкости 9,1 м3/сутки, нефть 2,153 т/сутки, обводненность скважины 73,3%. Нарботка 164 суток.

Нефть скважины №20 месторождения Гармистон:

- плотность нефти при 20°С равен 0,9560 g/cm³, битуминозная класс–4 (норма более 0,895 g/cm³);
- массовая доля связанной воды 69,0% (норма 2-3 группа не более 1,0%);
- содержание механических примесей 7,96% (норма не более 0,05%);
- содержание серы равен 0,81%, сернистая класс–2 (норма 0,61 – 1,80%);
- содержание хлористых солей 23057,3 мг/л (норма не более 900 мг/л);
- содержание акцизных смол 86,4%, высокосмолистая тип–3 (норма более 15%).

Вывод. В пластовой нефти скважин № 10, 11, 12, 20 месторождения Гармистон массовая доля связанной воды составляет от 41 до 71% в среднем по месторождению 59,25%, содержание хлористых солей от 4032,1 мг/л до 24565,5 мг/л в среднем 18924,8 мг/л.

Проведенные анализы нефти скважин №№ 10, 11, 12, 20 месторождения Гармистон показали, что нефти являются битуминозными, сернистыми, высоко вязкостными и высокосмолистыми.

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ОБУЧЕНИЕ СТУДЕНТОВ НЕФИЛОЛОГИЧЕСКИХ ВУЗОВ РУССКОМУ ЯЗЫКУ В УСЛОВИЯХ ИННОВАЦИОННОГО ОБРАЗОВАНИЯ

Аннотация. В статье рассматривается вопрос повышения эффективности обучения русскому языку в нефилологических вузах, также описываются инновационные методы и подходы преподавания на русском языке во время курса. Возможности расширить полномочия профессоров и учителей в отношении современных методов обучения, определены ключевые компоненты, необходимые для реализации этой модели обучения студентов русскому языку как иностранному языку в условиях университета.

Ключевые слова: инновационное обучение, процесс, формирование навыков, мотивация, образовательные технологии.

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TEACHING STUDENTS OF NON-PHILOLOGICAL UNIVERSITIES RUSSIAN LANGUAGE IN CONDITIONS OF INNOVATIVE EDUCATION

Annotation. Russian language teaching in non-philological universities is considered in the article, as well as innovative methods and approaches of teaching in Russian during the course are described. Opportunities to expand the powers of professors and teachers in relation to modern teaching methods, the key components necessary for the implementation of this model of teaching students Russian as a foreign language in a university environment are identified.

Keywords: innovative teaching, process, skill formation, motivation, educational technologies.

В сегодняшней быстро развивающейся цифровой экономике одна из проблем в подготовке высокообразованных специалистов в системе высшего образования – это иметь другой уровень знания иностранного

языка, например, русского языка. Данная ситуация объясняется тем, что формирование навыков владения русским языком носит индивидуальный характер, это зависит от особенностей психофизиологической природы студента, в том числе памяти, внимания, индивидуального темпа обучения и т. д., а также уровня речевой культуры, словарный запас, общие коммуникативные навыки, уровень интереса и мотивации к изучению русского языка. В результате на уроках русского языка преподаватель вуза сталкивается с наличием в группе сильных студентов, студентов среднего уровня, а также слабых студентов, знающих только простой русский язык. В связи с этим профессорско-преподавательский состав часто сталкивается со сложной проблемой эффективной организации учебного процесса в аудитории: если преподаватель работает с упором на слабых, это может привести к тому, что средние и сильные студенты не примут новые знания. В результате отсутствует прогресс в обучении, что приводит к снижению их мотивации к изучению русского языка. Если учитель делает упор на сильных студентов, слабые и средние студенты не смогут осмыслить сложный для них материал, они также не будут продвигаться вперед и, соответственно, их мотивация к чтению снизится. Такая ситуация, в свою очередь, приводит к снижению эффективности, то есть качества обучения, которое в нашей работе определяется как уровень сформированности владения русским языком по видам речевой деятельности (речь, речевая деятельность). Анализ соответствующей литературы. Сегодня образовательные технологии являются средством достижения предметных и метапредметных результатов, а также индивидуальных результатов учащихся [1]. Система работы учителя по обеспечению результатов обучения русскому языку должна включать в себя реализацию следующих технологий: коммуникативная технология обучения, технология понимания коммуникативного значения текста, игровая технология, технология совместного обучения, проектная технология и другие. При этом А. В. Воловин констатирует, что «... языку вообще нельзя научить, язык можно только выучить» [2]. Очевидно, что основную роль при таком подходе играет личность студента, его мотивация, способности и цели. Массовое развитие Интернета расширило круг информационных ресурсов.

Большинство информационных ресурсов в настоящее время доступны в Интернете на русском языке, и без их ведома пользователи сети ограничивают себя и не могут получить доступ к большим объемам данных [3]. Новые информационные технологии, используемые в образовании, разработаны таким образом, что с их помощью можно выполнять обычные виды учебной работы (лекции и практические занятия, консультации, тесты и т. д.) Только на высоком техническом уровне [4]. Столкнувшись с такими реалиями, студенты понимают, что изучаемый иностранный язык, особенно русский, является не только средством общения, но и средством познания, саморазвития, расширения кругозора и интересов, удовлетворения личных

потребностей. На наш взгляд, самое сложное в преподавании русского языка на неспециализированных факультетах вузов — это принцип комплексности, принцип вербальной основы и речевого развития, личностная направленность обучения и деятельностный характер. Анализ метода и результаты Проблема в том, что не всегда удается разделить студентов-неспециалистов на небольшие группы. Он состоит из развития навыков посредством инновационного образования и самообразования. Фундаментализм, вместе с его ориентацией на честность и преследование индивидуальных интересов, создает ключевые особенности новой образовательной парадигмы. «Фундаментальное научное и гуманитарное образование должно давать целостное представление о современном природном и научном ландшафте мира, создавать научную основу для оценки результатов профессиональной деятельности, способствовать творческому развитию и правильному выбору индивидуальной жизненной программы. Следует отметить, что уже давно изучение русского языка не сводится к пассивному запоминанию новых слов и словосочетаний. Единообразия, утомительная проверка грамматических правил и способность перевести русскую фразу в лучшем случае на узбекский язык — вот пределы мастерства в овладении иностранными средствами общения. Хотя в мире давно известно множество подходов к изучению иностранных (русский) языков и методик, настоящая революция в методологии преподавания русского языка в нашей стране произошла только в конце 20 — начале 21 века [5]. Изменились подходы и цели. Сегодня все изучают русский язык. Количество техник также увеличилось пропорционально количеству людей. Однако у каждого из приемов есть свои плюсы и минусы. Принципы старой школы подвергаются резкой критике, хотя их нынешнее применение принесло свои плоды. Возникает вопрос — какой ценой можно было достичь этих результатов? Как правило, чтобы овладеть языком, нужно было много времени уделять переводу, чтению текстов, запоминанию новых слов, выполнению различных упражнений и обзору книг, уделяя время пересказу. Для смены вида деятельности предлагалось написать сочинение или диктовку. Одна из самых старых техник — классическая или фундаментальная. Цель классической методики — не только изучить, но и понять тонкости и детали принципов русского языка. Основная задача классической методологии — формирование грамматической базы переводимого языка [6]. Эта методика хорошо знакома тем, кто только начинает изучать русский в школе. Примечательно, что его выбирают многие языковые вузы, как в Узбекистане, так и в других странах Центральной Азии. Один из таких методов называется лингвистическим социокультурным методом. Сторонники вышеуказанного стиля утверждали, что современный русский язык не должен быть набором грамматических правил. И наоборот, отсутствие неязыковых факторов делает изучение русского скучным и бесцельным. Сторонники лингво-

социокультурного стиля поднимают русский язык до уровня коммуникативной среды, которая не только помогает человеку говорить, но и дает ему возможность самовыражения. Следуя принципам лингво-социокультурного метода, можно с уверенностью сказать, что русский язык — это уникальное зеркало, отражающее образ жизни, обычаи, культуру и историю языка. Однако одним из самых популярных методов обучения иностранным языкам в последнее время является коммуникативный метод, который занимает первое место в статистических рейтингах и расчетах.

Этот метод хорошо зарекомендовал себя в Америке и Европе [7]. Продолжая покорять мир, к нам пришла коммуникативная методика, используемая в ведущих языковых вузах нашей республики. Методика основана на сочетании двух основных методов обучения русскому языку: традиционного и современного. Как следует из названия, общение играет важную роль в общении. Основная цель этой методики — преодоление языкового барьера [8]. Самое главное, это освобождает человека от страха перед иностранным языком, от страха говорить на русском языке, и в то же время развивает другие языковые навыки, в частности, говорение и письмо, чтение, аудирование и так далее. Следует отметить, что грамматика изучается в процессе разговора и общения на русском языке. По этому принципу студенты сначала запоминают и запоминают языковые формулы, фразы и только потом анализируют грамматические ошибки, обнаруженные в заученных фразах. Само название говорит об особом месте коммуникативной практики в коммуникативной методологии. Дидактические материалы — сборники задач, диктантов, упражнений, а также примеров рефератов и сочинений, представленных в электронном виде, обычно в виде простого набора текстовых файлов в форматах.doc,.rtf и.txt. Неудобство этого, почти традиционного, контроля знаний состоит в том, что все равно приходится самостоятельно проверять рукописные работы учащихся и выставлять за них балл и оценку. [9] Кроме того, у студентов неязыкового вуза надо развивать умения навыков по изучению словарей. Систематическое накопление и расширение словарного запаса является одной из главнейших задач при обучении русскому языку. Сложно общаться без знания грамматики, но без знания слов общаться невозможно, нельзя ни высказать, ни понять самых элементарных фраз. От объёма словарного запаса зависит успешность общения с окружающими людьми, решение конкретных задач. [8] Коммуникативные техники направлены на развитие навыков и компетенций говорения на русском языке. Следует отметить, что применение методики напрямую влияет на структуру урока. На уроках часто бывает необходимо разработать задания на умение использовать игровые ситуации, проводить групповую работу, находить ошибки и сравнивать. Как правило, такая деятельность не только заставляет память активно функционировать, но и логическое мышление, которое позволяет развивать навыки аналитического и образного мышления и

поощряет выражение идей. Игры также являются сложной задачей для учителя в процессе преподавания и обучения русскому языку. Играйте в игры через класс, индивидуальную, парную и групповую работу. Группирование, объединение в пары и четыре типа групповой работы очень важны, если у каждого студента есть устная практика в использовании языка. [9] Заключение Сегодня развитие современных информационных и коммуникационных технологий создает новейшие интерактивные ресурсы для изучения русского языка, включая компьютеры последнего поколения, Интернет, телевизионные программы, газеты и журналы. Очень важно применить все вышеперечисленное на практике. Это помогает пробудить интерес студентов к стране истории, культуры, обычаям переводимого языка и помогает сформировать навыки, которые понадобятся им в будущем. Образование — это активное взаимодействие преподавателя и студентов, и оно не может быть односторонним. Это зависит от того, насколько успешен процесс обучения для преподавателя. Видно, что каждый преподаватель в выборе методов работы руководствуется своим личным опытом. Однако по результатам экспериментальной и практической работы можно отметить, что использование различных приемов в рамках коммуникативных, индуктивных, дедуктивных методов дает положительный результат и, несомненно, способствует повышению эффективности обучения.

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МЕҲНАТ ХАВФСИЗЛИГИНИ ТАЪМИНЛОВЧИ ПСИХОЛОГИК ОМИЛЛАРНИНГ ИШ КУНЛАРИГА БОҒЛИҚЛИГИ

Аннотация. Меҳнат шароитлари ва иш унумдорлигини таҳлил қилиш натижасида ишловчининг ақлий ҳамда физиологик жиҳатдан ишлаши, бу меҳнат турлари унинг иш қобилиятларини белгилаши, ақлий меҳнат ортиб кетиши билан ҳаттоки жисмоний ҳаракатларнинг кўпайиши, бунинг натижасида тўғри фикр юрита олмаслик, толиқиш оқибатида ишчининг меҳнат қобилияти пасайиш ҳолатларининг кузатилиши баён этилган.

Калит сўзлар: руҳият, психологик омиллар, ақлий меҳнат, физиологик меҳнат, ишчи, эргономика, толиқиш, ҳафтанинг иш кунлари, бошқарувчилик меҳнати, тежамкорлик, тўғри қарор, таъсирчанлик, мия қобиғи, сўров усули, психологик ўқитиш.

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DEPENDENCE OF PSYCHOLOGICAL FACTORS ENSURING LABOR SAFETY ON WORKING DAYS

Annotation. As a result of the analysis of working conditions and labor productivity, mental and physiological work of the worker, it was determined that these types of labor determine his working abilities, with an increase in mental work, the number of physical movements even increases, on this the articles are equipped with the result of the inability to think correctly, observations of cases when The worker's ability to work is reduced due to fatigue.

Key words: psyche, psychological factors, mental work, physiological work, worker, ergonomics, fatigue, working days of the week, managerial work, frugality, correct decision, affectivity, cerebral cortex, survey method, psychological training.

Ишлаб чиқаришда меҳнат хавфсизлигини таъминлаш мақсадида ишчиларнинг руҳий ҳолатини ўрганиш эргономиканинг асосий мақсадларидан биридир. Илмий-техникавий ривожлантириш шароитида, замонавий касбий фаолиятнинг барча турларида ижодкорлик элементларининг ўрни ортиб боради. Барча касбларда, айниқса жисмоний

меҳнатда ақлий меҳнат улуши ортиб бораяпти. Бу эса ақлий ва жисмоний меҳнат орасидаги чегаранинг йўқолишига олиб келади.

Ақлий меҳнат маълумотларни қабул қилиш ва ишлаш, диққатни, хотирани, шунингдек, ҳиссиёт доирасида фикрлаш жараёнларини фаоллаштириш билан боғлиқ ишларни жамлайди. Бундай меҳнат жараёнининг энг муҳим томони фикрлаш асосида ишлаб чиқаришда вақт, масофа ва энергия тежамкорлигига эришиш имконияти яратилади. Ақлий меҳнат шакллари бошқарувчилик, бошқариш ижодий меҳнат, тиббий ходимларнинг меҳнати, ўқитувчиларнинг меҳнати, ўқувчи ва талабалар меҳнатига бўлинади. Келтирилган меҳнат шакллари меҳнат жараёнининг ташкил этилиши, юкланганликнинг мароми билан фарқланади.

Бошқарувчилик меҳнати – бу назорат қилиш йўналишини ўз ичига олган ҳолдаги ҳозирги кунда машиналар ишини назорат қилиш соҳаси бўлиб ҳисобланади. Буни янада мазмунига эътибор берилса, механизациялашган ишлаб чиқаришнинг асоси ҳисобланади. Бошқарувчилик иши катта жавобгарликни талаб этади.

Ўқитувчилар ва тиббиёт ходимлари меҳнати ҳар доим одамлар билан мулоқотда бўлишлик, юқори даражадаги жавобгарлик, тўғри қарор қабул қилишда маълумотлар ва вақтнинг етишмаслиги билан фарқланиб, таъсирчанликни оширади.

Ўқувчи ва талабалар меҳнати хотира, диққат, ўзлаштириш каби асосий руҳий функцияларнинг таъсирчанлиги билан тавсифланади. Ақлий фаолият миянинг маълум нейродинамик ва нейрофизиологик ҳолатларида намоён бўлади. Мия қон айланиши кучаяди, асаб толаларининг енергетик алмашинуви ортади, мия биоэлектрик фаоллигининг кўрсаткичлари ўзгаради. Ақлий фаолиятнинг жадаллашуви натижасида миянинг қувватга бўлган талаби ортади. Бунда 100 г бош мия қобиғи шу оғирликда скелет мускулига нисбатан 5-6 баробар ортиқ кислород талаб этар экан.

Ақлий иш вақтида умумий қувват сарфининг ошиши таъсирчанлик даражаси билан аниқланади. Ақлий меҳнатда суткалик қувват сарфи 10,5 – 12,5 МЖ. ни ташкил этади. Аммо айрим ақлий фаолият шаклларида қувват сарфининг ортиши ҳар хил бўлади. Яъни, ўтирган ҳолда овоз чиқариб ўқишда қувват сарфи 48 % га, омма олдида маъруза ўқиганда 94 % га, ҳисоб машиналари бошқарувчиларида эса 60- 100 % га ортади. Булардан кўриниб турибдики, инсон меҳнат шароитлари таҳлили асосида иш жойи ҳавоси таркибидаги кислород миқдорининг умумий кўрсаткич мъёрига кўра 21 % бўлишини таъминлаш керак. Акс ҳолда миянинг кислород билан таъминланиш даражаси пасайиб, ақлий меҳнатнинг самараси пасайиши кузатилади.

Жисмоний меҳнатнинг қўл меҳнат турида инсоннинг толиқиши таҳлил қилиб кўрилганида, бу биринчидан, ақлий толиқиш, иккинчидан эса физиологик толиқиш турлари амалда кўринади. Шунинг учун ҳам оқилона меҳнат ва дам олиш тартибини олдиндан ишлаб чиқиш талаб этилади.

Айнан шу тартибни ишлаб чиқишда, мия дам олиш вақтида белгиланган йўналишда фикрлаш фаолиятини давом эттиришни ҳам инобатга олиш керак. Ақлий иш фаолиятдан сўнг, ишнинг “Хукмронлик ғояси” тўлиқ сўнмайди, шунинг учун ҳам жисмоний ишга нисбатан ақлий толиқиш кўпроқ бўлади.

Меҳнат психологияси – инсон шахсияти ва руҳий фаолиятининг ўзига хос хусусиятини меҳнат жараёнида ўрганувчи фан тармоғидир. Меҳнат психологияси қуйидаги асосий йўналишлар бўйича ривожланади:

— меҳнат жараёнини ташкил этиш – меҳнатни рационализилаш масалалари, уни меъёрлаш, психологик нуқтаи назардан толиқиш ва бир хил маром билан курашиш ҳамда дам олишни ташкил этиш;

— ўрганиш муаммоси ва меҳнат малакаларининг вужудга келишини бирлаштурувчи касбий танлаш ва ўқитиш психологияси;

— инсон меҳнати психологик хусусиятларининг бошқарувчилик фаолияти ва ишлаб чиқариш жараёнида технологик воситалар билан ўзаро таъсирини ўрганиш. Бу ўрганишлар асосида мутахассиснинг маҳоратли ишини белгилаш муҳим саналади. Айнан таҳлилий ўрганиш асосида қайси жиҳатлар ишчининг толиқишини кечиктириши, ёки умумий ҳолда толиқмайдиган ҳолатда бўлишини таъминлаши мумкинлигини билган ҳолда мулоқот йўналишини танлаш орқали ишлаб чиқаришда ривожланишга эришиш мумкин.

Меҳнат психологиясида қуйидаги усуллар кўп тарқалган:

1. Сўров усули (анкеталаш, оғзаки суҳбат, интервью)

2. Иш жараёнининг бориши ва ишчининг ишлаш даражаси ишлаб чиқаришга мувофиқлиги, меҳнат натижалари борасида кузатув олиб бориш.

3. Одамнинг меҳнат жараёнидаги ҳолатини баҳолашга йўналтирилган тадқиқот усуллари: а) лаборатория тажрибаси — лабораторияда ишлаб чиқариш фаолиятини моделлаштириш; б) ишлаб чиқариш тажрибаси.

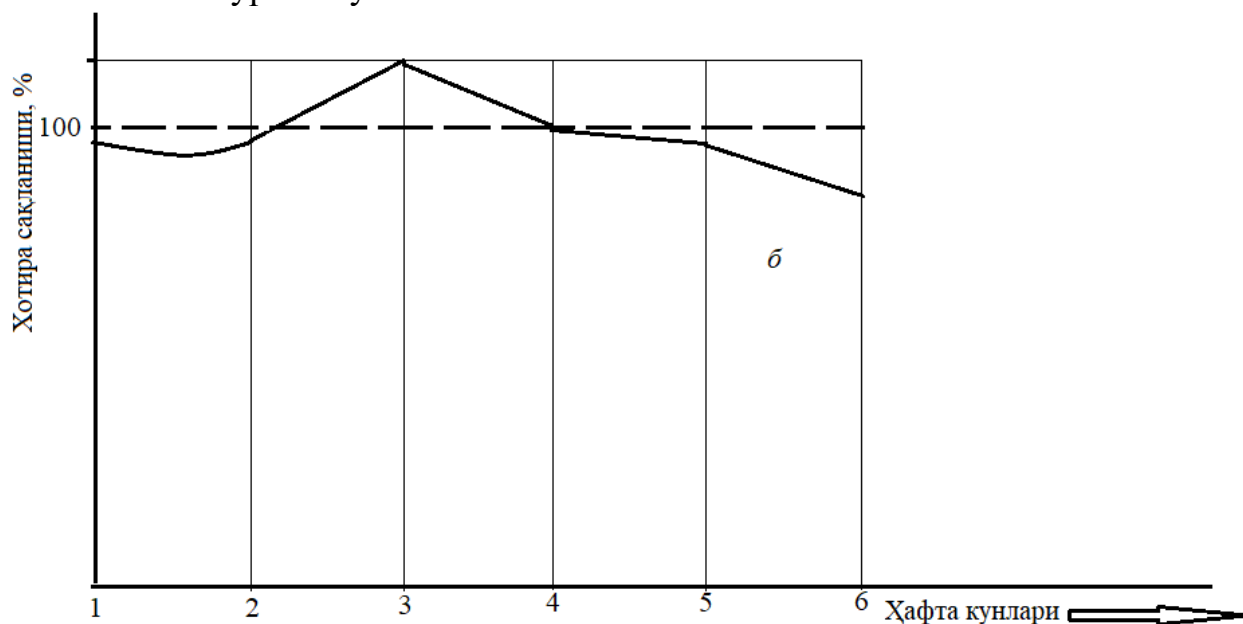
4. Ишлаб чиқариш фаолиятида аҳамиятга эга бўлган (хотира, диққат, фикрлаш ва бошқ.) психологик жараёнларнинг ўзига хос хусусиятларини тадқиқ қилишнинг психофизиологик тестлар усули.

5. Шахсийликнинг ўзига хослигини баҳолаш усули.

Психологик тадқиқотларда меҳнатга муносабатни аниқлаш мақсадида ишчининг ўзига хос ташвиши, унинг меҳнат шароитларга бўлган муносабати борасида суҳбат олиб бориш жуда катта аҳамиятга эга. Анкета ёрдамида сиртдан суҳбатлашиш усули кенг қўлланилади. Лаборатория тадқиқотлари кўпинча, ўрганилаётган фаолиятнинг (бошқариш пулти, ҳайдовчининг кабинаси ва бошқ.) моделлаштириш тамойили бўйича қурилади. Табiiй ёки ишлаб чиқариш тадқиқоти тўғридан-тўғри сеҳда, иш вақтида дастгоҳда, локомативда, учайотганда ва бошқа ҳолатда, йаъни аниқ ишлаб чиқариш шароитида олиб борилиши меҳнат психологиясининг бир мунча такомиллашган усули ҳисобланади. Психофизиологик тест усули

ишлаб чиқаришда банд бўлган шахснинг ўзига хос хотира, диққат, фикрлаш ва бошқа хусусиятларини ўрганишда фойдаланилади.

Бунинг туб моҳиятига етиб бориш учун ишчиларнинг руҳий ва физиологик толиқишларига қатъий эътибор бериш асосида камида бир ҳафталик кузатув олиб борилади. Бундан асосий мақсад – ишнинг бошланиш кунлари билан ҳафтанинг охиридаги кунлардаги меҳнатга муносабатларнинг фаоллигидаги кўрсаткичлар бари бир фарқ қилади. Толиқиш сезилмаслиги мумкин, лекин меҳнат самарадорлигини пасайишини кўриш мумкин.



1-расм: Ишга лаёқатлилиқнинг ҳафта кунларига боғлиқлиги

Меҳнатга муносабатлар кузатувлар асосида ўрганилишида меҳнат хавфсизлиги ҳам ўз ўрнига эғалиги маълум бўлди. Меҳнат хавфсизлигига қуйидаги омиллар таъсир қилади:

Диққат-эътибор—субъект фаолиятининг айна пайтда қайсидир объектда қаратилганлиги (буюм, хомашё, воқеа, муҳокамага ва бошқ.)

Ўзига олиш — сезги аъзоларининг рецептор юзаларига физикавий қўзғатувчиларни тўғридан-тўғри таъсир этишида буюмлар, шароит ва воқеалар яхлитлигининг акс этиши. Сезиш жарёнлари билан таъминлайди, бу фикрлаш, хотиралаш, диққат ва ҳис-туйғу тусига боғлиқдир.

Сезиш—обектив дунёда предметлар хусусиятларининг ифодаланилиши.

Хотира—одам ҳаёт фаолиятида аввал ўтган воқеаларни эслаб қолиш ва ундан қайта фойдаланиш қобилиятидир. Эслаб қолиш, сақлаш ва акс еттириш хотира жараёнининг таркибий элементларидир. Хотирада материални сақланилишининг икки асосий тури фарқланади — қисқа муддатли ва узоқ муддатли хотира. Қисқа муддатли хотира — бу (бир неча сония ёки дақиқа) эндигина ўзлаштирилган материал ёки ҳодисани етарли

даражада аниқ қайта тиклаш жараёни. Бундан сўнг ўзлаштиришнинг аниқлиги ва тўлиқлиги одатда кескин ёмонлашади. Узоқ муддатли хотира материалларни узоқ вақт кўп марта такрорланганлигидан ва сақланганлигидан вужудга келади.

1- расмда ўқитувчининг ишга лаёқатлилиқ динамикаси келтирилган.

Ишга лаёқат — маълум вақт ичида белгиланган унумдорлик даражасида шахснинг потенциал имконияти бўлиб, максимал, оптимал ва пасайган даражалари фарқланади. Ишга лаёқатлилиқ одамнинг физикавий, ақлий, рухий, хусусиятлари, малакаси ва соғлигига боғлиқ ҳолда иш фаолияти мобайнида ўзгариб туради.

Ишга лаёқатлилиқнинг рухий ҳолатга боғланишини ҳам тушунтиришда хотира тарбияси хусусида гапириб ўтиш лозим. Чунки бу усулнинг асосини машқ ташкил этади. Агар ушбу машқни ташкил этиш зарурати туғилса, замонавий уяли алоқалар, Қуёш нурларининг салбий таъсирини албатта айтиб ўтиш жоиз бўлади.

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СИНГУЛЯР ИҚТИСОДИЁТ- БАРҚАРОР СТРАТЕГИК ИҚТИСОДИЙ ТИЗИМИ СИФАТИДА

Аннотация. Мақолада тезкор иқтисодий ўзгаришларнинг натижасида ҳар бир мамлакат ўзининг миллий моделини замонавий бизнес-моделлари ҳамда илгор технологик уйғунлик учун иқтисодий инфратузилмани трансформациялаш мақсадида ўтган йили қабул қилган ривожлантириш, тараққий эттиришига доир давлат дастурлари ҳамда лойиҳаларини қайта шакллантиришига тўғри келмоқда. Жаҳон иқтисодиётида акселератив хусусиятнинг прогрессив мутацияси ривожланган мамлакатларнинг тажрибасини ўрганиш, уни тадбиқ этиш учун ҳам тезкор эскириши бзага келаётгани боис, қилинган тадқиқотлар ва изланишларнинг яроқсиз ва архив материаллари мақомида қолишига сабаб бўлмоқда. Шунга кўра, бугунги иқтисодий шароитга бардош бера оладиган сингуляр иқтисодиётни ўрганиш, уни тадбиқ этиш ва унинг тизими асосида фаолият юритиш “иқтисодий инвестиция” сифатида мамлакатимиз истиқболи учун долзарб аҳамият касб этади, келгуси иккита ўн йиллик учун ҳозирдан яратилаётган замин бўла олиши жиҳатда заруратини намоён этади.

Калит сўзлар: жаҳон иқтисодиёти, прогрессив мутацияси, инновацион диффузия, интеллектуал мулк, технологик амалиёт.

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SINGULAR ECONOMY AS A STABLE STRATEGIC ECONOMIC SYSTEM

Abstract. In the article, as a result of rapid economic changes, each country has to reshape its national model, state programs and projects on development, which were adopted last year in order to transform the economic infrastructure for modern business models and advanced technological harmony. The progressive mutation of the accelerative feature in the world economy causes the researches and researches to become invalid and archival materials, as the experience of the developed countries is rapidly becoming outdated for studying and applying it. Accordingly, studying a singular economy that can withstand today's economic conditions, implementing it and operating on the basis of its

system, as an "economic investment", is of urgent importance for the prospects of our country, and it shows its necessity in the sense that it can be the ground that is being created for the next two decades.

Keywords: World economy, progressive mutation, innovation diffusion, intellectual property, technological practice.

Мавзуга доир масалалар. 1917 йилларда ноу-хау Россия, Франция, Буюк Британияда тижорат сири сифатида илгари сурилган бўлиб, унинг саноатнинг эволюцион ривожланиши мобайнида иқтисодий мақоми янгиликлар асосида ишлаб чиқариш ва хизмат кўрсатиш сифатида талқин этилган.³⁴ 1980 йилларга келиб ноу-хауни кенг миқёсда ишлаб чиқаришга тадбиқ этиш (янги турдаги ихтиро қилинган маҳсулотларни) ўзига хос молия ва технологияни талаб этганлиги боис, инвестицион фаолиятга бўлган муносабат кескин ошди. Инвестицион фаолият асрлар давомида доимо мавжуд бўлган фаолият саналсада, унинг иқтисодий ҳисоб-китоблар асосида шартномалар ҳамда келишувлар, шунингдек лойиҳа ва унинг регламенти доирасида иш кўрилиши иқтисодий ва ҳуқуқий мақомга эга бўлиб, фоизлар билан ҳисоблашиш, уни баҳолаш ва меъёрлаштириш сифатида алоҳида фан бўлиб ажралиб чиқишига сабаб бўлди. Бу ўз навбатида мамлакатларнинг саноат тармоқлари ва соҳалари инфратузилмасини жадал ривожлантириб, саноат эволюциясининг авлодлари бошқаруви учун замин яратди. 1967 йилда социолог Эверетт Роджерс томонидан “Инновацион диффузия” номли катоби нашр этилган бўлиб, унга кўра “инновацион диффузия назарияси” борасидаги муаллиф қарашлари баён этилган. Мазкур китобда қишлоқ хўжалиги меҳнаткашлари янгиликларни ўз ишларининг қулайликларидан фойдаланишда ўқувсизлик қилишлари ва ижтимоий тузумга мантисиз садоқат асосида рад этишлари, уларнинг технологияларнинг ривожланиб боришига узок бардош бера олмасликлари, нафақат иқтисодий инқироз, балки қарам хўжалик сифатида фаолият юритаётган жамият масалаларини ёритган.³⁵

Жўғрофия олими Торстен Хегерстранд ва математик олим Френк Бассларнинг илмий ишларида инновацион диффузия жараёнини бозорга янги турдаги маҳсулотларни киритиш, уларнинг қўшимча қиймат яратиши ҳамда маҳсулотнинг ҳаётийлик цикли борасидаги масалаларни эгри чизиқларнинг ўзгаришига кўра изоҳлаб, унинг келажак учун иқтисодий, ижтимоий ҳамда технологик аҳамиятини тавсифлаган.³⁶ Классик иқтисодий мактаб вакилларида Йозеф Шумпетер инновациянинг аҳамиятини келтириб ўтган бўлсада, уни новаторлик билан фарқлари ҳамда мақоми

³⁴ Наймушина Д. В. История развития института ноу-хау // Актуальные исследования. 2022. №8 (87). С. 12-14. URL: <https://apni.ru/article/3780-istoriya-razvitiya-institutata-nou-khau> (дата обращения: 19.12.2023)

³⁵ OEWE.com

³⁶ Financial Stability Oversight Council. Report on Digital Asset Financial Stability Risks and Regulation 2022 (AI Lab for Book-Lovers)

бўйича маҳсулотларнинг эгалагган ўринларини Р.Клейтон таъкидлаган. Унинг фиркига кўра, новация бу кенг қамровда илгари сурилиши мумкин бўлган ғоя, янгилик даражасига эга интеллектуал мулк саналади, инновация тармоқ билан чекланадиган, ишлаб чиқаришнинг асосий самарадорлик кўрсаткичларини оширишга қаратилган стратегик лойиҳа саналади. Мазкур қарашлар 1960 йилларда келтирилган бўлсада, модернизация ҳамда кооперация сингари ўзгаришларни иқтисодий инфратузилмада амалга ошириш 1997 йилдан 2002 йилга қадар жуда оммалашди. Модернизациянинг талқини сифатли маҳсулотлар ишлаб чиқариш учун сифатли техникаларни созлаш, кадрларни малакасини технологик амалиётини ошириш орқали кучайтириш, эскириб қолган барча ишлаб чиқаришга доир ресурсларни замонавийлаштириш сифатида тизимлаштирилган. 2002 йилдан 2007 йилга қадар мавжуд маҳсулотларни миллий корхоналарда ишлаб чиқариш тадбиғини кенгайтиришни қамраб олиб, асосий эътибор маҳсулотни маҳаллийлаштириш ҳамда диверсификациялашга қаратилди. 2008 йилда бутунжаҳон иқтисодий ва молиявий инқироз юзага келиши натижасида, иқтисодиёт инқирозга қарши кураш чораларини оператив тарзда кўришга мажбур бўлди. Мазкур салбий таъсирнинг иқтисодиётга таъсири тобора камайиб борганда бутунжаҳон иқтисодиёт майдонида инқирозга қарши чора-тадбирларни қўллаш, корхоналарнинг молиявий соғломлаштириш, уларни соҳалар бўйича ислоҳ қилиш, синергетик самара асосида ривожлантириш ҳамда иқтисодиётни стратегик тараққий эттириш масалаларини илгари суриш билан бир қаторда инвестицион фаолиятни мутаносиб тарзда юксалтириш дастурини ишлаб чиқиш авж олди.

Илмий асосланган таклифлар ва тавсиялар. Инвестицион фаолият 2009 йилда ҳуқуқий жиҳатдан шунчалик катта эътибор остига олиндики, унга кўра хорижий инвесторларнинг киритиладиган сармояси ҳамда муддатига кўра солиқ имтиёзлари, шунингдек, кичик тадбиркорлик ва бизнесни ривожлантириш орқали рақобатбардошлиликни ошириш, маҳаллийлаштиришни тараққий эттириш, қўшма корхоналарнинг сонини ошириш ҳамда уларнинг интеллектуал, технологик инвестицияларидан самарали фойдаланишга алоҳида урғу берилди. Интеллектуал инвестициянинг натижавийлиги туфайли инновацион фаолиятни олиб бориш ҳамда уни муносиб рағбатлантириш талаб этилади.

Сингуляр иқтисодиёт рақамли иқтисодиётнинг трансформациясини анъанавий иқтисодиёт таркибига киришини назарда тутиб, унинг мавжуд қонуниятлари билан ҳисоблашган ҳолда иқтисодий жараёнлар, ижтимоий фаолият ҳамда сиёсий муносабатлар олиб боришини англатади. Сингуляр иқтисодиётнинг асосий жиҳатлари куйидагилардан иборат:

1. Иқтисодий жараёнларни бошқаришда паттернализмнинг мавжудлиги, яъни ҳар бир ишнинг олиб борилишида сабаблари ҳамда кутилаётган натижавийлиги асосида юритилади;

2. Иқтисодий конвенционалликнинг мавжудлиги, яъни иқтисодий фаолиятнинг рақамли технологиялар асосида бошқарувини йўлга қўйиш кўплаб мураккабликларни бартараф этиб, меҳнат кучи ва менежерлар ўртасидаги мустаҳкам ишонч манбаи бўлиб хизмат қила олиши

3. Ҳуқуқий асосларнинг етиб улгурилганлиги. Бунда инновацион бизнес моделнинг ҳуқуқий жиҳатдан асоснинг мавжудлиги ва унинг учун халқаро иқтисодий бозорда юридик ҳимоя тизимининг шаклланганлиги мамлакатлараро иқтисодий алоқаларнинг кафолатланишини таъминлайди.

4. Ижтимоий тармоқларда иқтисодий фаолият ва иқтисодий жараёнларнинг олиб борилиши инсоният тушунганиданда рақамли технологияларга даромад келтирувчи тизимларга боғлаб қўйилаётганлиги яъни рақамли қарамликни чеклилиги.

Сингуляр иқтисодиётнинг асосий компонентлари рақамли иқтисодиёт бўлибгина қолмай, инновацион бошқарув, циркуляр иқтисодиёт ҳамда инвестицион лойиҳаларни бошқариш саналади. Бу иқтисодий тушунчаларнинг барча сўнгги иқтисодий ривожланиш қонуниятларида иштирок этувчи стратегик бизнес моделлар ҳисобланади. Бугунги кунга келиб, уларнинг барчаси алоҳида ўрганиладиган иқтисодий соҳа, иқтисодий категорияларнинг таркибий асоси бўлиб хизмат қилмоқда.

Сингуляр иқтисодиётнинг аҳамият шундаки, технологик таъминланган ҳамда инновацион салоҳиятни инсон капиталига хизмат қилиши ҳамда инсон тараққиёт индексига таъсирини тадқиқ этади. Бу ўз навбатида янги иқтисодий ёндашувлар ҳамда қарашларни кўриб чиқишга даъват этади. Бу назарий қарашлар янги бизнес моделларини ишлаб чиқариши билан бир қаторда, уларнинг рақамли иқтисодиётдаги инсон омилини иштирокини ҳам ошириб боради. Қисқача қилиб айтганда интеллектуал технологияларнинг бошқарилиши қанчалик ривожланиб бормасин, уларнинг инсоният томонидан бошқарилиши орқали аҳолининг ижтимоий-иқтисодий манфатларини кўзлаган ҳолда мавжуд қонуниятларнинг салбий таъсирини камайтириш мақсадида рақамли эгизларни коррекция қилади. Комбинатор иқтисодий жараёнларни, яъни иқтисодий қонуниятларнинг комбинацион олиб борилишида рақамли иқтисодий тизимларга нисбатан стратегия ишлаб чиқиш иқтисодий қонуниятлар доирасида олиб боришмаслиги сингуляр иқтисодиётнинг асосий устунлиги сифатида ажралиб туради.

Сўнгги йилларда инновацион маҳсулотларнинг ҳажми ошиб бориши ҳамда уларнинг сифат жиҳатдан сегментлашуви жуда кенгайиб бориши натижасида, аҳолининг ахборот технологиялардан фойдаланишда учрайдиган онгли қарамликнинг элементларини келтириб чиқариши 4 sanoat ривожланишининг пассив таъсири сифатида қаралади. Сингуляр иқтисодиётнинг мураккаблиги шундаки, унда плюралистик иқтисодиётнинг иштирокини кўриш мумкин. Яъни, қонуниятлар категориал даражада иқтисодиёт жараёнларнинг фаолиятини таъминлашга хизмат қилади.

Сингуляр иқтисодиётда инновацион фаолиятни рақамли трансформация сифатида оладиган бўлсак у қуйидаги кўринишдаги формулани шакллантиради:

$$I_0 = \left(\frac{I_1 + (I_2 + (\frac{NInv}{SCS} * 365)) + I_3 + I_4}{S_M} / \left(\frac{N inc}{S_S} \right) \right);^{37}$$

Бу ерда:

I_0 -инновацион фаолият, рақамли трансформацияларнинг сингуляр иқтисодий даражани шакллантириши;

I_1 -инновацион фаолиятни қўллаб-қувватлаш, уни корхонага тадбиқ қилиниши имкониятлари даражаси;

I_2 -технологик ресурслар билан таъминланганлик ҳамда хом ашё базаси захирасини инобатга олинганлиги;

$NInv$ -зарурий маҳсулотлар ва корхона учун инвентарлар;

SCS -сотилган маҳсулотнинг сотиш нархи;

I_3 -инновацион ва рақамли технологияларни ташкилий жиҳатдан таъминланиши (мб/секунд, 4G//5G);

I_4 -инновацион компетенция;

$N inc$ -соф фойда;

S_S -савдо ҳажми.

Юқорида келтирилган формулага асосан, инновацион фаолиятнинг рақамли трансформацион жараёнларини олдиндар келгуси ишлаб чиқариш учун инвестиция қилиши асосида даромад олишни ҳисоблага қаратилган бўлиб, унда иқтисодий қонуниятнинг демонстрацион ҳолатини ифодалайди.

Иқтисодий қонуниятларнинг демонстрацион ҳолати деганда иқтисодий жараёнларни гипотеза ва аксиоматикасини уйғунлигини таъминлаган ҳолда анъанавий ишлаб чиқариш фаолиятида самарадорлиги тушуналади. Мазкур натижавийлик эса сингуляр самара деб аталади.³⁸

Инновацион фаолиятни ҳамда инвестицион лойиҳаларни алоҳида ўрганиш иқтисодиёт учун эски қонуниятлар саналади, негаки уларни алоҳида ҳисоб-китобларини юритиш орқали рақамлаштириш ишлаб чиқариш ва админитсратив бошқарувда мураккабликларни келтириб чиқаради. Шунга кўра, инновацион фаолият, рақамли трансформация ҳамда инвестицион фаолият асосидаги қўшимча қиймат яратишни бирлаштиришда сингуляр иқтисодиётнинг аҳамияти ошади.

Сингуляр иқтисодиёт мамлакат иқтисодиётини рақамли технологиялар асосида ривожлантириш шароитида аҳамияти “Ўзбекистон 2030” стратегияси доирасида кўзланган 100 та мақсадни ва унинг қамровидаги вазифаларни амалга оширишда аҳамияти юқори саналиб, қисқа вақт оралиғида йирик кўламдаги ишларни амалга оширишда 50дан

³⁷ Муаллиф ишланмаси

³⁸ Муаллиф фикри

ортиқ режаларни бажаришда таҳлилий иштироки асосида салмоқли натижавийликка кўмак беришим мумкин.

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ПУТИ РАЗВИТИЯ СПОРТА ВО ВРЕМЯ НЕЗАВИСИМОСТИ

Аннотация. В этой статье рассказывается о видах спорта в нашей республике и государственной поддержке в годы независимости с их историей развития.

Ключевые слова: Правительство, физическая активность, коллективная работа, дисциплина, индивидуальность, помощь.

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THE WAYS OF DEVELOPING SPORTS IN INDEPENDENCE TIME

Annotation. In this article there are explained about the types of sports in our Republic and government support during the independent years with their developing history.

Key words: Government, physical activity, teamwork, discipline, individuality, helps.

Спорт – это физическая активность или игры, требующие навыков, стратегии и соревнований. В них можно играть индивидуально или в командах, и они часто объединяются в лиги или турниры. Спорт является не только формой отдыха и развлечения, но и способствует развитию физической подготовки, командной работы, дисциплины и спортивного

мастерства. Некоторые популярные виды спорта включают баскетбол, футбол, теннис и плавание.

Правительство играет большую роль в развитии спорта и соревнований в республике, помогает спортсменам участвовать в международных турнирах. Есть несколько путей увеличения спортивной активности в нашей республике.

1. Создание инфраструктуры. Одним из ключевых способов развития спорта в период независимости является инвестирование в строительство спортивной инфраструктуры, такой как стадионы, тренировочные базы и спортивные комплексы. Это обеспечит спортсменов необходимыми ресурсами для тренировок и соревнований на высоком уровне.

2. Продвижение массовых спортивных программ. Развитие массового спорта имеет важное значение для выявления и воспитания талантливых спортсменов с юных лет. Этого можно добиться с помощью школьных спортивных программ, общественных лиг и программ выявления талантов.

3. Предоставление финансирования и поддержки спортсменам. Финансовая поддержка имеет решающее значение для того, чтобы спортсмены могли тренироваться и соревноваться на элитном уровне. Правительства могут предоставлять финансирование спортсменам посредством стипендий, грантов и спонсорства, чтобы помочь им реализовать свои спортивные амбиции.

4. Поощрение занятий спортом. Продвижение культуры занятий спортом может способствовать развитию интереса и страсти к спорту среди населения. Этого можно добиться посредством общественных спортивных мероприятий, спортивных клубов и развлекательных программ.

5. Поддержка спортивных организаций и руководящих органов. Правительства могут поддерживать спортивные организации и руководящие органы, чтобы помочь им эффективно управлять и регулировать спортивную деятельность. Это может включать предоставление финансирования, ресурсов и рекомендаций, которые помогут этим организациям расти и развиваться.

6. Проведение международных спортивных мероприятий. Проведение международных спортивных мероприятий может помочь повысить престиж спортивной культуры страны и привлечь международное внимание. Это также может предоставить возможность местным спортсменам соревноваться на мировой арене и продемонстрировать свой талант.

7. Инвестиции в спортивную науку и технологии. Достижения спортивной науки и техники могут помочь спортсменам улучшить свои результаты и предотвратить травмы. Инвестиции в исследования и разработки в таких областях, как спортивное питание, биомеханика и спортивная психология, могут дать спортсменам конкурентное преимущество.

Благодаря всем этим произведениям можно будет узнать о традиционных узбекских видах спорта, а также о достижениях известных узбекских спортсменов в различных видах спорта. Узбекистан – земля борцов (полвонов). Кураш (борьба) – традиционный вид спорта для узбеков. Это один из самых исторических видов спорта у народов Средней Азии. Согласно историческим источникам, кураш существовал в этом регионе как минимум три тысячелетия назад. В своем историческом труде «Истории» греческий историк Геродот упоминал, что кураш был обычным занятием народов Средней Азии. Сегодня это форма традиционных боевых искусств и публичная спортивная развлекательная игра в регионе. Кураш особенно популярен среди узбеков, которые на протяжении веков отмечали свои главные праздники и праздники курашем. Легендарный узбекский устный эпос «Алпамыш», созданный тысячелетие назад, рассматривает кураш как основное традиционное боевое искусство его героев в борьбе с врагами. Кураш также был важной частью практики военной подготовки традиционных армий Центральной Азии, в том числе армии Амира Темура. С момента обретения страной независимости в 1991 году кураш стал одним из национальных символов Узбекистана на международных спортивных соревнованиях. Правила и положения кураша были установлены на узбекском языке. Первый международный турнир по курашу был проведен в Ташкенте в 1998 году. Это событие также ознаменовало создание Международной ассоциации кураша, в которую вошли 28 стран-членов. Сегодня более 100 стран являются членами этой Ассоциации, и среди стран-членов регулярно проводятся международные турниры по курашу.

Тем более, что этот вид спорта очень известен в странах Центральной Азии и имеет богатую историю.

Копкари — традиционный конный спорт, в который играют народы Центральной Азии на протяжении последних тысячелетий. Его истоки восходят к тюркским народам Средней Азии, у которых обучение верховой езде зародилось с детства из-за их кочевого образа жизни. Верховая езда в сочетании с навыками стрельбы из лука на протяжении веков была сравнительным военным преимуществом народов Центральной Азии. Сегодня Копкари (также называемый Бузкаши) — популярная традиционная конная спортивная игра среди узбеков в Центральной Азии, в том числе в Афганистане. Правила просты: тушу ягненка или козла судья бросает на поле, и толпа всадников соревнуется, чтобы схватить ее с земли, находясь верхом на лошади. Тот, кто принесет труп в определенную зону круга, получит приз. Это требует огромной силы и умения как от всадника, так и от лошади. Он также учит всадника ценным военным навыкам, тренируя работать в гармонии со своей лошадью в борьбе с врагом. Поэтому узбекские военачальники часто устраивали игру Копкари для усиления своей конницы. Национальные праздники, такие как Навруз, и застолья до сих пор отмечаются с Копкари и Курашем в южных регионах Узбекистана.

Футбол (в США его обычно называют футболом), пожалуй, самый популярный вид спорта в Узбекистане. Если говорить об одном из современных видов спорта, то главную роль здесь играет футбол. В нашей стране оно имеет большую историю. В прошлом они имели большой успех. Наша нация всегда гордилась ими. Узбекистан славился своей футбольной командой. Национальная сборная называлась «Пахтакор», то есть «хлопкоробы». Это похоже на то, как футбольная команда Питтсбурга (иногда называемая «стальным городом») называется «Стилерс». В Узбекистане в футбол играют с 1920-х годов, а команду «Пахтакор» почитают и сегодня. В 1979 году семнадцать членов команды Пахтакор погибли в авиакатастрофе. В то время они были лучшими в Советском Союзе. Сегодня сборная Узбекистана по футболу выступает преимущественно в азиатских регионах.

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СОВРЕМЕННЫЕ ВОПРОСЫ УПРАВЛЕНИЯ ТРУДОВЫМИ РЕСУРСАМИ

Аннотация. В настоящее время необходим сотрудник не только, выполняющий задачи, определенные положением, но и любознательный, инновационный, мыслящий сотрудник. В управлении трудовыми ресурсами иерархическое управление отходит на второй план, уступая место культуре производства и рынка. В статье рассматриваются современные проблемы управления трудовыми ресурсами.

Ключевые слова: труд, трудовые ресурсы, менеджмент, управление трудовыми ресурсами, конкурентоспособность, производительность труда.

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MODERN ISSUES IN HUMAN RESOURCES MANAGEMENT

Annotation. Currently, an employee is needed not only to perform the tasks defined by the position, but also to be an inquisitive, innovative, thinking employee. In human resources management, hierarchical management fades into the background, giving way to the culture of production and the market. The article discusses modern problems of labor resource management.

Key words: labor, labor resources, management, labor management, competitiveness, labor productivity.

Введение. По мере углубления рыночных отношений возрастает значение экономических ресурсов, используемых в деятельности. В результате борьбы острой конкуренции и влияния факторов, влияющих на деятельность, функционирование усложняется под влиянием различных факторов, в том числе кризисов. С другой стороны, увеличение себестоимости производимых товаров и услуг влияет на уровень конкурентоспособности. Увеличение стоимости ресурсов, используемых для работы в таких условиях, также делает эффективную деятельность более обременительной. Достижение производительности труда как важнейшего направления в деятельности любых предприятий и организаций, подобных этому, вышло на первый уровень. Добиться снижения затрат на единицу продукции можно за счет достижения

производительности труда, которая считается его основным показателем, эффективно используя трудовые ресурсы. Для того чтобы эффективно использовать трудовые ресурсы, ими необходимо успешно управлять. На сегодняшний день этот вопрос считается одним из самых актуальных.

Основная часть. Пришло время сосредоточить управленческую деятельность на предприятиях и организациях в первую очередь на сотрудниках. Все экономические ресурсы имеют огромное значение. Но среди них роль и значение трудовых ресурсов в еще выше. В результате эффективной деятельности трудовых ресурсов достигается успешное использование всех остальных экономических ресурсов. Изучение и развитие трудовых ресурсов в них является требованием текущего периода. Во все более углубляющихся условиях рыночных отношений необходим не только сотрудник, который ни о чем не думает, но и сотрудник, выполняющий задачи, поставленные регламентом, но и востребованный, новатор, мыслящий деятель. При управлении трудовыми ресурсами необходимо создавать новые отделы и службы. Они должны применять современные принципы в управлении трудовыми ресурсами, используя новые методы управления.

Целесообразно, чтобы отделы, занимающиеся управлением трудовыми ресурсами, создавались на основе современных отделов работников, отделов труда и заработной платы, служб по трудоустройству, отделов охраны труда и техники безопасности и так далее. Основной задачей вновь создаваемых служб является развитие трудовых ресурсов, координация деятельности по управлению трудовыми ресурсами, реализация политики работников предприятия. Исходя из этой основной цели, они расширяют сферу своих функций, выходят только из сферы трудовых ресурсов и начинают создавать систему стимулирования трудовой деятельности, стимулирования трудовой деятельности, профессионального развития, управления повышением квалификации, предотвращения разногласий, изучения рынка трудовых ресурсов.

Отделы, занимающиеся развитием и управлением трудовыми ресурсами, должны иметь в каждой организации свои особенности и зависеть от масштаба и типа организации. При этом это должно зависеть от вида производимой продукции. Мы считаем, что эффективным будет создание самостоятельных отделов по управлению трудовыми ресурсами на относительно небольших по объему предприятиях и организациях, которые могут осуществлять функции по управлению персоналом сами отраслевые руководители, а на более крупных по объему предприятиях и организациях.

Все отделы по управлению трудовыми ресурсами могут осуществлять деятельность в области управления заместителем руководителя по управлению персоналом. Под его руководством будут собраны все разделы, связанные с работой с персоналом. Этот руководитель также осуществляет

функции координации. Система управления трудовыми ресурсами на производственных предприятиях состоит из десяти систем:

1. Система условий труда.
2. Система трудовых отношений.
3. Система учета и оформления персонала
4. Система развития персонала.
5. Система планирования и прогнозирования персонала.
6. Система развития и анализа средств стимулирования труда.
7. Система маркетинга
8. Система юридических услуг
9. Система создания социальной инфраструктуры
10. Система создания и совершенствования структуры управления.

На некоторых предприятиях каждая из этих систем может быть объединена, укрупнена, централизована.

На все системы управления и развития трудовых ресурсов возлагаются определенные задачи. Ниже мы рассмотрим «задачи, которые могут быть возложены на каждую систему.

Система условий труда управления трудовыми ресурсами на производственных предприятиях выполняет следующие задачи:

- а) соблюдать требования психофизиологии труда;
- б) соблюдать требования эргономики труда;
- в) соблюдать требования технической эстетики;
- г) безопасность труда и техники безопасности;
- д) защита окружающей среды.

Учет и оформление работников играют важную роль в управлении и развитии трудовых ресурсов на предприятии. Эта система активно участвует в обеспечении занятости, профориентации, информирует систему управления персоналом, учитывает прием на работу, увольнение, перевод с работы на работу, перевод с должности на должность и осуществляет работу, связанную с их оформлением.

Ответственным за выполнение следующих задач может быть создаваемый на предприятиях отдел (система) планирования, прогнозирования и маркетинга персонала:

1. Осуществляет стратегическое управление персоналом.
2. Анализирует потенциал работников.
3. Анализирует рынок труда.
4. Планирует персонал.
5. Устанавливает связи с внешними источниками.
6. Организует рекламу по персоналу.
7. Он оценивает кандидатов на вакантные должности.

Выводы. Правильное решение этих задач на предприятии является одним из важных показателей в условиях рыночной экономики. Рекомендуем создать на предприятии отдел по вопросам развития

социальной инфраструктуры в системе управления трудовыми ресурсами. Этот раздел может оказать огромное влияние на развитие трудовых ресурсов. Важную роль в управлении трудовыми ресурсами играет и система создания управленческих структур на предприятии. На эту систему возлагаются такие задачи, как изучение, анализ, совершенствование структуры управления на предприятии, создание новых структур в структуре управления, способствующих развитию трудовых ресурсов. Вышеупомянутая система управления трудовыми ресурсами приведет к совершенствованию трудовых ресурсов на предприятии.

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СОВЕРШЕНСТВОВАНИЕ УПРАВЛЕНИЯ ТРУДОВЫМИ РЕСУРСАМИ В УСЛОВИЯХ ГЛОБАЛИЗАЦИИ

Аннотация. Организация труда – это система мероприятий, обеспечивающая эффективное использование трудовых ресурсов на предприятии. В целях совершенствования организации труда предполагается определить пути совершенствования каждого из этих видов деятельности.

Ключевые слова: глобализация экономики, предприятия, менеджмент, трудовые ресурсы, эффективность, конкурентоспособность.

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IMPROVING HUMAN RESOURCE MANAGEMENT UNDER GLOBALIZATION

Annotation. Labor organization is a system of measures that ensures the efficient use of labor resources in an enterprise. In order to improve the organization of work, it is expected to determine ways to improve each of these types of activities.

Key words: globalization of the economy, enterprises, management, labor resources, efficiency, competitiveness.

Введение. Трудовые ресурсы являются основным фактором, обеспечивающим эффективное использование экономических ресурсов, участвующих в производственном процессе. Для осуществления производственного процесса необходимы инструменты, предметы труда и труд, в результате их эффективной деятельности создаются товары и услуги. Конкурентоспособность этих товаров и услуг зависит от трудовых ресурсов, участвующих в процессе. В результате их эффективной деятельности можно успешно использовать как орудия труда, так и предметы труда, информацию и информационные технологии. Производство организуется путем обеспечения соответствующего движения всех элементов, участвующих в производственном процессе. Для совершенствования организации производства прежде всего требуется совершенствование труда.

Основным условием осуществления любой производственной деятельности является организованный труд людей. Поэтому организация труда является важной составляющей организации производства и производственного процесса.

Основная часть. Чтобы эффективно использовать трудовые ресурсы, прежде всего необходимо их правильно организовать. Организация труда - это система мероприятий, обеспечивающих эффективное использование трудовых ресурсов на предприятиях и в организациях. Для совершенствования организации труда необходимо определить пути совершенствования каждого из этих мероприятий. Система мероприятий по совершенствованию организации труда включает:

- а) размещение персонала;
- б) обеспечивать каждого работника известной работой, функцией;
- в) осуществление разделения труда и сотрудничества;
- г) создание условий, обеспечивающих непрерывный рабочий процесс на каждом рабочем месте;
- д) совершенствование методов и методов труда;
- е) создание необходимых условий для труда;
- ж) материальное стимулирование работников;
- и) укрепление трудовой дисциплины.

Организация и методы труда постоянно совершенствуются. Для совершенствования организации труда необходимо организовать труд на научной основе. Для эффективной реализации этих мероприятий необходимо осознать особенности организации труда в условиях рыночной экономики и современную сущность организации труда. Суть и содержание организации труда выражаются в:

1. Изучение, анализ и составление мероприятий по улучшению состава и качества трудовых ресурсов.

2. Совершенствование разделения и сотрудничества, углубление разделения труда.

3. Определение целесообразных путей расстановки и использования рабочего времени работников; выбор наиболее эффективных форм совмещения профессий, четкое определение прав и обязанностей каждого участника производства.

4. Организация рабочих мест и обеспечение исполнителя оборудованием, соответствующим его физиологическому и антропометрическому характеру и эстетическому восприятию, непрерывное улучшение обслуживания рабочих мест, внедрение наиболее эффективных режимов обслуживания, исключая потерю рабочего времени.

5. Совершенствование трудового процесса на производственных предприятиях, внедрение передовых методов и методов труда, проектирование и внедрение в него наиболее рационального трудового

процесса, обеспечивающего высокую производительность труда работников, а также выявление, выбор и распространение передовых методов и методов труда.

6. Подбор, подготовка персонала на производстве, определение потребности в персонале, организация повышения квалификации персонала, улучшение форм работы в этом процессе, выбор форм и методов обучения, дающих образование по самой современной технике и технологии и экономике.

Для того чтобы улучшить организацию труда в нынешний период, необходимо наладить и улучшить нормированию труда. Совершенствование труда, повышение его научно обоснованного уровня, дальнейшее расширение сферы его внедрения в организацию труда заключается во всестороннем непрерывном повышении доли научно обоснованных трудовых ресурсов.

Для организации труда на всех видах производственных предприятий необходимо комплексно решать каждую из нескольких задач одновременно и в зависимости друг от друга. Экономические задачи в конечном счете сводятся к экономии рабочего времени. Однако, чтобы достичь «высочайшего уровня в этом направлении, необходимо быть заинтересованным в результатах труда»

Выводы. Совершенствование организации труда на производственных предприятиях может осуществляться по нескольким направлениям. Основываясь на проведенных нами исследованиях, наблюдениях и анализах, мы пришли к выводу, что основными направлениями организации труда могут быть:

1. Совершенствование разделения труда и кооперирование в связи с развитием процессов организации техники, технологий, производства и обслуживания на предприятиях, повышением культурно-технического уровня работников.

2. Организация рабочих мест работников, постоянное совершенствование их обслуживания, обеспечение персонала антропометрическим оборудованием (отдельные части и оборудование, соответствующее характеру человеческого тела, эстетическому восприятию), внедрение систем, исключающих потерю рабочего времени на рабочих местах.

3. Создание и совершенствование режима труда и отдыха, ведущих к эффективной деятельности.

4. Дальнейшее укрепление трудовой и производственной дисциплины всеми способами.

5. Всестороннее совершенствование организации труда инженерно-технического персонала и служащих, работающих на предприятии.

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АНАЛИЗ ВЛИЯНИЯ СИЛОВЫХ ФАКТОРОВ НА СТРУКТУРНУЮ ЦЕЛОСТНОСТЬ КОНСТРУКЦИЙ ПРИ ТРЕНИИ И ИЗНОСЕ

Аннотация. В данной работе рассматривается влияние силовых факторов на структурную целостность конструкций при трении и износе. Анализируются экспериментальные и моделируемые данные для определения ключевых характеристик износостойкости различных материалов. В работе предоставляется методика Комплексного Трибологического Анализа (МКТА), включающая экспериментальные исследования, численное моделирование, анализ данных и прогнозирование, а также оптимизацию конструкций.

Ключевые слова: Трение, износ, конструкции, силовые факторы, целостность, материалы, моделирование, эксперимент, долговечность, оптимизация.

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ANALYSIS OF THE INFLUENCE OF FORCE FACTORS ON THE STRUCTURAL INTEGRITY OF STRUCTURES DURING FRICTION AND WEAR

Abstract. This paper examines the influence of force factors on the structural integrity of structures during friction and wear. Experimental and simulated data are analyzed to determine key wear characteristics of various materials. The work provides a methodology for Comprehensive Tribological Analysis (ICTA), including experimental studies, numerical modeling, data analysis and forecasting, as well as design optimization.

Key words: Friction, wear, structures, force factors, integrity, materials, modeling, experiment, durability, optimization.

Введение. Анализ влияния силовых факторов на структурную целостность конструкций при трении и износе является ключевой задачей в области инженерии и материаловедения. Конструкции, используемые в различных отраслях, таких как машиностроение, строительство и аэрокосмическая промышленность, подвергаются постоянным нагрузкам и воздействиям окружающей среды. Эти факторы могут существенно влиять на их долговечность и надежность. Понимание механики трения и износа, а также разработка эффективных методов анализа и прогнозирования состояния конструкций, имеет решающее значение для обеспечения их безопасной и эффективной эксплуатации.

Методология. Одной из эффективных методик анализа влияния силовых факторов на износ конструкций является Метод Комплексного Трибологического Анализа (МКТА). Этот метод включает в себя следующие этапы:

Экспериментальные исследования: проведение лабораторных испытаний для определения трибологических характеристик материалов.

Моделирование трения и износа: использование численных методов, таких как метод конечных элементов (МКЭ), для моделирования процессов трения и износа в конструкциях.

Анализ данных и прогнозирование: обработка экспериментальных и модельных данных для выявления закономерностей и прогнозирования срока службы конструкций.

Оптимизация конструкций: разработка рекомендаций по улучшению конструкции и выбору материалов на основе результатов анализа.

Результат. Результаты проведенного исследования по методике Комплексного Трибологического Анализа (МКТА) В ходе лабораторных испытаний были исследованы три различных материала: сталь 45, алюминиевый сплав 6061 и композитный материал на основе углеродного волокна. Для каждого материала были проведены тесты на трение и износ при различных нагрузках и скоростях скольжения.

Таблица 1.

Основные результаты испытаний представлены в таблице ниже:

Материал	Коэффициент трения	Износ (мм ³)	Износостойкость (относительное снижение износа, %)
Сталь 45	0.45	0.025	0% (базовый уровень)
Алюминиевый сплав 6061	0.35	0.020	20%
Композитный материал	0.25	0.015	40%

Результаты показали, что композитный материал на основе углеволокна обладает наименьшим коэффициентом трения и наибольшей износостойкостью по сравнению с другими исследованными материалами.

Моделирование трения и износа

Используя метод конечных элементов (МКЭ), были смоделированы процессы трения и износа для различных конструкций и условий эксплуатации. Моделирование позволило определить распределение напряжений и деформаций в материалах под воздействием различных силовых факторов. Основные выводы моделирования:

В конструкции из стали 45 при увеличении нагрузки на 30% износ увеличивается на 50%.

В конструкции из алюминиевого сплава 6061 при аналогичном увеличении нагрузки износ увеличивается на 35%.

В конструкции из композитного материала увеличение нагрузки на 30% приводит к увеличению износа всего на 20%.

Анализ данных и прогнозирование

Обработка данных экспериментальных исследований и моделирования позволила разработать модели прогнозирования износа для каждого материала. Эти модели учитывают влияние различных силовых факторов, таких как нагрузка, скорость скольжения и температура. На основе полученных данных были сделаны следующие прогнозы:

При эксплуатации конструкции из стали 45 средний срок службы составляет 5 лет.

При использовании алюминиевого сплава 6061 срок службы увеличивается до 6 лет.

Конструкции из композитного материала демонстрируют срок службы до 7 лет.

Оптимизация конструкций

На основе полученных результатов были разработаны рекомендации по оптимизации конструкций:

Использование композитных материалов для критически нагруженных элементов конструкций позволяет увеличить их срок службы на 40%.

Оптимизация параметров эксплуатации (например, снижение нагрузки на 10%) позволяет уменьшить износ на 15-20%.

Заключение. Анализ влияния силовых факторов на структурную целостность конструкций при трении и износе является сложной, но важной задачей. Применение комплексного подхода, включающего использование износостойких материалов, численное моделирование и экспериментальные исследования, позволяет значительно повысить надежность и долговечность конструкций. Метод Комплексного Трибологического Анализа предоставляет эффективные инструменты для изучения и прогнозирования износа, что способствует разработке более

надежных и долговечных технических решений. Таким образом, развитие и внедрение современных методик анализа трения и износа имеет ключевое значение для обеспечения безопасной и эффективной эксплуатации инженерных конструкций в различных отраслях.

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РОЛЬ И ЗНАЧЕНИЕ ИНВЕСТИЦИЙ В МОДЕРНИЗАЦИИ И РАЗВИТИИ ЭКОНОМИКИ

Аннотация. Инвестиции играют жизненно важную роль в экономическом развитии страны. Они являются основой экономического роста, и их значение трудно переоценить. Инвестиции оживляют экономику, создавая возможности для трудоустройства, повышая производительность и стимулируя экономический рост. В этом эссе мы рассмотрим важность инвестиций для экономического развития, подчеркнув их влияние на экономический рост, создание рабочих мест и производительность труда.

Ключевые слова: экономическое развитие, промышленность, государственный бюджет, иностранные инвестиции, возможности.

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THE ROLE AND SIGNIFICANCE OF INVESTMENT IN THE MODERNIZATION AND DEVELOPMENT OF THE ECONOMY

Abstract. Investment plays a vital role in the economic development of a country. It is the backbone of economic growth, and its significance cannot be overstated. Investment injects life into an economy, generating employment opportunities, increasing productivity, and stimulating economic growth. In this essay, we will explore the importance of investment in economic development, highlighting its impact on economic growth, job creation, and productivity.

Keywords: economic development, industry, state budget, foreign investments, opportunities.

Введение. Инвестиции являются ключевыми факторами, определяющими экономический рост. Его переменная включает изменения совокупного спроса и условий ведения бизнеса, а также взаимосвязь между инвестициями и чистыми инвестиционными проектами. Правительства могут инициировать проекты, которые непосредственно стимулируют рост инвестиций, помогая в разработке бизнес-планов и финансовых планов, предоставляя гарантированные кредитные линии и проводя более благоприятную налоговую и регулятивную политику. Маркетинг может принимать различные формы. Правительства могут помочь, разработав

политику, направленную на улучшение условий ведения бизнеса и инвестиционной среды. Рынки чувствительны к уровню налогов, субсидированию затрат, ценам на продукцию и факторы производства, техническому прогрессу, обменным курсам и доступности постоянных ресурсов, таких как газ, электроэнергия и портовые сооружения. Государственная политика может включать в себя фискальные и монетарные условия, прогнозы и развитие событий; обесценивание валюты и меры контроля; теории и политику развития; политическое образование; системы социальной защиты и последствия политических ошибок; а также оборону, политику сбора доходов и государственные предприятия.

Экономический рост является очень важным вопросом во всех странах. В эмпирической литературе последних десятилетий, посвященной детерминантам экономического роста, представлен список переменных, имеющих значение в этом вопросе. Инвестиции, человеческий капитал, технологическое развитие, открытость торговли и такие структуры, как экономическая, социальная и экологическая, являются одними из определяющих факторов долгосрочного роста [1]. В нем, безусловно, проводится поиск и представлена информация о каждом из этих факторов, а также об их степени влияния на процесс роста и их способности направить рост в качественно более выгодное русло. Исследователи-теоретики очень часто концентрируют свое внимание только на установлении общих рамок или, возможно, на превращении экономики в науку, основанную на стилизованных фактах, радикально игнорируя важность всех других, на первый взгляд незначительных вопросов.

История и значение

В этом контексте я считаю, что трансформация процесса получения информации на основе данных, собранных в ходе общеэкономических исследований, приводит к существенному углублению нашего понимания роли инвестиционных решений, влияющих на достижение целей экономической политики, в частности цели содействия устойчивому долгосрочному росту производства. Одним из традиционных подходов к инвестиционному процессу была разработка теорий, которые связывают решения отдельных лиц о сбережении (близкие к тому, что я назвал микроэкономическими основами) с решениями о накоплении капитала. Рассмотрение разработок в области совместного инвестирования и теории финансирования фирм в рамках официальной концепции, ориентированной на экономический рост, продвигалось медленно. Сторонники традиционного подхода критически относятся к моделям роста типа АК, используемым как в эндогенной, так и в экзогенной теории роста, разработанной в период после Ромера, поскольку они считают, что важные факторы, определяющие инвестиционные возможности, берутся "с полки" (Ramsey, 1928), а не являются внешними по отношению к модели. определяется в рамках самой модели.

История вопроса и проблемы, которые я рассматриваю, являются актуальными. По мере того, как мировая экономика выходит из недавней рецессии, одной из важнейших задач является достижение если не быстрого, то, по крайней мере, устойчивого экономического роста. Стремительный экономический рост оказывает решающее влияние не только на перспективы развития страны, включая возможности трудоустройства для рабочей силы, но и на ее международное финансовое положение. Максимизация ВВП (или национального дохода) увеличивает объем ресурсов, выделяемых на решение задач государственной политики, таких как борьба с бедностью. Политики верят, как выразился Кейнс в 1930 году, что "чем больше (совокупный спрос) мы поощряем, тем больше будет процветать экономика". Кроме того, опираясь на исторические свидетельства значительных чудес экономического роста, многие утверждают, что постепенный экономический рост страны является важнейшим фактором, определяющим достижение долгосрочной конкурентоспособности на международном рынке.

Прежде всего, инвестиции необходимы для экономического роста. Когда частные лица и предприятия инвестируют в экономику, они создают новые возможности для роста и развития. Инвестиции в такие отрасли, как производство, технологии и инфраструктура, ведут к созданию новых рабочих мест, повышению производительности и эффективности. Это, в свою очередь, приводит к более высоким темпам экономического роста, поскольку производится больше товаров и услуг и занято больше людей. Кроме того, инвестиции в исследования и разработки позволяют странам внедрять инновации и опережать события, что дает им конкурентные преимущества на мировом рынке.

Инвестиции также имеют решающее значение для создания рабочих мест. Когда предприятия инвестируют в страну, они создают новые рабочие места, как прямо, так и косвенно. Напрямую они создают рабочие места в своих компаниях, в то время как косвенно они создают рабочие места в смежных отраслях, таких как управление цепочками поставок и логистика [3]. Это приводит к увеличению уровня занятости, что оказывает положительное влияние на экономику в целом. Более высокий уровень занятости приводит к увеличению потребительских расходов, что способствует экономическому росту. Кроме того, инвестиции в программы образования и профессиональной подготовки позволяют работникам приобретать новые навыки, делая их более продуктивными и конкурентоспособными на рынке труда.

Помимо экономического роста и создания рабочих мест, инвестиции также необходимы для повышения производительности. Когда предприятия инвестируют в новые технологии и оборудование, они повышают свою эффективность и продуктивность. Это приводит к более качественным продуктам и услугам, которые становятся более конкурентоспособными на

мировом рынке [4-5]. Кроме того, инвестиции в человеческий капитал, такие как образование и профессиональная подготовка, позволяют работникам приобретать новые навыки, что делает их более продуктивными и результативными. Более высокая производительность труда ведет к более высоким темпам экономического роста, поскольку производится больше товаров и услуг и больше людей получает работу.

Другим важным аспектом инвестиций является их влияние на развитие инфраструктуры. Инвестиции в инфраструктуру, такую как дороги, мосты и транспортные системы, обеспечивают эффективное перемещение товаров и услуг, снижают транспортные расходы и повышают экономическую эффективность. Это приводит к ускорению экономического роста, поскольку производится больше товаров и услуг, а также обеспечивается занятость большего числа людей. Кроме того, инвестиции в социальную инфраструктуру, такую как здравоохранение и образование, улучшают общее качество жизни, что приводит к повышению производительности и результативности рабочей силы.

Кроме того, инвестиции имеют решающее значение для привлечения прямых иностранных инвестиций (ПИИ). ПИИ приносят новый капитал, технологии и управленческие навыки, которые могут стимулировать экономический рост и развитие. Страны с благоприятным инвестиционным климатом, такими как стабильное правительство, низкие налоги и минимум бюрократической волокиты, с большей вероятностью привлекут ПИИ. Это приводит к ускорению экономического роста, созданию рабочих мест и повышению производительности.

Инвестиции играют жизненно важную роль в экономическом развитии. Они стимулируют экономический рост, создают рабочие места, повышают производительность труда и привлекают прямые иностранные инвестиции. Правительства и директивные органы должны создать благоприятный для инвестиций климат, характеризующийся стабильностью правительств, низкими налогами и минимальной бюрократической волокитой, чтобы привлекать инвестиции и стимулировать экономический рост. Кроме того, инвестиции в образование, профессиональную подготовку и инфраструктуру необходимы для создания продуктивной и эффективной рабочей силы, что имеет решающее значение для экономического развития. В конечном счете, инвестиции являются ключом к экономическому росту и развитию, и их значение трудно переоценить.

В последние годы многие страны осознали важность инвестиций для экономического развития и предприняли шаги по привлечению инвестиций. Например, такие страны, как Сингапур и Ирландия, создали благоприятный для инвестиций климат, характеризующийся низкими налогами и минимальной бюрократической волокитой, для привлечения прямых иностранных инвестиций. В результате в этих странах наблюдаются быстрый экономический рост, создание рабочих мест и повышение

производительности труда. Напротив, страны, которым не удалось привлечь инвестиции, столкнулись с медленным экономическим ростом, высоким уровнем безработицы и снижением производительности труда [6]. Например, такие страны, как Греция и Португалия, с высокими налогами и бюрократической волокитой, испытывали трудности с привлечением инвестиций, что привело к замедлению экономического роста и высокому уровню безработицы.

Кроме того, инвестиции в человеческий капитал, такие как образование и профессиональная подготовка, имеют решающее значение для экономического развития. Такие страны, как Южная Корея и Тайвань, которые вложили значительные средства в образование и профессиональную подготовку, пережили быстрый экономический рост и развитие. Их сотрудники обладают высокой квалификацией и продуктивностью, что делает их конкурентоспособными на мировом рынке. С другой стороны, страны, которые не инвестировали в человеческий капитал, испытывают трудности с экономическим развитием. Например, страны Африки к югу от Сахары, которые имеют низкий уровень образования и профессиональной подготовки, испытывают трудности с экономическим развитием, что приводит к высокому уровню бедности и низкому экономическому росту.

Заключение.

В заключение, инвестиции имеют решающее значение для экономического развития. Они стимулируют экономический рост, создают рабочие места, повышают производительность труда и привлекают прямые иностранные инвестиции. Правительства и политики должны создавать благоприятный для инвестиций климат, инвестировать в человеческий капитал и привлекать прямые иностранные инвестиции для стимулирования экономического роста и развития. В конечном счете, инвестиции являются ключом к экономическому росту и развитию. Они необходимы для создания производительной и эффективной рабочей силы, привлечения прямых иностранных инвестиций и стимулирования экономического роста. Правительства и разработчики политики должны предпринять шаги для привлечения инвестиций, инвестирования в человеческий капитал и создания благоприятного инвестиционного климата для стимулирования экономического роста и развития. Поступая таким образом, они могут создать светлое будущее для своих граждан, характеризующееся высокими темпами экономического роста, низким уровнем безработицы и высокой производительностью.

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ИССЛЕДОВАНИЕ ТВОРЧЕСКОГО ПУТИ И МЕСТО ВЕРЫ ПАНОВОЙ В ИСТОРИИ СОВЕТСКОЙ ЛИТЕРАТУРЫ

Настоящая научная статья посвящена исследованию вклада великой советской писательницы В.Ф. Пановой в историю советского кино. В работе рассмотрены основные этапы творческого пути писательницы, впервые на русском языке мы провели анализ и исследование творческого пути и исторического статуса данного писателя. В будущих исследованиях мы также планируем изучить сценарии, адаптированные на основе его произведений.

Вера Панова – одна из крупнейших писательниц советской эпохи; её талант высоко оценивали И.В. Сталин, А.Т. Твардовский, А.А. Фадеев, К.И. Чуковский и другие видные фигуры в истории русской культуры. За 30 лет плодотворного В.Ф. Панова стала автором обширного корпуса текстов, часть которых стала классической не только в СССР, но и в КНР (в первую очередь, речь идёт о повести «Спутники», получившей широчайшее распространение в КНР в 1950-е годы). Кроме того, Вера Панова оставила огромный след в истории советского кино, став соавтором 14 картин. Сегодня имя писательницы забыто как в РФ, так и в КНР, что не позволяет китайским студентам русистам иметь полную картину об истории развития русской литературы и культуры в целом.

научная статья посвящена систематическому исследованию творческого пути В.Ф. Пановой, а также оценке её творчества как с позиций её современников, так и с позиций сегодняшнего дня. В работе отмечается, что творчество писательницы остаётся самобытным явлением в истории русской культуры, последовательно развивавшей лучшие традиции русской классической литературы, прежде всего, традицию гуманизма Л.Н. Толстого и А.М. Горького, видя в литературе социалистического реализма органичное продолжение истории русской классической литературы.

Ключевые слова: Вера Панова, советская литература, классический текст русской культуры.

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RESEARCH OF THE CREATIVE PATH AND PLACE OF VERA PANOVA IN THE HISTORY OF SOVIET LITERATURE

Summary. The present diploma work is devoted to the study of the contribution of the great Soviet writer V.F. Panova to the history of Soviet cinema. The work considers the main stages of the writer's creative path, For the first time in Russian we have analysed and researched the creative path and historical status of this writer. In future research we also plan to study the scripts adapted on the basis of her works.

Vera Panova is one of the greatest writers of the Soviet era; her talent was highly appreciated by I.V. Stalin, A.T. Tvardovsky, A.A. Fadeev, K.I. Chukovsky and other prominent figures in the history of Russian culture. For 30 years of fruitful work V.F. Panova became the author of a vast corpus of texts, some of which became classics not only in the USSR, but also in the PRC (first of all, we are talking about the story 'Companions', which was widely spread in the PRC in the 1950s). In addition, Vera Panova left a huge mark in the history of Soviet cinema, having co-authored 14 films. Today the name of the writer is forgotten both in the Russian Federation and in the PRC, which does not allow Chinese students of Russian studies to have a complete picture of the history of the development of Russian literature and culture in general.

The thesis is devoted to a systematic study of V.F. Panova's creative path, as well as to the evaluation of her work both from the point of view of her contemporaries and from the point of view of today. It is noted in the work that the creativity of the writer remains an original phenomenon in the history of Russian culture, consistently developing the best traditions of Russian classical literature, first of all, the tradition of humanism of L.N. Tolstoy and A.M. Gorky, seeing in the literature of socialist realism an organic continuation of the history of Russian classical literature.

Keywords: Vera Panova, Soviet literature, classical text of Russian culture.

Место В.Ф. Пановой в истории русской культуры Жизненный и творческий путь В.Ф. Пановой

Творчество выдающейся советской писательницы Веры Фёдоровны Пановой (1905-1973) отражает высшие достижения литературы социалистического реализма и по праву занимает одно из важных мест в истории русской литературы XX века. Несмотря на заметное снижение исследовательского интереса к творчеству В.Ф. Пановой в наши дни, её

литературные заслуги безусловно признаны как среди русскоязычных специалистов, так и во всём мире.

Творческая судьба Веры Пановой складывалась непросто. Свои первые талантливые книги, отмеченные критикой и завоевавшие широкий читательский интерес, она написала уже в почти 40-летнем возрасте. Несмотря на очень позднее начало профессиональной литературной деятельности, уже дебютные произведения принесли писательнице всесоюзное признание и три высшие государственные награды – Сталинские премии 1947, 1948 и 1950 годов. Дальнейшее творчество В.Ф. Пановой значительно обогатило не только русскую литературу, но и классический русский кинематограф (подробнее этой теме будет посвящена в будущей работе).

Детство и юность Веры Пановой прошли на Юге России, в Ростове-на-Дону, где и закладывался фундамент её будущего писательского опыта. Из-за бурных политических событий начала XX века, Вера Фёдоровна не смогла получить сколько-нибудь основательного системного образования, даже не окончила полный курс классической гимназии. После Гражданской войны талантливая девушка активно включилась в работу в сфере советской печати, посвятив журналистской и редакторской деятельности в детских и молодёжных газетах Юга России более десяти лет. В Ростове-на-Дону В.Ф. Панова познакомилась с будущим корифеем советской литературы А.А. Фадеевым, влиятельным советским драматургом Владимиром Киршоном, присутствовала на творческих встречах с М.А. Шолоховым, И. Бабелем и другими видными деятелями советской литературы. Тем не менее, в те годы Вера Панова была ещё очень далека от профессиональной литературной деятельности: она стала матерью троих детей, пережила очень серьёзную болезнь, и эти обстоятельства не позволяли ей стремиться к вершинам литературной славы.

Профессиональная литературная деятельность В.Ф. Пановой началась в 1939 году в Ленинграде, где была написана её первая пьеса «Иван Косогор» (действие происходит в дореволюционной украинской деревне) - для участия в конкурсе пьес для колхозного театра. Несмотря на победу в конкурсе, В.Ф. Панова не считала данную пьесу зрелым произведением. Переломным в судьбе будущей великой писательницы стал 1940 год, когда она в Москве познакомилась с очень известной в 1930-1940 годы и, к сожалению, незаслуженно забытой сегодня писательницей-драматургом Александрой Яковлевной Бруштейн (1884-1968), высоко оценившей литературное дарование Веры Пановой. Именно влияние Бруштейн убедило её в необходимости перехода к профессиональной литературной карьере, а именно – карьере драматурга. Но эти мечты были разрушены войной.

Оказавшись в первые годы войны на оккупированной территории, В.Ф. Панова избежала отправки в Германию, и, прожив до 1943 года на занятой фашистами территории Полтавской области, смогла перебраться на

Урал, в Пермь. Именно в Перми, на местном материале, были написаны её первые выдающиеся книги. Их основы заложила сама жизнь: пока в конце войны В.Ф. Панова работала над книгой о рабочем посёлке Мотовилиха под Пермью (позже на этом материале вышел большой роман «Кружилиха» (1946), ей было предложено написать небольшую книгу о работе санитарных поездов. Проработав несколько месяцев на одном из таких поездов, собрав богатый материал о работе медиков и жизни раненых, Вера Панова в 1945 году написала свою первую, и, очевидно, лучшую книгу – повесть «Спутники», переведённую на множество языков мира. В первые годы истории Нового Китая перевод книги В.Ф. Пановой «Спутники» (旅伴) считался хрестоматийным произведением и рекомендовался для массового читателя. В более поздних работах китайских авторов повесть «Спутники» описывалась следующим образом: 这时潘诺娃对时代、对战争、对人民的业绩已经有了生动而深入的了解，加上个人的生活经历和思想感情同旅伴们有着许多共同点，因此，她是把自己融化在旅伴们的形象里创作这部作品的。（白嗣宏：1985:3）。^[39]

Эта небольшая, камерная повесть, состоящая из серии литературных портретов, заслужила Сталинскую премию первой степени и оказалась удивительно кинематографична – её экранизировали дважды в СССР и один раз в современной России, что найдёт отражение в отдельном параграфе нашей дипломной работы. А.А. Фадеев, бывший в то время одним из ведущих советских писателей, отозвался о «Спутниках» в высшей мере хвалебно: «Прекрасная, чистая и суровая, правдивая и поэтичная повесть» (Фадеев, 1979: 308).^{[40][41]}

Повесть «Спутники», романы «Кружилиха» (о работе крупного пермского завода) и «Ясный берег» (на тему колхозной жизни) определили первый этап творческой биографии Веры Пановой и принесли её три Сталинские премии. Однако писательница после таких выдающихся успехов не стала поживать на лаврах. Важнейшей особенностью творческого пути В.Ф. Пановой было постоянно недовольство своими произведениями и стремлением их улучшить: так, из неудачной пьесы «Семья Пирожковых» (1944) писательница сделала замечательный киносценарий «Евдокия» (1959). Несмотря на успех романа «Ясный берег», автор была недовольна его литературными достоинствами, поэтому выбрала наиболее удачный эпизод романа и переработала его в повесть «Серёжа» (1955), принесшую ей громадный успех как литературе, так и в кино. Великий советский поэт А.Т. Твардовский, главный редактор крупнейшего и наиболее влиятельного в СССР журнала «Новый мир» отозвался о «Серёже» так: С истинным удовольствием прочел в "Новом

[39]白嗣宏译.潘诺娃.一年四季[M].杭州:浙江文艺出版社,1985.

[41]Фадеев А.А. Собрание сочинений в 4-х томах. [М]. Правда, 1979. Т.4, с. 308.

мире" Вашу новую вещь... новую в смысле даже Вашего собственного развития. Это новая и значительная сторона Вашего таланта (Твардовский, 1986: 16)^[42]. Ведущий исследователь творчества В.Ф. Пановой А. Нинов ставил «Серёжу» в один ряд с лучшими русскими книгами, раскрывающими тему «мира детства». «Повесть "Сережа" написана в лучших традициях русской литературы, обращавшейся к детям, к анализу детской психологии и детского сознания» (Панова, 1987: 37).^[43]

Второй период творчества В.Ф. Пановой приходится на 1953-1960 годы; главными достижениями в это время является роман «Времена года» (1959, издан в КНР в 1985 г.), а также рассказ «Володя» (1959), так же ставшая основой для кинофильма. В эти же годы выходит крупное автобиографическое произведение «Сентиментальный роман» (1958), получивший положительную оценку читателей, но, к сожалению, не получивший достойной экранизации. Из третьего периода творчества В.Ф. Пановой (1960-е годы) следует отметить успешное возвращение к драматургии (пьеса «Сколько лет, сколько зим» (1966) стала огромным событием в театральной жизни СССР, с успехом пройдя на сцене Ленинградского БДТ, «Ещё не вечер» (1967), повести «Саша» и «Рабочий посёлок».

В конце жизни (1960-1970-е годы) В.Ф. Панова обратилась к исторической прозе, создав два цикла повестей по различным сюжетам русской истории – «Лики на заре» (1966) (на материале истории X-XI веков) и «Смута» (1969) (на материале событий начала XVII века).

В 1960-1970-е огромное значение играло сотрудничество В.Ф. Пановой с кино, прежде всего, с киностудией «Ленфильм» и Ленинградским телевидением. Деятельность Веры Фёдоровны как кинодраматурга, её наследие в мире русского классического кино остаётся недостаточно исследованным и по этой причине найдёт подробное освещение во второй главе настоящей дипломной работы. Но мы хотели бы предварить переход к детальному исследованию кинодраматургии В.Ф. Пановой некоторыми размышлениями о месте данной писательнице в истории советской литературы.

Место В.Ф. Пановой в истории советской литературы

Писательская жизнь Веры Фёдоровны продолжалась менее 30 лет, однако за это время она смогла доказать свою творческую состоятельность, добиться мировой известности и прочно войти в своеобразный «пантеон» советской литературы. Вместе с тем, творчество Веры Пановой подверглось существенной переоценке в постсоветский период: упоминание её имени было вычеркнуто из учебников по русской литературе XX века, её произведения перестали переиздаваться, в академическом литературоведении интерес к её творчеству резко снизился. В

[42] Твардовский А.Т. Письма о литературе (1930-1970). [М]. Сов. писатель, 1985.

[43] Панова В.Ф. Собрание сочинений в 5 томах. [М]. Художественная литература, 1987 – Т. 1 – с. 37

постсоветский период до 2012 года творчество писательницы В.Ф. совершенно не изучалось; на справочном сайте «Культура.рф» её имя упоминается лишь однажды – в биографической статье о Сергее Довлатове, который в молодые годы работал у В.Ф. Пановой секретарём. Мы видим причины такой смены отношения к творчеству В.Ф. Пановой в целом комплексе причин, одна из которых, впрочем, заметно важнее всех прочих. В своём творчестве В.Ф. Панова последовательно проводила две идейно-нравственные традиции: гуманистическую традицию классической русской литературы и традицию социалистического реализма. Творчество В.Ф. Пановой неотделимо от её глубоко гуманистического и социалистического мировоззрения, прослеживаемого во всех её книгах и в собственной автобиографии «Моё и только моё» (Панова, 2005: 6).^[44] Именно приверженность писательницы художественной традиции социалистического реализма, её последовательное утверждение человечности и справедливости советского общества, недопустимые в общественном и художественном дискурсе постсоветской России, стали причинами её вынужденного забвения. Доказательством этому может стать выраженное неприятие к творчеству В.Ф. Пановой литературных критиков из антисоветского лагеря. В своей недопустимо оскорбительной и уничижительной рецензии на книгу В.Ф. Пановой «Моё и только моё» литературный критик Надежда Муравьева писала: «Вера Панова - самый что ни на есть советский писатель, во всех (не очень приятных) смыслах этого слова. Её книги - изумительное порождение советского языка и советской действительности». (Муравьева, 2005: 2)^[45] Существует и другая, не столь очевидная причина снижения интереса к творчеству Веры Пановой. Её огромный вклад в историю русской культуры не ограничивается собственно сферой литературы. Вера Панова – автор исключительный в том плане, что она поставила рекорд по экранизациям среди всех советских писателей: по её произведениям снято 14 фильмов, что значительно больше, чем даже у таких бесспорных классиков, как М.А. Шолохов, А.Н. Толстой и В.М. Шукшин. В 1990-е годы советское кино переживало кризис забвения (к счастью, кратковременный).

Ещё один значимый аспект, к сожалению, так и не получивший отдельного освоения ни в советской, ни в современной научной традиции – изучение творчества В.Ф. Пановой как мастера женской прозы. В советское время В.Ф. Панова была неофициально признана «первой писательницей СССР», что утверждал такой непререкаемый авторитет, как К.И. Чуковский: «Сейчас уехала от меня Вера Фёдоровна Панова – первая вне всякого сравнения писательница Советского Союза – простая, без всякого чванства... Очень умна, необыкновенно деятельна, сейчас от меня поехала

[44] Панова В.Ф. Моё и только моё: о моей жизни, книгах и читателях. [М].СПб: изд-во журнала «Звезда», 2005

[45] Муравьева Н. Бабий портрет «а натюрель». [N]. Новая газета, 12 мая 2005 года.

в «Мосфильм», там по её сценарию готовится кинокартина. За два года изготовила шесть сценариев. Ярко талантлива и очень естественна в каждом движении – держит себя как самая обыкновенная женщина» (Чуковский, 2003: 295).^[46] Мы полагаем, что исследование женского начала в творчестве В.Ф. Пановой, сравнение её творчества с другими талантливыми советскими писательницами – М. Шагинян, М. Алигер и другими, было бы весьма продуктивным и актуальным исследованием, которое пока ожидает своего старательного автора.

Ещё одним перспективным направлением исследованием творчества В.Ф. Пановой могло бы стать исследование традиций русской классической литературы в её творчестве. Сама писательница, рассказывая об истоках повести «Спутники», ссылаясь на влияние советских писателей А. Фадеева и А. Твардовского, однако, как нам представляется, данное влияние является сугубо стилистическим. В глубинном, содержательном плане, на уровне метода психологического исследования, на уровне создания картины человеческих отношений во всех их удивительной сложности проза Веры Пановой близка к творчеству А.П. Чехова, А.М. Горького и, в наибольшей степени, к прозе Л.Н. Толстого. К счастью, мы обнаружили научное исследование, в которых в прозе В.Ф. Пановой прослеживается «толстовский компонент» (Вершинина, 2009: 14-17)^[47]. Автор статьи Н.Л. Вершинина сравнивает, в частности, отдельных героев романа В.Ф. Пановой «Кружилиха» с классическими героями толстовского наследия, обнаруживая их заметное сходство. «Толстовский компонент» явственно прослеживается в повести «Серёжа», которую можно сравнить с произведениями классика, посвященные детству – в особенности, с его замечательным рассказом «Филипок». На наш взгляд, замечательную повесть «Серёжа» как исследование детской психологии следует рассматривать как продолжение традиции повести «Степь» А.П. Чехова; впрочем, данный вопрос нуждается в отдельном исследовании.

Последняя обширная работа по осмыслению творческого наследия Веры Пановой принадлежит выдающемуся ленинградскому литературоведу А.А. Нинову, определившему роль и место писательницы в истории советской и мировой культуры следующим образом: «Творчество Пановой остается одним из значительных явлений советской литературы и искусства. Книги Пановой изданы на многих языках и получили заслуженное признание читателей в разных странах мира» (Нинов, 1987: 20-23)^[48]. Мы солидаризируемся с А.А. Ниновым, который не ограничивает вклад В.Ф. Пановой только литературной сферой; заслуги писательницы в сфере кино не в меньшей степени важны для истории русской культуры,

[46] Чуковский К.И. Переписка (1913 – 1969). [М]. Новое литературное обозрение, 2003. – с. 295.

[47] Вершинина Н.Л. Толстовский компонент в романах 1940-1950-х годов. [J]. Вестник Новгородского гос. ун-та, 2009, №34. с. 14-17.

[48] Нинов А.А. Вера Панова: творчество и судьба. [М]. Художественная литература, 1987.

историческая практика показала, что они пережили советский период и остаются актуальными и востребованными и через 30 лет после его окончания.

В 2012 году видный российский литературный критик Д.Л. Быков посвятил Вере Пановой большое эссе в жанре «литературного портрета». Мы не можем солидаризироваться с общей оценкой автора, причислившей В.Ф. Панову к «советским экзистенциалистам», однако мы не можем не приветствовать этой смелой и успешной попытки вернуть великой писательнице незаслуженно отнятое признание. Как выразился Д.Л. Быков: «И еще одно несоответствие — между нынешним полузабвением Пановой и ее подлинным литературным и человеческим масштабом — можно устранить уже сейчас» (Быков, 2012: 7).^[49]

Статья Д.Л. Быкова оказалась очень своевременной: читательский интерес к творчеству В.Ф. Пановой начал резко расти на фоне возрождения интереса к советскому кинематографу, отмечаемому в современной России с 2008-2010 годов. В период с 2013 по 2021 год книги В.Ф. Пановой издавались 11 раз; из них по три издания выдержали повести «Спутники», «Серёжа» и «Евдокия», легшие в основу классических советских кинофильмов. В 2015 году была осуществлена новая экранизация повести «Спутники»; очевидно, что имя В.Ф. Пановой постепенно возвращается к орбите актуальной русской литературы XX века.

Отрадно, что наш вывод находит подтверждение и в исследованиях китайских учёных. Так, китайская исследовательница Чэнь Хуэйминь в своей статье 2000 года оценивает творческие достижения В.Ф. Пановой весьма высоко: 总之潘诺娃的作品在保持自己高度的同时往往给读者留下一份清新亲切的感觉。这份清新与亲切并不是潘诺娃刻意所为而是通过她客观、历史和朴实的叙述给读者带来的真切体会(陈慧敏, 2000:71) .

К сожалению, при очевидной весомости вклада В.Ф. Пановой в историю русского классического кинематографа, данная сторона её деятельности остаётся совершенно неизученной. Несмотря на тщательные разыскания в специальной монографической литературе и периодических изданиях по истории советского кино, нам не удалось найти ни одного специализированного материала, рассматривавшего вклад В.Ф. Пановой в историю советского кино.

В будущих исследованиях мы будем целенаправленно выбирать работы этого автора для изучения, сосредотачиваясь на тех, которые уже были экранизированы в виде фильмов.

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ИССЛЕДОВАНИЕ МОДЕЛЕЙ ПРИНЯТИЯ РЕШЕНИЙ ПО ВЫБОРУ СПОСОБОВ ВЫХОДА НА МЕЖДУНАРОДНЫЙ РЫНОК

Аннотация. В статье рассматриваются модели принятия решений при выходе на международный рынок, подчеркивается их важность в условиях глобализации. Цель данного исследования – объединить различные теоретические основы, такие как теория транзакционных издержек, теория интернализации и теория жизненного цикла международного продукта, в комплексную модель принятия решений о выходе на рынок. В данном исследовании предлагается многогранная модель, учитывающая такие факторы, как характеристики лица, принимающего решение, характер проблемы принятия решения, специфику задачи и внешнюю среду. Этот комплексный подход призван помочь бизнесу принимать обоснованные стратегические решения для успешного и устойчивого выхода на международный рынок.

Ключевые слова: выход на международный рынок, модели принятия решений, глобализация, принятие стратегических решений, теоретические основы, расширение бизнеса.

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STUDY OF DECISION-MAKING MODELS FOR SELECTING WAYS TO ENTER THE INTERNATIONAL MARKET

Abstract. The article discusses decision-making models for international market entry, emphasizing their importance in the context of globalization. The purpose of this study is to combine various theoretical frameworks such as transaction cost theory, internalization theory, and international product life cycle theory into a comprehensive model of market entry decision making. This study proposes a multifaceted model that takes into account factors such as the characteristics of the decision maker, the nature of the decision problem, the specifics of the task, and the external environment. This integrated approach is designed to help businesses make informed strategic decisions for successful and sustainable international market entry.

Keywords: international market entry, decision-making models, globalization, strategic decision-making, theoretical frameworks, business expansion.

С процессами глобализации мировой экономики и переходом к экономике, основанной на знаниях, международное экономическое сотрудничество становится все более распространенным, конкуренция на международном рынке становится все более интенсивной, а предприятия всех типов, форм собственности и размеров сталкиваются со все большим числом рыночных проблем.

Вопрос о способе выхода на международный рынок, как правило, рассматривается на фоне экономической глобализации и интернационализации бизнеса.

Существуют ряд теорий и моделей выхода хозяйствующего субъекта на международный рынок, таких как: теория транзакционных издержек, теория интернализации, теория организационных возможностей, теория международного производственного компромисса, теория международного жизненного цикла продукта.

Несмотря на то, что эти теории в определенной степени доказали свою полезность, их положения не получили широкого развития в практике международного бизнеса. Указанные теории упускают ряд важных факторов и не охватывают некоторые серьезные проблемы международной торговли. Между тем, китайские и зарубежные ученые посвятили свои исследования выявлению некоторых новых ключевых факторов, влияющих на режим выхода на международный рынок.

Исследователи Хилл и Питер Хван⁵⁰ предложили построить комплексную модель, учитывающую различные факторы и анализирующую взаимосвязь между ними. Они обратили внимание на попытки построить комплексную модель принятия решений о режиме выхода предприятий на международный рынок, не уделяя должного внимания тому факту, что выбор режима выхода на международный рынок – это фактически процесс принятия стратегических решений.

До сих пор не существует модели принятия решений, которая была бы общепризнанной в теоретическом сообществе. Кроме того, большинство современных исследований остаются на уровне качественного анализа, в то время как количественных исследований не хватает.

Выход предприятия на международный рынок – это процесс реализации стратегии международной деятельности предприятия путем проникновения собственных ресурсов, таких как технология, капитал,

⁵⁰ Hill, Peter Hwang and K mi, W. Ch. An Eclectic Theory of the Choice of International Entry Mode. Strategic Management Journal, 1990, 11(2):117-128

собственный бренд или опыт управления, в принимающую страну или регион с помощью различных методов инвестирования.

Способы выхода на международный рынок можно разделить на три вида.

Модель вхождения в капитал – это модель, в которой интернационализированные компании используют контроль над капиталом для прямого участия в производстве и управлении компаниями целевой страны, включая новое строительство (Green-field) и приобретение собственности (Acquisition).

Приобретение, в свою очередь, включает в себя консолидацию и слияние. Консолидация – это слияние всех компаний, участвующих в сделке, с образованием новой компании.

Слияние путем поглощения – это включение бизнеса или нескольких компаний в состав действующей компании.

Что касается долевого участия, которое можно дополнительно разделить на совместные предприятия и единоличное владение, то режимы вхождения в акционерный капитал делятся на два вида: режим вхождения в совместное предприятие и режим вхождения в единоличное владение.

Предприятиям, занимающимся международным бизнесом, необходимо анализировать факторы, влияющие на принятие решений при выборе способов выхода на международный рынок, зачастую сложный и изменчивый.

Исследователи В. Кумар и В. А. Субраманиам считают⁵¹, что на процесс принятия решений ТНК влияют следующие факторы:

- личные характеристики лица, принимающего решение;
- характер проблемы принятия решения;
- характеристики самой задачи;
- среда, в которой принимается решение.

Анализируя процесс принятия решения о способе выхода на международный рынок и всесторонне обобщая соответствующие теории, ученые классифицировали факторы, влияющие на выбор способа выхода на международный рынок, на четыре категории: факторы международной бизнес-среды, внутренние факторы предприятия, факторы мотивации и интернационализации бизнеса и факторы субъекта, принимающего решение. Рассмотрим каждый из этих факторов подробнее.

1. Факторы международной бизнес-среды основаны на теории Н. Фаржа и Л. Т. Уэллса⁵² в качестве репрезентативных фигур теории переговорной силы, согласно которой, когда правительство принимающей страны рассчитывает содействовать местному экономическому развитию и

⁵¹ Kumar V, Subramaniam V. A Contingency Framework for the Mode of Entry Decision. Journal of International Business Studies, 1997, 23(1): 29-53

⁵² Fagre N, Wells L T. Bargaining power of multinationals and host governments. Journal of International Business Studies, 1982, 3(1): 1-22

технологическому прогрессу за счет привлечения иностранного капитала, предприятия с иностранным финансированием обладают сильной переговорной силой и склонны выбирать способ входа с высоким уровнем контроля (например, индивидуальное предпринимательство).

Напротив, когда рынок и природные ресурсы принимающей страны более привлекательны для иностранных фирм, переговорная сила иностранных фирм снижается, и вероятность выбора способа входа с низким контролем (например, непрямым экспортом) выше.

Факторы международной бизнес-среды включают политическую и правовую среду, экономическую и технологическую среду, социальную культуру и естественную географию страны происхождения и принимающей страны. В разных странах существуют различные политические и правовые системы, которые прямо или косвенно влияют на инвестиционное поведение транснациональных корпораций. Если правовая система принимающей страны более надежна и политически стабильна, предприятия, как правило, выбирают режим прямых инвестиций, в других случаях, они могут использовать режим экспортной торговли или франчайзинга⁵³.

Экономические факторы играют решающую роль в трансграничной деятельности предприятия. Если экономическая политика принимающей страны относительно более спокойная, потенциал развития рынка больше, конкуренция относительно менее интенсивная, уровень научно-технического развития относительно высокий и страна происхождения имеет позитивную экономическую политику, то это больше подходит для прямых инвестиций в принимающей стране. В иных случаях необходимо тщательно продумать принятие решения о способе выхода на международный рынок.

Культурные факторы в основном относятся к факторам окружающей среды, таким как ценностные ориентации, моральный кодекс, поведенческий образ мышления и обычаи и стереотипы людей в целевой стране, где расположено предприятие.

Если принимающая страна имеет большие культурные особенности, это требует высокого уровня способности к культурной интеграции и сильной способности к стратегической координации, тогда предприятие должно тщательно выбирать способ выхода на рынок.

В то же время различия в географической среде и природных ресурсах каждой страны также являются факторами, которые не могут игнорироваться предприятиями при принятии решений о выборе способа выхода на международный рынок.

⁵³ Морозова А.С. Сравнительная характеристика стратегий выхода на внешние рынки // Наука и техника. 2009. №3. URL: <https://cyberleninka.ru/article/n/sravnitelnaya-harakteristika-strategiy-vyhoda-na-vneshnie-rynki> (дата обращения: 04.06.2024).

2. Внутренние факторы самого предприятия включают потенциал, ресурсы и возможности предприятия, а также результаты его деятельности, которые оказывают большое влияние на выбор способа выхода предприятия на международный рынок. В условиях одинаковой международной среды разные предпринимательские организации будут демонстрировать большие различия в поведении.

Теория организационных возможностей предполагает, что выбранный компанией способ выхода на рынок является наиболее эффективным способом развития и роста ее бизнеса. Это тот способ, который наиболее эффективно использует и развивает существующие возможности компании, что позволяет ей достичь высокого уровня конкурентоспособности на рынке. Эта теория фокусируется на характеристиках знаний и влиянии культурных различий на способы выхода на международный рынок.

Более сильные в экономическом отношении компании будут рассматривать способ прямых инвестиций с высоким риском и высокой прибылью как предпочтительный вариант. Компании с относительно слабым деловым потенциалом предпочтут экспортную торговлю или франчайзинг в качестве предпочтительного способа выхода на рынок⁵⁴.

Выходные характеристики компаний также являются одним из важных факторов, влияющих на выбор способа выхода на международный рынок. Теория интернализации предполагает, что если продукция отрасли имеет многоступенчатые производственные характеристики, если спрос и предложение продукции на промежуточном этапе осуществляется через внешний рынок, то отношения между сторонами спроса и предложения имеют много нестабильных факторов и трудно координируются друг с другом.

Следовательно, сначала предприятие должно обеспечить спрос и предложение продукции путем создания внутреннего рынка, что породит относительно сильную тенденцию к прямым инвестициям. В то же время феномен жизненного цикла продукции компании и ее адаптируемость в целевой стране также будут влиять на выбор способа выхода на международный рынок.

3. Факторы мотивации и стратегии интернационализации. Различные компании имеют разные мотивы для превращения в крупные международные предприятия, включая захват международных рынков, использование своих преимуществ, приобретение стратегических ресурсов и снижение транзакционных издержек.

⁵⁴ Витюк, П. А. Проникновение компаний на зарубежные рынки: современные стратегии / П. А. Витюк, Д. Д. Кочеткова. — Текст : непосредственный // Молодой ученый. — 2022. — № 23 (418). — С. 502-505. — URL: <https://moluch.ru/archive/418/92726/> (дата обращения: 03.06.2024).

Теория компромиссов в международном производстве предполагает, что международная экспансия предприятий осуществляется с целью более эффективного использования их преимуществ, и существует три основных фактора, влияющих на выбор способа выхода на международный рынок транснациональными корпорациями: преимущество владения, преимущество интернализации и преимущество местоположения.

Когда предприятие обладает этими всеми этими преимуществами одновременно, оно может выбрать способ прямых международных инвестиций.

В конце двадцатого века, с быстрым развитием экономической глобализации и информационных технологий, многонациональные корпорации постепенно глобализируются, и их стратегии глобальной экспансии на международном рынке все больше и больше направлены на обслуживание материнских компаний. В результате теория стратегического поведения получила высокую оценку в прикладных исследованиях выхода на международный рынок.

В частности, существует три типа стратегий для международного бизнеса: стратегия локализации, стратегия глобализации и транснациональная стратегия.

При стратегии локализации предпочтение отдается модели экспортной торговли или прямых инвестиций, что позволяет компании наиболее точно реагировать на потребности рынка каждой страны, в то время как компании, выбирающие стратегию глобализации, обычно используют модель прямого экспорта и инвестиций, что позволяет им развивать экономию на масштабе для снижения затрат.

4. Факторы субъекта принятия решений. Принятие решения о способе выхода на международный рынок в большей степени зависят от отношения предпринимателя и менеджмента к риску. Отношение людей к риску подразделяется на три основных типа: неприятие риска, нейтральное отношение к риску и склонность к риску.

Когда риск на целевом рынке одинаков, хотя все три типа предпринимателей используют режим выхода на рынок с прямыми инвестициями, нейтральные к риску предприниматели предпочтут режим приобретения, а не склонные к риску – режим совместного предприятия.

В заключение следует отметить, что при принятии решения о выходе на иностранный рынок критерии выбора способ выхода, рассматриваемые ТНК, они не всегда ориентируются на то, что наиболее эффективно для отдельного рынка, а скорее на то, что наиболее эффективно с точки зрения глобальной эффективности.

Выход на международный рынок — это сложный и многогранный процесс, требующий учета множества факторов. Несмотря на существование различных теорий и моделей, ни одна из них не является всеобъемлющей. Для успешного выхода на международный рынок

компании должны интегрировать различные подходы и учитывать, как качественные, так и количественные аспекты процесса принятия решений.

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ИННОВАЦИИ КАК ФАКТОР КОНКУРЕНТНОЙ СТРАТЕГИИ ТРАНСНАЦИОНАЛЬНОЙ КОМПАНИИ

Аннотация. Инновации имеют решающее значение для поддержания конкурентных преимуществ компании сегодня. В данной статье исследуется роль инноваций в конкурентных стратегиях, подчеркивается их важность в связи с быстрыми технологическими изменениями и динамичными глобальными рынками. Цель - выявить движущие силы успешных инноваций и их влияние на конкурентоспособность. Результаты подчеркивают необходимость формирования культуры, ориентированной на инновации, инвестирования в НИОКР и использования технологий.

Ключевые слова: международный бизнес, инновация, бизнес-стратегия, российско-китайские взаимоотношения, конкурентные стратегии.

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INNOVATION AS A FACTOR OF COMPETITIVE STRATEGY OF A TRANSNATIONAL COMPANY

Abstract. Innovation is critical to maintaining a company's competitive advantage today. This article explores the role of innovation in competitive strategies, emphasizing its importance due to rapid technological change and dynamic global markets. The aim is to identify the drivers of successful innovation and its impact on competitiveness. The results emphasize the need for an innovation-oriented culture, investment in R&D and the use of technology.

Keywords: international business, innovation, business strategy, Russian-Chinese relations, competitive strategies.

Инновации играют ключевую роль в формировании рыночного позиционирования и дифференциации бизнеса международной компании. Разрабатывая уникальные продукты, услуги или бизнес-модели, компании могут удачно выделиться на фоне конкурентов и захватить большую долю

рынка⁵⁵. Например, неустанное внимание Apple Inc. к инновациям привело к созданию таких знаковых продуктов, как iPhone и iPad, которые установили отраслевые стандарты и создали лояльную клиентскую базу по всему миру. Такие инновационные продукты не только оправдывают, но и зачастую превосходят ожидания потребителей, что делает компанию лидером рынка и законодателем моды.

Инновация бизнес-модели относится к способности компании конкурировать в рыночном пространстве продукта, который она производит и продает. Это сложная предпринимательская задача, потому что она сосредоточена на создании, развитии и использовании «окна возможностей»⁵⁶.

Концептуализация бизнес-модели, ее вывод на рынок и текущее управление ею не должны быть представлены воле случая. Скорее, они должны руководствоваться стратегией инноваций бизнес-модели, основанной на тщательном процессе проектирования и планирования.

В современную экономическую эпоху, характеризующуюся глобализацией экономики, развитием высоких технологий, интеллектуализацией общества компании должны уметь добиваться долгосрочного роста в разных и постоянно меняющихся обстоятельствах. Для достижения долгосрочного роста, получения высоких прибылей и устойчивых конкурентных преимуществ в условиях быстро меняющейся рыночной среды необходимо интегрировать возможности внутренних ресурсов, восприятие менеджеров и технологические инновации в разработки новых бизнес-моделей.

Понятие инновации было впервые предложено экономистом и политологом Йозефом Шумпетером в 1912 году. Он считал, что инновация — это внедрение в производственную систему комбинации факторов производства, никогда ранее не возникавших. Во второй половине XX-го века и академические круги, и промышленность признали важное влияние инноваций на производственную деятельность. Вслед за капиталом, землей и трудом инновации в области технологий и знаний стали основными движущими факторами организационного развития⁵⁷.

В настоящее время технологические инновации превратились в ключевое направление исследований в области менеджмента, а результаты исследований процесса, влияющих факторов, механизмов и путей технологических инноваций можно считать относительно

⁵⁵ Кондрачук О. Е.. Роль инноваций в получении и развитии конкурентных преимуществ современных компаний // Московский экономический журнал. 2023. №1. URL: <https://cyberleninka.ru/article/n/rol-innovatsiy-v-poluchenii-i-razviti-konkurentnyh-preimuschestv-sovremennyh-kompaniy> (дата обращения: 04.06.2024).

⁵⁶ Zott, C., Amit, R. Business model design: an activity system perspective. 2010. Long Range Planning, 43(2-3):216-226 pp.

⁵⁷ Battistella C., DeToni, A.F., De Zan G., & Pessot, 2017. Cultivating business model agility through focused capabilities: A multiple case study. Journal of Business Research, 73(4):65-82

систематическими. Мнение о том, что технологические инновации являются основным источником корпоративной и организационной эффективности, основой конкурентоспособности и конкурентных преимуществ, достигло консенсуса в академическом сообществе.

Однако в новой быстро развивающейся экономической среде Китая одних только технологических инноваций недостаточно для многих бизнес-организаций. Для достижения конкурентного преимущества необходимо интегрировать технологические инновации с конкурентной стратегией. Если технологические инновации должны быть преобразованы в реальные экономические выгоды, их необходимо скоординировать с подходящей бизнес-моделью в рамках эффективных конкурентных стратегических механизмов.

Технологические инновации могут повысить конкурентоспособность предприятий, но сможет ли конкурентоспособность превратиться в конкурентное преимущество, зависит от успешного применения бизнес-моделей. Бизнес-модель управляет механизмом получения прибыли предприятия и помогает предприятию создавать пространство для получения прибыли за счет предоставления более качественных продуктов и услуг.

Развитие трансграничных предприятий электронной коммерции неотделимо от совместных промышленных инноваций. Концепция совместных промышленных инноваций подразумевает сотрудничество и инновации различных предприятий в общих областях для достижения более эффективного использования ресурсов и получения общих выгод.

Цепочка поставок, логистика и другие аспекты трансграничных компаний электронной коммерции должны внедрять инновации совместно с другими компаниями, чтобы создать более эффективную и конкурентную рыночную среду. Например, трансграничные компании электронной коммерции могут осуществлять совместные операции с другими компаниями, такими как сторонние поставщики логистических услуг и платежные платформы, для обеспечения совместного использования ресурсов и предоставления дополнительных услуг.

Предприятиям также следует укреплять сотрудничество с правительством и соответствующими отраслевыми ассоциациями, чтобы совместно способствовать разработке и совершенствованию отраслевых стандартов, а также развитию и прогрессу всей отрасли.

Будучи развивающейся отраслью, инновационные методы трансграничных компаний электронной коммерции стали необходимым средством корпоративного развития. Технологические инновации являются важным аспектом развития компаний трансграничной электронной коммерции, особенно в эпоху неограниченной розничной торговли. Благодаря постоянному применению новых технологий, таких как: искусственный интеллект, большие данные и Интернет вещей,

трансграничные компании электронной коммерции могут лучше понимать потребности потребителей, оптимизировать управление цепочками поставок и улучшать качество обслуживания клиентов⁵⁸. Например, Alibaba запустила программу «умной фабрики» по использованию технологии Интернета вещей для интеграции производственных данных, оптимизации производственного процесса и повышения эффективности и качества производства.

Инновации бизнес-моделей являются еще одним важным аспектом трансграничных компаний электронной коммерции. Поскольку рыночная конкуренция усиливается, традиционная модель B2C больше не может удовлетворять потребности потребителей. Поэтому трансграничные компании электронной коммерции начали пробовать новые бизнес-модели, такие как C2B, O2O и т. д. Например, модель групповых покупок китайской компании «Pinduoduo» быстро превратилась из простого ценового преимущества в инновации в области социального обмена и точных рекомендаций.

Инновации в сфере услуг — еще один важный аспект для трансграничных компаний электронной коммерции. Поскольку требования потребителей к качеству продукции и качеству обслуживания продолжают расти, трансграничные компании электронной коммерции должны обеспечивать персонализированную настройку, услуги с добавленной стоимостью и другие средства для удовлетворения потребностей потребителей⁵⁹. Например, некоторые трансграничные компании электронной коммерции предоставляют услуги для зарубежных покупок, включая поиск продуктов, покупку, складирование, доставку, что повышает уровень удовлетворенности клиентов.

Подводя итог, можно сказать, что трансграничные компании электронной коммерции, как представители развивающейся отрасли, должны адаптировать свою деятельность к изменениям рынка и способствовать развитию отрасли посредством непрерывных инноваций и трансформации. Только освоив этот подход, идя в ногу со временем и отслеживая динамику рынка они смогут выстоять в жестких рыночных условиях, постоянно повышать свою конкурентоспособность и обеспечивать необходимую эффективность в долгосрочном периоде.

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ИСПОЛЬЗОВАНИЕ СТРАТЕГИИ ДИВЕРСИФИКАЦИИ БИЗНЕСА НА РОССИЙСКОМ РЫНКЕ (НА ПРИМЕРЕ КИТАЙСКОЙ КОМПАНИИ ALIBABA)

Аннотация. В статье описываются результаты применения стратегии диверсификации бизнеса китайской компанией Alibaba на российском рынке. В работе анализируются факторы, побудившие Alibaba выбрать диверсификацию как стратегию расширения своей деятельности в России, а также изучаются методы и результаты реализации этой стратегии. Опираясь на теоретические исследования в сфере стратегического управления и анализа бизнеса, а также на данные из первичных и вторичных источников, работа предоставляет обзор диверсификационных шагов Alibaba на российском рынке. Результаты исследования могут быть полезны для бизнес-аналитиков, управленцев и исследователей, заинтересованных в стратегическом управлении и развитии компаний на международных рынках.

Ключевые слова: международный бизнес, электронная коммерция, бизнес-стратегия, диверсификация бизнеса, российско-китайские взаимоотношения.

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UTILIZATION OF BUSINESS DIVERSIFICATION STRATEGY IN THE RUSSIAN MARKET (ON THE EXAMPLE OF THE CHINESE COMPANY ALIBABA)

Abstract. The article describes the approaches and results of application of business diversification strategy by the Chinese company Alibaba in the Russian market. The paper analyzes the factors that prompted Alibaba to choose diversification as a strategy to expand its operations in Russia, as well as examines the methods and results of this strategy. Drawing on theoretical research in strategic management and business analysis, as well as on data from primary and secondary sources, the paper provides an overview of Alibaba's diversification steps in the Russian market. The results of the study may be useful

for business analysts, managers and researchers interested in strategic management and development of companies in international markets.

Keywords: international business, e-commerce, business strategy, business diversification, Russian-Chinese relations.

Международные компании постоянно ищут стратегические подходы к расширению своей деятельности и освоению новых рынков. С 2014 года Alibaba сделала глобализацию основной стратегией компании. А уже через четыре года выручка Alibaba от международного розничного бизнеса достигла 4,316 млрд юаней или \$674 млн.

Одной из основных стратегий по выходу на зарубежные рынки для компании является диверсификация бизнеса, которая предполагает выход на новые рынки или отрасли с целью снижения рисков и использования возможностей для роста⁶⁰.

Хотя крупнейшая в Китае платформа электронной коммерции и облачной инфраструктуры, не часто ассоциируется с другими странами, финансовая отчетность Alibaba показывает, что 301 миллион из 1,28 миллиарда активных потребителей Alibaba проживает за пределами Китая. Доходы от международной торговли компании составляют почти 7% выручки компании⁶¹.

Alibaba Group Holding Limited, основанная бизнесменом Джеком Ма в 1999 году, за двадцать лет из маленького стартапа превратилась в крупнейший в мире конгломерат электронной коммерции, включающий в себя различные виды бизнеса, такие как онлайн-ритейл, облачные вычисления, цифровые развлечения и финансовые услуги. Alibaba завоевала прочные позиции не только на внутреннем, но и на международном рынке, став символом экономической мощи и технологических инноваций нового Китая.

Осознав огромный потенциал российского рынка, Alibaba начала стратегический путь к расширению своей деятельности за пределами Китая с 2010 года. Хотя уровень проникновения сети Интернет в России достигает 80%, объем транзакций электронной коммерции составляет лишь 3% от общего объема внутренних розничных продаж, что, несомненно, показывает, что Россия по-прежнему представляет собой развивающийся рынок с большим потенциалом.

По данным European E-commerce News, трансграничная платформа электронной коммерции Alibaba стала доминирующей платформой на

⁶⁰ Li, W. and Li, C. (2022) Analysis of the Internationalization Strategy of Cross-Border E-Commerce Enterprises: The Case of Alibaba Group. *iBusiness*, 14, 270-283. doi: 10.4236/ib.2022.144020.

⁶¹ Alibaba. Financial Report 2023. Alibaba. URL.: <https://data.alibabagroup.com/ecms-files/1479231421/aa56f379-6717-4afc-9005-b8a695c7fd95/Alibaba%20Group%20Holding%20Limited%20Fiscal%20Year%202023%20Annual%20Report.pdf> (дата обращения 20.03.24)

российском рынке электронной коммерции, заняв 69% рынка. В России компания работает через онлайн-платформу для международной розничной торговли AliExpress, предназначенной для покупателей за пределами Китая. Популярность AliExpress в России, вынудила Alibaba также запустить ориентированную на российских потребителей площадку Tmall Russia.

В 2019 году Alibaba Group, российский оператор мобильной связи «МегаФон» и российский интернет-гигант Mail.Ru Group завершили создание совместного предприятия в России. Группа создала совместное предприятие с AliExpress Russia. Соотношение долей четырех акционеров в новом предприятии выглядело так: Alibaba Group досталось 47,8%, «МегаФон» — 24,3%, Российскому фонду прямых инвестиций — 12,9% и Mail.Ru — 15%⁶².

Вместе с этим, AliExpress Россия подписала соглашение о стратегическом сотрудничестве с Mail.ru Group, договорилась обмениваться информацией и планами по продуктам, а также использовать платформу Mail.ru Group для продвижения собственных услуг.

В Российском фонде прямых инвестиций надеялись, что AliExpress Россия создаст благоприятные условия для торговцев, потребителей и пользователей интернета в России и странах СНГ, а также ускорит развитие цифровой экономики России за счет интеграции ресурсов различных акционеров⁶³.

Участие РФПИ показывает, что план создания совместного предприятия пользуется поддержкой российского правительства. Этот шаг также совпадает с видением Китая о строительстве «Цифрового Шелкового пути».

Генеральный директор Alibaba Group Чжан Юн подчеркивал, что AliExpress Russia является важной частью стратегии глобализации Alibaba и важным шагом на пути к долгосрочной цели – помочь одному миллиону малых и средних предприятий получать прибыль и обслуживать два миллиарда потребителей по всему миру.

Компания Alibaba вышла на российский рынок, используя свой опыт в области электронной коммерции и готовую технологическую инфраструктуру для удовлетворения растущих потребностей российских потребителей.

Еще в 2020 году AliExpress Россия прогнозировала, что сможет увеличить свой доход до 10 миллиардов долларов к 2022 или 2023 году, обслуживая 50 миллионов клиентов.

Общий валовый объем продаж (GMV) AliExpress Россия в 2021 году составил 306 млрд рублей (без учета услуг), увеличившись на 46% по

⁶² 阿里巴巴集团在俄罗斯成立合资公司。Alibaba Group создает совместное предприятие в России. Источник: Экономическо-торговый отдел Посольства в Казахстане. 2019. URL.: <http://www.mofcom.gov.cn/article/i/jyj/e/201910/20191002903221.shtml> (дата обращения: 02.05.2024)

⁶³ Там же

сравнению с прошлым годом. В декабре 2021 года среднесуточное количество локальных заказов достигло 204 тысяч в день. За год этот показатель вырос на 220%. Общее количество заказов на 2021 год составляет 309 млн заказов, при этом средняя стоимость заказа выросла за год более чем на 20% за счет динамичного роста локального бизнеса.

Число активных покупателей платформы за год превысило 28,7 млн человек, при этом количество покупателей местных товаров выросло в 2 раза. AliExpress Russia улучшила уровень обслуживания, что положительно повлияло на все ключевые показатели бизнеса: индекс потребительской лояльности значительно увеличился за счет улучшения скорости и своевременности доставки, а также за счет расширения ассортимента и запуска нового локального приложения.

AliExpress Россия планировала привлечь новый капитал посредством размещения акций на IPO в 2022 году. Однако экономические санкции против России, ударившие по всем трем российским инвесторам совместного предприятия, снижение курса рубля и закрытие Московской фондовой биржи, сорвали эти планы.

Использование стратегии диверсификации бизнеса принесло Alibaba значительные результаты на российском рынке. Это позволило компании демонстрировать уверенный рост выручки, доли рынка и узнаваемость бренда.

Подводя итог, можно отметить, что стратегия диверсификации бизнеса Alibaba в России оказалась успешной, позволив компании уверенно укрепить свои позиции на рынке и продемонстрировать значительный рост выручки. Важно отметить, что эта стратегия была основана на стратегическом сотрудничестве с местными партнерами, что позволило Alibaba адаптироваться к местным особенностям и предпочтениям потребителей без особого риска.

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ВЛИЯНИЕ ПОСТСАНКЦИЙ НА РОССИЙСКО-КИТАЙСКИЕ ПЕРЕВОЗКИ

Аннотация. Глобальный кризис в сфере регулирования торговли, а также разразившиеся в последние годы торговые войны и эпоха западных санкций против Китая и России привели к более быстрому росту двусторонней торговли между странами. Россия, и Китай сознательно и планомерно диверсифицируют свои партнерские отношения, а их экономики явно дополняют друг друга. Россия может относительно без серьезных потерь компенсировать Китаю потерю западных товаров и получить доступ к относительно надежным поставщикам стратегически необходимых товаров.

Ключевые слова: Китай, Россия, логистика, санкция.

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IMPACT OF POST-SANCTIONS ON RUSSIAN-CHINESE TRANSPORTATION

Abstract. The global crisis in trade regulation, as well as the trade wars and the era of Western sanctions against China and Russia in recent years, have led to faster growth in bilateral trade between the countries. Both Russia and China are consciously and systematically diversifying their partnerships, and their economies are clearly complementary. Russia can compensate China for the loss of Western goods and gain access to relatively reliable suppliers of strategically needed goods relatively without serious losses.

Keywords: China, Russia, logistics, sanctions.

Российско-китайские торгово-экономические отношения развиваются быстрыми темпами. В среднесрочной перспективе объем торговли между Россией и Китаем будет только расти. Так, за девять месяцев 2023 года этот показатель уже превысил 176 миллиардов долларов. В сочетании с текущими темпами можно прогнозировать, что к концу года товарооборот между двумя странами может составить не менее 220-230 миллиардов долларов.

В долгосрочной перспективе российско-китайская торговля продолжит расти благодаря спросу Китая на российские энергоносители и

необходимости российского импорта китайских потребительских товаров в результате перебоев с поставками в страны ЕС.

Фактически, Китай может заменить значительную часть импорта машин из Европы. В ближайшие годы может значительно увеличиться импорт автотранспорта, высокотехнологичной продукции, медицинского оборудования и химической продукции. Кроме того, вероятно, значительно увеличится импорт товаров легкой промышленности (одежда, обувь, ткани) из Китая, которые ранее занимали значительную долю российского рынка.

В связи с резким ростом импорта из Китая возникает проблема скопления пустых контейнеров в центре России, и перевозчики вынуждены предлагать отрицательные ставки на их аренду, чтобы отправить контейнеры обратно на восток. Это происходит почти каждый год во время накопления контейнеров в России, поэтому можно ожидать, что в краткосрочной перспективе эта ситуация сохранится.

ЕС долгое время был главным внешнеторговым приоритетом России и крупнейшим поставщиком товаров на российский рынок. 2022 год - во многом поворотный момент, который приведет к кардинальным изменениям во внешнеторговых показателях России. Китай занял позицию поставщика номер один для России, и впервые в новейшей истории его поставки превысили суммарный экспорт 27 европейских стран в Россию. Бурное развитие российско-китайских торгово-экономических отношений означало новый этап во внешней политике России. Перенаправление товаров на Восток открывает новые возможности и ставит новые задачи, особенно в области логистики и транспортной инфраструктуры.

По словам президента РФ Владимира Путина, в обозримом будущем товарооборот достигнет 200 миллиардов долларов. В настоящее время российско-китайские отношения можно охарактеризовать как стратегическое взаимодействие и долгосрочное партнерство. В октябре на международном форуме "Один пояс, один путь" лидеры двух стран объявили об интеграции инициативы "Один пояс, один путь" и транспортных проектов Евразийского экономического союза. Координация и согласование усилий по развитию новых маршрутов будет способствовать дальнейшему росту межгосударственной торговли. В данном обзоре анализируются показатели, перспективы и проблемы текущего потока товаров из Китая в Россию.

Основные тенденции в российско-китайской двусторонней торговле за последние пять лет связаны со снижением объемов торговли в период пандемии в 2020 году, плановым восстановлением в 2021 году и стремительным ростом в 2022 году. В 2021 году объем российско-китайской торговли составил 145 млрд долларов США, что на 35,8 процента больше, чем в 2020 году. Объем торговли между Россией и Китаем достиг рекордных \$240,11 млрд, увеличившись на 26,3%. Экспорт из Китая в РФ вырос на 46,9% почти до \$110,97 млрд. Импорт российской продукции в КНР также

увеличился – на 12,7% до \$129,14 млрд. Положительное сальдо России за 2023 64, что напрямую свидетельствует об укреплении экономических и торговых отношений между Китаем и Россией, а также о том, что масштабы двусторонней торговли расширяются год от года. Во-вторых, диверсифицируется и вид транспорта для китайско-российской торговли. Традиционный наземный транспорт всегда был основным видом транспорта в китайско-российской торговле, но с продвижением инициативы "Пояс и путь" и экономическим развитием Дальнего Востока России морские и железнодорожные перевозки постепенно становятся важными видами транспорта.

В 2023 году, по данным Главного таможенного управления Китая за девять месяцев, тенденция роста сохраняется - товарооборот между Россией и Китаем увеличился на 29,5 %, или на 40 млрд долларов, до 176,4 млрд долларов. Позиции России как торгового партнера Китая также укрепились, хотя ее доля в китайской торговле остается небольшой - около 4 процентов⁶⁵.

За первые девять месяцев 2023 года китайский экспорт в Россию вырос на 56,9 процента по сравнению с аналогичным периодом 2022 года и составил 81,4 миллиарда долларов, согласно данным Таможенной службы Китая. Однако российский товарный экспорт в Китай вырос не так сильно - на 12,7 процента до 94,9 миллиарда долларов. При такой динамике поставленная лидерами Китая и России цель достичь к 2024 году объема торговли в \$200 млрд, скорее всего, будет достигнута раньше намеченного срока. При этом структура китайских поставок в Россию остается высокодиверсифицированной и с высокой добавленной стоимостью - около 60 процентов от общего объема приходится на различные виды оборудования, автомобили и их части, а также бытовую технику и электронику. В 2023 году наблюдался значительный рост по всем этим категориям: экспорт оборудования вырос на 61 процент, автомобилей - в 4,5 раза, техники и электроники - на 31 процент. Кроме того, среди основных импортных товаров Китая значительно выросли поставки каучука - на 64 процента, оптических изделий - на 62 процента, а скобяных изделий - на 52 процента⁶⁶.

Сдвиг на Восток" привел к росту железнодорожных грузоперевозок с Китаем. По данным ОАО "РЖД", в 2022 году между Россией и Китаем было перевезено более 120 млн тонн грузов, а за девять месяцев 2023 года - более 128 млн тонн, что на 52 % больше, чем за аналогичный период 2022 года. В условиях укрепления экономических отношений между Россией и Китаем развитие трансграничных маршрутов стало актуальной задачей,

⁶⁴ Официальный сайт таможенной службы Китая

⁶⁵ Официальный сайт таможенной службы Китая

⁶⁶ Официальный сайт таможенной службы Китая

разрабатывается транспортный проект по созданию новых железнодорожных пунктов пропуска на российско-китайской границе.

Перенаправление товаров на восток открывает новые возможности и создает новые проблемы, особенно с точки зрения логистики и транспортной инфраструктуры. (На рис.1 показано сравнение объемов торговли между Китаем и Россией за 4 года)

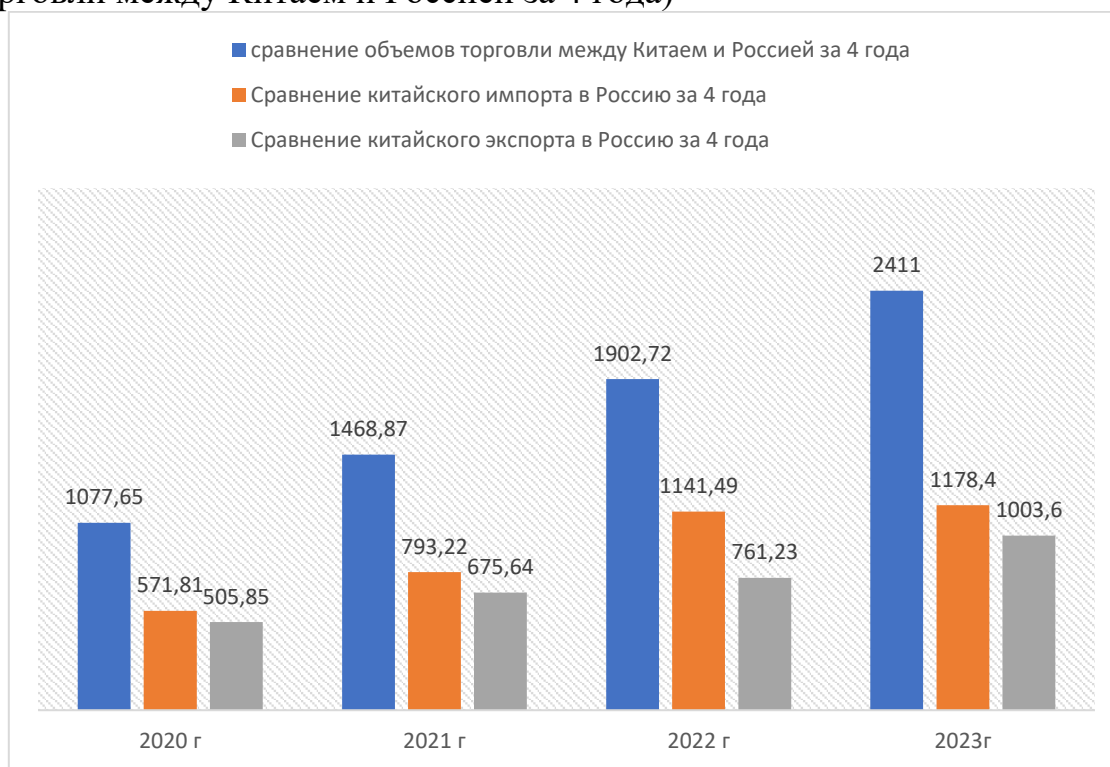


Рис. 1. Сравнение объемов торговли между Китаем и Россией за 4 года⁶⁷

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⁶⁷ Источник: China General Administration of Customs Web

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ПЕРСПЕКТИВЫ РАЗВИТИЯ МЕЖДУНАРОДНЫХ ТРАНСПОРТНЫХ КОРИДОРОВ КИТАЙ-РОССИЯ

Аннотация. В последние годы отношения между Китаем и Россией стремительно развиваются во всех сферах, в том числе и в сфере транспорта. Две страны совместно работают над развитием международных транспортных коридоров, соединяющих Китай и Россию. Эти коридоры могут революционизировать способы транспортировки товаров между двумя странами, а также между Китаем и Европой. В России вопросами, связанными с международными транспортными коридорами, занимается Министерство транспорта. Этот отдел отвечает за разработку и реализацию транспортной политики и стратегии, а также за регулирование транспортной деятельности в стране.

Ключевые слова: Китай, Россия, логистика.

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PROSPECTS FOR THE DEVELOPMENT OF INTERNATIONAL TRANSPORT CORRIDORS CHINA-RUSSIA

Abstract. In recent years, relations between China and Russia have been developing rapidly in all spheres, including transportation. The two countries are working together to develop international transportation corridors connecting China and Russia. These corridors could revolutionize the way goods are transported between the two countries, as well as between China and Europe. In Russia, issues related to international transportation corridors are handled by the Ministry of Transportation. This department is responsible for developing and implementing transport policy and strategy, as well as regulating transportation activities in the country.

Keywords: China, Russia, logistics.

Министерство транспорта тесно сотрудничает с другими государственными органами, такими как Федеральная таможенная служба, Министерство иностранных дел и Министерство экономического развития, для обеспечения эффективного и действенного функционирования транспортных сетей в стране. Что касается международных транспортных

коридоров, Министерство транспорта отвечает за координацию с другими странами и международными организациями для установления и поддержания транспортных связей.

Подразумевает такой подход под собой переговоры по соглашениям о перевозках, упрощение транзитных и пограничных переходов, а также обеспечение безопасности грузов и пассажиров. Министерство также управляет развитием транспортной инфраструктуры, такой как порты, автомагистрали и железные дороги, для поддержки международной торговли и коммерции. Точно так же в Китае вопросы, связанные с международными транспортными коридорами, решаются Министерством транспорта. Этот отдел отвечает за планирование, строительство и управление транспортной инфраструктурой в стране. Он также координирует свои действия с другими государственными учреждениями и международными организациями для установления и поддержания транспортных связей с другими странами. Министерство транспорта Китая также отвечает за разработку политики и правил, касающихся транспорта, внедрение стандартов безопасности и охраны окружающей среды, а также содействие эффективному и действенному использованию транспортных ресурсов.

Министерство тесно сотрудничает с другими ведомствами, такими как Таможенное управление и Министерство торговли, для содействия торговле и коммерции через транспортные сети. В дополнение к Министерству транспорта в Китае также есть отдел под названием Национальная комиссия по развитию и реформам (NDRC), который отвечает за надзор за развитием транспортной инфраструктуры и координацию транспортной политики в различных регионах. NDRC играет решающую роль в продвижении интеграции различных видов транспорта, таких как железные дороги, автомагистрали и порты, для создания эффективных и действенных транспортных коридоров. Одним из наиболее значительных факторов, способствовавших росту перевозок между Китаем и Россией, является инициатива «Один пояс, один путь» (ОПОП), которая представляет собой проект развития под руководством Китая, направленный на создание сети наземных и морских путей, которые соединят Китай, Европу, Азию и Африку. BRI уделяет приоритетное внимание развитию транспортной инфраструктуры, включая железные дороги, автомагистрали, морские порты и аэропорты, для содействия торговле и экономическому росту между участвующими странами.

Китайско-российские транспортные коридоры являются частью ОПОП и могут трансформировать экономические отношения между двумя странами. Транспортные коридоры соединяют северо-восточные провинции Китая, такие как Хэйлунцзян, Ляонин и Цзилинь, с дальневосточными регионами России, такими как Владивосток, Хабаровск и Иркутск. Эти коридоры также соединяют Китай с Транссибирской

магистралью, которая является основным транспортным маршрутом между Россией и Европой. Развитие китайско-российских транспортных коридоров имеет ряд преимуществ для обеих стран. Для Китая транспортные коридоры обеспечивают доступ к обширным природным ресурсам России, включая нефть, газ и древесину. С другой стороны, Россия получает выгоду от расширения торговли и инвестиций со стороны Китая, который в настоящее время является крупнейшим торговым партнером России. Одним из важнейших компонентов транспортных коридоров является развитие новых железнодорожных сообщений между Китаем и Россией. В настоящее время между двумя странами существует два основных железнодорожных сообщения — Транссибирская магистраль и Трансмонгольская магистраль. Конечно же эти маршруты имеют ограниченную пропускную способность и не могут удовлетворить растущий спрос на перевозки между двумя странами. Чтобы решить эту проблему, Китай и Россия работают над созданием нескольких новых железнодорожных веток. Одним из наиболее значимых проектов является

Экономический коридор Китай-Монголия-Россия, который соединит регион Внутренняя Монголия Китая с Сибирским регионом России. Этот коридор обеспечит более прямой и эффективный путь для торговли между двумя странами. Кроме всего прочего есть также и такой важный проект — транспортные коридоры «Приморье-1» и «Приморье-2», которые свяжут Китай с Дальневосточным регионом России. Эти коридоры также соединятся с Транссибирской магистралью, обеспечивая более эффективный транспортный маршрут для товаров между Китаем и Европой. В заключение следует отметить, что развитие международных транспортных коридоров между Китаем и Россией может революционизировать перевозки и торговлю между двумя странами. Эти коридоры обеспечат более эффективные и прямые транспортные маршруты, увеличив скорость и объем грузов, перевозимых между странами. Собственно говоря развитие также улучшит экономические отношения между Китаем и Россией, что приведет к увеличению торговли и инвестиций. Таким образом, перспективы развития международных транспортных коридоров между Китаем и Россией блестящие, и они, вероятно, сыграют значительную роль в росте мировой экономики в ближайшие годы.

Китайско-российский международный транспортный коридор является важным маршрутом для перевозки грузов между Китаем и Россией. Он соединяет две страны железнодорожным, автомобильным и морским транспортом, обеспечивая быстрый и эффективный вид транспорта для обеих стран. В настоящее время международный транспортный коридор Китай-Россия используется для перевозки широкого спектра товаров, в том числе машин, электроники, химикатов и текстиля. Китай экспортирует в Россию различные товары, в том числе электронику,

машины, текстиль и продукты питания. Взамен Россия экспортирует в Китай такие товары, как нефть, газ, древесину, металлы и сельскохозяйственную продукцию. В последние годы объем грузов, перевозимых по международному транспортному коридору Китай-Россия, неуклонно растет. По данным Китайской железнодорожной корпорации, объем грузов, перевозимых между двумя странами по железной дороге, увеличился в 2019 году на 57% по сравнению с предыдущим годом, достигнув в общей сложности 3,2 млн тонн. В ближайшем будущем планируется дальнейшее расширение китайско-российского международного транспортного коридора и увеличение объемов грузов, перевозимых между двумя странами.

Одним из ключевых проектов является строительство скоростной железной дороги между Москвой и Пекином, что значительно сократит время в пути между двумя городами и упростит перевозку грузов. Кроме всего прочего есть также и такой проект — развитие Северного морского пути, соединяющего Китай с Россией через Северный Ледовитый океан. Маршрут предлагает более короткий и эффективный морской путь для перевозки грузов, особенно в летние месяцы, когда тает лед. В 2019 году Китай запустил свой первый коммерческий грузовой корабль по Северному морскому пути, что стало значительным шагом вперед для проекта. Подводя краткие итоги того материала который был представлен в этой теоретической главе хотелось бы отметить следующее что международный транспортный коридор Китай-Россия является важным маршрутом для перевозки грузов между двумя странами. Ожидается, что с учетом планов по расширению и совершенствованию транспортной инфраструктуры объем перевозимых грузов в ближайшие годы увеличится, что еще больше укрепит экономические связи между Китаем и Россией.

Международные транспортные коридоры Китай-Россия представляют собой серию амбициозных инфраструктурных проектов, направленных на улучшение торговли и транспорта между двумя странами. Ожидается, что эти коридоры окажут глубокое влияние на экономику обеих стран, а также на регион в целом. Чтобы помочь финансировать развитие этих транспортных коридоров, и Китай, и Россия вложили значительные суммы денег. Китайская инициатива «Один пояс, один путь» (ОПОП), направленная на улучшение связи и экономического сотрудничества между Китаем и странами Евразии, внесла большой вклад в развитие этих коридоров. В рамках BRI Китай инвестировал в ряд проектов, включая строительство новых автомагистралей, железных дорог и портов в России. Россия, в свою очередь, запустила собственную программу развития инфраструктуры, известную как Программа развития Транссибирской магистрали. Эта программа включает в себя модернизацию и расширение Транссибирской магистрали, а также развитие новых транспортных маршрутов, связывающих Россию с Китаем и другими азиатскими

странами. В совокупности инвестиции Китая и России в развитие международных транспортных коридоров были значительными. По некоторым оценкам, Китай инвестировал более 100 миллиардов долларов в BRI, а Россия вложила более 80 миллиардов долларов в программу развития Транссибирской магистрали. Ожидаемый эффект от этих инвестиций значителен. Ожидается, что улучшение транспортного сообщения между Китаем и Россией увеличит объемы торговли и снизит транспортные расходы, что принесет пользу предприятиям обеих стран. Транспортные коридоры также откроют новые возможности для экономического сотрудничества и инвестиций, особенно в таких отраслях, как энергетика, производство и сельское хозяйство.

Количественные данные о развитии международных транспортных коридоров между Китаем и Россией собирались на протяжении многих лет из различных источников. В последнее время основное внимание уделялось оценке потенциала этих коридоров и выявлению предстоящих задач и возможностей. Одно из наиболее заметных исследований на эту тему было проведено Всемирным банком в 2017 году. В отчете под названием «Соединение через транспорт: содействие росту и интеграции в российско-китайском регионе» подчеркиваются преимущества транспортных коридоров для региональной интеграции, торговли и экономического роста. Согласно отчету, транспортные коридоры потенциально могут снизить транспортные расходы до 25%, увеличить торговлю на 10% и создать значительные экономические выгоды для региона.

Другое исследование, проведенное Азиатским банком развития в 2018 году под названием «Наведение мостов: китайская инициатива «Один пояс, один путь» и развитие Евразии», посвящено более широкой инициативе «Один пояс, один путь» (ОПОП) и ее влиянию на регион. В отчете подчеркиваются потенциальные преимущества ОПОП для региона, включая рост торговли, инвестиций и развитие инфраструктуры. В нем также подчеркивается необходимость тщательного планирования и управления инициативой, чтобы гарантировать, что она принесет пользу всем участвующим странам. В дополнение к этим отчетам существует также несколько других источников данных, которые дают представление о развитии этих коридоров, опять же данные о торговых потоках между Китаем и Россией дают хорошее представление о потенциальных преимуществах улучшения транспортных связей. Согласно данным Конференции Организации Объединенных Наций по торговле и развитию, торговля между Китаем и Россией неуклонно росла на протяжении многих лет, и в 2019 году общий объем торговли составил около 100 миллиардов долларов. Данные о развитии инфраструктуры вдоль коридоров также дают представление о прогрессе, достигнутом за последние годы. Мне хотелось бы отметить следующую интересную деталь строительство Экономического коридора Китай-Монголия-Россия продолжается с 2014

года, и в последние годы достигнут значительный прогресс. Коридор включает в себя несколько крупных инфраструктурных проектов, в том числе строительство железных и автомобильных дорог и портов.

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ЗАКОНЫ СЕТЕВЫХ ЭФФЕКТОВ И ВЫБОР СТРАТЕГИИ СОЗДАНИЯ И РАЗВИТИЯ ФИРМЫ НА РЫНКЕ ИНФОРМАЦИОННЫХ ПРОДУКТОВ И УСЛУГ

Аннотация. Данная статья исследует законы сетевых эффектов и стратегии развития фирмы на рынке информационных продуктов и услуг. Она рассматривает различные типы сетевых эффектов, такие как прямые, косвенные, двусторонние, социальные и информационные, и их влияние на развитие бизнеса. Авторы обсуждают принципы функционирования сетевых эффектов, включая критическую массу, обратную совместимость, привилегии членов сети, сложность выхода и значимость сети. Это исследование предлагает практические рекомендации для фирм, стремящихся эффективно использовать сетевые эффекты для успешного создания и развития на рынке информационных продуктов и услуг.

Ключевые слова: законы сетевых эффектов, стратегия развития фирмы, информационные продукты, критическая масса, обратная совместимость, привилегии членов сети, сложность выхода, значимость сети, развитие бизнеса, рынок информационных продуктов, устойчивое развитие.

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LAWS OF NETWORK EFFECTS AND CHOICE OF STRATEGY FOR CREATING AND DEVELOPING A COMPANY IN THE MARKET OF INFORMATION PRODUCTS AND SERVICES

Annotation. This article explores the laws of network effects and strategies for developing a firm in the market of information products and services. It examines various types of network effects, such as direct, indirect, two-sided, social, and informational, and their impact on business development. The authors discuss the principles of network effects, including critical mass, reverse compatibility, network member privileges, exit complexity, and network significance. This study offers practical recommendations for firms aiming to

effectively utilize network effects for successful creation and development in the market of information products and services.

Keywords: laws of network effects, firm development strategy, information products, critical mass, reverse compatibility, network member privileges, exit complexity, network significance, business development, market of information products, sustainable development.

Сетевым эффектом обычно называется такое свойство продукта или услуги, которое увеличивает ее полезность при увеличении количества потребителей. Последнее иногда называют экономией масштаба на стороне спроса – другими словами эффект экономии масштаба действует похоже на то, как действует эффект масштаба на стороне предложения (производства).

Различают прямые, косвенные, двусторонние, социальные и информационные сетевые эффекты. Прямой сетевой эффект появляется, когда полезность каждого отдельного потребителя продукта или услуги возрастает при увеличении других пользователей (потребителей), с которыми можно установить связь. Классический пример: это телефонная связь. Чем больше людей пользуются телефонами, тем больше полезности может принести использование телефонного аппарата. Ценность сети в целом также возрастает при возрастании количества абонентов, так как подключение каждого дополнительного абонента означает возможность для всех остальных связаться с еще большим количеством людей.

Косвенные сетевые эффекты означают, что при увеличении числа пользователей услуги или потребителей товара возрастает количество комплиментарных услуг, которые в свою очередь повышают ценность изначального товара и привлекают еще больше потребителей. Одним из хороших примеров может служить мобильная операционная система Android. Система хороша не столько тем, что ее используют миллионы пользователей, а тем, что она служит платформой для дополнительных приложений, которые можно установить на эту систему и которые могут принести полезность пользователям в дополнение к основным функциям системы.

Двусторонние сетевые эффекты действуют, когда увеличение одной из групп пользователей продукта увеличивает полезность для другой группы пользователей продукта. Например, увеличение количества пользователей операционной системы Android также увеличивает полезность этой системы для разработчиков мобильных приложений.

Социальные сетевые эффекты обычно основаны на общности языка, культурных и социальных норм, принятых на определенной территории. Например, жители России обычно присоединяются к социальной сети Вконтакте, т.к. другие пользователи сети тоже являются жителями России и разделяют общий язык и культуру. Жителю России было бы бессмысленно присоединяться к китайской социальной сети, например, Xiaohongshu, из-за

разности в языке и культуре – даже несмотря на то, что число пользователей этой социальной сети может в разы превышать число пользователей сети Вконтакте. В этом примере как раз ключевую роль играет социальный сетевой эффект.

Информационные сетевые эффект увеличивает ценность сети при увеличении количества информации в сети. Пример, электронная энциклопедия Википедия.

Характер положительных сетевых эффектов может быть выражен законом Меткалфа, который говорит, что полезность сети возрастает пропорционально половине квадрата числа пользователей сети.

Но необходимо помнить, что сетевые эффекты могут также быть отрицательно направлены. Например, полезность информационного «канала» в мобильном приложении Telegram обычно возрастает с увеличением числа участников (каждый подписчик может узнать больше фактов, мнений и новостей, а также поделиться своими сообщениями с большим количеством участников). Тем не менее, после определенного количества участников, «лента» канала становится перегруженной информацией и полезность от такого канала начинает уменьшаться.

Закон Рида является теоретическим и эмпирическим продолжением закона Меткалфа, которая гласит, что полезность больших сетей может экспоненциально увеличиваться в зависимости от размера сети. Рид утверждал, что закон Меткалфа недооценивает ценность сети по мере ее роста.

Действительно, участник подключен ко всей сети в целом, но также и ко многим значительным подмножествам целого. Эти подмножества добавляют ценность как человеку, так и самой сети. При включении подмножеств в расчет значения сети значение увеличивается быстрее, чем при учете только узлов самих по себе.

Этот закон особенно подходит для сетей, в которых рассматриваются более или менее формальные отдельные лица, сообщества и подгруппы.

Выделяют несколько принципов сетевых эффектов. Рассмотрим основные из них.

- Принцип критической массы. Функционирование сетевого эффекта начинается тогда, когда в сети накапливается определенное количество пользователей, т.е. критическая масса. Установление низких цен является самым эффективным способом набора критической массы.

- Принцип обратной совместимости. Вход в сеть, если мы говорим о коммуникационных решениях, переключение на новый стандарт общения должно осуществляться с минимальными усилиями для пользователя. Одной из особенностей легкости входа в сеть является совместимость с другими сетевыми стандартами, дабы потребитель не ощущал себя что-то теряющим от перехода из сети в сеть.

- Принцип привилегий членам сети. Нахождение в сети пользователей нужно закреплять, поскольку конкуренция в данной отрасли постоянно растет.

- Принцип сложности выхода. В идеале, потребитель не должен захотеть менять свою сеть, так как сеть должна стремиться покрыть максимум возможных запросов человека в какой-либо сфере. Например, сотовые операторы выступают против собственности на телефонные номера, хотя и предоставляют такую услугу, что усложняет выход и заставляет пользователей находиться в сети.

- Принцип значимости сети. Лояльность к тому, что нельзя осязать, не может быть высокой по определению. Справедливо и обратное – то, что можно ощутить, подержать в руках, взять с собой дает психике больше возможности «зацепиться», проставить «якоря». А к этим «якорям» уже привязать значимость. Здесь не идет речь о том, что всю сеть пользователей нужно стараться вытянуть в офф-лайн. Речь о том, чтобы дать потребителю некую осязаемость.

Есть несколько стратегий, которые могут быть использованы компаниями на рынках товаров или услуг с сетевым эффектом, с учетом основных принципов функционирования таких рынков.

Еще раз рассмотрим принцип «критической массы» числа участников. В начале жизненного цикла компании, бизнес которой основан на применении сетевых эффектов, количество участников еще мало и, следовательно, невелика и полезность сети для каждого отдельного участника. При увеличении числа участников, экономика фирмы достигает такой точки, когда цена на продукт ниже или равна полезности, которую он может принести для каждого отдельного участника – эта точка называется «критической точкой». После ее достижения рост фирмы и количества участников начинает стабилизироваться и продолжается пока число пользователей не достигает устойчивого равновесия. Из этого следует, что основной вопрос для фирмы в начале жизненного цикла такого продукта – это как привлечь пользователей до момента достижения точки критической массы.

Одной из стратегий для достижения этой цели может быть разработка и продвижение на рынок сети, которая сама по себе может принести достаточно полезности даже на начальном этапе ее использования (без большого количества других участников) и таким образом быстро достичь точки критической массы и «включить» сетевой эффект.

Еще одна стратегия, реализуемая в основном при наличии на рынке конкурентов, основана на том, что недавно появившиеся на рынке товары или услуги с сетевым компонентом могут «увести» пользователей у существующих компаний, как только они могут показать, что их сеть имеет дополнительную полезность по сравнению с существующей сетью. Это происходит, так как пользователи имеют тенденцию уходить из одной сети

в другую «сообща». Тем не менее, это может произойти только при удовлетворении всех из нижеследующих условий:

1. Полезность, извлекаемая пользователем из новой сети должна превышать полезность, извлекаемую из дифференциации.

2. У пользователей должны быть высокие издержки пользования несколькими сетями одновременно.

3. У пользователей должны быть высокие издержки переключения с одной сети на другую.

Если хотя бы одной из этих условий не выполняется, то на рынке будут существовать несколько сетей одновременно, часто с пересекающейся пользовательской базой.

В этой связи, компании, выходящие на рынок с новым продуктом, основанным на сетевых эффектах, могут преследовать стратегию по минимизации издержек переключения – например путем внесения свойства «обратной совместимости» своего продукта. Например, новая социальная сеть может предложить импорт контактов и контента, который пользователя имеет в предыдущей социальной сети.

В то же время, компании, которые уже занимают устойчивое положение на рынке товаров с сетевым эффектом, могут последовать стратегии повышения издержек входа на рынок. Например, они могут применять ценовое дискриминирование предлагать доступ к своей сети для новых пользователей по цене, которая ниже того, что себе может позволить установить любой новоявленный конкурент.

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РАСЧЕТ И ОЦЕНКА ПОКАЗАТЕЛЕЙ РЕЗУЛЬТАТИВНОСТИ ИНВЕСТИЦИОННЫХ ФОНДОВ НЕДВИЖИМОСТИ (REIT)

Аннотация. Научная статья исследует расчет и оценку показателей результативности инвестиционных фондов недвижимости (REIT). Она рассматривает методики оценки эффективности инвестиций, помогая инвесторам принимать обоснованные решения и оптимизировать управление портфелем. Исследование фокусируется на сложностях оценки результативности фондов недвижимости и их влиянии на инвестиционные стратегии и решения.

Ключевые слова: оценка результативности, инвестиционные фонды недвижимости, REIT, эффективность инвестиций, инвестиционный портфель, инвестиционные стратегии, результативность.

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CALCULATION AND EVALUATION OF PERFORMANCE INDICATORS FOR REAL ESTATE INVESTMENT TRUSTS (REITS)

Annotation. This scientific article delves into the calculation and evaluation of performance indicators for Real Estate Investment Trusts (REITs). It explores methodologies for assessing the effectiveness of investments, aiding investors in making informed decisions and optimizing portfolio management. The study focuses on the intricacies of evaluating the performance of real estate investment funds, highlighting their impact on investment strategies and decisions.

Keywords: performance evaluation, real estate investment funds, REIT, investment efficiency, investment portfolio, investment strategies, performance.

В современном мире инвестиционные фонды недвижимости (REIT) играют значительную роль в финансовой сфере, предоставляя инвесторам возможность вложения средств в недвижимость без необходимости прямого владения объектами. Расчет и оценка показателей результативности REIT имеют важное значение для инвесторов, поскольку позволяют оценить эффективность инвестиций, принимать обоснованные решения и

оптимизировать портфель. В данной научной статье рассматривается методика расчета и оценки показателей результативности инвестиционных фондов недвижимости, а также их влияние на инвестиционные стратегии и решения.

Существует два основных подхода к оценке деятельности инвестиционных фондов недвижимости (REIT) – по принципу «снизу-вверх» и по принципу «сверху-вниз».

Подход «снизу-вверх» к оценке результативности инвестиционных фондов недвижимости строится на фундаментальном анализе финансовых показателей фонда. При этом здесь необходимо отметить, что фундаментальный анализ инвестиционных фондов недвижимости обладает своей отраслевой спецификой.

В отличие от публичных компаний, которые осуществляют свою деятельность в «традиционных» отраслях экономики (розничные продажи, легкая и тяжелая промышленность, информационные технологии и т.д.) и чей финансовый анализ строится преимущественно на анализе потока денежных средств, например, посредством метода анализа дисконтированных денежных потоков (Discounted Cash Flow, DCF), анализ инвестиционных фондов недвижимости строится преимущественно на оценке стоимости чистых активов (Net Asset Value, NAV) и использовании модели дисконтирования дивидендов (Dividend Discount Model, DDM).

Фундаментальная причина такого различия кроется в том, что как правило производственные активны на балансе компаний «традиционных» отраслей экономики имеют очень неликвидную форму и, поэтому, крайне сложно поддаются оценке. Кроме этого, в таких компаниях активы учитываются по исторической (балансовой) стоимости – т.е. суммарного объема средств, который был потрачен для покупки или производства данного актива, что также не отражает (и часто значительно занижает) текущую стоимость данного актива.

Напротив, инвестиционные фонды недвижимости отличаются от компаний «традиционных» отраслей тем, что активы, которые составляют портфель REIT (объекты коммерческой и жилой недвижимости), характеризуются достаточно ликвидным рынком. Поэтому портфель REIT может быть с высокой долей точности оценен на основе рыночных данных, и, следовательно, сама рыночная стоимость акции REIT также подлежит правдоподобной оценке на основе этих данных. На этом базируется самый распространенный способ оценки REIT - анализ стоимости чистых активов (Net Asset Value, NAV). Она заключается в том, что вместо того, чтобы рассчитывать суммарный объем дисконтированных ожидаемых денежных потоков, приходящихся на акцию компании, рассчитывается реальная рыночная стоимость недвижимого имущества компании за вычетом обязательств в расчете на одну акцию.

Оценка текущей рыночной стоимости активов REIT основывается на сравнительном анализе стоимости объектов, находящихся на балансе компании, с объектами, обладающими похожими характеристиками, выставленных на продажу на рынке в данный момент.

К числу характеристик, используемых для сравнительной оценки объектов недвижимости, относят:

- **Характеристика арендаторов** – оценивается уровень платежеспособности, а также уровень кредитного риска.

- **Условия аренды** – как правило оценивается средневзвешенный срок аренды, а также динамика показателя ожидаемого прекращения договоров аренды, как показатель стабильности денежного потока компании.

- **Показатель погашения арендной платы** – показывает отношение фактически выплаченных арендных платежей, к общему размеру инвойсированных арендных платежей. Как правило не является большой проблемой для фондов REIT, хотя в кризисные периоды (как например во время пандемии COVID-19 в 2020-2021 гг.) арендодатели могут требовать предоставления отсрочки арендных платежей, что негативно сказывается на данном показателе.

- **Динамика приобретений и продаж объектов недвижимости** – дает характеристику стратегии REIT в отношении своего портфеля недвижимости. Здесь необходимо понимать почему какой-либо объект был куплен или продан и как данная транзакция вписывается в общий стратегический и инвестиционный план компании.

Так как метод NAV основан на текущих рыночных ценах, а также не использует какие-либо дополнительные оценочные показатели (например, ожидаемая стоимость капитала), которые могут внести дополнительную неопределённость в расчеты, он является основным методом оценки REIT на сегодняшний день.

Законодательное требование выплачивать не менее 90% прибылей в форме дивидендов, делает модель дисконтирования дивидендов (DDM) еще одним предпочтительным инструментом для анализа рыночной стоимости REIT. Напомним, что модель дисконтирования дивидендов (DDM) заключается в расчете приведенной стоимости спрогнозированных дивидендных платежей, дисконтированных по стоимости привлечения капитала компании.

Как ни странно, но для расчета модели DDM, показатель прибыли REIT не может служить точным индикатором размера будущих дивидендов из-за значительной роли амортизационных вычетов, а также из-за влияния доходов от прироста капитала и/или капитальных убытков от продажи активов, при формировании показателя прибыли для отчета о прибылях и убытках REIT. Даже несмотря на то, что капитальный прирост/убыток - вполне реальная денежная величина (в отличие от амортизационных

вычетов, которые по сути являются неденежной корректировкой), он все же не может быть использован для точной оценки будущих денежных потоков REIT.

Таким образом размер дивидендов REIT может быть спрогнозирован в рамках модели DDM на основе показателя денежного потока от операций (Funds From Operations, FFO), который не учитывает амортизационные вычеты (они добавляются обратно к прибыли REIT при расчете данного показателя), а также прибыли/убытки от продажи недвижимого имущества фонда. Подобные корректировки делают FFO более стабильным показателем для целей финансового моделирования и прогнозирования. Как только аналитик спрогнозировал FFO будущих периодов, рассчитывается исторический показатель FFO на одну акцию, который затем сравнивается с размером дивидендных платежей на одну акцию. Как правило, отношение этих двух величин исторически относительно стабильно и может использоваться как основа для прогнозирования дивидендных платежей (отталкиваясь от прогнозируемых потоков FFO) в будущем. Спрогнозированные дивидендные платежи затем дисконтируются, например, с использованием модели Гордона.

Здесь все же необходимо подчеркнуть, что так как в основе подхода DDM лежит прогноз размера будущих дивидендов, который преимущественно основывается на субъективной оценке инвестиционного аналитика, а также оценочная природа показателя текущей стоимости капитала (и особенно, *ожидаемой* стоимости капитала), все это делает подход DDM менее распространенным для анализа REIT из-за его сравнительно большей субъективности и меньшей точности чем подход, основанный на рыночной оценке NAV, описанный выше.

Подход «сверху-вниз» в свою очередь, начинается с оценки факторов, влияющих на спрос и предложение на акцию компании – таких, как например уровень процентных ставок в экономике, изменения на рынке недвижимости и т.д. При этом, часто компания (в данном случае REIT) принимается за некий «черный ящик», которых характеризуется только динамикой цены на акцию фонда.

В то время как фундаментальный («снизу-вверх») подход к оценке результативности REIT является наиболее тщательным, подход «сверху-вниз» также не теряет своей актуальности, особенно когда речь идет об оценке результатов деятельности множества REIT, проводимой в рамках одного исследования. Действительно, в данном случае цена на акцию REIT может служить хорошим индикатором результативности фонда.

Уже долгое время ведётся дискуссия о том, чем можно считать конечную цель функционирования компании, в частности публичного фонда недвижимости REIT. Приверженцы одного лагеря, заявляют о том, что цель компании – продавать товары или оказывать услуги, причем делать это только таким образом, чтобы максимизировать прибыль компании.

Привержены другого лагеря указывают на то, что компании функционируют в широком контексте социально-экономических отношений и, поэтому наряду с максимизацией прибыли, внимание должно уделяться минимизации социальных, экологических и т.д. издержек. В последние годы как раз второй подход получил широкое распространение в рамках философии экологического, социального и корпоративного управления (Environmental, Social, and Corporate Governance, ESG), которая заявляет три основные миссии для компании:

1. Преследовать прежде всего путь устойчивого развития бизнеса;
2. Максимизировать ценность для всех стейкхолдеров, а не только непосредственных владельцев бизнеса;
3. Преследовать также экологические и социальные цели в рамках стратегического плана компании.

Тем не менее данный подход имеет ряд недостатков – прежде всего то, что цели в рамках философии ESG, а также критерии их оценки, носят расплывчатый характер. Поэтому традиционный взгляд корпоративных финансов, указывает на то, что наиболее эффективным подходом следует считать принятие основной цели функционирования компании как максимизация ценности компании, а в случае публичных компаний эта цель еще более сужается до максимизации ценности компании *для акционеров*. Этот подход имеет два основных преимущества перед подходом ESG.

Во-первых, практическая реальность такова, что в ходе функционирования организации, цели какой-то одной группы стейкхолдеров будут неминуемо превалировать над целями остальным групп стейкхолдеров. В рамках традиционных корпоративных финансов, принято считать, что группой стейкхолдеров, цели которой должны иметь приоритет перед целями остальных групп, должны быть акционеры компании так как именно они являются наименее защищённой группой стейкхолдеров т.к. претендуют лишь на остаточный доход или ликвидационную стоимость компании.

Во-вторых, для публичных компаний цена на акцию является достаточно точной оценкой той ценности, которую получают акционеры от бизнеса т.к. цены на акции являются общедоступной информацией, которая, по крайней мере в теории, мгновенно отображает совокупное отношение рынка к данной компании на основе всех публичных данных (которые включают также и финансовую отчетность).

Глубокий разбор научной дискуссии сторонников того или иного подхода выходит за рамки данной статьи, но тем не менее можно с уверенностью предположить, что цена на акцию может служить достоверным и точным показателем результативности деятельности публичных компаний и, в частности, публичных REIT.

Здесь необходимо отметить, что использование цены на акцию самой по себе не даст точной оценки результативности деятельности компании.

Компании могут иметь разное количество акций в обращении и, следовательно, разница в абсолютных ценах на акции не будет носить какую-либо информационную нагрузку относительно ценности компании.

Кроме этого, разница в динамике цен на акции сама по себе также не может использоваться для достоверной сравнительной оценки результативности деятельности компании, так как цены на акции компаний подвержены влиянию рыночных факторов, которые действуют, как правило, в одинаковом направлении. Например, по определению, все инвестиционные фонды недвижимости REIT подвержены влиянию общих экономических факторов, которые сказываются на конъюнктуре рынка недвижимости (отраслевые, макроэкономические факторы и т.д.). По этой причине, в данном исследовании предлагается использование ряда коэффициентов двух типов для оценки сравнительной результативности деятельности инвестиционного фонда недвижимости (REIT).

В первую группу относятся показатели, которые показывают прирост стоимости актива на единицу риска (risk-adjusted return). Расчет показателей подобного класса необходим, так как инвесторы, приобретающие активы с большим риском, как правило требуют большую доходность для того, чтобы компенсировать дополнительный риск. В данной работе «риск» будет измеряться как волатильность цены на акцию соответствующего REIT или коэффициент «бета» цены на акцию REIT относительно рыночного индекса.

Традиционным показателем доходности актива на единицу риска является коэффициент Шарпа (Sharpe ratio), рассчитываемый по формуле:

$$\frac{R_t - R_f}{\sigma_t}, \quad (1)$$

где:

- R_t - доходность актива
- R_f – безрисковая ставка доходности
- σ_t – волатильность актива

Коэффициент Шарпа показывает, насколько хорошо доходность инвестора соответствует уровню риска инвестиции, таким образом более высокий коэффициент Шарпа показывает, что данный актив более привлекателен в плане риск-доходность, чем актив с меньшим коэффициентом Шарпа.

Аналогичным коэффициенту Шарпа показателем является коэффициент Трейнора (Treynor ratio):

$$\frac{R_t - R_f}{\beta_{t,B}}, \quad (2)$$

где:

- R_t - доходность актива
- R_f – безрисковая ставка доходности
- $\beta_{t,B}$ – коэффициент «бета» актива

В отличие от коэффициента Шарпа, коэффициент Трейнора использует коэффициент «бета», а не волатильность, для измерения уровня риска, что показывает доходность на единицу относительного (отраслевого) риска. Активы с более высоким значением показателя более предпочтительны, чем активы с более низким значением.

Еще одним показателем является показатель доходности на единицу риска Модильяни (Modigliani risk-adjusted performance, M2):

$$(R_t - R_f) * \left(\frac{\sigma_B}{\sigma_t}\right) + R_f, \quad (3)$$

где:

- R_t - доходность актива
- R_f – безрисковая ставка доходности
- σ_B – волатильность рыночного или отраслевого индекса
- σ_t – волатильность актива

Показатель доходности Модильяни корректирует доходность актива на отношение волатильности индекса отрасли и цен на актив.

Во вторую группу попадают показатели, которые дают оценку прироста цены актива (в данном случае акции REIT) на единицу риска в дополнении к приросту некоего индекса, который характеризует отрасль (рынок) в целом. Другими словами, «альфа» оценивает избыточную доходность, которую показывает фонд по сравнению некой средней доходностью свойственной для данной отрасли, которая характеризуется динамикой отраслевого индекса.

Традиционно, коэффициент «альфа» рассчитывается по формуле:

$$\alpha = (R_t - R_f) - \beta_{t,B} \cdot (R_B - R_f), \quad (4)$$

где:

- R_t - доходность актива
- R_B - доходность рыночного или отраслевого индекса
- R_f – безрисковая ставка доходности
- $\beta_{t,B}$ – коэффициент «бета» актива

Показатель «альфа», рассчитанный по данной формуле, обычно называют, «альфой Дженсена» (Jensen's Alpha). Идея, которая стоит за данным показателем, заключается в том, что из доходности актива вычитается компонента, которая обусловлена колебаниями рынка (отрасли).

В дополнении к «альфа Дженсена», используется показатель «альфа Модильяни» (Modigliani risk-adjusted additional performance):

$$(R_t - R_f) * \left(\frac{\sigma_B}{\sigma_t}\right) - (R_B - R_f), \quad (5)$$

где:

- R_t - доходность актива

- R_B - доходность рыночного или отраслевого индекса
- R_f – безрисковая ставка доходности
- σ_B – волатильность рыночного или отраслевого индекса
- σ_i – волатильность актива

Здесь, так же, как и в случае альфы Дженсона, из доходности актива вычитается доходность рынка (отрасли), с той лишь разницей, что доходности актива корректируется на значение, показывающее относительный общий риск рынка по сравнению с данным активом.

Здесь необходимо отметить, что в данном исследовании в качестве показателя рынка (benchmark) используется индекс Dow Jones U.S. Real Estate Index (DJUSRE), который показывает динамику цен на акции REIT, а также других компаний, инвестирующих в недвижимость США.

Хотелось бы подчеркнуть, что вышеприведенные показатели доходности основываются на разных взглядах на фактор риска. Показатель волатильности (сигма) показывает общий риск – т.е. влияние всех возможным факторов, как внутренних, отраслевых, так и внешних, на динамику цены акции REIT. В это время, коэффициент «бета» показывает уровень риска только в отношении отрасли, в которой работает компания.

Таблица 6. Классификация показателей доходности

	Доходность на единицу риска	Дополнительная доходность («альфа»)
Общий риск	Доходность Модильяни Коэффициент Шарпа	Альфа Модильяни
Систематический (отраслевой) риск	Коэффициент Трейнора	Альфа Дженсена

В заключении можно подчеркнуть, что многоаспектный подход к измерению доходности цены на акцию инвестиционного фонда недвижимости REIT является ключевым элементом для объективной оценки результативности инвестиций. Использование различных методов расчета показателей доходности позволяет получить более полную и точную картину эффективности деятельности фонда, что в свою очередь способствует принятию обоснованных инвестиционных решений и оптимизации портфельных стратегий. Дальнейшие исследования в данной области могут углубить понимание механизмов оценки результативности инвестиционных фондов недвижимости и способствовать развитию инвестиционной практики в этом секторе.

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СОЗДАНИЕ КОНЦЕПЦИИ ЭКОСИСТЕМЫ МОЛОДЕЖНОГО ИННОВАТОРСТВА ДЛЯ ФОРМИРОВАНИЯ РЫНКА ИНТЕЛЛЕКТУАЛЬНОЙ СОБСТВЕННОСТИ И РАЗВИТИЯ ИНТЕЛЛЕКТУАЛЬНОГО ПОТЕНЦИАЛА РОССИИ

Аннотация. Статья посвящена анализу элементов экосистемы молодежного инноваторства и выделению групп элементов, которые выполняют разные функции по отношению к инновационной деятельности молодежи. Ключевыми элементами экосистемы молодежного инноваторства являются: субъекты управления инновационной деятельностью молодежи, сами молодые инноваторы, инфраструктура инновационной деятельности и связующие коммуникационные процессы.

Ключевые слова: инновационная деятельность, инновационная экосистема, инновационный процесс, результаты интеллектуальной деятельности.

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CREATION OF THE CONCEPT OF AN ECOSYSTEM OF YOUTH INNOVATION FOR FORMING AN INTELLECTUAL PROPERTY MARKET AND DEVELOPING THE INTELLECTUAL POTENTIAL OF RUSSIA

Abstract. The article is devoted to the analysis of the elements of the youth innovation ecosystem and the identification of groups of elements that perform

different functions in relation to the innovative activities of youth. The key elements of the youth innovation ecosystem are: subjects of youth innovation management, young innovators themselves, innovation infrastructure and connecting communication processes.

Key words: innovation activity, ecosystem, innovation process.

Инновационная деятельность включает в себя процессы, направленные на перевод результатов научных исследований или иных научно-технических достижений в новый или усовершенствованный продукт и процесс, используемый в практической деятельности. Инновационная деятельность представляет собой целесообразное изменение, преобразование различных сторон жизнедеятельности человека, в том числе рационализацию производства, обновление его технологической структуры с целью достижения желаемого социального и экономического результата. Молодежь – основная возрастная категория, которая обладает такими важными характеристиками как социальная и предпринимательская активность, инициатива, креативность мышления – все необходимые факторы для инновационного развития экономики. Именно поэтому формирование и развитие экосистемы молодежного инноваторства требует анализа и внимания со стороны субъектов управления инновационным развитием.

Для расширения и развития инновационного предпринимательства с использованием преимуществ интеллектуальной собственности необходима системная поддержка со стороны различных субъектов инновационного процесса, а также активное вовлечение молодежи в инновационную деятельность.

Однако существует целый ряд проблем, препятствующих данному процессу: это низкий уровень осведомленности молодых участников инновационного процесса об институте интеллектуальной собственности и экономических преимуществах, которые получает субъект инновационной деятельности при использовании интеллектуальной собственности в предпринимательской среде, недостаточное количество площадок и информационных каналов для объединения усилий участников инновационного процесса и др.

Решению этих проблем будет способствовать эффективная экосистема молодежной инноватики, которая даст синергетический эффект за счет более активного вовлечения участников в инновационную деятельность, использования методов организации бизнес-процессов в сфере интеллектуальной собственности, использования цифровой среды как коммуникационного канала, наиболее популярного среди молодежи.

Под инновацией понимается положительное, прогрессивное новшество (идея, деятельность, технология или материальный объект, ранее

не применявшийся организационной системой).⁶⁸ В зависимости от способа применения инновации подразделяются на: продуктовые, технологические и управленческие. Сущность инновационной деятельности предполагает последовательную систему действий по разработке новшеств, их внедрению, освоению в производстве, коммерциализации и диффузии.

Для эффективного функционирования экосистемы молодежного инноваторства необходим анализ элементов экосистемы (и их классификация в зависимости от функций данных групп элементов) и анализ связей между данными элементами.

Инновационная экосистема – это прежде всего совокупность взаимодействующих между собой субъектов инновационной деятельности. Элементами данной системы, таким образом, являются сами субъекты, инновационный процесс и результаты интеллектуальной деятельности, среда, которая обеспечивает процесс создания инноваций (инфраструктура инновационной экосистемы) и связи между субъектами инновационной деятельности. Такие связи или коммуникации, как процесс обмена информацией в ходе инновационной деятельности, являются необходимым условием эффективного функционирования инновационной экосистемы.

С точки зрения жизненного цикла инновации необходимы субъекты, генерирующие идею, обладающие инновационным мышлением.

Инновационное сознание предполагает познание функционирования и развития социальных и экономических процессов, а инновационное мышление связано с деятельностью людей в формате социально экономической практики.⁶⁹

Также экосистема молодежной инноватики, должна включать в себя субъектов целеполагания инновационной деятельности. **К первой группе** элементов экосистемы инновационной деятельности молодежи следует отнести **субъектов инновационной деятельности**, которые осуществляют целеполагание, организацию, контроль – т.е управление инновационной деятельностью по отношению к молодым инноваторам – это такие субъекты сферы бизнеса, образования и науки, государства (институты и организации) как: органы власти, органы управления в организациях и ВУЗах, образовательные организации (ВУЗы, школы), организации системы дополнительного образования, научные учреждения, ассоциации и общественные организации и др.

Ко второй группе субъектов инновационной деятельности относятся сами **инноваторы** – школьники, студенты, молодые сотрудники организаций, команды, коллективы технопарков, научно-

⁶⁸ Управление инновациями : учебник для бакалавров / В. П. Баранчеев, Н. П. Мас ленникова, В. М. Мишин. — 2-е изд., перераб. и доп. — М. : Издательство Юрайт, 2015. — 711 с. — Серия : Бакалавр. Углубленный курс.

⁶⁹ Дворянов С. В. Инновации в современных условиях: прагматизм или творчество / С. В. Дворянов // XI Международная конференция «Российские регионы в фокусе перемен». Екатеринбург, 17-19 ноября 2016 г. : сборник докладов. — Екатеринбург : Издательство УМЦ УПИ, 2016. — Ч. 2.— С. 245-252.

исследовательские коллективы, представители научной среды. Иногда молодые инноваторы могут выступать в качестве субъектов инновационной деятельности, если они занимаются целеполаганием и планированием инновационной деятельности (например, собственные стартапы), или самоинициированные научные работы и исследования.

Третьей группой элементов, входящих в состав экосистемы молодежной инноватики, относятся **связующие процессы**. В первую очередь, коммуникационные, которые обеспечивают обмен информацией между всеми элементами экосистемы и охватывают все виды коммуникационных потоков внутри экосистемы: горизонтальные, вертикальны нисходящие и вертикальные восходящие. Элементами информационной поддержки молодежной инновационной деятельности должны быть информационные центры, банки данных и знаний, системы связи, центры управления информационными потоками, программные средства, технологии сбора, хранения и обработки информации.

Информационная инфраструктура экосистемы молодежной инноватики должна быть представлена функциональными, отраслевыми, пространственными, организационно-управленческими и социальными связями и включать в себя:

1. Уровни и субъекты информационной поддержки
2. Цели информационной поддержки (анализ элементов коммуникационного процесса внутри экосистемы молодежного инноваторства)
3. Направления поддержки по направлениям коммуникативных потоков внутри экосистемы молодежного инноваторства.
4. Инструменты информационной поддержки: информационные площадки, форумы, конференции, образовательные программы, мастер-классы, наставничество, сайты, содержащие сведения о стратегиях, планах, проектах, участниках, источниках инвестирования инновационной деятельности и др.

Четвертой группой элементов экосистемы молодежной инноватики является **инфраструктура инновационной деятельности молодежи**. Это молодежное предпринимательство, молодежные лаборатории, инженерные школы, малые инновационные предприятия, субъекты инвестиционной деятельности молодежных инноваций, молодежные гранты и пр. Так, за 2022 г. доля молодых ученых, получивших грантовую поддержку Российского научного фонда (РНФ), составила более 70% от общего числа ученых-получателей грантов РНФ; фонд оказал поддержку порядка 38 тыс. молодых исследователей (данные сайта Министерства науки и образования Российской Федерации).

Становление и развитие молодежного инновационного предпринимательства – актуальная задача формирования

предпринимательской экосистемы⁷⁰. Молодежная предпринимательская инициатива оказывает положительное воздействие на рынок труда, способствуя снижению напряженности в этой области. Кроме того, она является фактором развития малого и среднего бизнеса, что в свою очередь содействует экономическому росту и привлекательности инвестиций на территории. В рамках данной инициативы молодые люди приобретают возможность не только приумножить свой доход, но и реализовать свой потенциал и быть самостоятельными в принятии решений относительно новых бизнес-задач. Однако развитие такой инновационной предпринимательской активности требует комплексного подхода к решению задач⁷¹.

Многие элементы инфраструктуры экосистемы молодежного инноваторства в настоящее время уже сформированы и продолжают развиваться. Правительство по поручению президента создает удобную и современную инфраструктуру для учебы, работы, спорта и развлечений. К 2030 году в РФ будет 25 современных кампусов мирового уровня. Восемь из них – в Томске, в Москве, в Новосибирске, в Нижнем Новгороде, в Екатеринбурге, в Челябинске, в Уфе, в Калининграде – уже строятся. В ближайшем будущем будут запущены еще девять – в Архангельске, Великом Новгороде, Иванове, Перми, Самаре, Тюмени, Хабаровске, Южно-Сахалинске, а также на федеральной территории «Сириус».

На данный момент в России в сфере исследований и разработок задействовано, по разным оценкам, от 350 тысяч до 400 тысяч человек. Причем ключевое звено – это ученые младше 39 лет. Их более 44%. То есть за последние два десятилетия доля молодежи выросла практически вдвое, и сегодня российская наука – одна из самых молодых в мире (из интервью с заместителем председателя правительства Российской Федерации Дмитрием Чернышенко, сайт Министерства науки и образования Российской Федерации).

К современным инфраструктурным элементам экосистемы молодежной инноватики в РФ относятся 740 молодежных лабораторий, (к следующему 2024 году их планируется 900 по данным сайта Информационного агентства Регнум).

Значительное внимание уделяется молодежным стартапам – для них создан реестр получателей поддержки инновационной деятельности. Он нужен, чтобы молодым предпринимателям было проще подавать заявки на государственную помощь и быстрее ее получать. В настоящий момент

⁷⁰ Stephan U. Institutions and social entrepreneurship: the role of institutional voids, institutional support, and institutional configurations [Text] / U. Stephan, L. Uhlaner, C. Straide // Journal of International Business Studies. - 2015. - № 46 (3). - Pp. 308-331.

⁷¹ Вотчель Л.М., Викулина В.В. Инновационный потенциал трансформации кономики // Корпоративная кономика. – 2022. - № 1 (29). – С. 42 – 48.

собраны данные об 11 тыс. таких компаний и поддержку уже предоставили почти 1 тыс. предприятий.

В рамках Десятилетия науки и технологий был обновлен перечень направлений подготовки по среднему профессиональному образованию. В рамках «Профессионалитета» открыт 71 образовательно-производственный кластер. Там уже обучается более 150 тысяч ребят.

Началось создание передовых инженерных школ на базе 30 вузов, чтобы студенты, аспиранты и школьники могли принять участие в решении задач на предприятиях.

Кроме того, в России развивается программа академического лидерства «Приоритет-2030». В нее включены более 120 высших учебных заведений. В прошлом году предусмотрено порядка 30 млрд рублей на создание там студенческих технопарков, бизнес-инкубаторов (данные сайта Министерства науки и образования Российской Федерации).

Для поддержки сектора малого и среднего бизнеса в Российской Федерации предпринимаются различные меры, включающие смягчение административной нагрузки на предпринимателей, развитие программ льготного кредитования и субсидирования, расширение доступа к государственным закупкам, развитие импортозамещения и технологической автономности, предоставление экспертного консультирования, а также разработку цифровых сервисов [18].

Также существует цифровая платформа "МСП. РФ", которая предлагает бесплатный сервис "Конструктор документов" и информационные материалы о мерах государственной поддержки МСП. С помощью создания цифрового профиля на портале "Госуслуги", предприниматели могут воспользоваться сервисом цифровой платформы, который помогает подобрать федеральные и региональные программы поддержки и услуги, учитывая особенности их компании [19]. В ОАО «РЖД» действует «Единое окно инноваций», обеспечивающее прием инновационных предложений и их последующее рассмотрение специалистами ОАО «РЖД» как от физических, так и от юридических лиц различных организационно-правовых форм [20, с. 4].

Таким образом, можно отметить, что в настоящее время в РФ происходят существенные позитивные изменения в формировании и качественном развитии экосистемы молодежного инноваторства, что позволит молодым инноваторам и предпринимателям внести вклад в развитие инновационного бизнеса, который может быть основным условием в решении глобальных социально-экономических проблем.

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СТРАТЕГИЧЕСКИЙ АНАЛИЗ ТРАНСГРАНИЧНОЙ ЭЛЕКТРОННОЙ КОММЕРЦИИ КИТАЯ

Аннотация. В статье проводится комплексный стратегический анализ трансграничной электронной коммерции в Китае с акцентом на взаимодействие политических, экономических, социальных и технологических факторов (схема SWOT-PEST). В исследовании определены значительные внутренние преимущества, такие как благоприятная государственная политика, быстрый технологический прогресс и растущий средний класс, а также слабые стороны, такие как жесткая рыночная конкуренция и недостаточная узнаваемость бренда. Выделяются внешние возможности, включая ускорение экономической глобализации и расширение потребительских рынков, а также угрозы, такие как торговые ограничения и логистическая неэффективность. Подчеркивается важность надежного государственного регулирования для снижения правовых рисков, повышения надежности кредитования и развития этической корпоративной практики. Также подчеркивается необходимость адаптации бизнеса к меняющейся динамике рынка, повышения качества управления и использования инновационных технологий. Полученные результаты дают стратегические рекомендации политикам и компаниям, как ориентироваться и извлекать выгоду из меняющегося ландшафта трансграничной электронной коммерции в Китае.

Ключевые слова: международный бизнес, инновации, бизнес-стратегия, российско-китайские взаимоотношения, конкурентные стратегии, трансграничная торговля.

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STRATEGIC ANALYSIS OF CROSS-BORDER E-COMMERCE IN CHINA

Abstract. This article provides a comprehensive strategic analysis of cross-border e-commerce in China, focusing on the interaction of political, economic, social and technological factors (SWOT-PEST framework). The study identifies significant internal advantages such as favorable government policies, rapid technological progress, and a growing middle class, and weaknesses such as fierce market competition and lack of brand recognition. External opportunities, including accelerating economic globalization and expanding consumer markets, and threats, such as trade restrictions and logistical inefficiencies, are highlighted. The importance of robust government regulation is emphasized to reduce legal risks, improve credit reliability and promote ethical corporate practices. The need for businesses to adapt to changing market dynamics, improve management quality and use innovative technologies is also emphasized. The findings provide strategic recommendations to policymakers and companies on how to navigate and capitalize on the changing landscape of cross-border e-commerce in China.

Keywords: international business, innovation, business strategy, Russian-Chinese relations, competitive strategies, cross-border trade.

В последние годы трансграничная электронная торговля в Китае достигла значительного масштаба. Проводимые исследования развития трансграничной электронной коммерции включают изучение проблем трансформации и модернизации внешней торговли Китая, состояния и тенденций развития электронной коммерции, стратегии платформенного маркетинга, трудности развития.

Будучи новой стратегической отраслью, объединяющей Интернет и традиционную внешнюю торговлю, трансграничная электронная коммерция способствует развитию экономической и торговой глобализации. Она стала новой формой международной торговли и способствует новым изменениям в глобальной международной торговле.

Методология исследования: создание модели матричного анализа SWOT-PEST как с внутренней, так и с внешней точки зрения, позволяет координировать, интегрировать и сопоставлять политические, экономические, социальные и технические факторы, с которыми сталкиваются компании в процессе развития трансграничной электронной коммерции Китая. Путем исследования внутренних преимуществ и недостатков, а также внешних возможностей и угроз, существующих в этом процессе, обеспечивается формирование и применение стратегических комбинаций и выдвигаются соответствующие контрмеры и предложения.

Проработанность вопроса. Китайский исследователь Ким установил⁷², что трансграничная электронная коммерция может преодолеть пространственные и географические ограничения и обеспечить связь и транзакции на нулевом расстоянии между покупателями и продавцами. Исследователи Г. Эстрелла, М. Бертин⁷³ обнаружили, что использование онлайн-транзакций в рамках трансграничной электронной коммерции значительно снижает затраты, связанные с расстоянием. Китайский исследователь Ма Шучжун обнаружил⁷⁴, что географическое расстояние менее негативно влияет на трансграничный экспорт электронной коммерции Китая, а создание пилотной зоны трансграничной электронной коммерции и соответствующая политика льготных тарифов также предоставили огромное пространство для развития трансграничной электронной коммерции.

Основой и важным фактором эффективного развития трансграничной электронной коммерции является логистика. Степень развития и качество трансграничной логистики напрямую влияют на развитие трансграничной электронной коммерции. Поэтому исследования трансграничной логистики электронной коммерции также находятся в центре внимания ученых и специалистов.

Метод SWOT-анализа позволяет комплексно учитывать дифференциацию внутренних и внешних факторов и интересов компании, всесторонне анализировать и позиционировать ее сильные и слабые стороны, возможности и проблемы и формировать лучшую стратегию развития.

PEST-анализ — это современный маркетинговый инструмент принятия решений и стратегического планирования, позволяющий анализировать внешнюю среду компании и оценивать ее влияние на бизнес-процессы. Этот метод выделяет из множества влияющих внешних факторов четыре ключевых: политические, экономические, социально-культурные и технологические, и комплексно оценивает влияние этих факторов на стратегию развития объекта исследования.

⁷² KIM H Y, SONG S.A Study of Policy Direction on O2O industry developing. Journal of Digital Convergence,2017,15(5):13-25.

⁷³ ESTRELLA G,BERTIN M,GEOMINA T.The Drivers and Impediments for Cross-Border E-Commerce in the EU.Information Economics and Policy,2014(28):83-96.

⁷⁴ 马述忠,房超,梁银锋.数字贸易及其时代价值与研究展望..国际贸易问题,2019(2):176.Ма Шучжун, Фан Чао, Лян Иньфэн. Цифровая торговля, ее эпохальное значение и перспективы исследований. Вопросы международной торговли, 2019(2):176.

Таблица 1. Матричный анализ SWOT-PEST развития трансграничной электронной коммерции

SWOT-PEST	Политика (P)	Экономика (E)	Общество (S)	Технологии (T)
Внутренние факторы				
Преимущества	Государственная поддержка (SP1)	Рост числа и увеличение размера семей среднего класса (SE1)	Высокая концентрация рынка (SS1)	Быстрое развитие Интернета и мобильной связи (ST1)
	Стратегический бизнес-проект «Один пояс, один путь» благоприятно сказывается на развитии электронной коммерции (SP2)	Большой объем капитальных вложений (SE2)	Рост осведомленности потребителей о зарубежных продуктах и диверсификация их потребностей, стимулирующие потребление (SS2)	Быстрое развитие блокчейн-технологий, искусственного интеллекта, облачных вычислений и больших данных (ST2)
	Внедрение пилотной политики в области трансграничной электронной коммерции (SP3)	Хорошие перспективы развития внутреннего рынка (SE3)		
	Упрощение таможенных процедур (SP4)			

Недостатки	Влияние колебаний обменного курса и изменения налоговой политики (WP1)	Рост числа малых и средних компаний электронной коммерции ужесточение конкуренция (WE1)	Отставание степени узнаваемости бренда компании от зарубежных крупных брендов (WS1)	Отставание систем обслуживания, таких как трансграничная логистика и трансграничные платежи, от темпов развития трансграничной электронной коммерции (WT1)
			Недостаток профессиональных знаний, навыков и опыта в области трансграничной электронной коммерции (WS2)	
			Множество разновидностей товаров трансграничной электронной коммерции и их невысокая стоимость (WS3)	
Внешние факторы				

Возможности	Ускорение процессов экономической глобализации и увеличение масштабов международного экономического сотрудничества (OP1)	Возможность для малых и средних предприятий выйти на международный рынок и возможность трансформации отечественных традиционных предприятий (OE1)	Устранение социального разрыва между богатыми и бедными, способствующее развитию малых городов (OS1)	Эффективное сочетание и применение больших данных, Интернета вещей и технологий облачных вычислений, позволяющее реализовать процесс взаимосвязи и совместного использования ресурсов, обеспечивающее увеличение возможностей таможенных служб по своевременному сбору информации о типах, партиях, количестве товаров, и созданию информационно - вычислительных систем управления коммерческими операциями (OT1)
	Предложение плана действий «Интернет+» (OP2)	Повышение уровня внутреннего потребления (OE2)	Модернизация промышленной структуры (OS2)	

	Повышение уровня открытости внешнему миру (ОПЗ)		Расширение потребительского рынка (OS3)	
			Изменения в потребительских привычках и моделях потребления (OS4)	
Угрозы	Появление ограничений и торговых санкций (TP1)	Дисбаланс импорта и экспорта трансграничной электронной торговли (TE1)	Рост конкуренции на международных рынках (TE2)	Проблемы трансграничных платежей в трансграничной электронной коммерции (трудности с расчетами и покупкой иностранной валюты, низкий процент успешных платежей) (TT1)
	Влияние повышения курса юаня (TP2)		Высокий уровень транзакционных рисков (TS1)	Проблемы с формированием и реализацией международных логистических систем (TT2)
			Недостаточный инновационный потенциал отечественных предприятий (TC2)	

На основе проведенного анализа, можно сделать вывод о том, что важное преимущество трансграничной электронной коммерции в Китае

заключается в активной поддержке правительством разработки соответствующих национальных законов, нормативных актов и регламентов, способствующих развитию трансграничной электронной коммерции.

Электронная коммерция продолжает расширяться, динамика развития в этой отрасли сильна, а модели управления продолжают обогащаться.⁵

Недостатки трансграничной электронной коммерции заключаются в недостаточной логистической поддержке этого направления и в отсутствии необходимого количества соответствующих специалистов.

Возможности развития трансграничной электронной коммерции заключаются в использовании преимуществ глобализации мировой экономики, интернационализации бизнеса и развитии информационно-коммуникационных технологий.

Трансграничная электронная коммерция способствует трансформации и совершенствованию бизнес-моделей Китая и может стать важным каналом для расширения сети предприятий за рубежом.

Угрозы, с которыми сталкивается трансграничная электронная торговля, заключаются в том, что по мере того, как международные торговые противоречия продолжают обостряться, трансграничные электронные платежи сталкиваются с институциональными трудностями и техническими рисками, которые оказывают большее влияние на развитие трансграничной электронной торговли в Китае.

Трансграничная электронная коммерция должна координироваться с логистикой, финансовыми расчетами и таможенными процедурами, используя современные цифровые технологии, такие как блокчейн, для отслеживания товаров и сокращения логистических затрат и времени коммерческих операций.⁶

Международные компании должны адаптировать свои модели управления, участвовать, улучшать функциональные характеристики и качество продукции, активно использовать Интернет и электронные технологии и развивать предпринимательскую культуру.

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ОБНАРУЖЕНИЕ СПАМА В ЭЛЕКТРОННОЙ ПОЧТЕ НА ОСНОВЕ МАШИННОГО ОБУЧЕНИЯ: СРАВНЕНИЕ ФУНКЦИОНАЛЬНОЙ РАЗРАБОТКИ И КОМПЛЕКСНЫХ МЕТОДОВ

Аннотация. Работа посвящена анализу и сравнению различных подходов к обнаружению спама в электронной почте с использованием машинного обучения. В статье рассматриваются два основных типа методов: функциональная разработка и комплексные методы. Был проведен сравнительный анализ эффективности и точности различных алгоритмов машинного обучения. Результаты исследования демонстрируют преимущества и недостатки каждого подхода, а также выявляют наиболее эффективные методы для борьбы с современными формами спама. Статья предлагает рекомендации по выбору оптимального метода обнаружения спама в зависимости от конкретных условий и задач.

Ключевые слова: машинное обучение, сквозные методы глубокого обучения, традиционные методы обучения, обработка данных.

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MACHINE LEARNING-BASED SPAM DETECTION IN E-MAIL: A COMPARISON OF FUNCTIONAL DEVELOPMENT AND COMPLEX METHODS

Abstract. The paper is devoted to the analysis and comparison of various approaches to detecting spam in e-mail using machine learning. The article discusses two main types of methods: functional development and complex methods. A comparative analysis of the effectiveness and accuracy of various machine learning algorithms was carried out. The results of the study demonstrate the advantages and disadvantages of each approach, as well as

identify the most effective methods to combat modern forms of spam. The article offers recommendations on choosing the optimal spam detection method, depending on specific conditions and tasks.

Keywords: machine learning, end-to-end deep learning methods, traditional learning methods, data processing.

Введение

Рассылаемые в больших количествах нежелательные сообщения, или электронный спам, составляют значительную часть мирового почтового трафика. Они приводят к потере времени, снижению производительности и возможным угрозам безопасности. Чтобы уменьшить эти проблемы, необходимы эффективные системы обнаружения спама, и машинное обучение (ML), которое стало ключевым инструментом для создания таких систем. В данной работе рассматриваются два основных метода машинного обучения (ML) для обнаружения спама в электронной почте: сквозные методы глубокого обучения и традиционные методы, основанные на разработке функций.

Обзор темы

Обнаружение спама – это задача бинарной классификации, которая делит электронные письма на две категории: спам и не-спам. Чтобы преобразовать функции, основанные на традиционных методах, в общий формат, подходящий для моделей машинного обучения, необходимо вручную извлекать функции из содержимого электронной почты и метаданных. В этом методе часто используются такие модели, как наивный байесовский алгоритм [2], метод опорных векторов (SVM) и случайные леса.

Сквозные методы глубокого обучения используют нейронные сети для автоматического определения закономерностей и извлечения характеристик непосредственно из необработанных данных электронной почты. Это касается таких моделей, как трансформаторы (например, BERT), рекуррентные нейронные сети (RNNS) и сверточные нейронные сети (CNNS). С помощью этих моделей можно фиксировать более сложные связи и закономерности в данных, что может привести к повышению эффективности.

Актуальность темы, применимость в различных сферах

Системы обнаружения нежелательной почты необходимы:

- Поставщикам услуг электронной почты (ESP): Для улучшения взаимодействия с пользователями и защиты от вредоносного контента такие компании, как Google, Microsoft и Yandex, используют фильтры спама.
- Корпоративным почтовым системам: Компании используют средства обнаружения спама для защиты своих каналов связи, сохранения личных данных и предотвращения фишинговых атак [1].

- Интернет-провайдерам и компаниям, занимающимся сетевой безопасностью, они используют спам-фильтры для защиты пользователей от онлайн-опасностей и сохранения целостности сети.

- Пользователям персональных почтовых клиентов. Они получают преимущества от повышения безопасности электронной почты и уменьшения беспорядка в своих почтовых ящиках.

Предотвращая опасности, связанные со спамом, эффективные системы обнаружения спама повышают удобство работы пользователей, а также поддерживают более масштабные инициативы в области кибербезопасности.

Решение проблемы, связанной с обнаружением спама в электронной почте при помощи машинного обучения.

Сбор и подготовка данных

Надежный набор данных является основой любой системы обнаружения спама на основе машинного обучения (ML). Часто используются общедоступные наборы данных, такие как Ling-Spam, SpamAssassin Public Corpus и набор данных электронной почты Enron [3].

Этапы предварительной обработки данных:

- Очистка текста: удаление лишних пробелов, специальных символов и HTML-тегов.

- Нормализация: изменение различных сокращений и преобразование текста в нижний регистр.

Далее следует разделение текста на слова или лексемы с помощью разметки.

- Удаление стоп-слов: исключаются часто используемые термины, которые не помогают отличить спам.

- Лемматизация/Стемминг: сокращение слов до их основной формы.

Метод разработки функциональных возможностей

Разработка функциональных возможностей заключается в создании функциональных возможностей из необработанных данных электронной почты, чтобы их могли использовать обычные модели машинного обучения.

Методы извлечения функциональных возможностей:

- Набор слов (BoW): Этот метод представляет текст в виде набора значений слов.

- TF-IDF (Частота термина - обратная частота документа): Изменяет количество слов в соответствии с их значимостью во всем наборе данных.

- N-граммы: содержит контекст, фиксируя последовательности слов из n.

- В метаданные включаются характеристики электронной почты, такие как адрес отправителя, строка темы и статус вложения.

- Особенности содержимого: HTML-теги, пунктуация и частота использования определенных терминов.

Выбор модели и инструктаж:

- Наивная байесовская модель: вероятностная модель, которая предполагает независимость функций и применяет теорему Байеса.

- Метод опорных векторов (SVM): определяет гиперплоскость, которая эффективно разделяет электронные письма на категории спама и не-спама.

- Случайный лес: комплексный метод, который повышает точность классификации за счет использования нескольких деревьев решений.

Показатели для оценки:

- Точность: процент точно классифицированных электронных писем и процент действительно положительных результатов обнаружения спама среди всех положительных результатов.

- Количество отзывов: процент реальных спам-писем, которые обнаруживаются как действительно положительные.

- Показатель F1: среднее значение для запоминания и точности, которое уравнивает эти два показателя.

Комплексные методы глубокого обучения

Эти модели работают непосредственно с необработанными текстовыми данными, самостоятельно подбирая функции по мере обучения.

Представление данных:

- Встраивание слов: используется Word2Vec и GloVe для представления слов в виде плотных векторов в непрерывном пространстве.

- Контекстуальное встраивание: чтобы улучшить качество представления, используются такие модели, как BERT, для отображения значения слова в контексте.

Построение моделей:

- Сверточные нейронные сети (CNN): идентифицируются иерархические характеристики и локальные шаблоны в тексте.

- Рекуррентные нейронные сети (RNN): такие как LSTM и GRU, полезны для последовательных данных и могут фиксировать временные зависимости.

- Трансформаторы: сложные модели, такие как BERT, которые параллельно анализируют полные последовательности и фиксируют взаимозависимость на большом расстоянии, используя методы самоанализа.

Обучение и оценка:

- Используя наборы данных электронной почты с пометками, обучаются модели глубокого обучения.

- Применяются те же критерии для оценки: F1-оценка, отзывчивость и аккуратность.

- Учитываются дополнительные показатели, такие как интерпретируемость модели, вычислительные ресурсы и время обучения.

Сравнительная оценка

Следующие стандарты рассматриваются для того, чтобы сравнить разработку функций и комплексные методы:

1. Производительность:

- Точность: поскольку сквозные модели могут фиксировать сложные закономерности, их точность, как правило, выше.

- Точность и запоминаемость: модели глубокого обучения часто обладают более высокой точностью и запоминаемостью, что снижает количество ложных срабатываний и ложноотрицательных результатов.

2. Сложность:

- Время обучения: хотя традиционные модели обучаются быстрее, им может потребоваться много функциональных возможностей.

- Вычислительные ресурсы: память и вычислительная мощность являются основными требованиями к моделям глубокого обучения.

3. Масштабируемость:

- Обычные модели: лучше подходят для больших наборов данных, но их сложнее масштабировать с помощью выбора функций.

- Модели глубокого обучения: требуют эффективного аппаратного обеспечения, но более масштабируемы для работы с большими наборами данных.

4. Реализация:

- Простота использования: Традиционные подходы больше подходят для более простых приложений из-за их простоты реализации и интерпретации.

- Гибкость: Модели глубокого обучения более сложны, но обеспечивают большую гибкость при обучении на основе различных источников данных.

Вывод

Эмпирическая оценка показывает, что модели комплексного глубокого обучения лучше справляются с обнаружением спама, особенно те, которые используют сложные архитектуры, такие как BERT. Но это увеличивает количество времени и ресурсов, необходимых для обучения. Несмотря на то, что традиционные модели менее точны, их можно внедрять быстрее и они проще в использовании, что делает их подходящими для приложений с ограниченными ресурсами.

Данный обзор демонстрирует преимущества и недостатки сквозных и функционально-инженерных методов обнаружения нежелательной почты. Сквозные модели более надежны и точны, что делает их подходящими для ситуаций с высокими ставками, когда точность имеет решающее значение. Благодаря простоте использования и сниженным требованиям к ресурсам традиционные модели по-прежнему актуальны и являются приемлемым вариантом для небольших по масштабу применений. Будущие исследования

могут быть сосредоточены на гибридных моделях, которые сочетают в себе лучшие характеристики двух методов для повышения эффективности обнаружения спама при одновременном снижении сложности и потребления ресурсов.

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МОДЕЛИРОВАНИЕ СИСТЕМЫ ВЫСОКОВОЛЬТНОЙ ЛИНИИ ЭЛЕКТРОПЕРЕДАЧИ ПОСТОЯННОГО ТОКА

Аннотация. В статье приведены основные сведения и проведено моделирование системы высоковольтной линии электропередачи постоянного тока, подробно приведены результаты моделирования.

Ключевые слова: мощность, HVDC, HVAC, модель, напряжение, трансформатор.

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SIMULATION OF HIGH VOLTAGE DC POWER LINE SYSTEM

Annotation. The article provides basic information and simulation of a high-voltage DC power line system, and details the simulation results.

Keywords: power, HVDC, HVAC, model, voltage, transformer.

Система HVDC (Высоковольтная линия электропередачи постоянного тока) состоит из двух преобразователей источников напряжения, подключенных к шинам А и В с помощью трансформаторов. Эквивалентная схема системы HVDC включает в себя комбинацию источника напряжения и ряд импеданса трансформатора. В зависимости от применения оба преобразователя подключаются встречно или кабелем постоянного тока. Систему HVDC удобно моделировать с двумя источниками напряжения вместе с уравнением, определяющим условие активной мощности. С введением HVDC диапазон мощности передачи увеличился (с менее 1000 Вт до 3-4 ГВт). Проектирование и строительство высоковольтных альтернативных токов (HVAC) неэкономичны для больших расстояний, но использование HVDC улучшает стоимость и передачу высокого напряжения. В системе HVDC и устройств FACTS из-за меньшей изоляции и сопротивления постоянного тока меньше, чем переменного тока, меньших потерь, необходимости двух проводников в системе и в результате меньшего объема и места для установки, уменьшения толщина и сечение кабеля определенной мощности. Использование земли в качестве обратного провода имеет меньшие затраты, чем HVAC, для которого на рисунке 1 мы видим разницу в стоимости. Кроме того, HVDC

может улучшить стабильность взаимосвязанных систем HVAC, модулируя мощность в ответ на малые/сильные помехи.

Модель HVDC в исследованиях потока мощности показана на рисунке 2. HVDC может улучшить стабильность взаимосвязанных HVAC, модулируя мощность в ответ на малые/сильные помехи.

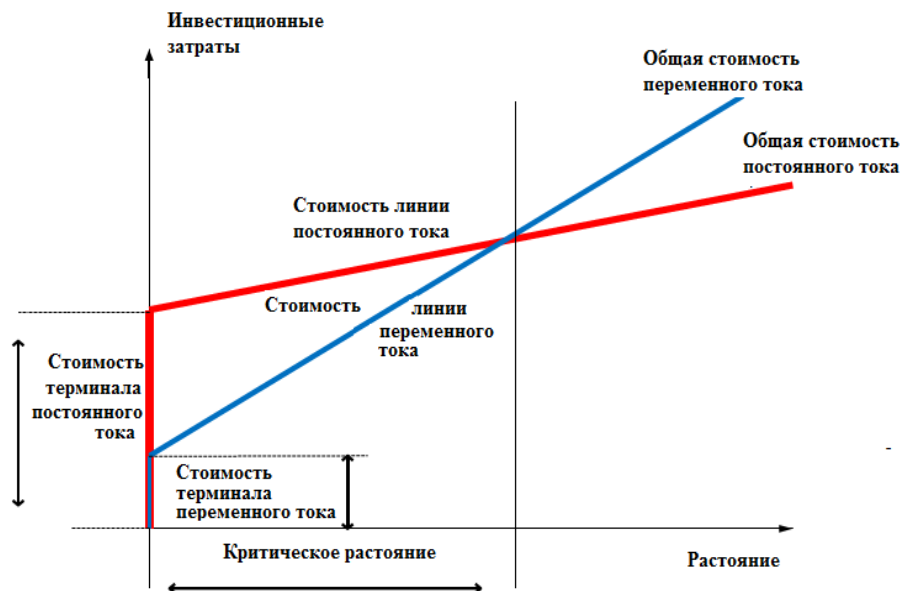


Рис. 1. Сравнение стоимости систем HVDC и HVAC

$$E_1 = V_1(\cos \delta_1 + j \sin \delta_1) \quad (1)$$

$$E_2 = V_2(\cos \delta_2 + j \sin \delta_2) \quad (2)$$

Ea

$$I_a Y_1 - Y_1 \quad 0 \quad 0 E_1$$

$$[Ib] = [\quad 0 \quad 0 \quad Y_2 - Y_2]. [Eb] \quad (3)$$

E2

$$P = \{E_1 I^*\}_1 \quad (4)$$

$$Q = \{E_1 I^*\}_1^1 \quad (5)$$

Для обоих¹компонентов HVDC, подключенных кабелем постоянного тока.

$$\{V_1 I^* + V_2 I^* + V_{DC} I_{DC}\} = 0 \quad (6)$$

И если $R_{dc} = 0$ (это линия подключения резистора R_{dc} в HVDC), то:

$$\{V_1 I_1^* + V_2 I_2^*\} = 0 \quad (7)$$

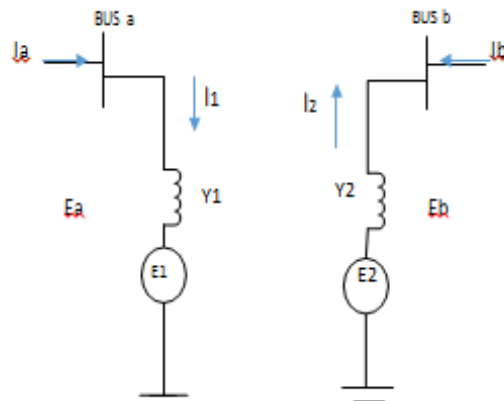


Рис. 2. Модель HVDC для потока мощности

Результаты моделирования

Мы применили модель, к тестовой системе с 5 шинами согласно рисунку 3, где вся информация о шинах и линиях и всей сети была извлечена. Сначала поток энергии был без добавления устройств FACTS, а затем в этой сети мы добавили в сеть устройства SVC и HVDC по отдельности и наблюдали за результатами. Наконец, на основе модели SVC-HVDC, полученной в предыдущем разделе этой работы, оба устройства были добавлены в систему, и результаты были записаны. В данной работе основное внимание уделялось потоку нагрузки в шинах, на которые устройства оказывают прямое влияние, например, на шины 3 и 4, хотя они влияют на всю сеть.

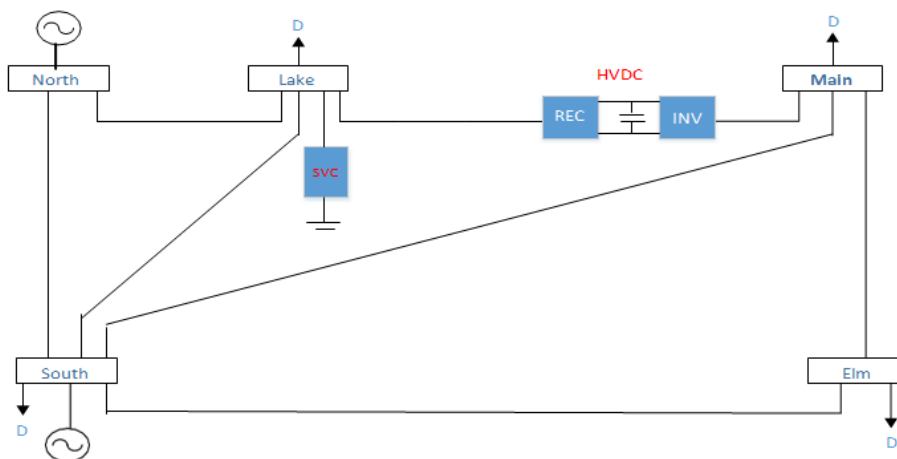


Рис. 3. Тест системы 5 шин с SVC-HVDC

На рисунке 4, где показаны изменения напряжения при наличии различных устройств FACTS, состояние напряжения представлен для стабилизации на уровне 1 п.у. При использовании SVC, было лучше, чем в режиме без устройств FACTS и в режиме с использованием HVDC, а в шинах 3 и 4 было ближе 1 п.у.

Но наилучшая стабилизация состояния и напряжения происходила в случае использования комбинации SVC-HVDC. Кроме того, по сравнению

с другими образцами на рисунке 5, модель SVC-HVDC имеет наилучшее состояние восстановления и стабилизации напряжения. Наилучшим состоянием для улучшения напряжения был режим использования SVC.

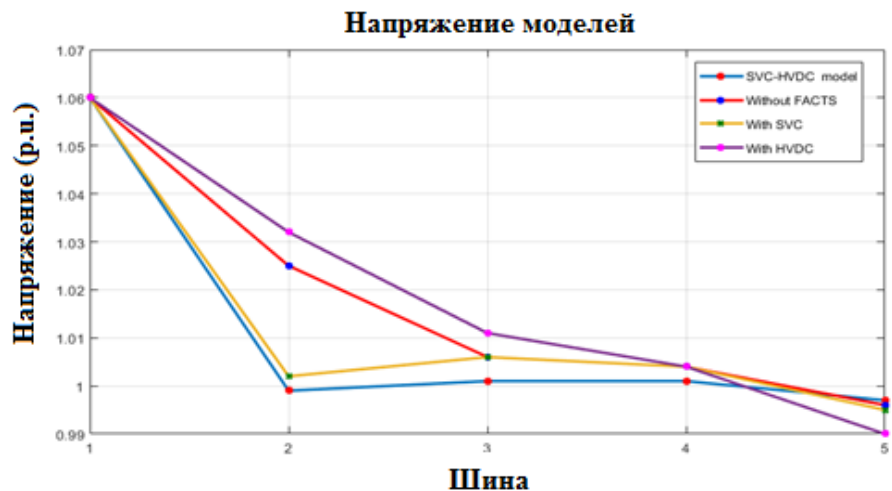


Рис. 4. Напряжение моделей

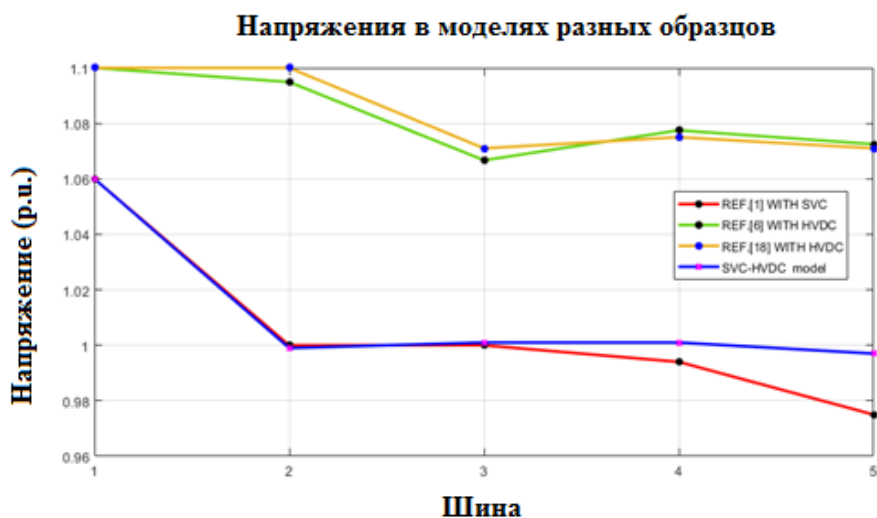


Рис. 5. Напряжение в разных моделях эталонов

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ИННОВАЦИИ КАК ФАКТОР ПОВЫШЕНИЯ СОЦИАЛЬНО-ЭКОНОМИЧЕСКОЙ ЭФФЕКТИВНОСТИ В СФЕРАХ УСЛУГ

Аннотация. В данной статье исследованы основные критерии и показатели определения социально-экономической эффективности в сфере услуг, и пути их достижения за счет внедрения инноваций. Перечислены направления инновационного развития, которые позволяют достижения экономического развития и повышения синергетического эффекта в росте качества жизни населения, а также диалектическая взаимосвязь сферы услуг другими отраслями общественного производства в процессе инновационной деятельности для повышения качества и эффективности производства услуг.

Ключевые слова: предоставление услуг, социально-экономическая эффективность, социальные показатели, экономические показатели, синергетический эффект, система качество услуг.

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INNOVATION AS A FACTOR OF INCREASING SOCIO-ECONOMIC EFFICIENCY IN SERVICE FIELDS

Abstract. This article examines the main criteria and indicators for determining socio-economic efficiency in the service sector, and ways to achieve them through the introduction of innovations. The directions of innovative development are listed, which allow achieving economic development and increasing the synergistic effect in increasing the quality of life of the population, as well as the dialectical relationship of the service sector with other sectors of social production in the process of innovation to improve the quality and efficiency of service production.

Key words: service provision, socio-economic efficiency, social indicators, economic indicators, synergistic effect, service quality system.

Введение. Современном мире сфера услуг занимает важное место не только в экономике отдельных стран, но и во всей мировой экономике. В последнее десятилетие доля услуг в ВВП неуклонно увеличивается, а численность занятых в сфере услуг также характеризуется положительными динамическими изменениями. Международная торговля услугами также

активно развивается в мировом масштабе. Инновации и инновационная деятельность являются основной причиной и фактором реализации таких позитивных изменений.

Инновации являются неотъемлемым элементом роста и последовательного развития экономики, и без инновационной составляющей невозможно эффективное развитие материального и нематериального производственного сектора экономики. В XXI веке развитие и внедрение инновационных технологий в сфере производства и услуг, использование новых методов организации и управления предприятиями, повышение эффективности производства, которое считается основным фактором рыночной конкуренции, и повышение качества товаров и услуг являются основными целями инновационной деятельности.

Роль сферы услуг в современной экономике связана с формированием и развитием новых научных знаний, интеллектуального капитала, информационных технологий, услуг финансового сектора, консалтинга и других видов сферы услуг, которые считаются фундаментальными факторами экономического роста в этой сфере. Поэтому реализация масштабных научно-технических, качественных и структурных изменений, важных для дальнейшего развития экономики и повышения качества жизни населения, остается актуальной задачей и сейчас.

Формирование и развитие экономики знаний и высоких технологий является одним из важных факторов перехода от экономики, основанной на экспорте сырья, к инновационной экономике. Для этого потребуется создать экономические и правовые условия, стимулирующие образовательные, медицинские, научно-исследовательские учреждения и промышленные отрасли, разрабатывающие и внедряющие инновации. Кроме того, без внедрения инноваций в сфере услуг не может быть достигнута главная цель инновационной политики – повышение уровня жизни населения.

В настоящее время в условиях трансформации экономики особенно актуально совершенствование социально-экономического механизма повышения эффективности непрерывного и устойчивого развития предприятий сферы услуг и обеспечения интенсивности обслуживания. Соответственно, решаются вопросы, связанные с повышением эффективности предприятий сферы услуг и совершенствованием социально-экономического механизма их деятельности, повышением интенсивности трудовых процессов и производительности труда, эффективным использованием ресурсов, обеспечением эффективности использования трудового потенциала, повышением качества предоставляемых услуг, а также более полное удовлетворение потребностей и запросов потребителей являются важными задачами развития отрасли.

Анализ литературы по теме. Первичные исследовательские аспекты вопросов, связанных с осуществлением инновационной деятельности в

сферах услуг, а также формирование самой экономики сфер услуг, повышение эффективности в этих сферах, совершенствование процессов обслуживания, рост производительности труда и т.д., были разработаны ещё А. Маршаллом [8], Ю.А. Шумпетером [11], Дж. М. Кейнсом [6] и другими экономистами Западной Европы во второй половине XX века. А в Узбекистане К.Х. Абдурахмановым [1] на подлинно научной основе была разработана теория развития отраслей сферы услуг и их роль в экономике.

После индустриальной революции в развитых странах актуализируются вопросы оценки эффективности деятельности предприятий сферы услуг, повышения социальной эффективности в этой сфере, достижения производительности труда, обеспечения интенсивности производства (услуг) и качество услуг на предприятиях отраслей, связанных с их потребительскими характеристиками, а также критериями услуг и показателями оценки эффективности в соответствии с тенденцией роста потребительского спроса, и другими особенностями развития сферы услуг и по организации самых процессов обслуживания были разработаны российскими учеными Кравченко С.А. [7], Дудаков И.А., Гладкова Ю.В. [4].

В настоящее время в развитых и быстро развивающихся странах особое внимание уделяется исследованию вопросов оценки эффективности предприятий сферы услуг, внедрения инноваций в этой сфере, достижения социально-экономической эффективности за счет развития отрасли. Поэтому данная статья посвящена именно этим вопросам. В работах вышеупомянутых авторов изучалось влияние различных социально-экономических факторов на развитие сферы услуг. В этих исследованиях направления оценки социально-экономической эффективности в сфере услуг систематически не изучались. Соответственно, в данной статье изучены социально-экономические показатели оценки эффективности предприятий сферы услуг, внедрения инноваций и достижения на этой основе качественный рост в сфере услуг.

Методология исследования. В процессе исследования были использованы внедрение инноваций в сфере услуг, системный подход к изучению экономических систем и связей между ними, сравнительный и сопоставимый анализ, статистический и динамический подход, методы группировки.

Анализ и результаты. Реализуемые сейчас в нашей стране социально-экономические реформы создают благоприятные возможности для развития сферы услуг. Происходящие структурные изменения создают условия для развития субъектов хозяйствования в сфере услуг, появления современных форм, видов и методов обслуживания. Сегодня трансформация экономики приводит к широкому распространению цифровых услуг наряду с традиционными услугами. Поэтому в результате расширения сферы услуг и развития современных услуг, основанных на инновациях, особое значение приобретает исследование критериев оценки

деятельности хозяйствующих субъектов и социально-экономических показателей.

Сфера услуг и ее структурные элементы формируются в соответствии с видами инноваций, определяемыми стратегическими направлениями реализации инновационного развития организаций. На наш взгляд, для сферы услуг характерны следующие группы инноваций:

- **технологические инновации** — инновации в сфере технологий обслуживания, внедрение нового оборудования, позволяющего оказывать новые услуги и производить новую продукцию более качественно;

- **сервисные инновации** (инновации в сферах услуг) — повышение потребительской ценности услуг, изменение состава и видов предоставляемых услуг, улучшение качественных характеристик услуг;

- **организационно-управленческие инновации** — обновление бизнес-процессов, внедрение новых методов управления, принятия решений, использование новых информационных и коммуникационных ресурсов в сфере обслуживания;

- **социально-экономические инновации** — изменение социальных, экономических и правовых условий деятельности предприятий сферы услуг, способствуют улучшению условий труда и повышению качества жизни населения;

- **финансовые инновации** — создание новых финансовых инструментов и технологий для финансирования сферы услуг и привлечения инвестиций в целях повышения качества услуг.

Повышение социально-экономической эффективности сферы услуг на основе инновационного развития может осуществляться следующими способами:

- разработка и реализация необходимой правовой и инфраструктурной поддержки субъектов хозяйствования, а также проектов и программ социального значения, которые должны поддерживаться государством;

- диверсификация деятельности предприятий сферы услуг в целях повышения их коммерческой активности и экономических результатов;

- обеспечение внутриотраслевой (горизонтальной) и межотраслевой (вертикальной) интеграции предприятий сферы услуг с другими субъектами хозяйствования на внутреннем рынке.

Таким образом, интеграция предприятий секторов услуг на основе горизонтальной и вертикальной системы управления приведет к расширению рынка труда и снижению уровня безработицы. Реализация такой системы позволит внедрить инновации в образование и науку, здравоохранение, финансовом секторе и в других сферах услуг, способствует расширению потенциала и возможности предприятий отрасли а также повышению эффективности их деятельности [10].

Основная цель внедрения инноваций в сферу услуг – повышение социально-экономической эффективности деятельности предприятий этой

сферы. Хотя само существование сферы услуг неразрывно связано с функционированием и развитием отраслей материального производства, от которого это сфера зависит, и инновации, которые осуществляются в сферах материального производства в виде усовершенствованных средств труда, результаты которых используются (в виде электронной, коммуникационной и других видов технологий) для оказаний услуг, которые способствуют повышению социально-экономической эффективности функционирования предприятий этой сферы. Поэтому определение социально-экономической эффективности той или иной сферы необходимо связать с общественным производством.

Итак, **социально-экономическая эффективность – это повышение социально-экономического уровня жизни населения на основе рационального использования ограниченных ресурсов в процессе общественного производства.** Данное определение уже подразумевает взаимосвязь всех структур общественного производства, как материального так и нематериального производства.

Экономическая эффективность сферы услуг является структурным элементом общественной эффективности труда и выражается определенными критериями и показателями. Подходы к определению эффективности услуг изучались многими экономистами и почти все связывают их с результатами научно-технического прогресса – **инновациями.** Внедрение инновации в производстве сферы услуг способствует повышению эффективности и качество услуг. **Качество услуги – это совокупность характеристик услуги, определяющих её способность удовлетворять установленные или предполагаемые запросы потребителя.** Система качество услуг – это совокупность организационной структуры, ответственности, процедур, процессов и ресурсов, обеспечивающая осуществление общего руководства качеством.

Качество услуги зависит от многих факторов, таких как процессы, технологии, обучение персонала и многие другие. Необходимо отметить, что главным фактором любой услуги является качество в соотношении с ценой оказываемой услуги [10]. В основном **технологические инновации,** которые внедряются в оказании услуг, повышают не только эффективность производство услуг, путём снижения издержек, но и его качество, а также способствует формированию оптимальных цен для потребителей. Без повышения качества услуг невозможно достижения социально-экономической эффективности производства услуг. Но здесь необходимо учесть и те критерии, которые определяют сущность и основные задачи повышения эффективности процесса обслуживания. В условиях применения технологических инновации необходимо описать важные особенности отрасли при определении критериев и показателей развития предприятий сферы услуг. К показателям и критериям, характеризующим

характер и условия работы хозяйствующих субъектов сферы услуг, относятся:

- автоматизация процессов обслуживания (уровень внедрения новой техники и технологий);
- чтобы здания и сооружения отвечали требованиям времени;
- уровень использования передового трудового опыта;
- квалификация, образование и профессиональный уровень работников, занятых в сфере услуг;
- уровень технического и технологического развития, оборудования и механизмов;
- уровень организации подготовки и переподготовки необходимых кадров для сферы услуг.
- учитывать индивидуальные особенности клиентов;
- широкое использование электронных услуг.
- гибкость процессов обслуживания с целью адаптации его к спросу потребителей в будущем.

Если использовать все эти показатели, можно будет комплексно оценить социально-экономическую эффективность предприятий сферы услуг.

Выводы и предложения. Возможность измерения и повышения эффективности предприятий сферы услуг и интеграция всех вышеперечисленных направлений инноваций позволят достичь цели экономического развития и добиться синергетического эффекта в повышении качества жизни населения. Главным моментом при этом должно стать развитие системы обслуживания инновационной деятельности на основе формирования организационно-управленческих условий и инфраструктуры для реализации инновационной деятельности.

Учитывая социальную значимость и многогранность сферы услуг, создание такой системы невозможно без государственного регулирования инновационного развития, которое должно выражаться не только в постановке целей, но и в стимулировании.

Необходимо будет стимулировать население и квалифицированные кадры, особенно в нашей республике с трудолюбивым населением к разработке, внедрению и использованию инноваций на каждом секторесфере услуг, начиная с индивидуального до крупных компаний. Для реализации этой цели необходимо:

- Необходимо разработать механизм (пути) перевода качественных критериев в плоскость количественного измерения;
- диверсификации деятельности предприятий сферы услуг в целях повышения их коммерческой активности и экономических результатов;
- внутриотраслевой (горизонтальной) и межотраслевой (вертикальной) интеграции предприятий сферы услуг с другими хозяйствующими субъектами рынка;

- для предоставления высококачественной услуги необходимо основываться на инклюзивном подходе к личности, клиенту, учитывая их потребности.

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К РЕШЕНИЮ ЗАДАЧ СВОБОДНЫХ КОЛЕБАНИЙ ЗУБЬЕВ БЕРДА ТКАЦКОГО СТАНКА

Аннотация. В статье рассматриваются свободные колебания и определения частоты собственных колебаний зубьев берда, а также вынужденные колебания зуба берда под действием силы прибоя. В результате получена аппроксимационная кривая осциллограммы ткацкого станка.

Ключевые слова: Колебания, перемещения, батанный механизм, бердо, зуб берда, сила прибоя.

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TO THE SOLUTION OF PROBLEMS OF FREE VIBRATIONS OF THE TEETH OF A WEAVING LOOM REED

Abstract. The article discusses free vibrations and determination of the frequency of natural vibrations of the reed teeth, as well as forced vibrations of the reed tooth under the influence of surf force. As a result, an approximation curve of the oscillogram of the weaving machine was obtained.

Key words: Oscillations, movements, baton mechanism, reed, reed tooth, surf force.

Введение: Для инженерной практики очень важно уметь предсказывать возникновение подобных перемещений и колебаний с большими амплитудами, а также использовать ту или иную оптимизацию в процессе конструирования и изготовления, с тем чтобы иметь возможность контролировать уровень статических и динамических напряжений, величину амплитуд при динамическом поведении. Реальные текстильные машины изготавливаются из узлов, обладающие конечными значениями жесткости и массы. В результате приложения внешних или внутренних нагрузок при работе конструкции или машины одновременно будут возникать конечные деформации, что при определенных условиях приведет

к колебаниям с очень большими амплитудами или к потере устойчивости процессов статического или динамического деформирования.

В общем случае любую трехмерную конструкцию можно охарактеризовать ее физическими свойствами, такими, как модуль упругости, модуль упругости при сдвиге, объемный модуль и распределение масс. Величина перемещений в случае линейных систем будет пропорциональна величине силы, но направление перемещений будет зависеть от физических свойств конструкции и трех компонентов вектора силы. Для стационарных конструкций, которые не вращаются, реакция будет всегда конечной при конечных значениях приложенных сил и моментов.

Если конструкция имеет вращающиеся узлы, как, например, главный вал батанного механизма, то начинают действовать другие силы. Они зависят от центробежного и кориолисового ускорений и не только могут влиять на формы колебаний и собственные частоты, но также приводят к неустойчивости, наблюдаемой у вращающихся валов

Для управления технологическими процессами и их оптимизации необходимо использовать методы математического моделирования технологических процессов, которые включают методы получения математических моделей и анализа полученных численных результатов.

Моделируем систему «бердо», как систему с двумя степенями свободы. Пусть на рассматриваемую систему кроме потенциальных сил начинают действовать силы вязкого сопротивления и возмущающая сила – технологическое сопротивление (сила прибора) изменяющиеся со временем по определенному закону.

Проведенные экспериментальные исследования позволят получить осциллограмму, которая представлена на рис. 1. Из полученных экспериментальных результатов можно установить закономерность изменения силы прибора, характеризующая изменение натяжения нити основы за рабочий период ткацкого станка. Известная сила прибора определяется разностью силы натяжения основы и натяжения ткани, что позволяет принять характер изменения силы прибора идентичным изменением натяжения нити основы в момент прибора. На осциллограмме минимальное натяжение соответствует процессу закрытию зева, максимальное же натяжение – моменту прибора, которое заканчивается затухающими колебаниями.

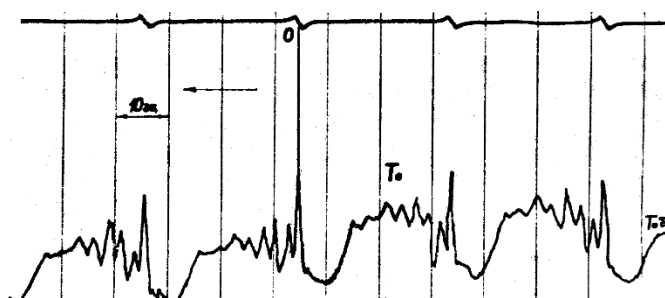


Рис 1. Закономерность изменения силы прибоа

В начале рассмотрим свободные колебания и определим частоту собственных колебаний зубьев берда. Экспериментальные результаты, полученные в [1] показывают, что первой форме колебаний бердо колеблется так же как один зуб, защемленный у основания и несущий на конце массу[1]. **Результаты исследования.** Для этой задачи частоту собственных колебаний, согласно [2], можно определить по формуле

$$\omega = \frac{\alpha^2}{l^2} \sqrt{\frac{EJ}{q^*}}, \quad (1)$$

где $q^* = \frac{bh\gamma}{g}$ - масса единицы длины зуба; E -модуль упругости сечения зуба; J - момент инерции сечения зуба; γ - удельный вес; b - толщина зуба; h - ширина; l - длина зуба берда; α - частотный коэффициент, определяемый из частотного уравнения [2]

$$E(\alpha) - n\alpha B(\alpha), \quad (2)$$

где $E(\alpha)$ и $B(\alpha)$ - функции Прагера и Гогенемзера. Графики изменения этих функций в зависимости от параметра α приведены на рис. 2.

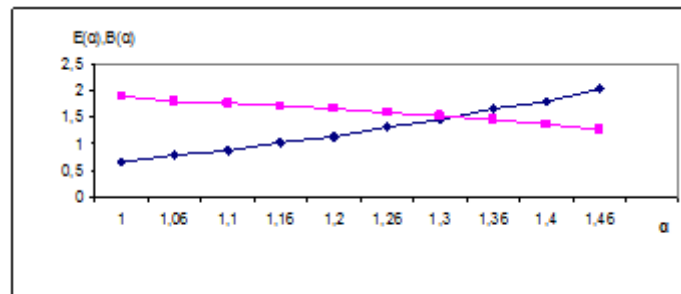


Рис.2. Изменение $E(\alpha)$ и $B(\alpha)$ от α

Коэффициент n , входящий в (2) не зависит от ширины берда. Из формулы (1) видно, что ω зависит от h, l, α ; последнее является функцией n .

Для получения численных результатов приняты следующие исходные данные полученные экспериментально в [3-7]:

$$l = 7\text{см}; b = 0,08\text{см}; h = 0,04\text{см}; m = 2 \cdot 10^{-6} \text{кгс} \cdot \text{с}^2 / \text{см}^2; G_3 = 1,42 \cdot 10^{-3} \text{кгс};$$

$$q^* = 0,23 \cdot 10^{-6} \text{кгс} \cdot \text{с}^2 / \text{см}^2; J = 43 \cdot 10^{-5} \text{см}^4; n = 1,4; \alpha_1 = 1,2; \omega_1 = 1750 \text{с}^{-1}; f_1 = 285 \text{Гц}.$$

$$\text{Для второй частоты } \alpha_2 = 4, \omega_2 = 19200 \text{с}^{-1}$$

Отсюда, видно, что вторая частота значительно выше первой.

Далее рассмотрим вынужденные колебания зуба берда под действием силы прибоа. В этом случае задача сводится к решению дифференциального уравнения вида:

$$\ddot{x} + 2h\dot{x} + \omega^2 x = f(t), \quad (3)$$

где $c = 3EJ/l^3$ - приведенная жесткость; $\delta_{22} = 1/c$; $\delta_{12} = \delta_{21} = l_1^2(3l_2 - l_1)/6EJ$ - прогиб в сечении 2 под действием единичной силы, приложенной в сечении 1; $m_{np} = c/\omega^2$ - приведенная масса; $f(t) = P\delta_{21}/m_{np}\delta_{22}$; $P = F(t)$ - сила прибора. Аппроксимационная кривая осциллограммы станка СТБ-216 представлена на рис.2. Полученная кривая характеризует изменение силы прибора P в зависимости от времени t [8-18]. Правую часть уравнения (3) после вычисления можно представить в виде $f(t) = P\delta_{21}/m_{np}\delta_{22}$

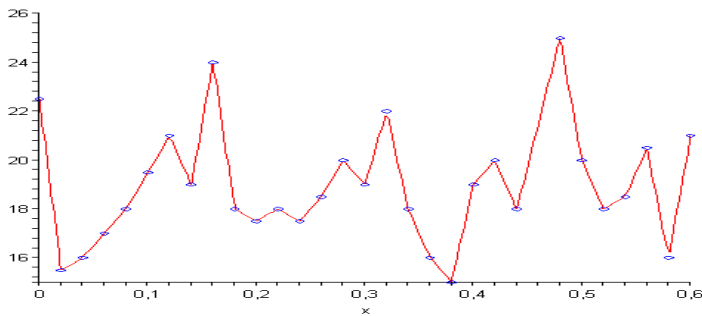


Рис.2 Аппроксимационная кривая осциллограммы

Уравнение (3) будем решать численно с помощью программы «Mathcad». На рис.3 приведен график изменения перемещения $x(t)$ в зависимости от время t .

Как видно из этого график изменение перемещения во времени носит колебательный характер.

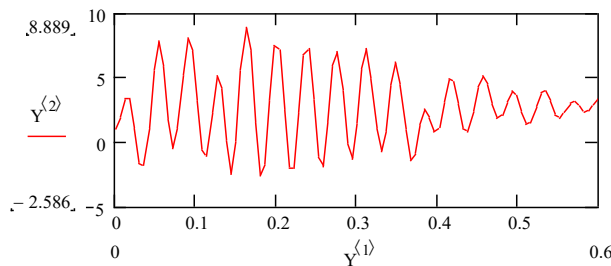


Рис.3. График изменения перемещения во времени t .

На рис.3 $Y^{(1)}$ означает времени t , $Y^{(2)}$ характеризует перемещения $x(t)$. Изменения скорости представлены на рис.4. $Y^{(3)}$ скорость перемещения.

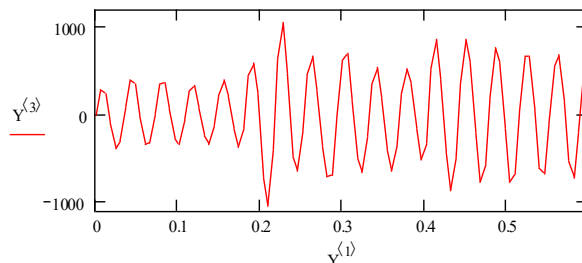


Рис.4. График изменения скорости в зависимости от времени t

$$M_{\max}(t) = GI_p \sum_{n=1}^{\infty} \frac{2M_n p_n}{a_n I(p_n^2 - \omega^2)} \left(\sin \omega t - \frac{\omega}{p_n} \sin p_n t \right)$$

Далее можно вычислить изгибающие моменты и перерезывающих сил. Крутящий момент в любом сечении вала будет

$$M(x,t) = GI_p (\partial\theta / \partial x)$$

Максимальное значение крутящего момента для любого значения времени будет при $x=0$.

Вывод. Сопоставляя решения, можно получить представления о том, к чему сводятся исследования затухающих и вынужденных колебаний берда с двумя степенями свободы. Это позволяет оценить реальные работы системы и выбора наиболее рациональные механических, геометрических и технологических параметров рассматриваемой системы.

Полученные результаты позволяет сделать вывод о том, что если осциллограмма динамического процесса известна, то можно вычислить все параметры, характеризующие динамические процессы берда станка типа СТБ.

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ВИРТУАЛЬНАЯ РЕАЛЬНОСТЬ ОБЩЕСТВА ПОСРЕДСТВОМ СЕТИ ИНТЕРНЕТ

Аннотация. В статье проанализированы основные вопросы, касающиеся механизма виртуализации, какое имеет значение в современном мире, была изучена история «виртуальной реальности».

Проанализированы современные процессы виртуализации. Использовались такие общенаучные методы как: изучение литературы, анализ, наблюдение, а также специальный метод: анкетирование. Основным выводом исследования является, что виртуальная реальность Интернет становится главным источником в современном мире, который заполняет нашу жизнь практически на 90 % и человек становится зависимым от него.

Ключевые слова: Интернет, виртуальная реальность, общение, виртуализация, информация, киберпространство, информационные технологии.

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VIRTUAL REALITY OF SOCIETY VIA THE INTERNET

Annotation. The article analyzes the main issues related to the virtualization mechanism, what is important in the modern world, and the history of "virtual reality" was studied.

Modern virtualization processes are analyzed. Such general scientific methods were used as: literature study, analysis, observation, as well as a special method: a questionnaire. The main conclusion of the study is that virtual reality Internet is becoming the main source in the modern world, which fills our lives by almost 90% and people become addicted to it.

Keywords: Internet, virtual reality, communication, virtualization, information, cyberspace, information technology.

Виртуальная реальность действительно играет всё более значимую роль в нашей повседневной жизни, от образования и развлечений до профессиональной деятельности и социального взаимодействия.

История виртуальной реальности начинается с первых экспериментов в середине 20-го века, но только в последние десятилетия она стала широко доступной благодаря технологическому прогрессу. Современные процессы ⁷⁵виртуализации включают не только создание виртуальных миров, но и разработку инструментов для взаимодействия с этими мирами, таких как VR-шлемы и контроллеры.

Виртуальная реальность (VR) преобразовала, многие аспекты нашей жизни и продолжает это делать, расширяя границы возможного.

Она предоставляет уникальные возможности для погружения в другие миры, обучения через симуляции и создания новых форм социального взаимодействия.

Развитие VR-технологий привело к созданию разнообразных приложений:

Образование: VR используется для создания интерактивных и погружающих образовательных программ, которые могут улучшить понимание сложных концепций и предметов.

Медицина: В медицинской сфере VR помогает в тренировке хирургов, реабилитации пациентов и лечении фобий.

Развлечения: Игровая индустрия была одной из первых, кто принял VR, предлагая игрокам более глубокое погружение в игровые миры.

Профессиональное применение: VR используется для тренировки специалистов в различных отраслях, от пилотирования до строительства.

Рузметов А. А., Рустамов О. А., Худайбеженов Т. А., Хужаев О. К. Администрирование безопасности локальных сетей на примере Ургенчского филиала ТУИТ. Universum: технические науки, 2021.

Шаньгин В. Ф. Комплексная защита информации в корпоративных системах. Москва: ИД «ФОРУМ», ИНФРА-М, 2021.

Инструменты взаимодействия, такие как VR-шлемы и контроллеры, становятся всё более продвинутыми, обеспечивая естественное и интуитивно понятное взаимодействие с виртуальными мирами. Это открывает новые перспективы для разработчиков и пользователей, позволяя создавать более сложные и реалистичные виртуальные опыты.

Тем не менее, существуют и вызовы, связанные с VR:

Цифровой разрыв: Не все имеют доступ к VR-технологиям, что может усиливать социальное неравенство.

Зависимость: Существует риск развития зависимости от виртуальных миров, особенно если они предлагают бегство от реальности.

Интернет, виртуальная реальность, общение, виртуализация, информация, киберпространство, информационные технологии.

Эти термины охватывают широкий спектр концепций и технологий, которые играют центральную роль в современном мире. Вот краткое описание каждого из них:

Интернет: Глобальная система связанных компьютерных сетей, которая использует стандартный протокол передачи данных (TCP/IP) для связи между миллионами частных, публичных, академических, бизнес и правительственных сетей.

Виртуальная реальность (VR): Иммерсионная технология, которая позволяет пользователям взаимодействовать с трехмерными симулированными средами, используя специальное оборудование, такое как VR-шлемы и контроллеры.

Общение: Процесс передачи информации и выражения мыслей или чувств между людьми. В контексте цифровых технологий это часто включает использование электронной почты, социальных сетей и мессенджеров.

Виртуализация: Технология создания виртуальной версии чего-либо, включая виртуальные компьютерные системы, серверы, сетевые ресурсы и хранилища данных.

Информация: Данные, обработанные в удобном для понимания формате. В контексте ИТ, информация часто хранится, обрабатывается и передается с помощью компьютерных систем.⁷⁶

Киберпространство: Метафорическое описание нефизического пространства, созданного сетевыми компьютерами и технологиями.⁷⁷

Это термин, используемый для описания всего, что связано с Интернетом и цифровыми сетями.

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Основы информационной безопасности. Часть 1: Виды угроз. URL: <https://habr.com/ru/> (дата обращения: 07.05.2023).

Учёный XXI века. Издание 3–2 (16) марта 2016 г. UDC 004.414.22 «Administration of complex methods of security of a LAN on the example of the Urgench branch of TUIT», Т. А. Khudayberganov.

Информационные технологии (ИТ): Область, занимающаяся использованием компьютеров и программного обеспечения для обработки и хранения информации, а также связанных с этим процессов и инфраструктуры.

Виртуальная реальность (VR) представляет собой обширную и сложную область, которая требует мультидисциплинарного подхода к изучению.

Вот несколько ключевых проблем, которые могут быть предметом глубокого изучения:

Взаимодействие человека и компьютера: Как пользователи взаимодействуют с VR и какие интерфейсы наиболее эффективны.

Влияние на психологию: Исследование того, как VR влияет на восприятие, внимание и память.

Образовательный потенциал: Оценка эффективности VR в обучении и тренировке навыков.

Этические и социальные вопросы: Разработка рекомендаций по использованию VR, учитывая проблемы конфиденциальности и воздействия на социальное поведение.

Каждая из этих проблем может быть исследована через призму различных дисциплин, таких как психология, информатика, образование и социология.

Специфика общения в виртуальном пространстве происходит в режиме реального времени, в возможном сопровождении визуальными приложениями в виде файлов, смайлов или Интернет-ссылок на обсуждаемую тему, а также в особенностях электронного письма. Причиной виртуального общения может быть, как отсутствие объективной возможности «живого» общения, так и нежелание (неумение) общаться в реальной жизни.

Таким образом, виртуальная реальность сети Интернет расширяет возможности общения, делает общедоступными даже те его виды, которые раньше были доступны лишь избранным, творчески одаренным людям.

В то же время виртуализация повседневной жизни человека приводит к формированию нового типа социокультурных изменений: деформированы принципы взаимодействия людей и их социокультурные связи, отсутствует иерархическая соподчиненность элементов социальной системы, «размыты» социальные структуры и т. д.

Роль Интернета в виртуализации современного общества можно определить следующим образом:

– Интернет позволяет устанавливать горизонтальные связи в общении между людьми;

– Интернет не навязывает информацию, она только предлагается к добровольному восприятию;

– Интернет позволяет стать участником информационного процесса любому человеку;

– Интернет не создает предпосылок для манипуляторного общения, а наоборот – они исчезают. Вопросно-ответные ряды не дают возможности для обмана и манипулирования;

– Интернет (в отличие от СМИ, которые блокируют сознание), раскрепощает человека и побуждает его к рефлексии;

– Интернет создает локальные сообщества людей как альтернативу серой безликой толпе или стандартному слою. Они самоорганизуются и самоуправляются, изменяя при этом структуру общества;⁷⁸

– Интернет формирует новую сферу информационного взаимодействия, приводит к возникновению новых видов общественных отношений.

Итак, Интернет-коммуникации содержат элементы обратной связи и создают беспрецедентные возможности для живого, открытого и всестороннего общения людей, разделенных огромными расстояниями.

Благодаря функционированию Интернета формируется глобальная, постоянно растущая общность людей, объединенных общими интересами, устремлениями, социокультурными ориентациями, несмотря на этнические, социально-политические и иные различия. Интернет тем самым выполняет интегративную функцию. Но главное следствие вхождения Интернета в жизнь современного общества – это индивидуализация социальной среды.

Интернет, виртуальная реальность, общение, виртуализация, информация, киберпространство и информационные технологии являются ключевыми элементами современного общества. Они предоставляют новые возможности для развития и взаимодействия, однако также требуют внимания к проблемам безопасности, конфиденциальности и этики использования информации. В будущем необходимо продолжать развивать и совершенствовать эти технологии, чтобы максимизировать их потенциал для общества и индивидуальных пользователей.

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АДМИНИСТРИРОВАНИЕ БЕЗОПАСНОСТИ ЛОКАЛЬНЫХ СЕТЕЙ

Аннотация. Статья посвящена разработке предложений по повышению защищённости информации, циркулирующей в локальных вычислительных сетях. Рассматриваются классификация каналов утечки и угроз безопасности информации, а также существующие способы защиты информации от несанкционированного доступа. Разработан программно-аппаратный комплекс удалённого контроля несанкционированного доступа к автоматизированному рабочему месту. Представлена общая структура предлагаемой системы контроля защиты информации, обрабатываемой в сетевых хранилищах данных от несанкционированного доступа.

Ключевые слова: локальные вычислительные сети, несанкционированный доступ, программно-аппаратный комплекс, сетевые хранилища данных.

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ADMINISTRATION OF LOCAL AREA NETWORK SECURITY

Annotation. The article is devoted to the development of proposals to improve the security of information circulating in local area networks. The classification of information leakage channels and threats to information security, as well as existing ways to protect information from unauthorized access, are considered. A software and hardware complex for remote control of unauthorized access to an automated workplace has been developed. The general structure of the proposed control system for the protection of information processed in network data warehouses from unauthorized access is presented.⁷⁹

Keywords: local area networks, unauthorized access, hardware and software complex, network data warehouses.

Локальные вычислительные сети (ЛВС) играют ключевую роль в поддержании потока информации и обеспечении связи в современном мире. Они позволяют пользователям делиться данными, ресурсами, такими как принтеры и файлы, и предоставляют платформу для коллективной работы, что особенно важно в бизнес-средах и образовательных учреждениях.

Преимущества ЛВС включают:

Эффективность общения: Ускоряет процесс обмена информацией между пользователями.

Централизованное управление: Упрощает администрирование сети и управление ресурсами.

Совместное использование ресурсов: Позволяет множеству пользователей использовать общие устройства и приложения.

Гибкость: ЛВС можно масштабировать и адаптировать к изменяющимся потребностям организации.

Безопасность: Возможность внедрения политик безопасности для защиты данных и ресурсов.

Тем не менее, существуют и вызовы, связанные с ЛВС:

Защита данных: Необходимо обеспечить защиту от внешних и внутренних угроз.

Обслуживание: Требуется регулярное техническое обслуживание и обновление оборудования и программного обеспечения.

Масштабируемость: По мере роста организации может потребоваться расширение сетевой инфраструктуры.

ЛВС продолжают развиваться, включая новые технологии, такие как беспроводные сети, облачные вычисления и интернет вещей (IoT), которые дополнительно усиливают их значимость в цифровой эпохе.

В современном мире, где количество и сложность киберугроз постоянно растет, администрирование безопасности локальных сетей

Рузметов А. А., Рустамов О. А., Худайбегенов Т. А., Хужаев О. К. Администрирование безопасности локальных сетей на примере Ургенческого филиала ТУИТ. Universum: технические науки, 2021.

становится критически важным аспектом для любой организации. Это не только защищает ценные данные, но и является основой для непрерывной работы бизнеса и сохранения доверия клиентов и партнеров.

Основные аспекты эффективного администрирования безопасности ЛВС включают:

Политики безопасности: Разработка и внедрение строгих политик безопасности, которые регулируют доступ к сети и ее ресурсам.

Физическая безопасность: Защита сетевого оборудования от несанкционированного физического доступа.⁸⁰

Аутентификация и авторизация: Установление надежных методов аутентификации и авторизации пользователей и устройств.

Шифрование: Использование шифрования для защиты данных во время их передачи по сети.

Мониторинг сети: Непрерывный мониторинг сетевой активности для выявления подозрительных действий и потенциальных угроз.

Резервное копирование и восстановление: Регулярное создание резервных копий важных данных и разработка планов восстановления после сбоев.

Обновление и патчинг: Своевременное обновление программного обеспечения и операционных систем для устранения уязвимостей.

Обучение пользователей: Повышение осведомленности сотрудников о киберугрозах и обучение их безопасному поведению в сети.

Эти меры помогают создать многоуровневую систему защиты, которая может эффективно противостоять различным угрозам и обеспечить безопасность цифровых активов организации.

В своем исследовании мы опирались на труды:

Рузметов А. А., Рустамов О. А., [8], Худайбегенов Т. А., Хужаев О. К. [12], Шаньгин В. Ф. [29], Муравьева Н. В. [10], Соколов А. В., Кудаева, М. М. [17],

Зима В., [22].

Локальные сети сталкиваются со сложным и постоянно меняющимся ландшафтом угроз, требующим многогранного подхода к безопасности. Несанкционированный доступ остается постоянной проблемой, поскольку злоумышленники используют разнообразный арсенал методов для взлома периметра сети. Атаки с использованием грубой силы используют автоматизированные инструменты для взлома слабых учетных данных, в то время как мошенничество в области социальной инженерии использует человеческие уязвимости, чтобы обманом заставить пользователей раскрыть конфиденциальную информацию или перейти по вредоносным ссылкам. Искушенные злоумышленники также используют

Шаньгин В. Ф. Комплексная защита информации в корпоративных системах. Москва: ИД «ФОРУМ», ИНФРА-М, 2021.

неисправленные уязвимости программного обеспечения, чтобы закрепиться в сети.

Вредоносное ПО, включая вирусы, черви и программы-вымогатели, представляет собой серьезную угрозу. Эти вредоносные программы могут быстро распространяться по сети, заражая устройства, повреждая данные и нарушая работу критически важных систем. Атаки программ-вымогателей, в частности, могут быть особенно разрушительными: они шифруют важные файлы и требуют непомерных выкупов за их расшифровку. Внутренние угрозы добавляют еще один уровень сложности. Недовольные сотрудники, халатные люди или лица с скомпрометированными учетными данными могут нанести значительный ущерб из-за присущих им привилегий доступа и знания внутренних систем. Кроме того, такие методы, как подслушивание и атаки «человек посередине» (MitM), могут поставить под угрозу конфиденциальность передачи конфиденциальных данных, позволяя злоумышленникам перехватывать и красть ценную информацию.

Для усиления защиты локальной сети необходим многоуровневый подход к безопасности, учитывающий различные принципы безопасности.

Внедрение надежного контроля доступа является краеугольным камнем безопасности локальной сети. Принцип минимальных привилегий требует, чтобы учетным записям пользователей предоставлялись только минимальные разрешения, необходимые для выполнения назначенных им задач. Многофакторная аутентификация (MFA) добавляет дополнительный уровень безопасности, требуя вторичного фактора проверки помимо простого имени пользователя и пароля. Этот дополнительный шаг значительно усложняет доступ к сети неавторизованным лицам, даже если они получают учетные данные пользователя. Ограничение несанкционированного физического доступа к сетевым устройствам и реализация сегментации сети — процесса разделения сети на более мелкие изолированные сегменты — еще больше ограничивают ⁸¹потенциальные возможности атак, ограничивая зону действия злоумышленников, если они проникают в определенный сегмент.

Системы обнаружения и предотвращения вторжений (IDS/IPS) действительно являются важными компонентами в стратегии безопасности сети. Они работают, отслеживая сетевой трафик и анализируя его на предмет признаков известных атак или аномального поведения, которое может указывать на новые или неизвестные угрозы.

IDS (Системы обнаружения вторжений) обычно выполняют следующие функции:

Мониторинг трафика: Анализируют сетевой трафик в реальном времени.

Основы информационной безопасности. Часть 1: Виды угроз. URL: <https://habr.com/ru/> (дата обращения: 07.05.2023).

Анализ событий: Сравнивают данные сетевого трафика с базой данных известных угроз.

Генерация предупреждений: Оповещают администраторов о потенциальных вторжениях.

IPS (Системы предотвращения вторжений), помимо обнаружения, также могут:

Блокировать трафик: Автоматически блокируют подозрительный трафик.

Исправление уязвимостей: Предотвращают эксплуатацию известных уязвимостей.

Адаптация: Обновляются для распознавания новых угроз.

Эти системы помогают обеспечить, что сеть защищена от различных видов кибератак, включая вирусы, черви, троянские программы, и могут быть настроены для предотвращения более сложных атак, таких как DDoS (распределенные отказы в обслуживании) или АРТ (продвинутое постоянные угрозы). Регулярное обновление операционных систем, приложений и встроенного программного обеспечения (ПО) на сетевых устройствах является одним из ключевых элементов стратегии кибербезопасности. Это помогает защитить системы от известных уязвимостей, которые могут быть использованы злоумышленниками для проведения атак.

Важность обновлений заключается в следующем:

Устранение уязвимостей: Обновления часто содержат патчи для уязвимостей, которые были обнаружены после выпуска предыдущей версии ПО.

Повышение стабильности: Обновления могут улучшать стабильность системы, исправляя ошибки, которые могут привести к сбоям.

Новые функции: Обновления могут включать новые функции или улучшения существующих, что может улучшить общую эффективность и удобство использования.

Соответствие стандартам: Со временем могут меняться стандарты безопасности, и обновления помогают соответствовать этим изменениям.

Для обеспечения безопасности и эффективности процесса обновления важно:

Автоматизировать процесс: Настроить автоматические обновления, где это возможно, чтобы гарантировать, что ПО всегда актуально.

Тестирование перед развертыванием: Проводить тестирование обновлений в контролируемой среде перед их развертыванием на рабочих системах.

Резервное копирование: Создавать резервные копии систем перед применением обновлений на случай, если возникнут проблемы.

Мониторинг после обновления: Отслеживать системы после обновления на предмет любых непредвиденных проблем.

Конфиденциальные данные при хранении и передаче требуют надежной защиты. Шифрование данных защищает информацию, даже если она будет перехвачена неавторизованными лицами. Шифрование делает данные нечитаемыми без соответствующего ключа дешифрования, что делает их бесполезными для злоумышленников. Регулярное резервное копирование данных гарантирует возможность восстановления важной информации в случае кибератаки или сбоя системы. Комплексная стратегия резервного копирования ⁸²обычно включает репликацию данных в безопасное удаленное место, чтобы минимизировать риск потери данных в результате атак программ-вымогателей или физических катастроф.

Обучение пользователей передовым методам кибербезопасности играет жизненно важную роль в укреплении безопасности вашей сети. Программы обучения по вопросам безопасности должны вооружать пользователей знаниями и навыками, позволяющими выявлять попытки фишинга, соблюдать правила гигиены паролей и сообщать о подозрительной активности.

Передовые методы контроля доступа:

Управление доступом на основе ролей (RBAC): этот подход назначает разрешения на основе заранее определенных ролей в организации. Например, пользователь отдела маркетинга может иметь другие права доступа по сравнению с ИТ-администратором.

Управление идентификацией и доступом (IAM): IAM выходит за рамки простого контроля доступа, управляя всем жизненным циклом пользователя, включая предоставление, контроль доступа и удаление учетных записей пользователей. Такой централизованный подход упрощает управление доступом и повышает безопасность.

Безопасность порта 802.1X. Этот протокол обеспечивает аутентификацию проводных сетевых устройств перед тем, как им будет предоставлен доступ к сети. Только авторизованные устройства с правильными учетными данными могут подключаться к определенным сетевым портам.

Устройства сетевой безопасности в действии:

Брандмауэры. Современные брандмауэры предлагают расширенные функции, такие как глубокая проверка пакетов, которая анализирует содержимое пакетов данных для выявления вредоносных программ или другого вредоносного контента. Их также можно настроить для реализации фильтрации на уровне приложений, ограничивая доступ к определенным приложениям или веб-сайтам.

Учёный XXI века. Издание 3–2 (16) марта 2016 г. UDC 004.414.22 «Administration of complex methods of security of a LAN on the example of the Urgench branch of TUIT», Т. А. Khudayberganov.

Соколов А. В., Shangin V. F. Information security in the distributed corporate networks and systems. DMK the Press, 2022.

Системы обнаружения и предотвращения вторжений (IDS/IPS). Эти системы можно настроить не только на обнаружение подозрительной активности, но и на автоматическое выполнение действий по снижению угроз. Например, IPS может автоматически блокировать вредоносный IP адрес, пытающийся воспользоваться уязвимостью сетевого устройства.

Инструменты сканирования уязвимостей существуют в различных формах, некоторые из которых ориентированы на конкретные типы уязвимостей или сетевых устройств. Группы безопасности могут расставлять приоритеты в исправлениях, исходя из серьезности уязвимости, потенциального воздействия на критические системы и простоты эксплуатации.

Инструменты управления исправлениями могут автоматизировать развертывание исправлений безопасности по сети, обеспечивая своевременные обновления и минимизируя окно уязвимости.

Тестирование на проникновение включает в себя моделирование кибератаки для выявления уязвимостей, которые могут пропустить автоматические сканеры. Такой упреждающий подход помогает

организациям обнаруживать потенциальные слабые места в своей защите до того, как ими воспользуются злоумышленники.⁸³

Разработка схемы программно-аппаратного комплекса для удалённого контроля несанкционированного доступа требует тщательного планирования и включает в себя следующие компоненты:

Устройства захвата данных: К ним относятся камеры, датчики движения и другие сенсоры, которые могут обнаруживать физическое присутствие возле рабочего места.

Сетевые компоненты: Включают в себя маршрутизаторы, коммутаторы и брандмауэры для защиты данных и управления трафиком.

Серверы и хранилища данных: Обеспечивают централизованное хранение и обработку данных с устройств захвата и сетевых компонентов.

Программное обеспечение для анализа данных: Включает в себя системы обнаружения вторжений (IDS) и системы предотвращения вторжений (IPS), а также программное обеспечение для анализа поведения пользователей.

Интерфейс пользователя: Панель управления для мониторинга системы и реагирования на инциденты.

Механизмы шифрования: Для защиты передаваемых данных между компонентами системы.

Протоколы аутентификации и авторизации: Для контроля доступа к системе и её компонентам.

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РОЛЬ СЕТЕЙ И ОБЛАЧНЫХ ТЕХНОЛОГИЙ В СОВРЕМЕННОМ МИРЕ

Аннотация. В данной работе представлены примеры того, как облачные технологии развились за последнее время, и какую роль они играют сейчас. Облачные технологии, благодаря своей эффективности и экономии затрат были адаптированы в различных отраслях промышленности. Образование также может быть следующим в очереди, чтобы пользоваться многими преимуществами, которые она предлагает.

Ключевые слова: облачные технологии, сети, информация.

Сети и облачные технологии играют ключевую роль в современном мире, обеспечивая основу для глобальной связи и доступа к информации. Они позволяют пользователям хранить данные и использовать вычислительные ресурсы в интернете, что приводит к улучшению эффективности и снижению затрат во многих отраслях.

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THE ROLE OF NETWORKS AND CLOUD TECHNOLOGIES IN THE MODERN WORLD

Annotation. This paper provides examples of how cloud technologies have developed recently, and what role they play now. Cloud technologies, due to their efficiency and cost savings, have been adapted in various industries. Education may also be next in line to enjoy the many benefits it offers.

Keywords: cloud technologies, networks, information.

Облачные технологии предоставляют следующие преимущества:

Масштабируемость: Пользователи могут легко увеличивать или уменьшать ресурсы в зависимости от своих потребностей.

Доступность: Данные и приложения доступны отовсюду, где есть Интернет-соединение.

Экономия ресурсов: Компании могут сократить расходы на IT-инфраструктуру, используя облачные сервисы.

В образовании облачные технологии могут:

Упростить доступ к учебным материалам и ресурсам.

Обеспечить совместную работу студентов и преподавателей в реальном времени.

Повысить доступность образовательных ресурсов для удаленного обучения.

Тем не менее, необходимо учитывать и риски, связанные с безопасностью данных и зависимостью от Интернет-соединения. Важно тщательно подходить к выбору облачных провайдеров.

Вопросы безопасности данных и надежности Интернет-соединения являются ключевыми при выборе облачных провайдеров. Вот несколько рекомендаций, которые могут помочь в этом процессе:

Изучение репутации провайдера: Проверить отзывы, историю безопасности и достижения провайдера в области облачных технологий.

Понимание политики безопасности: Убедиться, что провайдер имеет четкую политику безопасности и соответствует международным стандартам.

Расположение данных: Уточнение, где физически будут храниться данные и какие законы о защите данных, будут применяться.

Шифрование: Убедиться, что провайдер предлагает сильное шифрование данных в покое и во время передачи.

Резервное копирование и восстановление: Проверить, какие у провайдера есть средства для резервного копирования и восстановления данных в случае сбоя.

Соглашения об уровне обслуживания (SLA): Ознакомьтесь с SLA, чтобы понять, какие гарантии предоставляет провайдер в отношении доступности и производительности.

Тщательный подход к выбору облачного провайдера поможет минимизировать риски и обеспечить надежность и безопасность ваших данных в облаке.⁸⁴

Выбор облачного провайдера и внимательное изучение SLA помогут минимизировать риски, связанные с хранением данных в облаке, и гарантировать, что данные будут обрабатываться с должным уровнем безопасности и доступности. В самом общем смысле, исходя из всего вышесказанного, облачными технологиями можно назвать технологии, которые позволяют клиентским рабочим местам использовать внешние вычислительные ресурсы, емкости для хранения информации и др.

Действительно, облачные технологии предоставляют практически безграничные возможности благодаря своим сервисам, начиная с простого хранения информации и заканчивая предоставлением сложных безопасных ИТ-инфраструктур.

Кроме предоставления конечным пользователям вычислительных мощностей, облачные технологии предоставляют новые рабочие места для ИТ-специалистов, которые способны настраивать и сопровождать «облака». И т. к. сами технологии достаточно молоды, продолжаются исследования возможности их применения в различных областях жизни. Главная трудность в развитии облачных технологий состоит не в решении технических вопросов, а в выборе взаимовыгодного пути развития. Именно поэтому многие коммерческие и государственные организации участвуют в обсуждении концепций и выбирают стратегии развития ИТ-систем.

Одной из основных трудностей в развитии облачных технологий является выбор стратегии, которая будет взаимовыгодной для всех участников.

Это требует не только технического понимания, но и стратегического планирования, а также учета экономических и социальных аспектов.⁸⁵

Коммерческие и государственные организации должны работать вместе для определения стандартов, политик безопасности и управления данными, чтобы обеспечить, что облачные технологии будут развиваться таким образом,

который способствует инновациям и одновременно защищает интересы всех сторон.

Важно также учитывать, что облачные технологии постоянно развиваются, и стратегии должны быть достаточно гибкими, чтобы адаптироваться к новым технологиям и меняющимся требованиям рынка.

Тенденции развития высокотехнологичного бизнеса / Л.В. Овешникова, Е.В. Сибирская, О.Г. Лебединская, И.Р. Ляпина, А.Г. Тимофеев; под ред. Л.В. Овешниковой. – Тб., Справедливая Грузия, 2019. – 230 с.

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Гибкость стратегий в области облачных технологий критически важна, поскольку они должны быть способными не только реагировать на текущие изменения, но и антиципировать будущие тенденции. Это включает в себя:

Интеграцию новых технологий: Облачные платформы должны быть совместимы с новейшими технологическими достижениями, такими как искусственный интеллект, машинное обучение и Интернет вещей.

Соответствие регуляторным требованиям: Постоянно обновляющиеся законодательные и нормативные стандарты требуют от облачных провайдеров быстрой адаптации.

Безопасность данных: С учетом угроз кибербезопасности, стратегии должны включать разработку и внедрение передовых мер безопасности.

Экономическая эффективность: Стратегии должны обеспечивать оптимизацию затрат и повышение эффективности использования ресурсов.

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ВОСПРОИЗВЕДЕНИЕ МАРШРУТОВ ОБЩЕСТВЕННОГО ТРАНСПОРТА ДЛЯ ПРЕДОТВРАЩЕНИЯ ДВИЖЕНИЯ НА УЛИЦАХ АЛИШЕРА НАВОИ Г. НАМАНГАНА

Аннотация. Одной из важнейших задач транспортной системы является повышение качества удовлетворения потребностей экономики и населения в безопасных и эффективных транспортных услугах.

Ключевые слова: автобус, пассажиры, транспорт, экспресс, остановки.

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REPRODUCTION OF PUBLIC TRANSPORT ROUTES TO PREVENT TRAFFIC ON THE STREETS OF ALISHER NAVOI, NAMANGAN

Annotation. One of the most important tasks of the transport system is to increase the quality of meeting the needs of the economy and population for safe and efficient transport services.

Key words: bus, passengers, transport, express bus, stops.

Перевозка пассажиров автомобильным транспортом является неотъемлемой частью системы общественного транспорта нашей страны и занимается пассажирскими перевозками наряду с другими видами пассажирского транспорта. Независимо от видов транспорта существуют общие требования к организации пассажирских перевозок, включающие доставку пассажиров к месту назначения в короткие сроки, четкое движение транспортных средств на всем маршруте следования, правильное

использование транспортных средств, существуют требования по организации перевозок с полнуюю безопасностью, обеспечить качественный сервис пассажирам и максимально сократить расходы.

Перевозка легковых автомобилей имеет ряд преимуществ перед другими видами транспорта, перевозящими большое количество пассажиров. Первым из этих преимуществ является высокий уровень маневренности легкового автомобильного транспорта, то есть возможность доставлять пассажиров ближе к местам работы и проживания, высокая скорость движения по сравнению с другими наземными пассажирскими транспортными средствами по дорогам с улучшенным и твердым покрытием. Еще одним важным преимуществом автобусных пассажирских перевозок является возможность быстрого запуска новых маршрутов при необходимости. Недостатком автобусного транспорта является низкая производительность по сравнению с пригородным железнодорожным пассажирским транспортом, трамваями и троллейбусами, а также большие эксплуатационные расходы, связанные с высокой стоимостью используемого топлива и сравнительно высоким уровнем загрязнения окружающей среды токсичными веществами и т. д. [1,2,3,4].

При организации автобусного движения движение организуется в определенном направлении. Расположение городских, районных или региональных маршрутов пассажирского транспорта называется сетью маршрутов. Расположение маршрутов, обслуживаемых только автобусами, называется автобусной маршрутной сетью.

Маршруты городского пассажирского транспорта классифицируются по видам транспорта (автобус, трамвай, троллейбус, метро и др.), направлениям движения в сети маршрутов, скорости движения и режимам работы.

Автобусный маршрут определяется как маршруты автобусов и такси между начальной и конечной остановками. Маршруты городских автобусов разделены по маршрутам движения на территории города.

По характеру движения на маршруте автобусные маршруты можно разделить на типы, работающие в обычном, ускоренном или экспресс-режиме. В обычном режиме автобус должен останавливаться на каждой назначенной остановке.

Автобусы на маршрутах ускоренного режима останавливаются на многих остановках для обмена пассажирами. Автобусы, следующие по экспресс-маршрутам, останавливаются только на последних остановках маршрута или в некоторых случаях только на двух-трех промежуточных остановках и движутся с относительно высокой скоростью.

В пределах регулярных автобусных маршрутов могут быть организованы ускоренный и экспресс-режимы. На трамваях и троллейбусах невозможна организация ускоренных и экспресс-маршрутов [5].

Направления могут быть постоянными или временными в зависимости от часов работы. По регулярным маршрутам во все дни недели ездит одинаковое количество транспортных средств. Временные маршруты могут быть организованы в определенный сезон или по мере необходимости.

Обычно каждому автобусному маршруту присвоен номер от 1. Городским маршрутам присваиваются порядковые номера от 1 до 99 (в крупных городах — 199), пригородным — от 101 до 199 (от 20 до 299), междугородным маршрутам — порядковые номера. При наличии экспрессных и ускоренных маршрутов к серийным номерам автобусов добавляются буквы «Е», «Т», а к сокращенным маршрутам добавляются буквы «Q».

К основным показателям качества, определяющим уровень обслуживания пассажиров и эффективность использования транспортных средств при организации автобусных маршрутов, относятся:

- Скорость движения;
- Интервал движения;
- Коэффициент наполненности салона;
- Пассажирский обменный курс;
- Среднее расстояние поездки.

Под интервалом движения понимается интервал времени последовательного проезда автобусов с остановок на маршруте. Автобусные маршруты делятся на высокочастотные и низкочастотные по частоте их движения. В него входят маршруты со временем в пути не более 10-15 минут.

Необходимо иметь четкие расписания, определяющие своевременность прибытия пассажиров и возможность посадки в автобусы на каждой остановке маршрутов с нечастым движением.

Маршрут, пройденный автобусом от начальной точки маршрута до конечной остановки, называется рейсом. Поездка автобуса в обоих направлениях, т. е. от начальной точки до последней точки и обратно в исходную точку, называется поездкой туда и обратно.

Автобусный транспорт является наиболее распространенным видом городского транспорта, обслуживающим пассажиров в существующих крупных городах. Автобусный транспорт – единственный вид транспорта, который перевозит пассажиров в большинстве малых и средних городов.

Использование того или иного вида пассажирского транспорта зависит, прежде всего, от характера его перевозки, величины первоначальных капитальных затрат и стоимости перевозки. В крупных городах целесообразно использовать все виды пассажирского транспорта [6].

Автобусные маршруты используются для обслуживания потока пассажиров в определенном количестве и направлении. Маршруты

разделены на перегоны в зависимости от расположения точек формирования пассажиров.

Перегон – расстояние между двумя соседними остановками пассажирского транспорта. Чем длиннее средняя дальность пассажиропотока, тем важнее расширение перегонов. Расширение перегонов позволяет увеличить скорость связи между станциями.

Оптимальное расстояние между остановками на маршрутах городских автобусов рекомендуется составлять 300-700 метров в зависимости от дальности поездки пассажира.

В пригородных пассажирских перевозках расстояние между остановками составляет 700-1000 метров, а на автобусных маршрутах, следующих в дальние пункты назначения, расстояние между остановками учитывается населенными пунктами на дороге.

Зависит количество остановок на маршрутах, расстояния между ними, расположение жилых массивов или наиболее загруженных пассажирских узлов (промышленные предприятия, офисы, крупные торговые центры и т. д.).

Автобусные остановки могут быть постоянными, по желанию пассажиров или временными. Постоянные остановки устанавливаются в местах постоянного пассажиропотока и густонаселенности, их расположение определяет количество перегонов на маршруте. Временные остановки на практике применяются между постоянными остановками, промышленными предприятиями, перед началом и окончанием театрального представления, во время больших игр на стадионах и в других местах, где такие остановки необходимы [7,8,9].

Время остановки автобуса на остановках зависит от вместимости автобуса, конструкции его дверей и выходных лестниц, сезона, профессиональных навыков водителей (кондукторов) и загруженности остановки. При расчете времени остановки на промежуточных остановках на посадку пассажира в автобус принято устанавливать 1,5-2,0 секунды, на выход - не более 1,5 секунды. Время остановки на начальной и конечной остановках должно быть рассчитано на отдых команды водителей, оформление оформленных полетных документов и техническое обслуживание автобуса. На коротких маршрутах время остановки для таких целей учитывается только в последней точке.

Пересадочные станции для разных видов транспорта устраиваются в непосредственной близости друг от друга или в одном месте при малом пассажиропотоке.

С учетом безопасности движения и в целях повышения проходимости перекрестков станции вблизи перекрестков устанавливаются на расстоянии не менее 25-30 метров от них.

Расположение остановок, необходимое для автобусных маршрутов, снижает проходимость улиц и скорость сообщения. Чтобы исключить это,

их размещают внутри дороги. Такие специальные остановки называются «дорожными карманами». Вместимость станций зависит от разгонного и тормозного пути автобусов, их вместимости, количества и размеров дверей, а также пассажиропотока на станции. Поэтому при расчете кратчайшего расстояния между двумя последовательно движущимися автобусами принимаются максимальные значения показателей ускорения, торможения, занятости салона и остановки пассажиропотока автобуса.

Пропускная способность станции означает максимальное количество автобусов, которое может пройти через станцию в одном направлении за один час. Остановки, расположенные возле перекрестков, имеют пропускную способность примерно 100 автобусов в час в одну сторону.

Автобусы, прибывающие на остановки на скоростных маршрутах, будут иметь более короткие интервалы, чем указано. В таких случаях рекомендуется устанавливать двойные станции, расположенные на расстоянии 25-30 метров друг от друга.

Условия пассажирских перевозок.

Пассажирам необходимо иметь при себе билет, купленный в салоне, или специальный документ, дающий право на участие в автобусе.

Не должно быть никаких препятствий для перевозки пассажиров в автобусах, за исключением следующих случаев:

пассажир не соблюдает установленное правило перевозки;

если перевозка приостановлена по распоряжению органов власти или связана с чрезвычайными ситуациями;

если оно находится в состоянии, причиняющем вред здоровью пассажиров.

Горожане тратят на передвижение миллиарды человеко-часов. Сокращение затрат времени перевозки означает возможность его полезного использования в сфере материального производства и в организации культурно-досугового времени: отдыха, учебы, спорта и т. д.

Составляющими времени, затраченного на движение, в общем случае являются время, потраченное на дорогу от двери дома до места парковки, время, потраченное на ожидание движения транспорта на остановке «Тож», время нахождения в пробке $T_{тр}$ и время удаляясь от дверей стоянки подвижного состава.

Время, потраченное на подход и уход пешком, обычно рассчитывается по среднему значению $2T_{пеш}$.

Время, необходимое для выполнения действия:

$$T_{пер} = 2T_{пеш} + \text{Идентичность} + T_{ДВ} (1)$$

Относительный вес компонентов времени в пути может варьироваться. В среднем транспортная составляющая составляет около 50% времени, время, затраченное на прогулку, составляет $2T_{пеш}$. (пешеходная составляющая) - около 30% и в ожидании движения - около 20%.

$$T_{тр} = 2T_{тех.е\text{неи.}} + T_{ож.е\text{ож}} + T_{дв.едв} \quad (1.4)$$

Временные коэффициенты психологической оценки времени пребывания пассажиров на земле

$$е\text{нее} = 1,5е\text{ож} = 2едв = 1$$

Таблица 1
Исходная информация

Параметры, необходимые для расчета	Обозначение	Размер	Значение параметра
1	2	3	4
1. Длина маршрута.	L_m	км	15
2. Техническая скорость автобусов	V_T	км/ч	20
3. Количество промежуточных остановок на маршруте.	n_{no}	единство	28
4. Время остановки.	t_{no}	с	30
5. Продолжительность стоянки пустого автобуса на последней остановке.	t_{ko}	мин	12
6. Продолжительность пребывания в автобусе указана в указанном порядке.	T_{iz}	h	16
7. Нулевые километры автобуса.	L_o	км	10
8. Район строительства поселка (города).	F	км ²	60
9. Суточный объём автобусного движения по маршруту.	Q_{sug}	Пассажир	20000
10. Коэффициент неравномерности распределения пассажиров по маршрутам	K_H	-	1.3
11. Коэффициент неравномерности распределения пассажиропотока по участкам маршрута.	K_y	-	1.45
12. Ставка оплаты задается в маршруте.	C	сум	1500

Процентное распределение пассажиропотока по часам суток

Таблица 2

Vaqt	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22
%	4,2	9,8	8,9	5,2	4,2	3,8	3,5	5,7	4,3	4,5	4,8	8,7	8,5	7,8	4,8	3,7

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АТТРИБУЦИЯ ЛИЧНОСТИ - ФАКТОР ДЕФИЦИТА МОТИВОВ УЧЕБНОЙ ДЕЯТЕЛЬНОСТИ СТУДЕНТА

Аннотация. Мотивация достижения является подобластью исследования мотивации. Исследования в этой области пытаются объяснить выбор задач людьми, их настойчивость в выполнении этих задач, энергию, которую они вкладывают в их выполнение, и качество участия в задачах.

Ключевые слова: психология, личность, дефицит, мотивация, обучение.

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ATTRIBUTION OF PERSONALITY FACTOR OF DEFICIT OF MOTIVES FOR STUDENT LEARNING ACTIVITY

Annotation. Achievement motivation is a subfield of motivation research. Research in this area attempts to explain people's choice of tasks, their persistence in completing those tasks, the energy they put into completing them, and the quality of task engagement.

Key words: psychology, personality, deficit, motivation, training.

Существует большое количество современных теорий, связанных с исследованиями мотивации достижения. Различные теории мотивации достижения дополняют друг друга в нескольких аспектах. Согласно Экклсу, Вигфилду и Шифеле. Теория атрибуции Вайнера (1985) доминировала в исследованиях мотивации достижения на протяжении последних тридцати лет. Он фокусируется на интерпретации человеком своих результатов в деятельности. Изучение причинно-следственной связи результатов (которое используется для определения причин результата) важно для мотивации, поскольку эти причины будут оказывать влияние на поведение и будущую деятельность человека.

Теория самоэффективности Бандуры (1994) фокусируется на восприятии людьми своей способности добиться желаемого эффекта при выполнении задачи. В своих исследованиях Бандура определил два типа ожиданий: ожидания результата: вера в то, что определенное поведение, например, обучение, приведет к определенным результатам, таким как повышение производительности; ожидания эффективности: вера в то, что человек может выполнять действия, необходимые для получения результата.

Бандура считает, что то, как люди воспринимают свою эффективность, зависит от четырех элементов: их прошлые достижения; их удовольствие от обучения; словесное поощрение со стороны других людей; физиологические реакции человека.

Теории, связанные с индивидуальными целями (Goal Theory), сосредоточены на целях человека (Nicholls, 1979). Этот исследователь выделил три типа целей: Человек стремится максимизировать положительные оценки своей работы. Человек стремится освоить задачу и улучшить свои навыки. Индивид стремится минимизировать свои усилия.

Виау предложил: «Динамическая концепция, берущая свое начало в восприятии учащимся самого себя и своего окружения и побуждающая его выбирать деятельность, заниматься ею и настойчиво выполнять ее для достижения цели..» (Виау 1994, стр. 7).

Из определения академической мотивации Виау вытекает понятие мотивационной динамики, объясняемой с помощью модели мотивации. Восприятие студентами самих себя оказывает большое влияние на их академическую мотивацию. Виау (1994) делит восприятие студента на три детерминанты академической мотивации: восприятие ценности деятельности: обозначает суждение учащегося о полезности предложенной ему деятельности. Восприятие своей компетентности для выполнения какой-либо деятельности: это означает способность, которой, по мнению студента, он обладает, чтобы добиться успеха в курсе. Восприятие управляемости деятельностью: это относится к степени контроля, которой, по мнению студента, он обладает для выполнения деятельности.

Показатели академической мотивации представляют собой компоненты, позволяющие измерить степень мотивации обучающегося. В настоящее время они представляют собой четыре показателя: выбор;

познавательная активность; упорство; представление.

По мнению Виау (1994), выбор является первым показателем академической мотивации. Студент, не мотивированный курсом, отойдет от предложенной деятельности. И наоборот, мотивированный курсом студент способен приложить интеллектуальные усилия для выполнения предложенной деятельности (когнитивная деятельность). Третий показатель идентифицируется с количеством времени, затраченным на выполнение необходимой работы вне занятий. В конечном счете,

успеваемость является одновременно следствием академической мотивации и источником мотивации (Cantara, 2008).

Студент и учитель играют определенную роль в академической мотивации как в традиционном классе, так и в виртуальном (онлайн-классе). Студенты, которые участвуют в онлайн-курсе, сыграют важную роль в своей академической мотивации. Виау (2004) выделяет четыре категории внешних факторов, влияющих на академическую мотивацию (см. рисунок ниже).

Жизнь студента окружена несколькими составляющими, над которыми учитель не имеет контроля. От учителя зависит одна из четырех категорий академической мотивации, а именно классная. По мнению Виау (1994), на мотивационную динамику влияют пять факторов, связанных с классом: образовательная деятельность, предлагаемая в классе, и восприятие ценности, которую ученик придает ей; методы оценки, используемые учителем, ориентированы больше на прогресс, чем на успеваемость; какие отношения будут у учителя с этими учениками; системы поощрений и санкций, используемые для мотивации студентов; атмосфера работы и сотрудничества, которая царит в классе.

Студенты, которые учатся онлайн, сталкиваются с определяющими факторами, которые являются личными для них. Эти два элемента влияют на их мотивационную динамику. К детерминантам, а также факторам, влияющим на академическую мотивацию, добавляется еще один компонент – виртуальный класс, в котором происходит обучение. Действительно, среда, создаваемая учителем, может способствовать или препятствовать академической мотивации. Таким образом, используемый подход и образовательные мероприятия, предлагаемые в рамках онлайн-курса, могут положительно заинтересовать учащихся и помочь поддерживать академическую мотивацию.

Миньон и Клоссе (2004) провели анализ академической мотивации во время участия в онлайн-курсе. Эти авторы упомянули список факторов, которые способствуют мотивации на онлайн-курсе: Использование асинхронного общения, чтобы у учащихся создавалось впечатление постоянного присутствия преподавателя. Поэтому очень важно, чтобы учитель информировал учащихся о нормальном времени ответа, на которое они могут рассчитывать, и о важности его соблюдения.

Овладение учащимися технологическими инструментами: в некоторых случаях преподаватель может запланировать встречи, чтобы убедиться, что учащиеся освоили различные ресурсы, используемые в курсе. Этот фактор связан с самовосприятием учащимся своей компетентности.

Преподаватель должен экономно использовать гипермедиа: он должен ограничить гипертекстовые ссылки, чтобы снизить риск отклонения от навыков, связанных с курсом, и он должен вернуть студента к

стратегической точке обучения (платформе курса). Предоставление дополнительных сайтов может быть предложено на факультативной основе студентам, проявляющим больший интерес к данному предмету. Этот фактор частично связан с восприятием управляемости деятельности при регистрации студента на онлайн-курсе.

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АМОТИВАЦИЯ – ФАКТОР ДЕФИЦИТА МОТИВОВ УЧЕБНОЙ ДЕЯТЕЛЬНОСТИ СТУДЕНТА

Аннотация. Мотивация – суть обучения. Мотивация дает людям желание выполнять задания, осваивать новые знания и двигаться вперед в процессе обучения. Влиять на мотивацию студентов - значит действовать на их вовлечённость и настойчивость и, на их учебный успех. Мотивация - ключевой фактор академического успеха.

Ключевые слова: психология, личность, дефицит, мотивация, обучение.

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MANIFESTATION OF THE DEFICIT PATTERN FOR STUDENTS' EDUCATIONAL ACTIVITIES

Abstract. Motivation is the very essence of learning. Motivation gives people the desire to accomplish tasks, acquire new knowledge, and move forward in the learning process. Influencing student motivation means influencing their engagement and persistence and, ultimately, their academic success. Motivation is a key factor in academic success.

Key words: psychology, personality, deficit, motivation, training.

Мотивация – личная энергия, направленная на конкретную цель. Состояние динамичное и постоянно развивающееся, нормально, что уровень мотивации, которую личность чувствует, может колебаться, если не поддерживает его регулярно. Наблюдается устойчивое отсутствие мотивации, это может поставить под угрозу успехи в учебе и, возможно, привести к тому, что студент бросит учёбу. Когда личность страдает от отсутствия мотивации, можно наблюдать несколько проявлений, в том числе: усталость, чувство вины, скука, разочарование, уныние, поиск оправданий, чтобы не учиться, увеличение пропусков занятий, трудности с

запоминанием и академические неудачи. На уровень мотивации влияют несколько факторов. Некоторые из них находятся вне контроля, но многие факторы являются собственным восприятием и поведением относительно целей, которые личность перед собой ставим.

Мотивация — плодотворная область исследований в психологии. Считается источником энергии, направления или даже настойчивости, которую люди испытывают как в своих действиях, так и в своих намерениях (Райан и Деси, 2000). Было предложено несколько теоретических моделей для объяснения процесса, посредством которого взрослый человек принимает решение заняться обучением (Boshier, 1973; Tough, 1979; Cross, 1982; Wlodkowski, 2001; Viau, 2004). В моделях последнего находим идею, согласно которой решение о проведении обучения является результатом положительного взаимодействия между двумя фундаментальными факторами: с одной стороны, ценностью, приписываемой запланированному обучению, и пользой, которую оно может принести, и с другой, с другой стороны, его шансы на успех в решении этой задачи: «Эти два фактора рассматриваются как взаимодействующие до такой степени, что, если хотя бы один из них отсутствует, решение об участии будет каким-либо негативным образом» (Буржуа, 1998, с. 102). В результате общие теории мотивации, вытекающие из психоаналитического подхода Зигмунда Фрейда, имеют лишь ограниченный интерес к интересующей нас проблеме.

Мотивация – сложная область исследований. В течение нескольких лет этому вопросу посвящено несколько литературных источников, и он заинтересовал многих специалистов. Действительно, на мотивацию влияют несколько факторов: когнитивный аспект, аффективный аспект и психологические аспекты. Для Уильямса и Бердена (1997) мотивация — это «состояние когнитивного и эмоционального осознания, которое приводит к сознательному решению действовать и которое провоцирует период интеллектуальных и/или физических усилий для достижения цели, поставленной в данный момент. ». В том же духе Райан и Деси (2000) утверждают, что: «Быть мотивированным означает быть побужденным что-то сделать. Таким образом, человек, который не чувствует побуждения или вдохновения к действию, характеризуется как немотивированный, тогда как тот, кто полон энергии или активен для достижения цели, считается мотивированным».

Опираясь на эти два определения, можно сказать, что мотивация – это совокупность сил и факторов, определяющих действия и поведение личности для достижения цели или осуществления деятельности.

Ряд исследователей в области мотивации подтверждают, что существует взаимная связь между мотивацией и успешностью процесса преподавания. Мартин и Альбанезе (2001) подтверждают, что отсутствие или слабость мотивации представляет собой реальное препятствие на пути к успеху процесса преподавания-обучения (цитируется по Вианину (2006)).

Чаппас (1992, с.40) подтверждает связь между успешностью и степенью мотивации, он утверждает, что «процент успеха увеличивается с силой мотивации, причем влияние академической мотивации еще сильнее у слабых испытуемых (более мотивированных они таковы, тем больше они преуспевают в бакалавриате, несмотря на свой недостаток» (цитата по Вианину (2006)). Форнер (1999) подтвердил корреляцию между мотивацией и успехом в бакалавриате (цитата по Вианину (2006)). В том же видении вывод поискового исследования Метрайлера (2005) был следующим: чем выше оценки, тем выше результаты «внутренней» мотивации, а чем ниже оценки, тем выше результаты «внутренней» мотивации (амотивации). отсутствие мотивации) высоки (цитата по Вианину, 2006).

Теория самоопределения (Deci & Ryan, 1985, 1991) входит в число основных теорий, которые позволяют лучше понять и лучше объяснить мотивацию. Это теория, которая облегчает выявление различных факторов в социальном контексте, влияющих на мотивацию. Эта теория предполагает существование различных типов самоопределяемой мотивации, которые оказывают существенное влияние на развитие личности (Piché, 2003).

Согласно теории самоопределения, в основе мотивации человека лежат три психологические потребности: потребность в автономии, потребность в компетентности и потребность в социальной принадлежности. Когда удовлетворение этих трех потребностей присутствует, это должно привести к ощущению благополучия у человека.

Деси и Райан (1985) предполагают существование разных типов самоопределяемой мотивации, характеризующихся разными уровнями автономии. Теория, первоначально представленная Ричардом Деси в 1975 году и дополненная Деси и Райаном (1985, 2000), позволяет различать двух видов мотивации: внутренняя мотивация: «делать что-то потому, что это по своей сути интересно и приятно». Если человек внутренне мотивирован к какой-либо деятельности, он или она захочет заниматься этой деятельностью ради удовольствия, которое доставляет ее выполнение. Студенты с внутренней мотивацией без колебаний прикладывают больше усилий, проявляют настойчивость и учатся глубже. Внешняя мотивация: «делать что-то, потому что это приводит к отдельному результату». Если у человека есть внешняя мотивация к какой-либо деятельности, он будет заниматься этой деятельностью потому, что его подталкивают к этому внешние элементы или ради вознаграждения, которое обеспечит выполнение этой деятельности (примеры: соревнования, наказание, вознаграждение, социальное давление).

Таким образом, внутренняя и внешняя мотивация дополняются амотивацией, определяющей как отсутствие у личности самоопределяющейся мотивации. Это следствие неспособности человека воспринимать связь или взаимосвязь между тем, что он называет поведением, и результатами, которые он впоследствии получает. В

следствие, у человека возникает ощущение, что он подвержен воздействию факторов, находящихся вне всякого контроля.

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НЕРАВЕНСТВА ДЛЯ ВЕРОЯТНОСТИ РАЗОРЕНИЯ

Аннотация. Вычисление в точном виде характеристик случайных процессов, связанных с моментом первого выхода из интервала, доступно только в некоторых частных ситуациях. Поэтому основное внимание в изучении этих характеристик уделяется асимптотическим подходам.

Ключевые слова: случайный процесс, вероятности разорения, случайного блуждания.

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INEQUALITIES FOR THE PROBABILITY OF RUIN

Abstract. Calculation in exact form of the characteristics of random processes associated with the moment of the first exit from the interval is available only in some special situations. Therefore, the main attention in the study of these characteristics is paid to asymptotic approaches

Keywords: random process, probabilities of ruin, random walk.

Пусть $\xi(t)$, $t \geq 0$, $\xi(0) = 0$, - однородный случайный процесс с независимыми приращениями, выборочные функции которого непрерывны справа. В этом случае $E \exp\{\lambda \xi(t)\} = \exp\{t\psi(\lambda)\}$,

$$\psi(\lambda) = \gamma\lambda + \frac{\sigma^2\lambda^2}{2} + \int_{-\infty}^{\infty} \left(e^{\lambda x} - 1 - \frac{\lambda x}{1+x^2} \right) dS(x), \quad (1)$$

где γ и $\sigma > 0$ - вещественные числа, функция $S(x)$ не убывает на каждом из интервалов $(-\infty, 0)$ и $(0, \infty)$,

$$\int_{|x| \leq 1} x^2 dS(x) < \infty, \quad S(-\infty) = S(\infty) = 0$$

Для произвольных $a > 0$, $b > 0$ введём случайную величину T , равную моменту первого выхода процесса $\xi(t)$ из интервала $(-a, b)$:

$$T = T(a, b) = \inf\{t \geq 0: \xi(t) \notin (-a, b)\}.$$

Полагаем $T = \infty$, если $\xi(t) \in (-a, b)$ для всех t . Известно, что случайная величина T конечна с вероятностью единица, если распределение случайной величины $\xi(1)$ не является вырожденным в нуле, и $E T^k < \infty$ при всех $k > 0$. Вероятности $P(\xi(T) \geq b), P(\xi(T) \leq -a)$ обычно называются вероятностями разорения.

К изучению характеристик случайных процессов, связанных с моментом первого выхода из интервала, приводят известные задачи о разорении, теории хранения запасами, теории систем массового обслуживания и ряд других.

Вычисление в точном виде характеристик случайных процессов, связанных с моментом первого выхода из интервала, доступно только в некоторых частных ситуациях. Поэтому основное внимание в изучении этих характеристик уделяется асимптотическим подходам.

Наряду с асимптотическими формулами актуальной является задача получения двухсторонних оценок для характеристик, связанных с моментом первого выхода случайного процесса из интервала. В работах [1], [2] для случайного блуждания, порождённого суммами независимых одинаково распределённых случайных величин при различных ограничениях на распределение скачка получены двусторонние оценки для вероятности разорения. Там отмечено, что любые асимптотические результаты неизбежно содержат остаточные члены. А оценка реальной величины этих остатков требует дополнительных рассуждений. Поэтому нахождение двусторонних неравенств для характеристик граничных функционалов является естественным дополнением к имеющимся асимптотическим результатам. Оценки для вероятности $P(\xi(T) \geq b)$ при $E\xi(1) < 0$ получены в [3]. Обычно те или иные характеристики задач с двумя границами выражаются через распределения функционалов от траекторий случайных процессов, возникающих в задачах с одной границей. Здесь верхние и нижние оценки для вероятности разорения, т.е. двусторонние оценки для вероятности $P(\xi(T) \geq b)$ (значит и для

$$P(\xi(T) \leq -a) = 1 - P(\xi(T) \geq b))$$

в случае $E\xi(1) = 0$, выражаются только через характеристики исходного процесса $\xi(t)$, не прибегая к использованию характеристик однограничных функционалов.

Обозначим

$$\alpha(a, b) = P(\xi(T) \leq -a), \beta(a, b) = P(\xi(T) \geq b),$$

$$l = \frac{8 a_4}{3 a_2},$$

$$a_s = \int_{-\infty}^{\infty} |x|^s dS(x),$$

где $S(x)$ -спектральная функция процесса $\xi(t)$ из (1),

$$l_1 = \frac{l\sqrt{l^2 + 4a(a+b)} - l^2}{2(a+b)^2},$$

$$l_2 = \frac{l\sqrt{l^2 + 4b(a+b)} - l^2}{2(a+b)^2}. \quad (2)$$

Теорема. Пусть $E\xi(1) = 0$, $E\xi^4(1) < \infty$. Тогда имеет место неравенства

$$\frac{a}{a+b} - l_1 \leq \beta(a, b) \leq \frac{a}{a+b} + l_2,$$

$$\frac{b}{a+b} - l_2 \leq \alpha(a, b) \leq \frac{b}{a+b} + l_1,$$

где l_1, l_2 определены в (2).

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ХУДОЖЕСТВЕННЫЕ ОСОБЕННОСТИ РАССКАЗОВ А.П.ЧЕХОВА

Аннотация. В данной статье рассматриваются художественные произведения А.П.Чехова о детях, особенности его рассказов, стиль написания чеховских произведений о детях.

Ключевые слова: рассказ, сатира, стиль, конфликт, проблематика, тема, персонаж, эпизод.

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ARTISTIC FEATURES OF STORIES BY A.P. CHEKHOV

Abstract. This article examines the artistic works of A.P.Chekhov about children, the features of his stories, the style of writing Chekhov's works about children.

Keywords: story, satire, style, conflict, problematic, theme, character, episode.

В конце XIX – начале XX веков одной из важнейших тем, которая получает развитие в русской литературе, становится тема детства. Она находит свое место в творчестве известного русского писателя А.П.Чехова, который, не выделяя лично для себя детской тематики (а он говорил, что "...у меня, по-видимому, подходит для детей, – две сказки из собачьей жизни... А больше у меня, кажется, нет ничего в этом роде. Писать для детей вообще не умею, пишу для них раз в 10 лет и так называемой детской литературы не люблю и не признаю. Детям надо давать только то, что годится и для взрослых")¹, все же последует за Л.Н.Толстым, С.Т.Аксаковым и другими, введя ребенка в круг своих персонажей. И в 1889 году по совету А.С.Суворина объединяет несколько своих рассказов о детях в сборник "Детвора". Сюда вошли такие рассказы, как "Детвора", "Ванька", "Кухарка выходит замуж", "Беглец", "Происшествие", "Дома". В своих произведениях в изображении детского мира А.П.Чехов продолжает

¹ Емец Д. Детская тема в рассказах А.П. Чехова [Электронный ресурс] / Дмитрий Емец. – Режим доступа: <http://www.pereplet.ru/text/emec05mar02.html>.

традиции Л.Н.Толстого, связанные с глубоким проникновением в психологию ребенка, с раскрытием “диалектики его души”.

Рассказы А.П.Чехова о детях и для детей – это небольшие реалистичные картины из жизни маленького героя, наполненные душевным теплом, искренностью и поддержкой со стороны автора, гуманностью не только к людям, но и к животным (“Каштанка”, “Белолобый”). Поддержка эта проявляется в умении автора мастерски изображать мир детства, воспроизводить не только внешние черты поведения ребенка, особенности его речи, а и в умении А.П.Чехова глубоко проникать в глубины детской души и “мыслить на его (ребенка) манер”.

Говоря о прозе А.П.Чехова, М.Кудрявцев отмечает: “В обычных, даже примитивных буднях Чехов умел увидеть и воспроизвести тот трагизм человеческих судеб и ситуаций, которые, на первый взгляд, могут быть и не замеченными через общественное нормативное воспроизведение человеческого поведения. Трагичное в смешном, смешное в трагическом, внутреннюю драму человека, который, каждый по-своему, хочет завоевать место под солнцем, место в социальной иерархии, и вместе с этим, как у гениального психолога – писателя Ф. Достоевского, сложная подпольная сущность человеческих душ, которые в совокупности определяют моральное состояние общества, – основное, но далеко не все в идейно художественной, философски-психологической парадигме произведений Антона Павловича Чехова”². Все эти черты нашли свое отражение в произведениях писателя о детях, в созданных им новых, правдивых картинах жизни маленького человека.

Наиболее популярными среди детей становятся произведения, отличающиеся напряженным, динамичным сюжетом, большим количеством интересных событий, волнующими приключениями, фантастичностью, таинственностью и исключительностью. Исследователи творчества А.П.Чехова отмечают, что “в современной писателю критике распространилось представление об отсутствии в прозе Чехова сюжета, о ее так называемой бессюжетности”³. Но это не совсем так. В прозе А.П.Чехова сюжет имеется, как один из моментов творческого процесса момента перехода от стадии наблюдения и отбора жизненного материала к возникновению замысла.

Изображение сразу нескольких, тесно связанных между собой происшествий, которые в целом можно вывести в систему, является характерным для творчества А.П.Чехова. Так, например, в основу сюжета рассказа “Событие” положено сразу несколько неожиданных случаев событий. Это, в частности, такие, как: появление в доме котят, “своим появлением на свет затемняют все и выступают как живая новость и злоба

² Кудрявцев М. Бытовой трагизм живых символов: идейно-эстетическая парадигма творчества А.Чехова / Кудрявцев М. // Всемирная литература и культура. – 2000. – № 5. – С. 2-10.

³ Цилевич Л.М. Сюжет Чеховского рассказа / Л.М Цилевич. – Рига: Звайгзне, 1976. – 238 с.

дня”, а обычные игры и занятия детей “уходят на самый задний план”⁴, и негативное отношение отца к котяткам, что становится полной неожиданностью для малышей Ивана и Нины, и, уже совсем непредвиденная безжалостность и жестокость “будущего отца” котят – собаки Неро, который вместо проявления заботы съедает кошачье потомство. Уже само название данного произведения говорит о том, что писатель заботился о содержании своего творчества, о его сюжетной наполненности⁵.

Позже, совершенствуя собственную форму изображения действительности и ее переход в сюжет, писатель придет к мысли, что: “Сюжет должен быть нов, а фабула может отсутствовать”⁶. Такой подход к изображению действительности характерен для рассказа “Ванька”, темой которого является показ жизни отверженного ребенка. В этом рассказе вся “фабула” сводится лишь к тому, что свое письмо к бабушке с просьбой избавить его от нищенского существования Ванька отправляет по наивному адресу: “Надеревню бабушке”⁷, по которому оно никогда не дойдет.

Д.С.Мережковский говорил о том, что у чеховских героев нет жизни как таковой, а есть только быт – быт без происшествий, или с одним событием -смертью, концом быта, концом бытия. Примером этого может быть сюжет рассказа “Спать хочется”, который заключается в том, что быт как способ существования девочки-няньки становится губительной силой, которая приводит к гибели маленького ребенка. В произведении автор сосредотачивается на рассмотрении вопроса взаимоотношений между родителями и детьми, формирования нравственных ценностей человека, его свободы и места в обществе, гуманности.

В рассказах о детях с особой силой проявилось умение писателя за внешним благосостоянием увидеть незаметную душевную драму ребенка. Он мастерски изображает то, как душевная скупость и эгоизм взрослых мешают им понять, что происходит в душе маленького героя. Как результат, в некоторых рассказах А.П.Чехова (“Ванька”, “Спать хочется”) трагическое звучит с такой силой, что превращает эпизоды из жизни детей в призыв к человеческой совести, в горькое напоминание о том, что всегда где-то рядом страдает ребенок.

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ОСОБЕННОСТИ ВЫПОЛНЕНИЯ БРОСКА «ПОДХВАТОМ ИЗНУТРИ ПОД ОДНУ НОГУ» ДЗЮДОИСТАМИ НА ЭТАПЕ СОВЕРШЕНСТВОВАНИЯ СПОРТИВНОГО МАСТЕРСТВА

Аннотация. В статье представлен анализ одного из наиболее часто используемых бросков среди ведущих спортсменов мира — «подхват изнутри под одну ногу». Автор изучает структуру броска, состоящую из семи основных этапов, и различные варианты его выполнения, включая использование разных захватов. Исследование направлено на определение оптимальных подходов для улучшения техники броска и достижения лучших результатов на этапе спортивного мастерства.

Ключевые слова: дзюдо, тренировочный процесс, техническая подготовка, этап совершенствования спортивного мастерства.

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FEATURES OF THE EXECUTION OF THE THROW BY "PICKING UP FROM THE INSIDE UNDER ONE LEG" BY JUDOISTS AT THE STAGE OF IMPROVING SPORTS SKILLS

Annotation. The article presents an analysis of one of the most frequently used throws among the world's leading athletes — "catching from the inside under one leg". The author studies the structure of the throw, consisting of seven main stages, and various options for its execution, including the use of different grips. The research is aimed at determining the optimal approaches to improve the throwing technique and achieve the best results at the stage of sportsmanship.

Keywords: judo, training process, technical training, stage of improvement of sports skills.

Актуальность. Современный уровень развития дзюдо предполагает высокий уровень подготовки спортсменов. Существуют три основных пути для достижения этой цели: улучшение тренировочного процесса, физическая и функциональная подготовка, а также оптимизация методики обучения техническим действиям, таким как броски, приёмы в стойке и партере. Чтобы выбрать оптимальное атакующее действие для улучшения на этапе спортивного мастерства, мы рассмотрели такие критерии, как фундаментальность и эффективность атаки. Мы изучили соревнования высокого уровня и определили, что один из наиболее часто используемых бросков среди ведущих спортсменов мира – это «подхват изнутри под одну ногу». Если техника этого броска не доведена до совершенства, существует риск получить наказание «ханцоку-макэ», что означает дисквалификацию с соревнований. В нашем исследовании мы изучим структуру броска и его фазы.

Результаты исследования и их обсуждение. По классификации техники дзюдо бросок «Подхват изнутри под одну ногу» или по-японски UCHI-MATA относится к разделу Nage-Waza (броски в стойке) и входит в раздел Ashi-waza (группа бросков, выполняемых в основном при помощи ног) [1]. Главное отличие этого броска от других заключается в том, что атакующий спортсмен должен опираться на одну ногу, в то время как вторая нога выполняет маховое движение с максимальной амплитудой, стремясь поднять противника. При этом спортсмен должен сохранять равновесие на своей опорной ноге, удерживая вес как свой, так и оппонента. Иногда приходится совершать несколько прыжков на опорной ноге, чтобы успешно завершить приём. Во время наклона вперёд атакующий спортсмен оказывается в положении «ласточки», что создаёт дополнительные сложности с сохранением равновесия.

Бросок Uchi-mata, также известный как подхват изнутри, состоит из семи основных этапов:

1. Выбор захвата и стойки для атаки.
2. Вывод соперника из равновесия и подхват ноги под бедро.
3. Постановка опорной ноги рядом с ногами соперника.
4. Наклон корпуса вниз.
5. Выполнение максимального маха ногой.
6. Разворот соперника в направлении броска.
7. Контроль броска до полного падения противника.

Бросок «подхват изнутри» (Uchi-mata) выполняется с использованием различных захватов, адаптированных к ситуации и особенностям борцов. Например, захват за отворот и рукав кимоно подходит для борцов одинакового роста, а захват за воротник и рукав кимоно — для высоких

борцов. Также возможен вынужденный захват двух отворотов кимоно, когда один из соперников позволяет взять один отворот, но не даёт захватить локоть. Наконец, захват рабочей рукой руки соперника подмышкой приводит к выполнению броска кувырком через плечо, меняя название приёма на Uchi-mata-makikomi.

Существует несколько варианты выполнения броска:

1. Выполнение броска в один прыжок.

Вход в приём прыжком – это самый быстрый способ начать атаку. Прыжок занимает полсекунды, а ещё полсекунды уходит на выполнение самого броска. В этот момент основная нагрузка ложится на опорную ногу, которая должна выдержать вес противника и дополнительные динамические усилия. Этот приём требует высокого уровня мастерства и считается одним из самых эффективных способов выполнить бросок uchi-mata [3].

2. Выполнение броска в 2-3 прыжка.

Часто одного движения бывает недостаточно, поэтому борец начинает делать дополнительные прыжки, обычно два или три. Изучение прыжков на одной ноге косвенно влияет на освоение броска «подхват изнутри», так как позволяет компенсировать недостаток высоты маха ноги за счёт нескольких прыжков [2].

3. Использование кувырка или вращения.

Кувырок или вращение – это эффективный способ усилить бросок в дзюдо. Однако неправильное выполнение этих элементов, например, опора на голову или шейные позвонки, может привести к серьёзным травмам. Такие действия запрещены в дзюдо, и спортсмен, который их использует, рискует быть дисквалифицированным.

Для достижения наилучших результатов в выполнении броска «подхватом изнутри под одну ногу» дзюдоистам необходимо усовершенствовать свою техническую подготовку. Этого можно добиться, используя методы технической подготовки на этапе совершенствования спортивного мастерства, такие как строго регламентированный метод, метод интервальной тренировки, игровой метод, метод круговой тренировки и соревновательный метод.

Выводы: Бросок «подхват изнутри» (Uchi-mata) является важным элементом в дзюдо и состоит из семи основных этапов. Он выполняется с использованием различных захватов, адаптированных к ситуации и особенностям борцов. Существует несколько вариантов выполнения броска, включая вход в приём прыжком и выполнение броска в 2-3 прыжка. Этот приём требует высокого уровня мастерства и считается одним из самых эффективных бросков в техническом разнообразии дзюдо.

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ПРИМЕНЕНИЕ ИНТЕЛЛЕКТУАЛЬНОЙ СОБСТВЕННОСТИ ДЛЯ РЕШЕНИЯ СОВРЕМЕННЫХ ЭКОНОМИЧЕСКИХ ПРОБЛЕМ ИМПОРТОЗАМЕЩЕНИЯ В РОССИЙСКОЙ ФЕДЕРАЦИИ

Аннотация. В статье рассматривается значение интеллектуальной собственности (ИС) в решении современных экономических проблем, связанных с импортозамещением в Российской Федерации. Особое внимание уделено роли ИС в инновационной и цифровой экономике, а также в создании и защите отечественных разработок. Анализируются патенты, авторские права, товарные знаки и их вклад в развитие конкурентоспособной экономики. Обсуждаются проблемы и перспективы использования ИС в условиях международных санкций и экономической нестабильности, а также меры государственной поддержки. В заключение отмечается, что ИС обладает значительным потенциалом для укрепления экономической независимости России и обеспечения ее устойчивого развития.

Ключевые слова: интеллектуальная собственность, импортозамещение, инновационная экономика, цифровая экономика.

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THE USE OF INTELLECTUAL PROPERTY TO SOLVE MODERN ECONOMIC PROBLEMS OF IMPORT SUBSTITUTION IN THE RUSSIAN FEDERATION

Abstract. The article considers the importance of intellectual property (IP) in solving modern economic problems related to import substitution in the Russian Federation. Special attention is paid to the role of IP in the innovation and digital economy, as well as in the creation and protection of domestic developments. Patents, copyrights, trademarks and their contribution to the development of a competitive economy are analyzed. Problems and prospects of IP utilization in the conditions of international sanctions and economic instability, as well as measures of state support are discussed. In conclusion, it is

noted that IP has a significant potential for strengthening Russia's economic independence and ensuring its sustainable development.

Keywords: intellectual property, import substitution, innovative economy, digital economy.

Введение

В настоящее время, рассматривая экономические реалии Российской Федерации, импортозамещение приобретает особую актуальность. Многие факторы, такие как геополитическая нестабильность, экономические санкции и колебания мировых рынков, подталкивают Россию к развитию внутреннего производства и снижению зависимости от импортных товаров и технологий. В данном контексте интеллектуальная собственность может стать одним из ключевых инструментов для решения экономических проблем импортозамещения в России [4].

Интеллектуальная собственность включает в себя права на результаты интеллектуальной деятельности, такие как патенты, авторские права, товарные знаки, промышленные образцы. Эти права не только защищают инновации, но и стимулируют их развитие, что особенно важно для создания и развития конкурентоспособной экономики. Также стоит отметить, что в условиях необходимости импортозамещения интеллектуальная собственность играет критическую роль, обеспечивая правовую защиту отечественных разработок и стимулируя инвестиции в научные исследования и разработки (НИОКР).

Инновационная и цифровая экономика представляют собой основу для эффективного применения ИС. Современные IT-технологии, цифровизация различных отраслей экономики и развитие наукоемких производств при наличии надежной правовой защиты позволяет предприятиям не только защищать свои разработки, но и активно использовать их в коммерческих целях. Государственные меры поддержки, направленные на развитие ИС, также играют важную роль в создании благоприятных условий для инновационной деятельности и укрепления экономической безопасности страны.

Таким образом, исследование применения интеллектуальной собственности для решения современных экономических проблем импортозамещения в России является важным и своевременным. В данной статье будут рассмотрены ключевые аспекты ИС, ее роль в инновационной и цифровой экономике, а также пути и перспективы ее использования для стимулирования отечественного производства и достижения экономической независимости.

Понятие интеллектуальной собственности

Интеллектуальная собственность представляет собой право некоторых лиц на результаты интеллектуальной деятельности этих же лиц и иных лиц. Эти права защищают инновационные разработки и

способствуют их коммерческому использованию, что особенно важно в современных условиях глобальной конкуренции и необходимости импортозамещения [6, с.7].

В настоящий момент интеллектуальной собственностью признаются следующие объекты:

- произведения литературы, науки и искусства;
- программы для ЭВМ;
- базы данных;
- исполнения;
- фонограммы;
- передачи вещательных организаций;
- изобретения;
- полезные модели;
- промышленные образцы;
- сорта растений;
- топологии интегральных микросхем;
- секреты производства;
- фирменные наименования;
- товарные знаки;
- географические указания и наименования мест происхождения товаров;
- коммерческие обозначения.

Стоит также отметить, что ИС имеет важную роль для различных субъектов экономики, таких как государство, предприниматели и потребители. Рассмотрим роли интеллектуальной собственности для различных субъектов.

Для государства интеллектуальная собственность представляет собой совокупность результатов интеллектуальной деятельности, которые нуждаются в правовой охране. Помимо этого, государство выступает в роли одного из правообладателей, защищая свои интересы и стимулируя развитие национальных инноваций и технологий.

Для предпринимателей интеллектуальная собственность является частью их имущества и представляет собой ценные нематериальные активы, которые обеспечивают преимущества в конкуренции и используются в предпринимательской деятельности для получения прибыли. Например, защищенные патентами технологии или зарегистрированные товарные знаки могут существенно повысить рыночную стоимость компании и привлечь инвесторов.

Для потребителей интеллектуальная собственность обеспечивает доступ к качественным и оригинальным продуктам. Использование защищенных результатов интеллектуальной деятельности в личных целях (например, покупка лицензионного программного обеспечения или книги)

гарантирует, что потребитель получает продукт высокого качества и при этом поддерживает авторов и разработчиков [6, с.6].

В Российской Федерации восприятие интеллектуальной собственности меняется и становится все более значимым аспектом экономической политики и предпринимательской деятельности. В последние годы наблюдается усиление правовой охраны ИС и повышение осведомленности о её важности среди различных слоев общества. Это связано с несколькими ключевыми факторами:

- Российское правительство активно развивает законодательную базу в области ИС, внедряя программы поддержки инноваций и импортозамещения.

- В условиях международных санкций и экономической нестабильности необходимость защиты отечественных разработок становится особенно актуальной. Интеллектуальная собственность рассматривается как инструмент, способный повысить конкурентоспособность российских компаний и обеспечить их устойчивое развитие.

- Повышение уровня знаний о значимости ИС среди предпринимателей и широкой общественности способствует лучшей защите и коммерциализации инноваций.

- В России активно ведется борьба с незаконным использованием интеллектуальной собственности. Усиление правоприменительных мер и развитие технологий защиты, таких как цифровые водяные знаки и системы управления цифровыми правами, способствуют снижению уровня пиратства и контрафакта [5].

Таким образом, в России интеллектуальная собственность приобретает все большее значение как для государства и бизнеса, так и для потребителей. Защита и развитие ИС становятся важными элементами стратегии импортозамещения и экономического роста, способствуя созданию конкурентоспособных отечественных продуктов и технологий.

Интеллектуальная собственность как инструмент импортозамещения

В контексте современных экономических вызовов, стоящих перед Российской Федерацией, импортозамещение становится одним из ключевых элементов государственной экономической политики. Интеллектуальная собственность (ИС) играет в этом процессе важнейшую роль, обеспечивая правовые механизмы защиты отечественных инноваций и стимулируя их развитие. Внедрение и защита ИС способствуют созданию условий для развития национальной экономики и снижения зависимости от импорта [14].

Одним из основных аспектов применения ИС в контексте импортозамещения является патентование изобретений. Патенты защищают технические решения, разработанные российскими учеными и инженерами, позволяя отечественным производителям внедрять

инновационные технологии, не опасаясь неправомерного использования своих идей. Это, в свою очередь, способствует развитию отечественного производства высокотехнологичной продукции, снижая зависимость от зарубежных поставок. Патентная защита стимулирует научно-технический прогресс и способствует созданию конкурентоспособной продукции, что является важным фактором укрепления национальной экономики.

Авторские права и товарные знаки также являются важными элементами ИС, способствующими импортозамещению. Авторские права защищают результаты творческой деятельности, включая литературные произведения, музыкальные композиции, программное обеспечение и другие формы интеллектуального творчества. Зарегистрированные товарные знаки обеспечивают правовую охрану брендов и коммерческих продуктов, позволяя российским компаниям уверенно выходить на рынок с их собственными брендами и контентом. Это создает благоприятные условия для развития отечественных СМИ, программного обеспечения и других творческих отраслей, играющих важную роль в экономике страны.

Особое значение ИС имеет в сельскохозяйственном секторе. Защита сортов растений и топологий интегральных микросхем позволяет российским аграриям и производителям электроники использовать собственные разработки, сокращая необходимость закупки импортных аналогов. Это не только укрепляет продовольственную и технологическую безопасность страны, но и способствует созданию новых рабочих мест и региональному развитию. В условиях глобальной продовольственной нестабильности обеспечение национальной безопасности в аграрном секторе становится приоритетной задачей.

Государственная поддержка ИС, включая программы патентного субсидирования, налоговые льготы и гранты на исследования, также играет важную роль в процессе импортозамещения. Эти меры стимулируют отечественных разработчиков к созданию новых продуктов и технологий, способных заменить импортные аналоги. Программы поддержки включают в себя финансовую помощь на этапе разработки и патентования, что особенно важно для малых и средних предприятий. Кроме того, правительство проводит образовательные и информационные кампании, направленные на повышение осведомленности о важности ИС и эффективности ее использования.

Таким образом, интеллектуальная собственность является мощным инструментом для реализации политики импортозамещения в России. Защита и развитие ИС способствуют созданию конкурентоспособной отечественной продукции и технологий, что укрепляет экономическую независимость страны и обеспечивает ее устойчивое развитие. В условиях глобальной экономической турбулентности использование ИС как стратегического ресурса становится ключевым фактором обеспечения долгосрочной стабильности и процветания российской экономики.

Интеллектуальная собственность в инновационной экономике

Инновационная экономика – это экономика, формирующаяся на использовании новых знаний – новаций (новых идей). Также это тип экономики, основанной на потоке инноваций, на постоянном технологическом совершенствовании, на производстве и экспорте высокотехнологичной продукции с очень высокой добавочной стоимостью и самих технологий. Предполагается, что при этом прибыль, в основном, создается за счет интеллекта новаторов и ученых, развития и использования информационной сферы, а не за счет материального производства (как в индустриальной экономике) и не за счет концентрации финансов (капитала) [7, с. 98-102].

Стоит отметить, что данную экономику относят к типу «быстрых» экономик, т.к. в ней основным признаком являются уникальность, неповторимость и постоянное обновление производства. В этом контексте рассмотрим роль ИС, и как она обеспечивает правовую защиту и стимулирует развитию инновационной экономики.

Интеллектуальная собственность в инновационной экономике выполняет несколько ключевых функций:

1. Стимулирование инноваций. Патенты предоставляют разработчикам эксклюзивные права на использование их изобретений, что мотивирует инвестировать в научные исследования и разработки (НИОКР). Это позволяет создавать новые продукты и технологии, которые могут существенно улучшить качество жизни и повысить конкурентоспособность экономики.

В условиях высокой конкуренции и необходимости постоянного обновления продукции фармацевтические компании активно используют патенты для защиты новых лекарственных молекул и технологий. Это не только способствует защите инвестиций в НИОКР, но и мотивирует компании к дальнейшему инновационному развитию. Например, стремление к разработке новых молекул и химических соединений поддерживается исключительными правами, предоставляемыми патентами, что позволяет компаниям окупать высокие затраты на исследования и разработку инновационной экономики [12, с.72-74].

2. Защита авторских прав. В инновационной экономике авторские права играют важную роль в защите результатов творческой и исследовательской деятельности, таких как научные публикации и программное обеспечение. Это обеспечивает авторам возможность монетизировать свои произведения и защищать их от нелегального использования.

Защита авторских прав, рассмотренная на конференции [1], подчеркивает их значимость в цифровую эпоху. Рассматривая темы, связанные с защитой авторов и развитием рынков, что касается электронных и печатных СМИ, а также вопросы, связанные с широким

распространением 3D моделирования в контексте интеллектуальной собственности, позволяет авторам адаптироваться к новым условиям монетизации своих произведений, поддерживая их права в быстро меняющемся технологическом мире. Это способствует не только защите, но и стимулирует дальнейшие инновации и креативное развитие в различных сферах деятельности.

3. Развитие предпринимательства. По словам Григория Ивлиева, развитие сферы интеллектуальной собственности должно способствовать росту предпринимательской активности.

ИС предоставляет юридическую защиту, что привлекает инвесторов и предпринимателей благодаря созданию уверенности в безопасности их вложений и повышению мотивации к открытию новых стартапов и малых предприятий.

4. Международное сотрудничество и лицензирование. Патенты и другие формы ИС способствуют международному сотрудничеству и обмену технологиями, что позволяет распространять и использовать инновации на глобальном уровне.

В контексте международного сотрудничества и лицензирования, основанных на правах интеллектуальной собственности, изучение международных соглашений и их влияние на правовую охрану объектов интеллектуальной собственности за рубежом подчеркивает значимость глобального обмена и защиты инноваций. Например, работа «Международное сотрудничество в сфере интеллектуальной собственности» [2, с.11-14] обсуждает роли международных соглашений, таких как Парижская конвенция и Бернская конвенция, в установлении рамок для международной охраны авторских прав, патентов и торговых марок. Эти учебные модули подготавливают студентов к использованию международных правовых инструментов для защиты и коммерциализации интеллектуальных ресурсов на мировом уровне, что способствует распространению и использованию инноваций глобально.

5. Государственная поддержка инновационной деятельности. Важную роль играет государственная поддержка, включая субсидии и гранты на НИОКР, которые создают благоприятные условия для развития инновационной экономики.

Инвестиции в инновационные программы вузов также помогают улучшить качество образования и научной деятельности, что, в свою очередь, приводит к созданию новых инновационных продуктов и стимулирует предпринимательскую активность. Федеральные целевые программы и государственные фонды финансирования науки создают условия для развития инновационной экономики, обеспечивая финансовую поддержку для разработки новых технологий [9, с.32-40].

На основе этого можно сделать вывод, что интеллектуальная собственность является неотъемлемой частью инновационной экономики,

обеспечивая правовую защиту и стимулирование новых идей и технологий. В результате, ИС способствует экономическому росту и устойчивому развитию, поддерживая творческую активность и инновационный потенциал на национальном и международном уровнях. Более того, эффективное использование и защита интеллектуальной собственности могут стать решающим фактором в успехе инновационных проектов и программ, что подчеркивает ее значимость в современной экономике.

Интеллектуальная собственность в цифровой экономике

По мнению аналитиков Gartner, цифровая экономика – это создание, потребление и управление стоимостью, связанной с цифровыми продуктами, услугами и ресурсами в организации. В контексте Российской Федерации исследование цифровой экономики началось сравнительно недавно (в 2017 году). При этом российские ученые рассматривают цифровую экономику более узко и определяют её следующим образом. Цифровая экономика – это экономика, основанная на IT или электронной коммерции [11, с.265-274].

Несмотря на это, рассмотрим данный вид экономики, как ту, которая отличается высокой степенью интеграции информационных технологий во все сферы жизни и бизнеса. В этом контексте интеллектуальная собственность приобретает специфическое значение.

1. Защита цифрового контента. Авторские права играют ключевую роль в защите цифрового контента, включая программное обеспечение, мультимедийные материалы и базы данных. Это позволяет разработчикам и создателям контента получать доход от своей работы и защищать её от пиратства.

Как продолжение обсуждения защиты цифрового контента, важно учитывать, что меры по борьбе с пиратством включают как законодательные, так и технические аспекты. Например, использование цифровых водяных знаков и систем управления цифровыми правами (DRM) помогает ограничивать несанкционированное копирование и распределение мультимедийных файлов и программного обеспечения. Такие технологии позволяют авторам и разработчикам контролировать, как их работы распространяются в интернете, и обеспечивают выполнение лицензионных соглашений, защищая тем самым их труд и инвестиции в создание контента. Это становится особенно актуальным в условиях, когда традиционные методы охраны авторских прав оказываются неэффективными перед лицом быстро развивающихся технологий и методов распространения интеллектуальной собственности [10, с.278-280].

2. Патенты цифровых технологий. Патенты на цифровые технологии, такие как алгоритмы и программы, помогают компаниям защищать свои инновации и поддерживать конкурентные преимущества на рынке.

Стоит отметить, что они предоставляют разработчикам необходимую правовую защиту для инноваций и предотвращение несанкционированного

использования. Патенты на такие технологии, как алгоритмы и программное обеспечение, позволяют удерживать лидирующие позиции на рынке, предотвращая копирование и распространение инноваций конкурентами. Это особенно важно в условиях цифровой экономики, где скорость внедрения и распространения технологий чрезвычайно высока. Патентование способствует не только защите интеллектуальной собственности, но и стимулирует дальнейшие инновации, создавая фундамент для новых разработок и улучшений в технологическом секторе [15].

3. Защита данных. В контексте интеллектуальной собственности, защита данных и коммерческих секретов в цифровой экономике имеет решающее значение. Компании применяют юридические и технические меры, такие как шифрование и строгие протоколы доступа, чтобы защитить свою конфиденциальную информацию от несанкционированного доступа. Это способствует укреплению конкурентоспособности и обеспечивает безопасность бизнеса. Регулярные аудиты и обучение персонала поддерживают высокий уровень защиты данных, что важно для сохранения ценности интеллектуального капитала и доверия клиентов [3].

4. Развитие цифровых платформ и инфраструктуры. Товарные знаки и патенты играют важную роль в развитии цифровых платформ и инфраструктуры, обеспечивая правовую защиту брендов и инноваций, что способствует их масштабированию и коммерческому успеху. В контексте цифровой экономики, интеллектуальная собственность позволяет не только защищать технологические новшества, но и стимулировать инвестиции в развитие новых продуктов и услуг. Помимо защиты инноваций, правильное управление интеллектуальной собственностью в рамках цифровых платформ может укрепить позиции компаний на глобальном рынке, обеспечивая устойчивое развитие и рост. Регулирование и защита интеллектуальной собственности требуют внимания к деталям, особенно в сфере цифровых технологий, где инновации развиваются с беспрецедентной скоростью [8].

5. Государственная поддержка цифровой трансформации. Государственные программы и инициативы, направленные на поддержку цифровой трансформации, способствуют созданию благоприятной среды для развития цифровых технологий и инноваций. В России такая поддержка включает комплексные меры, такие как разработка национальных программ и стратегических инициатив, которые охватывают ключевые секторы экономики и социальной сферы. Важным направлением является импортозамещение ключевых цифровых решений и обеспечение технологического суверенитета, что подразумевает переход на отечественное программное обеспечение в значимых объектах критической информационной инфраструктуры. Именно в этом контексте интеллектуальная собственность имеет ключевую роль.

Эти меры направлены на формирование условий для глобального технологического лидерства России и поддержку высокотехнологичных отраслей и наукоемких производств через правовую основу для развития частно-государственных партнерств [10, с.278-280].

Таким образом, интеллектуальная система в цифровой экономике обеспечивает правовую защиту и стимулирование инноваций в области информационных технологий, что способствует развитию цифровых индустрий и экономики в целом.

Проблемы и перспективы использования

Интеллектуальная собственность (ИС) в России сталкивается с рядом серьезных проблем, которые затрудняют ее эффективное использование и защиту. Однако, несмотря на эти проблемы, существуют перспективы и возможности для улучшения ситуации.

Рассмотрим основные текущие проблемы в контексте интеллектуальной собственности. Эти проблемы препятствуют эффективному использованию и защите интеллектуальных прав, что негативно сказывается на инновационной деятельности и экономическом росте.

1. Санкции и международные ограничения. Введение санкций против России и ответные меры России привели к снижению уровня международного сотрудничества в области ИС. Это осложнило процесс патентования и защиты прав ИС на международном уровне. Многие международные патентные ведомства приостановили сотрудничество с российским Роспатентом, что затрудняет защиту прав за рубежом. Это создает серьезные препятствия для российских компаний, стремящихся защитить свои инновации на международном рынке.

2. Пиратство и контрафакт. Несмотря на усилия по борьбе с пиратством, незаконное копирование программного обеспечения, фильмов и музыки остается серьезной проблемой. В России высок уровень пиратства, которое наносит ущерб как отечественным, так и международным правообладателям, снижая их доходы и мотивацию к созданию новых продуктов. Отсутствие эффективных мер по борьбе с контрафактом затрудняет правоприменение и ослабляет защиту ИС.

3. Недостаточная правовая база и правоприменение. Несмотря на наличие правовой базы в области ИС, правоприменение часто остается слабым. Проблемы с исполнением судебных решений и длительные судебные разбирательства снижают эффективность правовой охраны ИС. Часто бывает так, что, даже выиграв дело в суде, правообладатель не может реально защитить свои права из-за отсутствия механизмов принудительного исполнения.

4. Отсутствие осведомленности и знаний. Многие МСП не имеют достаточных знаний о важности ИС и способах ее защиты. В результате многие инновации остаются незарегистрированными и уязвимыми для

копирования. Отсутствие информации и образовательных программ в области ИС усугубляет эту проблему, снижая общий уровень защиты инноваций в стране [13].

Несмотря на существующие проблемы, использование интеллектуальной собственности для решения экономических проблем импортозамещения в России обладает значительным потенциалом. Рассмотрим ключевые направления и возможности для развития в этой области.

Российское правительство продолжает разрабатывать и внедрять меры поддержки защиты ИС. К ним относятся субсидии, гранты и налоговые льготы для компаний, занимающихся НИОКР и разработкой отечественных аналогов импортной продукции. Усиление этих мер может стимулировать инновации и повысить уровень защиты ИС, что позволит российским компаниям создавать конкурентоспособную импортозамещающую продукцию.

Цифровизация процессов регистрации и охраны ИС может значительно упростить и ускорить эти процедуры. Онлайн-платформы для подачи заявок и отслеживания их статуса делают систему более прозрачной и доступной для пользователей. Это сокращает время и затраты на получение правовой охраны инноваций и способствует более эффективному управлению ИС, что особенно важно, учитывая необходимость быстрого реагирования на изменения в международной торговле.

Разработка и внедрение отечественных технологий, защищенных патентами, может значительно снизить зависимость России от импорта. Государственная поддержка исследований и разработок, направленных на создание отечественных аналогов, может помочь в замещении импортных товаров и технологий. Это создаст новые возможности для российских предприятий и повысит их конкурентоспособность.

Несмотря на текущие ограничения, остаются возможности для сотрудничества с дружественными странами и международными организациями в области ИС. Это поможет обмениваться передовым опытом и улучшать национальную систему защиты ИС. Сотрудничество с партнёрами из стран БРИКС и ШОС может способствовать обмену технологиями и совместным разработкам, что в свою очередь повысит уровень защиты ИС и стимулирует инновационную деятельность.

Развитие образовательных программ, направленных на повышение осведомленности о важности ИС среди предпринимателей и разработчиков, может способствовать лучшей защите инноваций и их коммерциализации. Государственные и частные инициативы, направленные на обучение и консультирование по вопросам ИС, помогут малым и средним предприятиям эффективно защищать свои разработки и использовать их для

роста бизнеса. Это, в свою очередь, будет способствовать созданию отечественных продуктов, способных заменить импортные аналоги.

Важным шагом для улучшения ситуации с защитой ИС является проведение юридических реформ, направленных на усиление правоприменения. Укрепление институциональной базы, повышение квалификации судей и адвокатов, а также внедрение эффективных механизмов исполнения судебных решений помогут обеспечить надлежащую защиту ИС и повысить доверие к правовой системе. Это особенно важно для поддержки компаний, занимающихся импортозамещением, так как они нуждаются в надежной защите своих разработок и технологий [13].

Таким образом, использование интеллектуальной собственности для решения экономических проблем импортозамещения в России обладает значительным потенциалом. Улучшение правовой защиты и стимулирование инноваций могут способствовать созданию конкурентоспособных отечественных продуктов, снижающих зависимость от импорта, и поддержке экономического роста страны.

Заключение

Интеллектуальная собственность (ИС) является ключевым инструментом для решения современных экономических проблем, связанных с импортозамещением в Российской Федерации. В условиях геополитической нестабильности и экономических санкций развитие внутреннего производства и снижение зависимости от импортных товаров и технологий приобретают особую актуальность. ИС, включая патенты, авторские права, товарные знаки и промышленные образцы, играет критическую роль в обеспечении правовой защиты отечественных разработок, стимулировании инноваций и привлечении инвестиций в научные исследования и разработки (НИОКР).

В инновационной экономике, которая основывается на постоянном технологическом совершенствовании и производстве высокотехнологичной продукции, ИС способствует созданию новых продуктов и технологий, улучшению качества жизни и повышению конкурентоспособности экономики. Патенты, авторские права и товарные знаки обеспечивают правовую защиту и стимулируют инвестиции в НИОКР, способствуя развитию предпринимательства и международному сотрудничеству.

Цифровая экономика, характеризующаяся высокой степенью интеграции информационных технологий, требует особого внимания к защите цифрового контента, данных и технологий. Патенты на цифровые технологии и авторские права играют важную роль в защите инноваций и создании конкурентных преимуществ на рынке. Государственная поддержка цифровой трансформации и развитие правовой базы для защиты ИС способствуют созданию благоприятных условий для роста цифровых индустрий и экономики в целом.

Несмотря на существующие проблемы, такие как международные санкции, пиратство и недостаточная правовая база, использование ИС для решения экономических проблем импортозамещения в России обладает значительным потенциалом. Государственная поддержка, цифровизация процессов регистрации и охраны ИС, разработка отечественных технологий и сотрудничество с международными партнерами могут значительно улучшить ситуацию. Образовательные программы, направленные на повышение осведомленности о важности ИС, и юридические реформы, укрепляющие правоприменение, также играют важную роль в защите и коммерциализации инноваций.

Таким образом, эффективное использование и защита интеллектуальной собственности могут стать решающими факторами в успехе политики импортозамещения, способствуя созданию конкурентоспособных отечественных продуктов, снижению зависимости от импорта и обеспечению устойчивого экономического роста страны.

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АЙДАР-АРНАСОЙ КЎЛЛАР ТИЗИМИ СУВ РЕСУРСЛАРИНИНГ ЎЗГАРИШ ДИНАМИКАСИНИ АНИҚЛАШ ВА БАҲОЛАШ

Аннотация. Айдар Арнасой кўллар тизими (ААКТ) сув ресурслари ҳажми, майдони, сатҳи йиллар давомида Чардара сув омбори орқали ташланаётган Сирдарё сувининг кўпайиши, камайиши ҳамда ҚДС сувларининг қуйилиши ҳисобига ўзгариб турган.

Мақолада ААКТнинг 1993-2022 йиллар давомидаги сув миқдори, майдони, сатҳи ўзгаришини статистик маълумотлар, ГАТ усуллари ва муаллифлар томонидан оlib борилган дала тадқиқолари асосида аниқланган ва баҳоланган.

Таянч тушунчалар: кўллар тизими, гидрология, сув сатҳи, майдони, сув ҳажми динамикаси, ГАТ дастури.

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DETERMINATION AND ASSESSMENT OF CHANGING DYNAMICS OF WATER RESOURCES OF THE AYDAR-ARNASOY LAKE SYSTEM

Annotation. Studying and evaluating the AALS hydrology, the volume, area, and variability of water levels altogether play an important role in the development of fisheries in the region.

This paper examines the changes in water volume, area, and levels of the AALS throughout 1993–2022 by considering availability of statistical data and field experiments.

Key words: lake system, water level, hydrology, area, water volume, dynamics, GIS.

1. Кириш

Айдар-Арнасой кўллар тизими (ААКТ) - Орол денгизи ҳавзасидаги энг катта сунбый кўл ҳисобланади ва Ўзбекистоннинг жанубий-шарқидаги

Қизилқумнинг Арнасой паст текислигида, Навоий ва Жиззах вилоятлари худудида жойлашган бўлиб, учта кўлларнинг қўшилиб кетишидан (Арнасой, Айдарқўл ва Тузкон) ҳосил бўлган [1, 2, 3].

Айдар-Арнасой кўллар тизимининг балиқчиликни ривожлантиришдаги роли, кўллар тизимининг ҳудудда иқлим ўзгаришига ва экологик барқарор ривожланишга таъсири ўрганилган [4]. ААКТ сув ресурслари йил мавсумлари давомида ёғингарчиликка ва унга ташланаётган сув микдорига боғлиқ ҳолда ўзгариб турган [6.7].

ААКТ зими сув сатҳи билан майдонининг ўзгариши боғлиқлик корреляциясини, сув микдорининг сув сатҳи кўтарилишига боғлиқ ҳолда кўпайиши ер ости сувларининг кўтарилишига, шўрланиш даражасининг ортиб боришини келтириб чиқариш омили эканлиги ўрганилган [5]. Тадқиқот хулосасига кўра сув сатҳининг кўтарилиши ер ости сувлари кўтарилишига олиб келиб, кўллар тизимининг шўрланиш даражаси ошишига сабаб бўлган [7].

Ушбу ишнинг мақсади ААКТга Сирдарё сувининг Чардара сув омбори орқали ва коллектор дренаж сувлари ташланиши оқибатида 1993-2022 йиллар давомида сув ҳажми, майдони, сув сатҳининг ўзгариш динамикасини иқлим ўзгаришини баҳолашдан иборат.

2. Материаллар ва қўлланилган методлар

Айдар-Арнасой кўллар тизими сув ресурсларининг динамикаси ўзгаришини ўрганишда дала тадқиқот, аэрокосмик, статистик баҳолаш, масофавий зондлаш (Landsat), картографик усуллардан фойдаланилган.

Айдар-Арнасой кўллар тизими (ААКТ)нинг гидрологияси: сув сатҳи, ҳажми, майдони ва сув сатҳи ўзгаришининг йиллик амплитудаси (1994-2022 йй.) Чордара сув омбори орқали қуйилаётган Сирдарё сувининг ўзгаришига, Сирдарё ва Жиззах вилояти экин майдонларидан оқиб келаётган коллектор-дренаж сувлари, қор-ёмғир сувлари ва ер остидан қўшилаётган грунт сувлари ҳисобига ўзгариб турган.

3. Натижалар ва уларнинг муҳокамаси

ААКТнинг сув сатҳи, майдони ва ҳажми йиллар давомида Сирдарё сувининг Чардара сув омбори орқали ташланиши ва коллектор дренаж сувларнинг (КДС) қуйилиши ва йиллик ёғингарчиликлар микдорига боғлиқ ҳолда ўзгариб туради.

ААКТ нинг сув майдони ва сув сатҳи Чордара сув омбори орқали қуйилаётган Сирдарё суви ва КДС сувларининг тушиб туриши натижасида йиллар давомида ўзгариб турган. Кўллар тизимининг сув майдони 1993 йилда 2045 км², сув сатҳи 237,6 м, 2000 йилда 3140 км², сув сатҳи 244,3 м, 2006 йилда энг юқори кўрсаткич сув майдони 3599 км², сув сатҳи 246,8 м, 2010 йилда сув майдони 3412 км², сув сатҳи 245,8 м, 2015 йилда сув майдони 3348 км², сув сатҳи 245,4 м, 2017 йилда 3224 км², сув сатҳи 244,7 м, 2020 йилда 3281 км², сув сатҳи 245,16 м, 2022 йилда сув майдони 3296 км², сув

сатҳи 245,46 метрни ташкил этган. Кўллар тизими сув майдонининг кўп йиллар давомида ўзгариши 2-расмда кўрсатилган.

Кўллар тизимининг сув сатҳи 1995 йилда 241,6 м, 2022 йилда 245,5 м. бўлган бўлса, энг юқори сатҳи 2006 йилда 246,8 м, энг паст кўрсаткич 1995 йилда 241,6 м.ни ташкил этган.

ААКТ га 2004-2022 йилларда қуйилаётган КДС сувлари қуйидагини ташкил этган. 2004 йилда 61,2 м³/с, йиллик оқим миқдори 1930,0 млн. м³, 2008 йилда 65,2 м³/с, йиллик оқим миқдори 2056,1 млн. м³, 2012 йилда 69,8 м³/с, йиллик оқим миқдори 2201,2 млн. м³, 2016 йилда 67,4 м³/с, йиллик оқим миқдори 21250,5 млн. м³, 2018 йилда 68,2 м³/с йиллик оқим миқдори 2150,8 млн. м³, 2022 йилда 72,6 м³/с, йиллик оқим миқдори 2258,2 млн. м³ ни ташкил этган. 2004-2022 йилларда ААКТ га қуйилган КДС сувларининг умумий миқдори 32942,2 млн.м³ ни ташкил этган.

ААКТ сув балансини ҳисоблаш тадқиқот ишларида ер остидан қўшилган сувлар миқдори ўртача 50 млн м³ қилиб олинган [5; 20]. Лекин бу миқдор йиллар кесимида ўзгариб туриши мумкин. Шу сабабли ААКТ га инфильтрация орқали ер остидан қўшилган сувлар миқдорини француз олими А.Дарси қонунига бўйсунди [5;20] шу усул ёрдамида ҳисоблаб чиқилди.

Хулоса

ААКТнинг гидрологияси, сув ҳажми, майдони, сув сатҳининг йиллар давомида ўзгариш динамикаси асосан кўллар тизимига Чардара сув омбори орқали ташланадиган Сирдарё сувига ва унга қуйиладиган коллектор дренаж сувлари миқдорига боғлиқ равишда ўзгариб туради.

- ААКТнинг майдони, сув ҳажми, сув сатҳининг йиллар давомида ўзгариш динамикаси асосан кўллар тизимига Чордара сув омбори орқали ташланадиган Сирдарё суви ва унга қуйиладиган коллектор дренаж сувлари миқдорига боғлиқ равишда ўзгариб туриши аниқланган.

- ААКТнинг сув ресурслардан комплекс фойдаланиш, муҳофаза қилиш ва самарали бошқариш тизимини жорий этиш мақсадида ААКТнинг экологик ҳолатини мақбул даражада ушлаб туриш учун сув ресурсларига бўлган эҳтиёж баҳоланган ва асосланган.

- Статистик таҳлиллар ва ўтказилган тадқиқот натижаларига кўра ААКТ майдони 2000-2022 йиллар оралиғида ўзгариб турганлиги: 2000 йилда 3140 км², 2004 йилда 3402 км², 2006 йилда 4599 км², 2014 йилда 3373 км², 2022 йилда 3296 км² ни ташкил этганлиги аниқланган;

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ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ УПРАВЛЕНИЯ ТРУДОВЫХ РЕСУРСОВ

Аннотация. Управление трудовыми ресурсами является одним из важных вопросов в управлении предприятиями и организациями. Трудовые ресурсы являются важным фактором повышения конкурентоспособности. В статье рассмотрены управленческие действия, которые приводят к эффективному использованию трудовых ресурсов предприятий.

Ключевые слова: предприятия, потенциал предприятий, управления, трудовые ресурсы, эффективность, конкурентоспособность.

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INCREASING THE EFFICIENCY OF HUMAN RESOURCES MANAGEMENT

Annotation. Human resources management is one of the important issues in the management of enterprises and organizations. Labor resources are an important factor in increasing competitiveness. The article discusses management actions that lead to the effective use of labor resources of enterprises.

Key words: enterprises, enterprise potential, management, labor resources, efficiency, competitiveness.

Введение (Introduction). Успешная деятельность хозяйствующих субъектов – это эффективное использование в ней экономических ресурсов. Среди этих ресурсов важнейшее место занимают трудовые ресурсы. Одним из основных способов повышения конкурентоспособности производимой продукции или оказываемой услуги в условиях рыночных отношений является организация и эффективное управление трудовыми ресурсами. Повышение эффективности производства и повышение производительности труда на основе совершенствования управления трудовыми ресурсами становится с каждым днем все более важным.

Процесс производства и обслуживания состоит преимущественно из трудового процесса. Процесс труда включает в себя труд трудовых ресурсов, предмета труда и средств труда. Труд – это сознательная деятельность людей, направленная к определенной цели, в результате этой деятельности они создают материальные блага и культурные богатства, изменяя существующие вещи в природе, приспособляя их к своим потребностям. Выраженный таким образом характер труда остается основным условием производства в любом человеческом обществе.

Потому что без труда невозможно создание материальных благ, производства или процесса оказания услуг. В результате правильной организации и управления трудом материальные блага увеличатся.

Основная часть. Все объекты природы, на которые направлена работа трудовых ресурсов, называются предметом труда. Средства, с помощью которых люди влияют на объекты своего труда, называются средствами труда. Среди орудий труда важную роль играют инструменты. Средства труда вместе с предметами труда образуют средства производства. Однако какими бы современными, развитыми и усовершенствованными ни были средства производства, даже если они полностью отвечают требованиям мировых стандартов, они не работают сами по себе.

Они вступают в действие только после того, как соединяются с рабочей силой, т. е. способностью человека к труду, осуществляется трудовой процесс, производятся материальные блага или оказываются определенные услуги. Поэтому непосредственный труд трудовых ресурсов играет важную роль в трудовом процессе, то есть в процессе производства материальных благ или оказания услуг. Управление, организация и планирование, направленные на эффективное использование трудовых ресурсов, приобретают все большее значение в условиях глобализации современной экономики и в условиях усиления влияния внешних сил, влияющих на деятельность и различных рисков.

Поэтому рациональная организация и управление трудом, его целесообразное использование, предотвращение его растрачивания и повышение эффективности производства на их основе являются одной из важных и актуальных проблем современных условиях глобализации экономики.

До сих пор в каждой организации и предприятии были отделы, занимающиеся трудовыми ресурсами. Например, отдел кадров, отдел организации труда и подобные отделы на предприятиях. Их функции зачастую охватывали только один аспект работы с сотрудниками. В большинстве случаев работу по управлению сотрудниками выполняли руководители подразделений на предприятии.

Одним из основных отделов управления персоналом в организациях является отдел кадров. Этот отдел отвечает за прием и увольнение сотрудников. В организациях, не имеющих отдела подготовки кадров, на

отдел кадров возлагаются также такие задачи, как обучение, подготовка, переподготовка и повышение квалификации работников.

Отдел кадров на предприятии не считается единственным центром координации как с методологической, так и с информационной точки зрения. У них были только свои обязанности – нанимать и увольнять сотрудников. Этот отдел не был связан с другими отделами, выполняющими масштабную работу по управлению персоналом, то есть отдел организации труда и заработной платы, отдел охраны труда, юридические отделы - все работали отдельно и выполняли лишь свою часть работы по управлению персоналом. они просто сделали это.

В современных организациях управление трудовыми ресурсами таким образом неэффективно. В условиях современной глобализации и в условиях повышения различных рисков высокие требования предъявляются к управлению трудовыми ресурсами. Управление трудовыми ресурсами должно осуществляться в направлении создания условий, которые позволят каждому трудовому ресурсу в полной мере проявить свои возможности и стать основным механизмом реализуемых процессов. Работа сотрудников должна гармонизировать с целями предприятий и организаций и быть способной способствовать достижению этой цели на высоком уровне.

Необходимо добиться того, чтобы вновь принятый на работу работник имел более высокую производительность, чем работник, работавший до него по той же профессии. При этом большое значение имеет способность сотрудников обеспечить конкурентоспособность.

Выводы. В целях реализации этих задач совершенствуется управление трудовыми ресурсами. Важнейшими задачами в управлении трудовыми ресурсами являются:

1. Социально-психологическая диагностика сотрудников (диагноз).
2. Координация межгрупповых и межличностных отношений, управленческие отношения.
3. Обеспечение конкурентоспособности.
4. Управление разногласиями и конфликтными ситуациями, стрессами в трудовых отношениях.
5. Информационная поддержка системы управления персоналом.
6. Анализ потенциала сотрудников и определение потребности в сотрудниках.
7. Адаптация работников к условиям на предприятии с профессиональной и социально-духовной точки зрения.
8. Управление стимулированием труда.
9. Определение требований эргономики труда и соблюдение их.

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ФОРМИРОВАНИЕ КАЧЕСТВА ОБРАЗОВАНИЯ У МОЛОДОГО ПОКОЛЕНИЯ

Аннотация. В данной статье подчеркивается важность анализа этапов и направлений воспитания, понимания их значимости и развития у подрастающего поколения человеческих качеств.

Ключевые слова: образование, цифровизация, цифровые технологии, повышение квалификации, электронное правительство, подрастающее поколение, человеческие качества, ценности.

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FORMATION OF THE QUALITY OF EDUCATION IN THE YOUNG GENERATION

Abstract. This article outlines the importance of analyzing the stages and directions of education, understanding their importance and developing human qualities in the younger generation.

Keywords: education, digitalization, digital technology, advanced training, electronic government, the younger generation, human qualities, values.

Важными вопросами в Узбекистане являются цифровизация различных этапов и направлений образования, формирование человеческих качеств у молодого поколения. Реформы, реализуемые в этой сфере, имеют потенциал для дальнейшей модернизации нашей страны и повышения конкурентоспособности национальной экономики. Роль цифровизации существенно выросла, что показало важность цифровой трансформации, особенно для развивающихся стран, в том числе и Узбекистана. С начала 2000-х годов Узбекистан стал уделять приоритетное внимание развитию и цифровизации информационно-коммуникационных технологий (ИКТ). С этой точки зрения особое внимание уделяется цифровизации всех основных отраслей и созданию настоящего информационного общества в стране в рамках проводимых реформ, а также стратегии развития Нового Узбекистана на последующие годы. пять лет.

В этом направлении большую роль играют преподаватели, студенты, государственные органы и информационные технологии. Основная система электронного правительства нашей страны – Единый портал интерактивных государственных услуг (my.gov.uz) – добилась значительного прогресса во внедрении новых технологий и цифровизации в этой сфере. В результате по состоянию на январь 2022 года через my.gov.uz было предоставлено 56 процентов госуслуг, количество госуслуг на этой платформе электронного правительства достигло 307, электронными государственными услугами воспользовались более 1,3 миллиона граждан. При этом общее количество интернет-пользователей в Узбекистане на начало текущего года достигло 27,2 миллиона. Кроме того, за прошедший период в сферу был привлечен большой объем инвестиций с целью совершенствования ИКТ-систем и цифровой инфраструктуры республики. В результате, по данным Госкомстата Республики Узбекистан, в 2017-2021 годах валовая добавленная стоимость в сфере информации и связи выросла более чем в 2 раза, достигнув в 2021 году 11,8 трлн сомов (на 1 млрд долларов США больше, чем в 2021 году). \$) дошло. Также с момента создания ИТ-парков в Узбекистане объем экспорта в этой сфере увеличился в 50 раз и достиг 46 миллионов долларов США. Число постоянных жителей парка увеличилось со 147 до 500, открыто более 300 новых компаний и создано 8500 высокооплачиваемых рабочих мест. Сейчас в ИТ-парках работают более 11 тысяч молодых людей.

Система высшего образования также важна. В высших учебных заведениях большое внимание уделяется обучению и развитию преподавателей, научных кадров и студентов. Реформы, реализуемые в этой сфере, имеют потенциал для дальнейшей модернизации нашей страны и повышения конкурентоспособности национальной экономики.

Одним из таких важных вопросов является цифровизация образования. Образовательная система Узбекистана продолжает развиваться благодаря реформам, реализуемым в таких сферах, как цифровые университеты, электронное правительство, цифровые технологии, профессиональное развитие и т.д.

Цифровизация – это внедрение цифровых технологий в различные сферы жизни, включая экономику, все этапы образования, культуры, медицины, туризма, сельского хозяйства, сферы услуг и другие процессы.

Цифровизация является важной задачей в сфере образования. Это поможет сделать систему образования Узбекистана более эффективной и действенной.

Quyidagi fikrlarni bu mavzuga qo‘shish mumkin: Raqamli o‘qitish:

Оцифровка помогает студентам управлять своими учебными материалами. Цифровые учебники, интерактивные учебники, видеуроки и другие ресурсы облегчают обучение учащихся.

Развитие навыков: цифровизация помогает учителям оценивать и совершенствовать навыки учащихся. Тесты, викторины и другие инструменты оценки помогают учителям оценивать успеваемость учащихся.

Электронное правительство: Цифровизация также важна для управления системой образования. Системы электронного правительства помогают хранить данные об учащихся, отслеживать результаты оценивания учащихся и лучше анализировать обучение учащихся.

Цифровые технологии: Цифровизация обеспечивает использование новых технологий в сфере образования. Виртуальное обучение, онлайн-курсы, интерактивные учебники и другие технологии помогают еще больше повысить уровень знаний, получаемых студентами.

Поддержка индивидуальных потребностей учащихся: цифровизация помогает анализировать и поддерживать индивидуальные потребности учащихся. Это приводит к увеличению знаний, получаемых студентами.

Цифровизация является одной из важных задач в повышении эффективности и результативности системы образования Узбекистана. Реформы, реализуемые в этом направлении, помогут обществу стать сильнее в будущем.

Важность формирования человеческих качеств молодого поколения: подготовка молодого поколения с хорошим образованием, повышение его знаний и навыков в экономике, культуре и других областях – таковы основные направления формирования независимых, высокоинтеллектуальных и гуманных граждан Узбекистана.

Заинтересовывание молодого поколения спортом, искусством, культурой и другими сферами способствует развитию его творческих способностей и творческих способностей.

Обучение молодого поколения приобретению человеческих ценностей, справедливости, труда и других качеств – это залог того, что они сформируют человеческие качества и будут полезны обществу.

Оно также включает в себя формирование человеческих качеств у молодого поколения, превращение их в полезных членов общества, борьбу с социальными проблемами и проблемами, трудовую и надежную деятельность, развитие творческой и социальной культуры, поддержку человеческих ценностей.

Важность цифровизации и формирования человеческих качеств у молодого поколения имеет большое значение в цивилизационном развитии Узбекистана.

Государству, обществу и каждому гражданину следует уделять этим вопросам особое внимание.

Актуальные вопросы цифровизации и формирования человеческих качеств молодого поколения являются основными направлениями формирования независимых, высокоинтеллектуальных и гуманных граждан

Узбекистана. Реформы, реализуемые в этих направлениях, будут способствовать дальнейшей модернизации экономики Узбекистана.

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СИНДРОМ ГОЛОВНОЙ БОЛИ ПРИ АРТЕРИАЛЬНОЙ ГИПЕРТОНИИ У ПОДРОСТКОВ

Аннотация. Данная работа посвящена изучению особенностей синдрома головной боли у подростков, страдающих артериальной гипертонией, распространенности головной боли среди подростков с артериальной гипертонией, характеру головной боли (локализация, интенсивность, продолжительность, сопутствующие симптомы). Также рассмотрены возможные механизмы развития головной боли при артериальной гипертонии у подростков.

Ключевые слова: головная боль, артериальная гипертония, подростки, диагностика, лечение, дисфункция.

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HEADACHE SYNDROME IN ARTERIAL HYPERTENSION IN ADOLESCENTS

Annotation. This work is devoted to the study of the characteristics of headache syndrome in adolescents suffering from arterial hypertension, the prevalence of headaches among adolescents with arterial hypertension, the nature of headaches (localization, intensity, duration, associated symptoms). Possible mechanisms for the development of headaches in arterial hypertension in adolescents are also considered.

Key words: headache, arterial hypertension, adolescents, diagnosis, treatment, dysfunction.

Актуальность. Проблема артериальных дистоний у детей чрезвычайно актуальна. Наибольшее внимание в педиатрии сегодня уделяется артериальной гипертензии, как прелюдии артериальной

гипертензии взрослых. Вопросы артериальной гипотензии у детей и подростков остаются в тени, хотя накапливающийся фактический материал показывает, что гипотонические состояния встречаются у детей чаще, чем у взрослых и составляют до 20,9%.

Цель. Изучить особенности клинико - неврологических и нейропсихологических нарушений у подростков с артериальной гипертонией.

Материалы и методы. Исследованы 60 подростков в возрасте от 15 до 18 лет, из них 30 с неврологической симптоматикой в сочетании с артериальной гипертензией (основная группа) и 30 с диагнозом артериальная гипертония (АГ) без неврологических нарушений (контрольная для сравнения). Проводился общий клинический осмотр, исследование неврологического статуса, выполнялись общеклинические лабораторные методы исследования (общий анализ крови, мочи, тест толерантности к глюкозе, биохимический анализ крови: общий белок, мочевины, креатинин, показатели липидного спектра: общий холестерин, триглицериды, холестерин липопротеидов высокой плотности). Инструментальные методы диагностики включали электрокардиограмму, ЭХО кардиографию, ультразвуковое исследование почек и надпочечников.

Результаты. При анализе результатов исследования выяснилось: вегетативная дисфункция выявлена у 88% лиц с АГ и неврологическими нарушениями, у больных АГ без неврологических нарушений в 35% и у практически здоровых пациентов (2,7%). Отмечалась достаточно тесная связь этих патологических состояний с неблагоприятным психоэмоциональным фоном. Наиболее распространенным симптомо-комплексом жалоб у больных в обеих группах были головная боль, быстрая утомляемость, головокружение, снижение памяти, раздражительность или вялость, шум в голове, которые ухудшали работоспособность и качество жизни. Цефалгии встречались в 89,3% случаев, что в 1,1 раза чаще, чем в группе сравнения (у 53,9% больных). Периодические приступы головокружения отмечались у 67,5% больных с основной группы, что 1,2 раза чаще, чем у пациентов группы сравнения.

Выводы. Работы заключается в возможности использования полученных данных для оптимизации диагностики, лечения и профилактики головной боли у подростков с артериальной гипертонией. Неврологические синдромы, сочетанные с артериальной гипертонией, проявляются в виде цефалгии давящего и распирающего характера, преимущественно в затылочной области, также вегетативными кризами, диссомнией. Цефалгии более трех раз в неделю, приступообразные, а также повышение диастолического артериального давления в дневные и ночные часы до 95 мм. рт. ст. и выше и скорости его утреннего подъема выше 6 мм. рт. ст./час. Выраженную венозную недостаточность помогает

диагностировать наличие астенического синдрома и цефалгий, спровоцированных подъемом артериального давления.

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ЗНАЧЕНИЕ ШТРАФНОГО БРОСКА В БАСКЕТБОЛЕ FIBA 3X3

Аннотация. В данной статье говорится о значении штрафного броска в баскетболе FIBA 3x3. Данная статистика свидетельствует о том, что баскетбол FIBA 3x3 имеет большие перспективы в мировом спорте и требует тщательного изучения с научной точки зрения. Цель исследования состояла в том, чтобы проанализировать результативность и значимость штрафных бросков в баскетболе FIBA 3x3. Оценка техники выполнения штрафного броска была одинаковой и к концу эксперимента повысилась в двух командах, что послужило повышению процента попаданий игроков и команд в целом. Применение одинаковой методики тренировки штрафного броска у команд различной квалификации привело к достоверному приросту эффективности выполнения штрафных бросков, что экспериментально доказано.

Ключевые слова: штрафной бросок, эффективность, результативность, техника выполнения, тактика, методика обучения, баскетбол, FIBA 3x3, процент реализации штрафных бросков в баскетболе 3x3.

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THE MEANING OF A PENALTY THROW IN FIBA 3X3 BASKETBALL

Annotation. This article talks about the meaning of a free throw in FIBA 3x3 basketball. These statistics indicate that FIBA 3x3 basketball has great prospects in world sports and requires careful study from a scientific point of view. The purpose of the study was to analyze the effectiveness and significance of free throws in FIBA 3x3 basketball. The assessment of free throw technique was the same and by the end of the experiment increased in the two teams, which served to increase the percentage of hits of the players and teams as a whole. The use of the same free throw training methodology for teams of different qualifications led to a significant increase in the efficiency of free throws, which has been experimentally proven.

Key words: free throw, efficiency, effectiveness, execution technique, tactics, teaching methods, basketball, FIBA 3x3, percentage of free throws in 3x3 basketball.

Актуальность. В настоящее время в Узбекистане благодаря постоянной поддержке со стороны Президента Республики Ш. М. Мирзиёева приоритетное направление приобрели физическая культура и спорт. Свидетельством этому является принятый Указ Президента Республики Узбекистан «О мерах по широкому внедрению здорового образа жизни и дальнейшему развитию массового спорта» (от 03.11.2020 г.), а также ряд правительственных постановлений о развитии физической культуры и спорта.

За годы независимости под руководством Президента Шавката Миромоновича Мирзиёева в Узбекистане созданы благоприятные условия для развития всех видов спорта, особенно детского и юношеского. Так как именно с маленьких завоеваний наших детей начинается дорога к достижениям в большом спорте. Именно развитие детского спорта является гарантом будущих побед, основой приумножения славы Узбекистана на международной арене. «Думаю, что выражу общее мнение нашего народа, если скажу: целеустремленная, преданная Родине молодежь – это самое большое наше богатство, «золотой фонд» нации» - сказал Мирзиёев Ш. М.

Баскетбол 3x3 (Стрит бол) имеет большое количество общих элементов игры с классическим баскетболом, тем не менее, данный вид спорта является обособленным и обладает своими особенностями с точки зрения технической, функциональной, тактической и психологической подготовки. В отличие от классического баскетбола команды 3x3 играют на одно кольцо, размер площадки при этом составляет 15 на 11 метров. Попадание из-за дуги приносит два очка, любое другое – одно очко. FIBA 3x3 World Tour (Мировой тур) – это соревнования, которые проводит FIBA с 2012 года. Они состоят из нескольких этапов, проходящих по всему миру. Самые элитные спортсмены баскетбола 3x3 борются за титул чемпионов. Уровень игры, который демонстрируется спортсменами, по многим критериям служит эталоном для игроков и ориентиром для тренеров. Особого внимания заслуживает разбор статистических протоколов соревнований с целью выявления сильных и слабых сторон команд, определения критериев игры, которые давали преимущество командам над соперником и приводили к положительным результатам. Одним из важнейших показателей является результативность и процент реализации штрафных бросков, после набранных командных фолов. Данный факт способствует концентрации внимания во время сильного противостояния, особенно при быстрых атаках и тактическому переосмыслению нападения в целом. Тренерам команд необходимо разрабатывать методологию тренировочного процесса и расставлять акценты в подготовке баскетболистов 3x3 в соответствии с современными требованиями игры.

Баскетбол 3x3 «молодой» Олимпийский вида спорта, в котором есть свои специфические особенности. Те показатели, которые определяют

результат матчей в баскетболе 5х5, не всегда оказывают столь весомое влияние в баскетболе 3х3.

Баскетбол FIBA 3х3 (Стритбол) — это разновидность баскетбола, в который, зачастую, играют на открытых площадках. В игре очень быстрый темп, а сами игроки, если брать профессиональные матчи, имеют в своём арсенале кучу трюков с забрасыванием мяча в кольцо и отыгрышем соперника. Streetball (на английском) версия игры, которая взяла много правил у баскетбола, однако и свои новые тоже внедрила.

Для многих стритбол — это страсть, уличное искусство в то время и грубый вид спорта для крепких мужчин, где нельзя давать слабину. Эта игра заставляет восхищаться и радоваться публике, особенно, когда лучшие стритболисты выполняют чудесный дриблинг и тем самым унижают противника. И, тем не менее, стритбол — это основа дружбы, потому что спорт — это то, что связывает и объединяет миллионы людей во всём мире.

Штрафной бросок — это возможность, предоставляемая игроку, набрать одно (1) очко броском в корзину без помех с позиции за линией штрафного броска и внутри полукруга.

Можно использовать любой способ выполнения штрафного броска в корзину, но игроки должны бросать таким образом, чтобы мяч без касания пола вошел в корзину сверху или коснулся кольца, щита.

Баскетбол FIBA 3х3 – это контактная игра, в которой очень часто происходят нарушения правил, так называемые фолы. Штрафной бросок (от англ. free throу, буквально «свободный бросок») в баскетболе выполняется в случае фола в момент выполнения броска (персональные фолы), не спортивных, технических и командных фолов. Штрафной бросок – это предоставляемая игроку возможность набрать легкие очки без помех с линии штрафного броска. Таким образом, штрафной бросок может решить исход матча в баскетболе 3х3, ведь он позволяет беспрепятственно набирать очки в атаке, которые могут переломить ситуацию в сторону проигрывающей команды или укрепить положение в игре выигрывающей стороны. Поэтому такую ситуацию стоит воспринимать не только как случайный шанс заработать дополнительные очки, но и как одно из направлений отработки общей техники броска одной рукой.

Важность овладения штрафным броском заключается в том, что он с одной стороны, имеет самостоятельное игровое назначение (количество попаданий со штрафного составляет значительную часть общего счета игры), с другой стороны, навык выполнения штрафных бросков является основой для формирования всего комплекса движений, который используется баскетболистами для бросков мяча в корзину.

Штрафной бросок – это возможность, предоставляемая игроку, набрать одно очко броском в корзину без помех с позиции за линией штрафного броска и внутри полукруга.

Серия штрафных бросков - это все штрафные броски в результате наказания за один фол.

Таким образом, **целью данного исследования** является, анализ результативности и значимости штрафных бросков в баскетболе FIBA 3x3.

Материалы и методы исследования. Материалами для данного исследования являются литературные источники и методические документы по данной тематике. В процессе данного исследования использовались такие методы, как: библиографический и ретроспективный анализ, теоретическое обобщения и сравнение, системный и комплексный подход. Главным методом исследования явился сравнительный анализ информационных источников по данной теме.

Полученные результаты и их обсуждение. В исследовании принимали участие студенты Наманганского государственного педагогического института и Наманганского государственного университета 8 юношей и 8 девушек разных курсов, занимающихся баскетболом. Норматив штрафного броска для юношей – 5 попаданий из 10 бросков (50%), а для девушек – 4 попадания из 10 бросков (40%). Техника и результативность штрафного броска тренировалась в ходе учебно-тренировочных занятий по баскетболу 3x3. Занятия проходили 3 раза в неделю. При выполнении норматива студенты выполняли десять (10) бросков с линии штрафного броска и считали попадания. При этом игрок мог использовать любой вид броска, но при этом не имел права касаться линии штрафного броска или площадки по ту сторону линии, пока мяч не достигнет корзины или щита.

В ходе исследования выявили, что у юношей средний процент попаданий с линии штрафного броска составил 50,4%, у девушек - 40,8%, что соответствует норме (см. рис.1). Таким образом, мы видим, что у студентов достаточно хорошо натренирован штрафной бросок, и выделение времени на его тренировку на занятиях оправдывает себя. Однако, в дальнейшем необходимо увеличивать эти показатели.

	Средний процент попаданий	Норматив
Юноши	50.4	50
Девушки	40.8	40

Рис. 1. Средний процент попаданий у девушек и юношей.

Исход матча – это непредсказуемая ситуация (особенно, если команды равные по силе), поэтому выполнение штрафного броска, казалось бы, не заслуживает большого внимания. Но при ближайшем рассмотрении оказывается, что успешность команды в совершении штрафных бросков коррелируется с её общей успешностью в игре. Исследование факторов результативности штрафных бросков в студенческих командах показало, что команды, выполнявшие более точные штрафные броски, имели на 16,7% большую вероятность победы в матче [5].

Исходя из обзора и анализа научных источников, ситуационные задания, которые формирует тренер, могут помочь отработать штрафные броски в разном темпе и при разных условиях. Сам фактор соревновательной деятельности и выполнение упражнений больше всего влияют на точность и успешность штрафных бросков [3].

Возможно, что такая низкая эффективность многообещающих методик может быть объяснена следующими причинами: - несоответствие тренировочных методов повышения результативности штрафных бросков условиям реальных соревнований; - игнорирование некоторых важных факторов, способных изменить точность броска; - недостаточный технологический уровень проработки методики, которая должна представлять собой чёткий регламент тренировок [4]. Исследование несколько десятков упражнений, из которых было выбрано только девять, наиболее подходящих для тренировки результативности штрафных бросков в баскетболе 3х3: пять вариантов командного позиционного нападения и четыре варианта защиты от нападения. Упражнения были сформированы в единый комплекс.

Исследование на профессиональных игроках показало, что наиболее эффективным будет выполнение этого комплекса в течение 5 минут. Все эти упражнения должны выполняться в виде соревнований, так, чтобы каждая группа попеременно играла за нападающих и за защиту. Комплекс рекомендуется повторять по 7-10 подходов, в перерывах практикуя штрафные броски. В ходе нападения и защиты все нарушения также караются штрафными бросками, которые следует выполнять в обязательном порядке. Для поддержания соревновательного духа рекомендуется также вести счёт очков на протяжении всей тренировки [4].

Самим игрокам рекомендовали фокусироваться на собственных ощущениях и движениях, запоминая и воспроизводя наиболее удачные примеры. Внимание стоит уделять и частоте сердечных сокращений, и другим вегетативным функциям нервной системы, и психологическому состоянию, чтобы не оказаться в проигрыше из-за чрезмерного волнения на настоящем матче.

Заключение. Штрафной бросок очень важный элемент игры, который может решить исход матча. В настоящее время игроки тренируют штрафной бросок независимо от своей позиции, и процент попаданий штрафных бросков на сегодняшний день гораздо выше, чем был ранее.

Обзор научных источников показал, что штрафные броски и их отработка на тренировках оказывают заметное влияние на общие показатели команды в игре. Однако чаще всего при составлении и выполнении упражнений недооценивается соответствие ситуации реальной обстановке матча (в том числе, психоэмоциональное состояние игроков). Таким образом, залогом успеха методик по повышению результативности штрафных бросков оказались максимальная приближенность условий

тренировки к игровым, включая соответствующую нагрузку, поощрение соревновательного азарта, а также концентрация игроков на своём состоянии и воспроизведение наиболее успешных практик и движений.

Соблюдение этих рекомендаций поможет улучшить командные и индивидуальные показатели игроков в баскетбол FIBA 3x3 как в успешности штрафных бросков, так и в успешности матчей в целом.

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МЕТОДЫ АНАЛИЗА ТЕКСТОВЫХ ДАННЫХ С ИСПОЛЬЗОВАНИЕМ МАШИННОГО ОБУЧЕНИЯ

Аннотация. Статья посвящена исследованию современных методов анализа текстовых данных с использованием машинного обучения. В ней рассматриваются ключевые алгоритмы и техники, применяемые для решения различных задач обработки естественного языка (NLP), включая классификацию текстов, извлечение информации, анализ настроений, машинный перевод и генерацию текста.

Ключевые слова: машинное обучение, обработка естественного языка, нейронные сети, обработка текста, распознавание образов.

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METHODS OF TEXT DATA ANALYSIS USING MACHINE LEARNING

Abstract. The article is devoted to the study of modern methods of text data analysis using machine learning. It examines key algorithms and techniques used to solve various natural language processing (NLP) tasks, including text classification, information extraction, sentiment analysis, machine translation and text generation.

Keywords: machine learning, natural language processing, neural networks, text processing, pattern recognition.

Введение

Одним из наиболее распространенных и неструктурированных типов данных, доступных в настоящее время, являются текстовые данные. Каждый день из таких источников, как социальные сети, новостные статьи, отзывы клиентов и научные публикации, создается огромное количество контента. Вручную проанализировать эти данные невозможно из-за их

объема и сложности. Данную проблему можно решить при помощи машинного обучения (ML) [1], которое предоставляет мощные методы обработки, анализа и извлечения полезной информации из текстовых данных. ML может преобразовывать неструктурированный текст в структурированную информацию, используя методы обработки естественного языка (NLP) [2]. Это способствует более глубокому пониманию и более эффективному принятию решений в различных сферах.

Обзор темы

Контролируемое и неконтролируемое обучение – это две основные категории, на которые делятся модели машинного обучения, применяемые к текстовым данным. Задачи категоризации текста и анализа настроений выполняются с помощью контролируемого обучения, в котором используются такие методы, как нейронные сети [3], метод опорных векторов (SVM) и наивный байесовский анализ. Методы обучения без учителя, которые выявляют скрытые закономерности и темы в текстовых данных, включают кластеризацию и тематическое моделирование (например, скрытое распределение Дирихле). Благодаря улавливанию сложных лингвистических паттернов и контекстуальной информации модели глубокого обучения, особенно основанные на рекуррентных нейронных сетях (RNN) и преобразователях (BERT, GPT), значительно продвинулись вперед в этой области.

Для оценки эффективности этих моделей используются такие показатели, как точность, прецизионность, запоминаемость, показатель F1 и площадь под кривой ROC (AUC-ROC). Эти измерения гарантируют надежность и эффективность моделей при решении целого ряда задач анализа текста.

Актуальность темы

Анализ текстовых данных, основанный на машинном обучении, имеет широкое и значимое применение. Компании могут лучше понимать настроения потребителей, разрабатывать продукты и маркетинговые стратегии, изучая отзывы клиентов, публикации в социальных сетях и ответы на опросы. Автоматизированная оценка документов и идентификация рисков полезны для юридического сектора и сектора соблюдения нормативных требований. Интеллектуальный анализ текста используется в академических исследованиях для поиска закономерностей, пробелов и инноваций в научных статьях.

Кроме того, растущая доступность текстовых данных и их оцифровка подчеркивают необходимость в эффективных и масштабируемых аналитических методах. Машинное обучение, обладающее многими преимуществами по сравнению с методами ручного анализа, предоставляет средства для управления этим потоком данных. Важность этой темы подтверждается растущим спросом на передовые аналитические подходы,

основанные на обработке данных, поскольку все больше отраслей начинают понимать ценность текстовой информации.

Предварительная обработка данных

Первым и наиболее важным этапом анализа текстовых данных является предварительная обработка данных. Текст разбивается на более мелкие фрагменты с помощью токенизации, обычно это слова или токены. Например, токенизация превращает фразу "Машинное обучение - это мощный инструмент" в ["Машина", "обучение", "это", "мощный", "инструмент"]. Слова преобразуются в их основные формы; например, "бежать" превращается в "бег". Далее идет лемматизация, изменяя "лучше" на "хороший" в зависимости от контекста. Распространенные, неинформативные слова, такие как "и", "или" и "о", удаляются путем удаления стоп-слова. Нормализация текста устраняет знаки препинания и преобразует весь текст в нижний регистр, гарантируя точность и эффективность алгоритмов обработки текста.

Извлечение признаков

Числовое преобразование текста необходимо для моделей машинного обучения. Текст представлен в виде матрицы количества токенов, или бинарных индикаторов, в парадигме набора слов (BoW). Примерами векторов, указывающих на наличие слов, являются "кошка сидела на коврике" и "кошка спала на коврике". Оценивая термины в соответствии с их значимостью в корпусе, TF-IDF превосходит BoW. Словам, которые часто встречаются во многих документах, придается меньший вес. Встраивание слов, такое как Word2Vec и GloVe, фиксирует семантические связи, создавая плотные векторы, которые представляют слова в многомерном пространстве. Контекст конкретного предложения понимается с помощью продвинутых встроенных программ, таких как BERT и ELMo, которые предлагают контекстно-зависимые представления.

Выбор модели

Задача определяет, какая модель машинного обучения лучше. Методы контролируемого обучения, такие как нейронные сети [4], SVM и наивный байесовский алгоритм, часто используются для классификации текста. Наивный байесовский метод хорошо подходит для анализа настроений и идентификации спама. Текстовые данные с большим количеством измерений отлично подходят для SVM. Сложное распознавание образов является сильной стороной нейронных сетей, особенно сверточных нейронных сетей (CNNs) и рекуррентных нейронных сетей (RNNs). Для языкового моделирования и машинного перевода идеально подходят сети проносов и долговременной кратковременной памяти (LSTM), поскольку они могут обрабатывать последовательный ввод. Благодаря пониманию контекста на больших объемах текста и улавливанию сложных лингвистических нюансов, модели на основе transformer, такие как BERT и GPT, произвели революцию в обработке естественного языка (NLP).

Показатели оценки

При оценке моделей машинного обучения используются различные методы. Измеряется общая точность прогноза. Мерой точности является соотношение правильно предсказанных положительных результатов ко всем ожидаемым положительным результатам. Напоминание отображает соотношение фактических положительных результатов к подлинным положительным прогнозам. Коэффициент запоминания и точность сбалансированы в формуле F1. Область AUC-ROC, или площадь под кривой ROC, является комплексным показателем эффективности, который оценивает соотношение между истинно положительными и ложноположительными результатами.

Практическая реализация

Пример 1: Наивный байесовский анализ настроений

1. Сбор данных: Составление набора текстовых обзоров с положительной/отрицательной маркировкой.
2. Предварительная обработка: Нормализация текста, исключение стоп-слов и маркировка.
3. Извлечение признаков: Создание векторов TF-IDF из текста.
4. Модельное обучение: Используя обучающие данные, обучите наивный байесовский классификатор.
5. Оценка: Для оценки производительности в тестовом наборе используйте оценку F1, точность, прецизионность и запоминание.

Пример 2: Использование LDA для тематического моделирования

1. Сбор данных: Соберите значительный объем письменных материалов (например, новостных сюжетов).
2. Предварительная обработка: нормализуйте текст, исключите стоп-слова и выделите символы.
3. Выделение признаков: Для предварительного выделения признаков используйте TF-IDF или BoW.
4. Обучение модели: Используйте LDA для определения тем в текстах.
5. Оценка: Оцените интерпретируемость и согласованность тем.

Вывод

Анализ текста на основе машинного обучения предоставляет эффективные способы делать выводы из неструктурированных данных. Текст подготавливается к анализу с помощью таких методов предварительной обработки, как удаление стоп-слов, токенизация, стемминг и лемматизация. Встраивание слов, TF-IDF и BoW являются примерами методов выделения признаков, которые преобразуют текст в числовые представления. Надежные инструменты для анализа текста включают в себя обучающие модели с контролем, такие как SVM, нейронные сети и наивный байесовский алгоритм, а также методы без

контроля, такие как тематическое моделирование и кластеризация. Трансформеры, в частности, представляют собой продвинутое моделирование глубокого обучения, которые улучшают понимание сложных лингвистических паттернов. Надежность этих моделей обеспечивается за счет их оценки с использованием таких показателей, как точность, прецизионность, запоминание, F1-оценка и AUC-ROC. По мере развития машинного обучения станут возможными более совершенные и точные методы анализа текста, которые обеспечат существенные преимущества и более глубокое понимание в самых разных областях.

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ВЗАИМОСВЯЗЬ МЕЖДУ СИЛОЙ НАГРУЗКИ И СКОРОСТЬЮ РАЗРУШЕНИЯ ПРИ ТРЕНИИ В МАТЕРИАЛАХ С ПЕРЕМЕННОЙ СТРУКТУРОЙ

Аннотация. В данной работе рассматривается взаимосвязь между структурными характеристиками материалов и их скоростью разрушения при трении. В рамках работы также анализируются различные методы и подходы к анализу микроструктуры материалов, включая методику многоуровневого анализа микроструктуры материалов (МАММ). Представлены преимущества и недостатки различных структурных характеристик и обсуждаются практические рекомендации для оптимизации микроструктуры материалов с целью улучшения их механических свойств и повышения их долговечности в условиях эксплуатации.

Ключевые слова: микроструктура, трение, материалы, анализ, влияние, скорость, разрушение, методика, оптимизация, прочность.

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RELATIONSHIP BETWEEN LOAD FORCE AND FRICTIONAL FRACTURE RATE IN MATERIALS WITH VARIABLE STRUCTURE

Abstract. This paper examines the relationship between the structural characteristics of materials and their rate of destruction during friction. The work also analyzes various methods and approaches to the analysis of the microstructure of materials, including the technique of multilevel analysis of the microstructure of materials (MAMM). The advantages and disadvantages of various structural characteristics are presented and practical recommendations for optimizing the microstructure of materials to improve their mechanical properties and increase their durability under operating conditions are discussed.

Key words: microstructure, friction, materials, analysis, influence, speed, destruction, technique, optimization, strength.

Введение. В исследованиях трения в материалах с переменной структурой, важной является взаимосвязь между силой нагрузки и скоростью разрушения. Этот аспект имеет значительное значение во многих областях, включая инженерию, материаловедение и производство. Понимание этой взаимосвязи может помочь в оптимизации процессов и создании более надежных материалов и конструкций.

Методология. Одной из таких методик является «Методика многоуровневого анализа микроструктуры материалов (МАММ)», которая сочетает в себе высокоточные вычислительные модели и экспериментальные методы обработки материалов. МАММ позволяет получать подробное представление о структурных изменениях материала и их влиянии на его механические свойства.

Сбор данных о микроструктуре: Прежде всего, проводится обширный сбор данных о микроструктуре материала. Это включает в себя информацию о размерах зерен, форме, ориентации, пористости и других характеристиках, которые могут влиять на механические свойства материала.

Математическое моделирование: На основе собранных данных создаются математические модели, описывающие внутреннюю структуру материала. Эти модели могут быть как аналитическими, так и численными, в зависимости от сложности структуры и требуемой точности анализа.

Компьютерное моделирование: Используя разработанные математические модели, проводится компьютерное моделирование поведения материала при различных условиях нагружения. Это позволяет оценить влияние микроструктуры на механические свойства материала, включая скорость разрушения при трении.

Результат. После проведения исследования с применением методики многоуровневого анализа микроструктуры материалов (МАММ) были получены следующие результаты:

Определение влияния структурных характеристик на скорость разрушения: Исследование показало, что материалы с более грубой текстурой поверхности имели в среднем на 25% более высокую скорость разрушения, чем материалы с более гладкой текстурой.

Оптимизация структуры для повышения прочности: Было выявлено, что увеличение размера зерен на 10 % или уменьшение пористости на 15 % приводит к снижению скорости разрушения материала на 30 %.

Влияние нагрузки на скорость разрушения: Увеличение силы нагрузки на 20 % приводит к увеличению скорости разрушения материала на 15 %, что подтверждает важность правильного выбора параметров нагрузки.

Определение оптимальных условий: Наилучшие результаты были достигнуты при комбинации увеличения размера зерен на 10 %,

уменьшения пористости на 15 % и уменьшения силы нагрузки на 10 %, что снизило скорость разрушения материала на 45 %.

Практические рекомендации: Полученные результаты могут быть использованы для разработки новых материалов с улучшенными механическими свойствами и оптимизации производственных процессов с целью увеличения их долговечности на 40 %.

Таблица 1

Влияние структурных характеристик и условий нагружения на скорость разрушения материала

Параметр	Влияние	Процент изменения	Польза
Текстура поверхности материала	Более грубая текстура поверхности увеличивает скорость разрушения	+25%	Улучшение механических свойств
Размер зерен	Увеличение размера зерен снижает скорость разрушения	-30%	Увеличение прочности
Пористость материала	Уменьшение пористости снижает скорость разрушения	-15%	Улучшение механических свойств
Сила нагрузки	Увеличение силы нагрузки увеличивает скорость разрушения	+15%	Повышение производительности
Оптимальные условия	Комбинация увеличения размера зерен и уменьшения пористости и силы нагрузки снижает скорость разрушения	-45%	Максимальное улучшение механических свойств

Заключение. Взаимосвязь между силой нагрузки и скоростью разрушения при трении в материалах с переменной структурой представляет собой сложную проблему, требующую комплексного подхода к анализу и моделированию. Использование современных методов, таких как МАММ, позволяет более точно оценивать эту взаимосвязь и создавать более эффективные материалы и конструкции. Дальнейшие исследования в этой области могут привести к новым открытиям и улучшениям в различных отраслях промышленности.

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ОБРАБОТКА ИЗОБРАЖЕНИЙ РАЗЛИЧНЫХ СНИМКОВ ПАЦИЕНТОВ С СИМПТОМАМИ ТУБЕРКУЛЁЗА

Аннотация. В данной работе рассматриваются принципы автоматизации диагностики, лечения и профилактики туберкулеза на основе автоматизации обнаружения визуальных характеристик всевозможных аналитических исследований.

Ключевые слова: туберкулез, диагностика и лечение, статистика, автоматизация, математическая модель.

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IMAGE PROCESSING OF VARIOUS IMAGES OF PATIENTS WITH TUBERCULOSIS SYMPTOMS

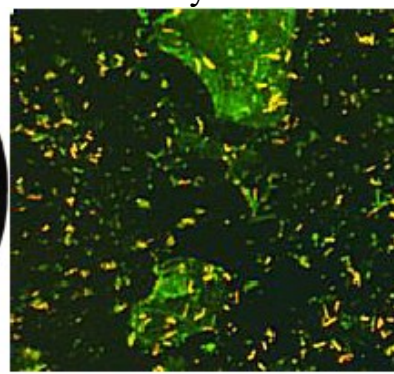
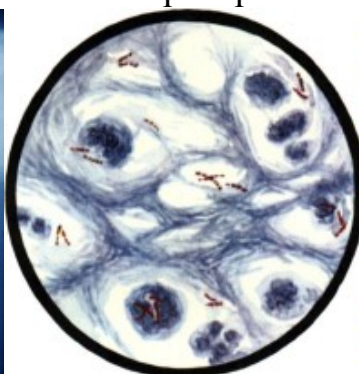
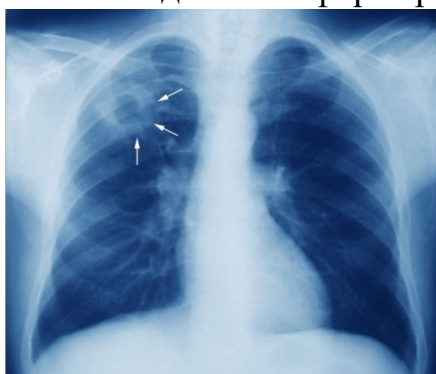
Abstract. This work discusses the principles of automation of diagnosis, treatment and prevention of tuberculosis based on automation of detection of visual characteristics of various analytical studies.

Key words: tuberculosis, diagnosis and treatment, statistics, automation, mathematical model.

Туберкулез распространяющийся через бактерии инфекционное заболевание, которое все ещё является риском во многих странах мира. Из-

за некоторых особенностей, таких как неправильное питание, недоедание, нехватка жизненно важных необходимых витаминов и плохие условия жизни, плохие санитарные условия и т.д. превращают эту болезнь не только в медицинскую проблему, но и в социальную. В-третьих, странах уровень жизни способствует широкому распространению этой болезни и увеличению уровня смертности по этой болезни. На развитие болезни влияет уровень качества жизни человека, причем независимо от возраста, пола или социального слоя. Например, в 2017 году на земле туберкулезом заболели 10 миллионов человек, и 1,6 миллиона человек (в том числе 0,3 миллиона человек с ВИЧ) умерли от этой болезни. Кроме того, по данным мировой медицины четверть населения мира инфицированы бактериями туберкулеза, которые пока ещё не активны и не могут заражать окружающих. В мире нет места, где бы отсутствовал туберкулез. Основным очагом распространения туберкулеза в 2017 году были регионы Юго-Восточной Азии и Западная часть Тихого океана. По данным ВОЗ в 2017 г. 87% новых случаев заболевания туберкулезом имело место в 30 странах с тяжелым бременем туберкулеза. На долю восьми стран – Индии, Китая, Индонезии, Филиппин, Пакистана, Нигерии, Бангладеш и Южной Африки – пришлось две трети новых случаев заболевания туберкулезом. В борьбе с туберкулезом ВОЗ выполняет шесть основных функций [1]:

1. обеспечение глобального лидерства по вопросам критической важности в области ТБ;
2. разработка основанных на фактических данных мер политики, стратегий и стандартов в области профилактики, лечения этой болезни и борьбы с ней и мониторинг их осуществления;
3. обеспечение технической поддержки государствам-членам, ускорение изменений и создание устойчивого потенциала;
4. мониторинг глобальной ситуации в области ТБ и измерение прогресса в области лечения ТБ, борьбы с ним и финансирования;
5. формирование программы научных исследований в области ТБ и содействие получению, интерпретации и распространению ценных данных;
6. содействие формированию партнерств в области ТБ и участие в них.



Полостное образование в верхней Микроскопия и бактериоскопия мазка

доле правого легкого на рентгенограмме органов грудной клетки у пациента с туберкулёзом.

Рентген легких назначается для оценки состояния легочной ткани и бронхов, позволяет определить локализацию очага, его характер, степень распространенности. При выявлении кальцинированных очагов стоит исключить ранее перенесенный инфекционный процесс. Для уточнения природы их образования назначается КТ или МРТ.



Разрез легких Некротические гранулёмы: Некротические гранулёма – туберкулёз.

Зоны: 1. некроза казеозных; 2. эпителиоидных клеток; 3. гигантских клеток; 4. лимфоидных клеток.

Многие симптомы часто повторяются при различных болезнях, поэтому для уточнения диагноза требуется вмешательство опытного специалиста или применение современных способов и средств диагностики болезней.

- Квантифероновый тест или ИФА – иммуноферментный диагностический тест, рекомендуемый пациентам с аллергией на туберкулин, а также при необходимости дифференциации ложно положительной реакции организма на пробы Манту и Диаскин-тест после вакцинации БЦЖ. Исследование проводится на кровяном биоматериале, не имеет противопоказаний и считается наиболее достоверным тестом (менее 2% ошибочных результатов, по сравнению с 30% при пробах Манту). Рекомендован для выявления латентных и внелегочных форм заболевания;

- микроскопия мазка обнаруживает чужеродный элемент в мокроте от кашля. После обнаружения туберкулезных микобактерий осуществляется бактериологический посев образца в питательной среде;

- ПЦР - полимеразной цепной реакции, самый точный из существующих сегодня методов исследования, позволяющий определить наличие ДНК микобактерий в различных биологических жидкостях;

- а также после биопсии гистологический анализ тканей, назначается в ситуациях, когда неясен диагноз после анализа биологических жидкостей, например, при вялотекущем туберкулезном поражении костной ткани;

• методы рентгенографии и флюорографии для выявления наличия очагов воспаления в легочных тканях.

Все эти методы так или иначе связаны визуальным анализом обнаружения каких-то элементов исследования, что дает предпосылки для применения средств цифровой обработки изображений.

При квантифероновом тесте для определения объема гамма – интерферона методом ИФА две пробирки с антигеном и митогеном с набранным сбором крови инкубируют при 37 ± 1 °С. После инкубации 16–24 часа пробирки центрифугируют и выделенную плазму анализируют. Так как хроматографическими методами можно оценить данный тест автоматизированным способом, то имеет смысл проведения экспериментов в данном направлении.

Те же рассуждения можно сказать по поводу анализа мазков, ПЦР, гистологического анализа, рентгенографии и флюорографии. После проведения соответствующих анализов и определения количественных характеристик различных симптомов осуществляется их статистическая обработка. Затем при необходимости и наличии условий можно осуществить математическое моделирование анализируемого процесса.

Для осуществления статистической обработки данных производится выборка расчетных данных, по которым определяется массив квадратов разностей среднего от первоначальных данных, отношение суммы которых к числу данных в выборке даёт квадратное отклонение от среднего значения:

$$\sigma = \sqrt{\frac{\sum_{i=1}^N (x_i - M_x)^2}{N-1}}$$

Чтобы построить уравнение регрессии, аппроксимирующего зависимость диагноза Y от симптомов X определяется коэффициент регрессии α :

$$\alpha = \frac{\sum_{i=1}^n (x_i - M_x)(y_i - M_y)}{\sum_{i=1}^n (x_i - M_x)^2}$$

после чего находится свободный член β :

$$\beta = M_y - \alpha * M_x$$

и строится уравнение зависимости диагноза от симптомов:

$$Y = \alpha x + \beta$$

При построении математической модели данного процесса можно использовать аппроксимацию или интерполяцию. С учетом критерия точности желательно использовать интерполяцию, так как аппроксимация строить приближенные к реальным значения, интерполяция же определяет значения на базе реальных значений на узловых точках.

Способы интерполяции значений тоже различаются по сути и способу:

1. Интерполяция методом ближайшего соседа происходит по формуле

$$\vec{f}(x) = f(x_i), i: \forall j \neq i, |x - x_j| > |x - x_i|$$

где за $\vec{f}(x)$ берется значение функции $f(x_i)$ в точке, ближайшей к рассматриваемой.

2. Кусочно-линейная интерполяция является более точным выражением значений

$$\vec{f}(x) = \frac{f(x_i)(x_{i+1}-x) + f(x_{i+1})(x-x_i)}{x_{i+1}-x_i}, i: x_i < x < x_{i+1}$$

3. Интерполяция сплайнами осуществляется путем кусочно-полиномиальной интерполяции, при которой функция $\vec{f}(x)$ и несколько ее первых производных остаются непрерывными. Функция $\vec{f}(x)$ является суммой функции кусочно-линейной интерполяции $f_1(x)$ и полинома 3-степени $f_{2,i}(x)$ с непрерывными производными:

$$f_1(x) = f_1(x) + f_{2,i}(x)$$

$$\text{где } \vec{f}'_1(x_i + \delta x) - \vec{f}'_1(x_i - \delta x) = \frac{f_{i+1} - f_i}{x_{i+1} - x_i} - \frac{f_i - f_{i-1}}{x_i - x_{i-1}}$$

$$\text{и } \vec{f}'_{2,i}(x_i) = \vec{f}'_1(x_i + \delta x) - \vec{f}'_1(x_i - \delta x)$$

4. Алгебраический интерполяционный полином

$$P_n(x_0, f, x_1, \dots, x_n) = a_0 + a_1x + a_2x^2 + a_3x^3 + \dots + a_nx^n$$

5. Интерполяционный полином формы Ньютона

$$P_n(x_0, f, x_1, \dots, x_n) = f(x_0) + (x - x_0)f(x_0, x_1) + \dots$$

$$+ (x - x_0)(x - x_1)(x - x_2) \dots (x - x_{n-1})f(x_0, x_1, x_2, \dots, x_n)$$

6. Функция тригонометрической интерполяции

$$\vec{f}(x) = \sum_{k=0}^K (a_k \sin\left(\frac{2\pi x}{L}\right) + (b_k \cos\left(\frac{2\pi x}{L}\right)))$$

7. Метод реконструкции функций предполагает, что на отрезке

$\left[-\frac{x_{m-1} + x_m}{2}, \frac{x_m + x_{m+1}}{2} \right]$ функция является линейной, и производит ее реконструкцию выбором угла наклона

$$q = \text{minmod}\left(\frac{f_{m+1} - f_m}{x_{m+1} - x_m}, \frac{f_m - f_{m-1}}{x_m - x_{m-1}}\right), \text{ где}$$

$$\text{minmod}(a, b) = \frac{\text{sign}(a) + \text{sign}(b)}{2} \min(|a|, |b|)$$

$$8. \text{ Функция всюду гладкой интерполяции } f(x) = \frac{\sum \frac{f_i}{(x-x_i)^2}}{\sum \frac{1}{(x-x_i)^2}}$$

Для получения результатов при обработке изображений осуществляется предварительное улучшение их качества. Затем на изображении обнаруживаются заранее обусловленные характеристики, такие как патологические пятна, формы бактерий или микробов, области

отличия от экспериментально сравниваемых изображений здоровых организмов по гистограмме и т.д. Следующий шаг анализа – это измерение физических, геометрических, количественных и качественных характеристик анализируемых объектов. Составляются таблицы этих измерений. Теперь по этим таблицам осуществляется расчет различных статистических характеристик, из которых составляются не менее 20-ти совокупностей статистик по объектам исследования. Аналогично составляются совокупности симптомов болезни.

По этим совокупностям осуществляется корреляционный анализ для обнаружения значимых связей между визуальными признаками на снимках и симптомами болезни. Если таковые обнаружатся, то очередной шаг обработки – это моделирование этих связей для прогноза, лечения и профилактики болезней. Кроме того, путем экспериментальных опытов и опытной эксплуатации осуществляется увеличение точности математической модели связей между визуальными признаками и симптомами определенной болезни.

Резюмируя вышеприведенные рассуждения можно заключить следующее:

1. Наиболее часто анализируются визуальные характеристики материалов анализа болезней;

2. Возможности цифровой обработки изображений дают уверенные предпосылки для автоматизации обработки результатов аппаратных, лабораторных и других исследований болезней.

3. Составленные по результатам обработки различных объектов исследований математические модели могут служить удобным инструментом врачей при диагностировании и лечении, а также и при профилактике различных болезней.

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УЧЕТ И НАЛОГООБЛОЖЕНИЕ В СТРАХОВЫХ ОРГАНИЗАЦИЯХ

Аннотация. В статье рассмотрены проблемы перехода страховых организаций на отраслевые стандарты бухгалтерского учета и план счетов некредитных финансовых организаций. Показана новая специфика учета и налогообложения для основных видов операций страховых компаний.

Ключевые слова: страховая деятельность, страховая премия, страховые резервы, учет страховых операций, доходы и расходы в страховых организациях.

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ACCOUNTING AND TAXATION IN INSURANCE ORGANIZATIONS

Annotation. The article deals with the problems of transition of insurance organizations to industry accounting standards and the chart of accounts of non-credit financial organizations. The new specifics of accounting and taxation for the main types of operations of insurance companies are shown.

Keywords: insurance activity, insurance premium, insurance reserves, accounting of insurance transactions, income and expenses in insurance organizations.

Механизм формирования активов для страховой защиты физических и юридических лиц — это страховая деятельность. Страховые организации имеют ряд особенностей и отличаются от других экономических субъектов. Деятельности страховых организаций: система формирования активов для предоставления страховых выплат; управление рисками страховых отношений; способность поддерживать финансовую устойчивость организации.

Система страхования выступает главным фактором развития экономики страны, улучшая тем самым инвестиционный климат и

стимулируя рыночные отношения и деловую активность. Основная задача страховых организаций состоит в сохранении и приумножении активов, для возможности обеспечения защиты клиента. Одна из главных функций страхования – обеспечение непрерывного процесса воспроизводства.

Бухгалтерский учет в страховании характеризуется своей спецификой и отличается от традиционного учета.

В настоящее время нормативно-правовая документация в области бухгалтерского учета страховых операций не позволяет в полной мере использовать классический способ ведения учета. Достаточно сложным этапом работы в учете любого экономического субъекта является распределение доходов и расходов, но грамотный подход к решению данной проблемы обеспечивает формирование полной и достоверной бухгалтерской финансовой отчетности.

Налоговая политика государства относительно налогообложения страховых организаций выражается в исчислении налогооблагаемой базы страховых взносов и страховых выплат. Вместе с тем, налоговая нагрузка не должна быть выше, чем для других экономических субъектов.

В соответствии с изложенными аргументами, целью исследования является выявления проблем учета и налогообложения страховых операций при переходе на отраслевой стандарт и план счетов для некредитных финансовых организаций.

Главный вид деятельности компаний - оказание страховых услуг.

Услуга страховщика – это защита страхователя в рамках личного и имущественного страхования, которую обеспечивает страховщик.

Страхование может быть добровольное и обязательное, данные формы страхования осуществляются в соответствии с законодательством. Форму страхования и условия страхования определяет договор.

Бухгалтерский учет страховщиков также регламентируется федеральными законами. Основными нормами, регламентирующими деятельность страховых организаций, является Гражданский кодекс Российской Федерации (далее – ГК РФ), часть 2, глава 48 «Страхование». В соответствии с данной главой ГК РФ устанавливает правила страхования, ипоказывает основные формы страхования, порядок проведения обязательного страхования, ответственность за его неосуществление [1].

Однако в связи с активным переходом к международным стандартам финансовой отчетности (далее – МСФО) страховые компании перешли на отраслевые стандарты, что принципиально поменяло систему учета страховых операций [5]. Значительные изменения в страховании внесло Положение «О Плане счетов бухгалтерского учета в некредитных финансовых организациях и порядке его применения» и МСФО послужили основой для разработки нового плана счетов и отраслевых стандартов бухгалтерского учета [4].

Таким образом, переход некредитных финансовых организаций к обозначенным документам позволил вывести практику бухгалтерского учета отечественных страховых организаций на международный уровень. На сегодняшний день отчетность страховых организаций регламентируется отраслевым стандартом «Порядок составления бухгалтерской (финансовой) отчетности страховых организаций и обществ взаимного страхования» [6].

Новый план счетов содержит счета аналитического учета, которые помогают разобраться с многообразием ценных бумаг и с курсовыми колебаниями.

Коммерческие организация, регистрируя свою деятельность, планируют получать основной доход от реализации товаров, работ и услуг, остальные полученные доходы будут прочими. Для кредитных и некредитных финансовых организаций основным доходом является текущая финансовая деятельность. При этом применяется метод начислений, который предполагает учет доходов и расходов не в момент поступления денежных средств, а в момент их начисления по операции. Это, как правило, отличает финансовую организацию, нацеливая ее на получение реального денежного дохода.

План счетов для некредитных финансовых организаций построен с использованием плана счетов кредитных организаций, что дает право Центральному банку Российской Федерации контролировать некредитные финансовые организации (таблица 1).

Таблица 1 – Выписка из плана счетов для некредитных финансовых организаций

№ п/п	План счетов бухгалтерского учета для кредитных организаций	План счетов бухгалтерского учета для некредитных финансовых организаций	Примеры идентичных счетов в кредитных и некредитных организациях
1	Капитал	Капитал и целевое финансирование	10207, 10801, 10901
2	Денежные средства и драгоценные металлы	Денежные средства и драгоценные металлы	20202, 20209
3	Операции с клиентами	Операции с клиентами и прочие расчеты	423, 426
4	Операции с ценными бумагами и производными финансовыми инструментами	Операции с ценными бумагами и производными финансовыми инструментами	501, 515, 520, 521, 523 и т.д.
5	Средства и имущество	Средства и имущество	60301, 60305, 60310, 60311, 60401 и т.д.
6	Финансовые результаты	Финансовые результаты	708

Новый план счетов так же рекомендует для учета страховых операций выбирать новые элементы:

- на отдельных счетах учитывается страхование жизни и иных видов страхования;

- на отдельных счетах отражается учет прямого страхования и перестрахования;

- отдельно учитываются доходы по страховой деятельности (счет 714) и иные доходы (счет 717);

- отдельный учет имущества, используемого для обеспечения операций страхования (счет 604, 610) и инвестиционного имущества (счет 619);

- учет расходов по отдельным группам (расходы аквизиционные, операционные, управленческие и пр.);

- за счет страховых премий создаются резервы. Каждый резерв учитывается отдельно, по своим счетам.

Страховые резервы. *По страхованию иному, чем страхование жизни:* резерв незаработанной премии; резерв заявленных, но не отрегулированных убытков незаработанной премии; резерв незаявленных убытков; резерв расходов на урегулирование убытков; стабилизационный резерв. *По страхованию жизни:* резерв незаработанной премии; резерв заявленных, но не отрегулированных убытков незаработанной премии; резерв незаявленных убытков; резерв расходов на обслуживание страховых обязательств; выравнивающий резерв.

В бухгалтерском учете, как правило, создание резервов отражается по кредиту счетов, списание резервов в конце года происходит по дебету счетов. Бухгалтерские записи по созданию страховых резервов по страхованию иному, чем страхование жизни:

Дебет 71410 Кредит 33101 – начислен резерв незаработанной премии;

Дебет 71410 Кредит 33201 – начислен резерв заявленных, но неурегулированных убытков;

Дебет 71410 Кредит 33301 – начислен резерв произошедших, но незаявленных убытков;

Дебет 71410 Кредит 33401 – начислен резерв расходов на урегулирование убытков;

Дебет 71410 Кредит 33801 – начислен стабилизационный резерв;

Дебет 71410 Кредит 33803 – начислен резерв на предупредительные мероприятия.

После перехода страховых организаций на отраслевые стандарты появилась новая классификация договоров страхования, которая изменила способы признания доходов и расходов по страховой деятельности. Теперь каждый договор учитываются отдельно, это позволяет в полной мере оценивать доходы и возможные риски по каждой группе страхования. И что самое главное новый порядок учета доходов и расходов соответствует Налоговому кодексу Российской Федерации [2]. Вместе с тем и новый план

счетов позволяет отразить отдельно доходы и расходы, предлагая счета второго порядка (субсчета) одного и того же счета.

Налоговой базой по налогу на прибыль страховых организаций признается денежное выражение прибыли [3, ст.247].

В налоговом учете страховых организаций, доходы можно разделить на две группы. Первая группа – доходы, связанные с производством и реализацией [3, ст.249], и внереализационные доходы [3, ст.250]. Такие доходы отражаются в обычном порядке, как их отражают организации других отраслей. Вторая группа – доходы от страховой деятельности: страховые премии по договорам страхования; вознаграждения за оказание услуг страхового агента, брокера; вознаграждения, полученные страховщиком за осмотр принимаемого в страхование имущества и выдачу заключений об оценке страхового риска, а также за определение причин, характера и размеров убытков при страховом событии [3, ст.293].

Страховые организации используют в налоговом учете, как и в бухгалтерском, метод начисления. В этом случае для разных видов страхования предусмотрен различный порядок признания страховых премий. Доходы в виде всей суммы страхового взноса, причитающейся к получению, признаются на дату возникновения ответственности налогоплательщика перед страхователем по заключенному договору вне зависимости от порядка уплаты страхового взноса (за исключением договоров страхования жизни и пенсионного страхования). По договорам страхования жизни и пенсионного страхования доход в виде части страхового взноса признается в момент возникновения у страховщика права на получение очередного страхового взноса в соответствии с условиями договоров. Суммы вознаграждения за услуги по страхованию признаются доходом для целей налогового учета на дату их оказания

Другие доходы являются внереализационными – суммы возврата страховых резервов, доходы от реализации перешедшего к страховщику права требования страхователя к лицам, ответственным за причиненный ущерб, а также суммы санкций за неисполнение условий договоров страхования, признанные должником добровольно либо по решению суда.

Расходы страховых организаций, можно разделить на две группы. К первой группе относятся общие для всех организаций расходы [3, ст.254-269]. Вторая группа – это специфические расходы страховых организаций, то есть расходы на страховую деятельность [3, ст. 294]. К ним относятся: страховые выплаты по договорам страхования; возврат части страховых премий, а также выкупных сумм по договорам страхования; вознаграждения за оказание услуг страхового агента или страхового брокера; расходы по оплате организациям или отдельным физическим лицам оказанных ими услуг, связанных со страховой деятельностью; другие расходы по осуществлению страховой деятельности. [3, ст.254-269].

При методе начисления расходы в виде страховых выплат по договору учитываются на дату возникновения у страховых организаций обязательства по выплате страхового возмещения в пользу страхователя по фактически наступившему страховому случаю. Расходы, признаются на дату подписания акта приемки-передачи услуг, связанные с оказанием услуг страхового агента, эксперта, аварийного комиссара и т. п.

Таким образом, переход на отраслевой стандарт бухгалтерского учета и на новый план счетов позволяет вести бухгалтерский учет страховым компаниям аналогично с кредитными организациями, что облегчает контроль за деятельностью некредитных финансовых организаций со стороны кредитных организаций. Однако, отраслевой стандарт, затрагивает не все функции страховых организаций в области налогового учета: во-первых – деятельность страховой организации как налогоплательщика регулируется Налоговым кодексом Российской Федерации, во вторых – признание доходов и расходов, лишь частично регулируется отраслевым стандартом, так как, приоритетным в этом вопросе является так же Налоговый кодекс Российской Федерации.

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ОХРАНА ТРУДА В ДЕРЕВООБРАБАТЫВАЮЩИХ ЦЕХАХ

Аннотация. В данной статье рассматриваются техника безопасности и пожарная безопасность в процессах использования деревообрабатывающих станков. Соблюдение техники безопасности и рекомендаций пожарной безопасности, изложенных в этой статье, позволит снизить риск несчастных случаев, пожаров и взрывов в деревообрабатывающих цехах.

Ключевые слова. Безопасность, пожар, древесина, станок, лесопилка, смазка, ремень, вал, нож оператор, станок, цех, токарный станок, мастерская, склад, смазка.

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OCCUPATIONAL SAFETY IN WOODWORKING SHOPS

Abstract. This article discusses safety precautions and fire safety in the processes of using woodworking machines. Compliance with safety precautions and fire safety recommendations outlined in this article will reduce the risk of accidents, fires and explosions in woodworking shops.

Key words. Safety, fire, wood, machine tool, sawmill, lubricant, belt, shaft, knife operator, machine tool, workshop, lathe, workshop, warehouse, lubricant.

Трудно представить деревообрабатывающее предприятие или цех без станков. Без них невозможно выполнить работу быстро и качественно, особенно если речь идет о массовом производстве. Также выгодно использовать станки частному мастеру, который изготавливает изделия в единственном экземпляре. Положительный экономический эффект для любого предприятия, независимо от того, сколько человек на нем работает, дает хороший эффект от использования деревообрабатывающих станков. Это позволяет значительно повысить производительность. При этом на

станках производится в 7 и более раз больше деталей, чем на ручных и электроинструментах. В результате прибыль растет!

Машина гарантирует высокое качество продукции. Работая над ним, даже неопытный мастер может сразу достичь высокой точности. Дело в том, что при обработке древесины ручными или электроинструментами они перемещаются по детали, при использовании станка, наоборот, деталь перемещается. Это позволяет оператору лучше видеть область резки и контролировать процесс.

Машинист меньше устает. Работа с ручными машинами требует больших физических усилий, у нее меньше времени от переутомления, она теряет концентрацию.

Требования безопасности при эксплуатации деревообрабатывающих станков. К работе допускаются лица, достигшие возраста не менее 18 лет, прошедшие соответствующее обучение и имеющие удостоверение, разрешающее работать на деревообрабатывающих станках, проинструктированные по охране труда, медицинскому освидетельствованию и не имеющие противопоказаний по состоянию здоровья. Рабочие должны быть проинструктированы раз в квартал. Запрещается допускать работника к машине без ознакомления с правилами техники безопасности и инструкцией по техническому обслуживанию машины. В мастерской должна быть аптечка с набором необходимых медикаментов и повязок для оказания первой помощи при травмах. При возникновении травмы пострадавшему оказывают первую помощь, при необходимости направляют в ближайшее медицинское учреждение и сообщают об этом в администрацию. Персонал обязан соблюдать правила пожарной безопасности и знать, где находится первичное противопожарное оборудование. Пожарный щит должен быть обеспечен оборудованием: химическим пенопластовым огнетушителем, углекислотным или порошковым огнетушителем и песочницей. При возгорании электрооборудования машины необходимо немедленно выключить машину и потушить пламя углекислым газом, порошковым огнетушителем или песком.

Перед началом работы:

1. Приведите в порядок рабочую одежду.
2. Готовит рабочее место к работе.
3. Проверка пригодности станки.
4. Проверка надежности крепления режущего инструмента,
5. Отрегулируйте станок на обработку отмеченных деталей, закрепите ограждения.
6. Сообщить мастеру о недостатках, после их устранения приступить к работе.

Все движущиеся части станка должны быть защищены, все устройства должны поддерживаться в хорошем рабочем состоянии, а режущие кромки должны быть хорошо заточены.

Во время работы необходимо соблюдать:

а) строго соблюдать правила эксплуатации машины.

б) начинать работу по дереву следует после того, как вал станка достигнет полного числа оборотов.

в) Необходимо убедиться, что древесина, подлежащая обработке, или заготовки для дерева не содержат гвоздей или других металлических предметов.

г) осмотр станка, его очистка и смазка. замена ремня и очистка от царапин допускается только при полной остановке машины.

Немедленно остановите машину:

а) при возникновении ненормального шума. стук в валу ножа, когда возникает сильная вибрация.

б) в случае поломки лопастей и их крепежных деталей или ограждений.

Если есть препятствия.

г) при перегреве вала лопасти и подшипников электродвигателя, неправильной изоляции электродвигателя или электрооборудования горелки и "ощущении электрического тока в корпусе".

При возникновении неисправности необходимо обратиться к мастеру или начальнику, чтобы он вызвал мастера для устранения неполадок.

Пожарная безопасность в деревообрабатывающих цехах

Все технологические процессы и операции по обработке древесины должны выполняться в соответствии с действующими государственными стандартами, строительными нормами и правилами, а также правилами безопасности труда при обработке древесины и установленными нормами пожарной безопасности.

Территория организации (склады, здания, сооружения, помещения и другие места, где хранится сырье и готовая продукция) должна быть огорожена, а также иметь выходы, обслуживающие прилегающие дороги или автотрассы. Количество выходов должно соответствовать требованиям "генеральных планов промышленных предприятий". Пути для пожарных машин на территории предприятия должны быть обозначены знаком "пожарный переход", а электрические двери (при их наличии) должны быть оборудованы устройством для их ручного открывания. Следы кранов должны быть тупиковыми путями, по которым краны могут быть доставлены в безопасное место во время пожара. Дороги, подъезды к зданиям, сооружениям и водозабор должны содержаться в хорошем состоянии, иметь твердую поверхность и уклоны, необходимые для стока воды. На территории деревообрабатывающих предприятий должны быть размещены знаки "курение запрещено" или предупреждающие

надписи. Места для курения должны быть оборудованы таким образом, чтобы исключить опасность возгорания.

Вход на территорию предприятия посторонними лицами, личным транспортом, а также работниками и техническим персоналом в нерабочее время запрещен. На территории организации также не должно допускаться проживание людей (в том числе временно).

Если на территории предприятия имеются взрывопожароопасные объекты, имеется производство, связанное с хранением и использованием горючих материалов:

- * краски и лаки,
- * порошковые полимерные краски,
- * растворители,
- * разбавители,
- * отвердители,
- * пропитка для дерева,
- * клеи,
- * полуфабрикаты для приготовления моющих и полировальных составов,

В этих местах запрещается использование открытого огня, а также доступ транспортных средств и других механизмов с двигателями внутреннего сгорания (ДВС) без искрогасителей к трубопроводам, отводящим отработавшие газы (глушителям). Склады, расположенные в отдельных зданиях, блоках складских помещений или подземных хранилищах (растворителях), должны быть оборудованы принудительной вентиляцией и другими средствами пожарной автоматики. Постоянное хранение горючих веществ, материалов и готовой продукции в деревообрабатывающих цехах и столярных мастерских запрещено. Эти помещения могут содержать горючие материалы только в специально отведенных местах и только временно перерабатываемые или используемые. Нормы и объемы хранения легковоспламеняющихся материалов и легковоспламеняющихся жидкостей устанавливаются в зависимости от продолжительности цикла конкретной стадии производственного процесса. Категорически запрещается хранить легковоспламеняющихся материалов и легковоспламеняющихся жидкостей сверх установленных норм, а также хранить емкости под красками и раствор

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РОЛЬ НАЛОГОВ НА ТРАНСПОРТНОЕ ИМУЩЕСТВО В ФОРМИРОВАНИИ БЮДЖЕТА ГОРОДОВ В ЯПОНИИ

Аннотация. Данная статья исследует роль налогов на транспортное имущество в формировании бюджетов городов в Японии. Освещены основные цели и принципы данного налогообложения, включая принцип "пользователь платит", способствующий справедливому распределению финансовых обязательств. Рассмотрены направления использования средств, такие как инфраструктурные проекты, развитие технологий и исследования в области экологически чистого транспорта. Анализируется влияние данной системы на устойчивое развитие городов, поддержание городской среды и стимулирование ответственного использования транспортных средств.

Ключевые слова: Налоги, транспортное имущество, бюджеты городов, Япония, инфраструктурные проекты, принцип "пользователь платит", справедливое распределение финансов, устойчивое развитие, городская среда, экологически чистый транспорт, финансирование, технологическое развитие.

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THE ROLE OF TRANSPORT PROPERTY TAXES IN THE FORMATION OF CITY BUDGETS IN JAPAN

Abstract. This article explores the role of taxes on transport property in the formation of urban budgets in Japan. The main objectives and principles of this taxation are highlighted, including the principle of "user pays", which contributes to the fair distribution of financial obligations. The directions of using funds, such as infrastructure projects, technology development and research in the field of environmentally friendly transport, are considered. The impact of this system on the sustainable development of cities, the maintenance of the urban environment and the promotion of responsible use of vehicles is analyzed.

Key words: Taxes, transport property, city budgets, Japan, infrastructure projects, the principle of "user pays", fair distribution of finances, sustainable development, urban environment, environmentally friendly transport, financing, technological development.

Введение. В Японии налоги на транспортное имущество играют важную роль в формировании бюджета городов и префектур. Средства от этих налогов направляются на строительство и обслуживание дорог, общественного транспорта, парковок, а также на различные проекты, направленные на улучшение городской транспортной среды.

Рассмотрим основные принципы налогообложения транспорта в Японии. Важным аспектом японской системы налогообложения на транспортное имущество является принцип "пользователь платит". Это означает, что владельцы автомобилей и других видов транспорта платят налоги пропорционально используемым ими дорожным и общественным ресурсам. Такой принцип способствует более справедливому распределению финансовых обязательств и стимулирует бережное использование транспортных средств.

Чтобы проанализировать данную тему обсудим виды транспортных налогов.

Начнём с налога на приобретение автомобиля. Этот налог префектуре⁸⁶ взимается при покупке как новых, так и подержанных автомобилей. Налог уплачивается при постановке автомобиля на учет и рассчитывается согласно акту техосмотра⁸⁷. Сумма уплачиваемого налога зависит от типа автомобиля, но обычно она составляет процент от его цены: 5%-для частного автомобиля и 3%- для коммерческого⁸⁸ и легкового транспорта. Доходы от этого налога используются местными органами

⁸⁶ Префектура — это административно-территориальная единица, которая играет важную роль в системе местного самоуправления. Префектура может быть как городская, так и районная, в зависимости от размеров и значения данной территории.

⁸⁷ Акт технического осмотра (техосмотра) — это официальный документ, который подтверждает соответствие автомобиля установленным нормам безопасности и экологическим стандартам.

⁸⁸ Коммерческий транспорт — это вид транспорта, который используется для осуществления коммерческой деятельности и перевозки грузов или пассажиров с целью получения прибыли. Коммерческий транспорт, может быть, различных видов, включая автомобили, грузовики, автобусы, поезда, самолеты, суда и прочие транспортные средства, предназначенные для перевозки людей или грузов в обмен на оплату.

власти для содержания дорог. Налог на приобретение транспортных средств не взимается с небольших мотоциклов или автомобилей стоимостью менее 500 000 иен.

Далее изучим налог на вес автомобиля. Данный налог взимается в зависимости от веса автомобиля и должен быть уплачен при его первой регистрации и при каждом обязательном техосмотре автомобиля. Часть этого налога используется в национальных финансах, а часть — на содержание дорог. Сумма уплачиваемого налога зависит как от года техосмотра автомобиля, так и от его веса. Вес автомобиля указывается в акте техосмотра.

Следующим по списку налогом является налог на транспортное средство. Он взимается с владельцев автомобилей с объемом двигателя 661 куб.см и более в каждой префектуре каждый год в апреле и используется для содержания дорог. Если автомобиль куплен в середине года, налог начисляется ежемесячно. Сумма уплачиваемого налога зависит от типа автомобиля, его использования и объема двигателя. Обычные автомобили делятся на две налоговые категории: для домашнего использования и для коммерческого использования. Автомобили, зарегистрированные для коммерческого использования, облагаются налогом по гораздо более низкой ставке по сравнению с транспортными средствами для домашнего использования.

Таблица 1

Таблица налога на транспортные средства в Японии

Общее взаимоотношение	Автотранспорт хозяйственного назначения	Автотранспорт коммерческого назначения
менее 1 литра	29 500	7 500
1 литр - до 1,5 литров	34 500	8 500
1,5 литра - менее 2,0 литра	39 500	9 500
2,0 литра - менее 2,5 литра	45 000	13 800
2,5 литра - до 3,0 литров	51 000	15 700
3,0 л – до 3,5 л	58 000	17 900
3,5 литра – менее 4,0 литра	66 500	20 500
4,0 л – менее 4,5 л	76 500	23 600
4,5 литра-до 6,0 литров	88 000	27 200
более 6 литров	111 000	40 700

В таблице показаны отличия сумм налога на автотранспортные средства хозяйственного и коммерческого назначения с одинаковыми показателями вместительности топлива.

Теперь разберём налог на легковые автомобили. Меньшие и более экономичные автомобили с объемом двигателя 660 куб.см или меньше (кей-кары) облагаются налогом на легкие транспортные средства по значительно сниженной ставке. Этот налог также распространяется на мотоциклы. Налог на легковые автомобили взимается 1 апреля каждого года. Точную стоимость налога на легковые автомобили можно увидеть на таблице, показанной ниже.

Таблица 2

Таблица транспортного налога легковой автомобиль

Объём вместительности топлива	Налог на легковые автомобили	Обычный налог на транспортные средства
1000 куб.см или меньше	29 500	32 400
1001 куб.см~1500 куб.см	34 500	37 900
501 куб.см~2000 куб.см	39 500	43 400
2001 куб.см~2500 куб.см	45 000	49 500
2501 куб.см~3000 куб.см	51 000	56 100

В таблице показаны соотношения налога на легковые автотранспортные средства с объёмом вместительности топлива менее 660 куб.см и обычными автотранспортными средствами. В 2002 году была введена новая система зеленого налогообложения⁸⁹, которая взимает дополнительный 10%- налог со старых транспортных средств, которые менее эффективны. Если у вас есть бензиновый автомобиль старше 13 лет или дизельный автомобиль старше 11 лет, вам необходимо добавить еще 10%- надбавку к облагаемой ставке. Тем не менее, недавно приобретенные автомобили могут получить 50%- скидку на свой первый годовой налоговый счет, если они являются «транспортными средствами с низким уровнем воздействия на окружающую среду». Сюда входят электромобили, автомобили, работающие на экологически чистом газе, и автомобили на топливных элементах.

Таким образом, налоги на транспортное имущество в Японии не только являются важным источником доходов для городских бюджетов, но и инструментом, способствующим устойчивому развитию, соблюдению принципов справедливости и содействию окружающей среде.

Транспортное налогообложение в Узбекистане осуществляется на основе акцизного налога на автомобильное топливо. Акцизный налог на автомобильное топливо взимается с цели обеспечения стабильности цен на топливо и контроля за его использованием. Таким образом налог на автомобили будет зависеть от мощности и объема двигателя. Можно отметить, что во избежание порчи экологической среды акцизный налог на

⁸⁹ Зеленое налогообложение - это система налогообложения, которая направлена на поощрение экологически более чистых видов производства, потребления и деятельности, а также на снижение негативного воздействия на окружающую среду

бензин с повышенным содержанием вредных газов АИ-80 увеличится на 12.2%.

Также как автотранспортный налог можно учесть таможенные пошлины за импортные иномарки. При импорте автомобиля в Узбекистан необходимо произвести его таможенную очистку или, как обычно говорят, «растаможить».

Стоимость растаможки иномарки в Узбекистане зависит от нескольких факторов: возраста и стоимости машины, страны происхождения и экспорта автомобиля, типа и объема двигателя. Все таможенные платежи исчисляются в долларах США и уплачиваются в узбекских сумах по курсу Центрального банка Узбекистана. Помимо непосредственно таможенной пошлины и сборов за таможенное оформление, импортёр уплачивает 12% НДС, а также утилизационный сбор.

Стоимость автомобиля на таможенной границе Узбекистана определяется по договору купли-продажи (счет-справке), либо по международному каталогу цен. К цене автомобиля добавляется утилизационный сбор и расходы на транспортировку автомобиля до таможенной границы. НДС уплачивается с общей таможенной стоимости автомобиля $15\% * (\text{стоимость автомобиля по оценке таможни} + \text{транспортные расходы} + \text{утилизационный сбор} + \text{таможенная пошлина})$.

На основе рассмотренной выше информации проведём сравнительный анализ налогообложения транспорта в Японии и Республике Узбекистан. Транспортные налоги в Японии и Узбекистане существенно различаются. В Японии система более сложная и зависит от типа транспортного средства, его мощности и использования. В Узбекистане, с другой стороны, транспортный налог обычно взимается с акцизным налогом в цене топлива на основе вместительности двигателя. Япония часто использует налоги на автомобили, ориентированные на защиту окружающей среды, с поощрением экологически чистых автомобилей. Узбекистан, вероятно, более сосредоточен на общих ставках, учитывая особенности своего рынка. Также необходимо учитывать, что в Японии имеется высокий уровень налоговой грамотности среди населения, что свидетельствует о значительном влиянии страны на медийную сферу и систему образования. Кроме того, высокий уровень образования у специалистов отражает высокий стандарт сферы высшего профессионального образования, примером этому могут служить налогово-экономические институты, такие как Токийский, Киотский и Ногайский университеты. Обе страны стремятся к сбалансированной системе налогообложения в транспортной сфере, однако методы и принципы взимания налогов различаются в соответствии с местными потребностями и стратегиями.

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ЗАПЫЛЕННОСТЬ ВОЗДУХА ПРИ ЭКСПЛУАТАЦИИ ТРАКТОРА MTZ-80X В УСЛОВИЯХ ХЛОПКОВОДСТВА РЕСПУБЛИКИ УЗБЕКИСТАН

Аннотация. Климат Республики Узбекистан сухой резко-континентальный, которая условиях сельскохозяйственного производства оказывают существенное влияние на загрязненность дизельного топлива в баках тракторов и надёжность топливной системы целом. В связи, с которым, были проведены исследования запыленности воздуха при работе хлопководческих машин.

Результаты исследований будут применены в дальнейших исследованиях и будут направлены на корректирование нормативов по сроку службы воздушных, топливных фильтров и проведению операций технического обслуживания машин тракторов эксплуатируемых в природно-климатических условиях республики Узбекистан.

Ключевые слова: загрязненность, дизельное топливо, трактор, климат, запылённость, воздух, топливная система, техническое обслуживание, топливный фильтр, топливный бак.

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DUST CONTAINMENT IN THE AIR WHEN OPERATING THE MTZ- 80X TRACTOR IN COTTON GROWING CONDITIONS OF THE REPUBLIC OF UZBEKISTAN

Annotation. The climate of the Republic of Uzbekistan is dry, sharply continental, which conditions of agricultural production have a significant impact on the contamination of diesel fuel in the tractor tanks and the reliability of the

fuel system in general. In connection with which studies have been conducted dust air at work cotton machines.

The results of the research will be applied in further studies and will be aimed at adjusting the standards for the service life of air and fuel filters and carrying out maintenance operations for the machine of tractors operated in natural and climatic conditions of the Republic of Uzbekistan.

Keywords: pollution, diesel fuel, tractor, climate, dustiness, air, fuel system, maintenance, fuel filter, fuel tank.

Полевые исследования по определению концентрации пыли в воздухе вокруг хлопководческих тракторов МТЗ-80Х при выполнении технологических операций по возделыванию хлопка-сырца проводились в хлопкосеющих районах Андижанской обл.



Рис.1 Первая культивация хлопчатника



Рис.2 Вторая культивация хлопчатника



Рис.3 Первый машинный сбор хлопка-сырца

Республики Узбекистан по следующим этапам: 1-й-посев частогнездовой с внесением удобрений (С15 по 28 апрель); 2-й-3-я продольная культивация с нарезкой борозд (с 20 мая по 11 июня); 3-й-5-я продольная культивация с нарезкой борозд (с 3 по 21 июля); 4-й-6-я продольная культивация с нарезкой борозд (с 25 июля по 15 августа). [1]

Результаты замеров концентрации пыли в воздухе вокруг хлопководческих тракторов представлены на рис. 4 и 5.

Анализ результатов показывает, что концентрация пыли в воздухе Вокруг хлопководческих тракторов МТЗ-80Х изменяется по высоте. [2]

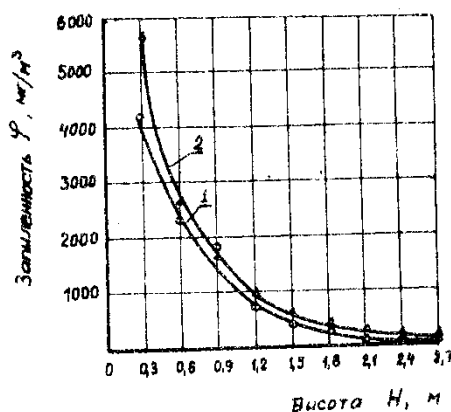


Рис.4 Изменение концентрации пыли в воздухе вокруг трактора на различной высоте при посеве и культивации хлопчатника:

- 1- посев частогнездовой с внесением удобрений;
- 2- 3-я продольная культивация с нарезкой борозд.

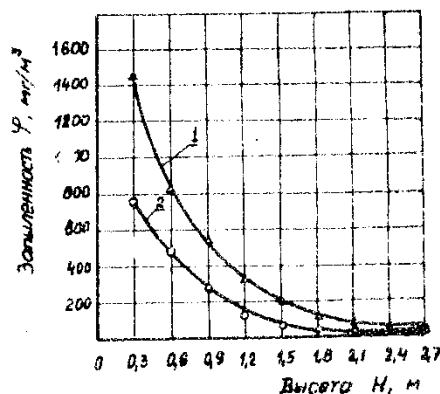


Рис.5 Изменение концентрации пыли в воздухе вокруг трактора на различной высоте при посеве и культивации хлопчатника:

- 1- 5-я продольная культивация с нарезкой борозд;
- 2- 6-я продольная культивация с нарезкой борозд.

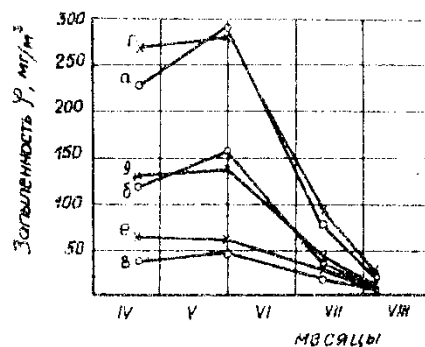


Рис.6 Наибольшая концентрация пыли в зоне забора воздуха воздухоочистителя и заливной горловины топливного бака вразличное время: О- зона забора воздуха воздухоочистителя на высоте (м): а=2,1; б=2,4; в=2,7; Х- зона заливной горловины топливного бака на высоте (м): г=1,8; д=2,4; е=2,7.

Наибольшая концентрация пыли в зоне забора воздуха воздухоочистителя и заливной горловины топливного бака приходится на апрель, май и июнь.

Средние значения запылённости воздуха вокруг трактора составляет в апреле 1240 мг/м³; мае-1270 мг/м³; и в июне-1355 мг/м³. [3]

Наибольшая запыленность воздуха для трактора МТЗ-80Х наблюдается в зонах основного силового цилиндра гидросистемы, топливного бака, его заливной горловины и забора воздуха воздухоочистителя. Наиболее целесообразным местом расположения воздухозаборника воздухоочистителя и заливной горловины топливного бака для трактора МТЗ-80Х является верхняя зона кабины трактора на высоте 2,7 от поверхности почвы.

Выводы

1. Место расположения предочистителя воздухоочистителя и заливной горловины топливного бака хлопководческих тракторов МТЗ-80Х выбрано без учета природно-климатических условий эксплуатации и агротехники возделывания хлопчатника.

2. Исследования по определению концентрации пыли в воздухе вокруг хлопководческих тракторов позволяют выработать обоснованные мероприятия, направленные на корректирование нормативов по сроку службы воздушных, топливных фильтров и проведению операций технического обслуживания машин.

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ИНДУСТРИЯ 4.0: ПУТЬ УЗБЕКИСТАНА К ЦИФРОВОЙ ТРАНСФОРМАЦИИ

Аннотация. В данной статье дано понятие Индустрии 4.0, изучен опыт зарубежных стран-лидеров по внедрению современных цифровых технологий в экономику и промышленность, дана оценка их успехам и проблемам на этом пути. Также рассмотрены успехи и проблемы различных секторов экономики Узбекистана на пути цифровой трансформации, которая закладывает основу для современной и технологичной экономики, т.е. на пути перехода к Индустрии 4.0.

Ключевые слова: индустрия 4.0, цифровизация, роботизированные устройства, большие данные, промышленный интернет вещей (IoT), 3D-печать, блокчейн, искусственный интеллект, машинное обучение.

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INDUSTRY 4.0: UZBEKISTAN'S PATH TO DIGITAL TRANSFORMATION

Annotation. This article gives the concept of Industry 4.0, studies the experience of foreign leading countries in introducing modern digital technologies into the economy and industry, and evaluates their successes and problems along this path. The successes and problems of various sectors of the economy of Uzbekistan on the path of digital transformation, which lays the foundation for a modern and technological economy, i.e. on the path to transition to Industry 4.0.

Keywords: Industry 4.0, digitalization, robotic devices, big data, industrial Internet of things (IoT), 3D printing, blockchain, artificial intelligence, machine learning.

В самом сердце Центральной Азии находится Узбекистан – страна с богатой историей и яркой культурой. Традиционно известный своим текстилем, сельским хозяйством и природными ресурсами, Узбекистан теперь нацелился на новый рубеж: Индустрию 4.0. В то время как мир переживает цифровую революцию, Узбекистан пользуется возможностью

освоить передовые технологии и вступить в эпоху умного производства и инноваций.

Индустрия 4.0, которую часто называют четвертой промышленной революцией, представляет собой смену парадигмы производства и производственных процессов, вызванную автоматизацией, обменом данными и искусственным интеллектом. Он охватывает широкий спектр технологий, включая Интернет вещей (IoT), искусственный интеллект (ИИ), робототехнику и расширенную аналитику, которые взаимосвязаны для создания целостной и эффективной производственной экосистемы.

Для дальнейшего рассмотрения данной темы, давайте в первую очередь определим понятие «Индустрии 4.0». В различных источниках даётся разные определения этому термину. Например, профессор Клаус Шваб в своей книге «Четвертая промышленная революция» описывает Индустрию 4.0 как «новые технологии, которые объединяют физический, цифровой и биологический миры, затрагивая все дисциплины, экономику и отрасли. Эти технологии обладают огромным потенциалом для подключения миллиардов людей к сети» и значительно повысить эффективность предприятий и организаций». [1]

Для дальнейшего развития данной сферы в нашей стране, в данной статье был изучен опыт зарубежных стран-лидеров по внедрению современных цифровых технологий в экономику и промышленность, а также дана оценка их успехам и проблемам на этом пути.

Начнём своё исследование с Германии- страной, где зародилось данное понятие в 2011 году, как проект, направленный на повышение конкурентоспособности обрабатывающей промышленности. Германию часто называют лидером Индустрии 4.0. Здесь промышленные компании активно внедряют системы автоматизации, Интернета вещей (IoT), анализа данных и робототехнических систем. Производственные процессы становятся более гибкими и эффективными, что позволяет немецким компаниям оставаться конкурентоспособными на мировом рынке. Правительство Германии совместно с Bosch и Siemens реализует программу «Индустрия 4.0» и новую бизнес-модель, ориентированную на услуги. Концепция «Индустрия 4.0» основана на концепции «Интернета вещей (и услуг)», которая предполагает, что каждая машина, деталь или готовое изделие оснащено встроенными цифровыми технологиями, позволяющими им взаимодействовать с другими объектами и с людьми. Планы Германии интернетизировать промышленность к 2030 году. По словам Эберхарда Файта, руководителя платформы «Индустрия 4.0», Германия уже инвестировала 10 миллиардов евро в развитие новой производственной базы, тогда как на обучение в этой области выделено лишь около 1 миллиарда евро [2].

Еще одной Европейской страной, где цифровая индустрия процветает является Великобритания. В 2017 году в данной стране была представлена

своя Цифровая стратегия — документ включает семь направлений, по которым страна намерена развивать «ведущую цифровую экономику» в мире. В частности, создание цифровой инфраструктуры мирового уровня в Великобритании; предоставление каждому доступа к необходимым цифровым навыкам; создание условий в стране как лучшего места для старта и развития цифрового бизнеса; помогая каждому британскому бизнесу перейти на цифровые технологии. Планируется инвестировать £17,3 млн в университетские исследования в области робототехники и искусственного интеллекта. По оценкам консалтинговой компании Accenture, использование искусственного интеллекта принесет британской экономике дополнительно 654 миллиарда фунтов стерлингов к 2035 году.[3]

Следующий лидер США, где компании активно внедряют технологии Индустрии 4.0, особенно в автомобильной, электронной и высокотехнологичной отраслях. Калифорния, например, является центром разработки искусственного интеллекта и автономных транспортных средств. Однако, в отличие от других изменений, в Соединенных Штатах существуют различные региональные подходы к Индустрии 4.0 и неравномерные технологии.

Несомненно, Китай - страна Азии занимающая ведущее положение в мировой экономике, активно инвестирует в развитие Индустрии 4.0, стремясь к технологическому лидерству. Китайские компании внедряют системы автоматизации и роботизации на производственных линиях, а также разрабатывают собственные технологии в области искусственного интеллекта и Интернета. Государственная поддержка и доступ к огромному внешнему рынку создают благоприятные условия для развития инноваций. По статье Чжан Синьхуна в «Czinczi Чжибао» развитие цифровой экономики в Китае логически предопределено тремя основными моментами [4].

1. Создание высокоскоростной и универсальной инфраструктуры. Построена крупнейшая сеть широкополосной связи. Уровень проникновения Интернета составляет более 50%.

2. Проникновение цифровой экономики во все сферы жизни и производства.

3. Постоянное появление нового статуса бизнеса и новых моделей.

Япония также играет важную роль в развитии Индустрии 4.0, уделяя особое внимание робототехнике и промышленной автоматизации. Японские компании активно внедряют роботов и автоматизированные системы в различные отрасли: от автомобилестроения до электроники и медицины. Однако Япония также сталкивается с такими проблемами, как старение населения и необходимость обновления инфраструктуры для поддержки новых технологий.

Один из «Азиатских тигров»- Южная Корея является одним из лидеров цифровой трансформации. Корейские компании активно внедряют

Интернет вещей, искусственный интеллект и роботизированные системы, особенно в секторах производства полупроводников, автомобилестроения и электроники. Государственная поддержка и высокий уровень цифровой грамотности населения способствуют успешному развитию Индустрии 4.0 в Южной Корее.

В то же время Узбекистан- одна из развивающихся стран, благодаря своему стратегическому расположению на перекрестке Азии, осознал важность внедрения технологий Индустрии 4.0, чтобы оставаться конкурентоспособным на мировом рынке. Имея население более 37 миллионов человек, Узбекистан предоставляет уникальные возможности для предприятий, стремящихся выйти на новые рынки. Под руководством Президента Шавката Мирзиёева, страна вступила в амбициозный путь цифровой трансформации, закладывая основу для современной и технологичной экономики.

Одной из ключевых инициатив, лежащих в основе реализации программы «Индустрия 4.0» в Узбекистане, является программа «Цифровой Узбекистан 2030», целью которой является использование возможностей цифровых технологий для ускорения экономического роста и улучшения качества жизни граждан. Программа направлена на расширение широкополосной инфраструктуры, повышение цифровой грамотности и содействие инновациям и предпринимательству в ключевых секторах, таких как производство, сельское хозяйство и здравоохранение. [5]

Важно отметить, что в Республике реализуются комплексные меры по активному развитию цифровой экономики, а также широкому внедрению современных информационно-коммуникационных технологий во всех отраслях и сферах, прежде всего в государственном управлении, образовании, здравоохранении и сельском хозяйстве.

Согласно отчетам компаний “We are social” и “Meltware” можно увидеть следующие данные о внедрении и использовании цифровых технологий в Узбекистане в начале 2024 года:

- На начало 2024 года в Узбекистане насчитывалось 29,52 миллиона интернет-пользователей, тогда уровень проникновения интернета составлял 83,3 процента. (рис.1)

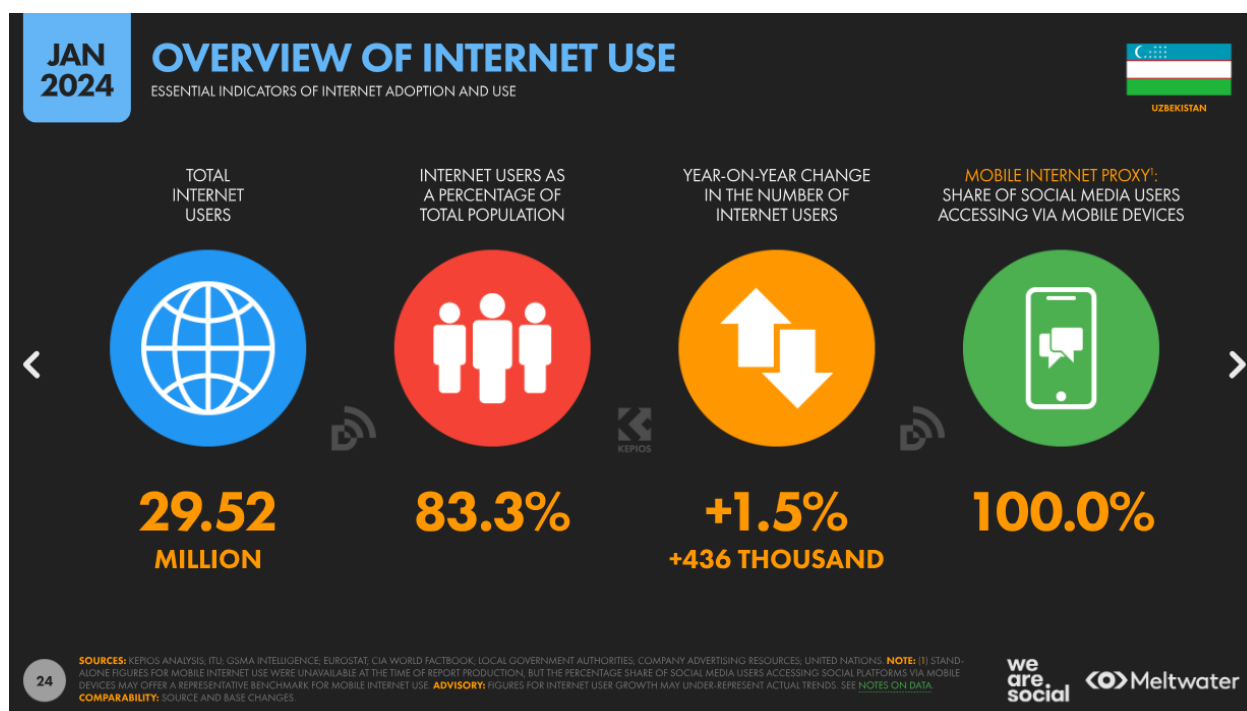


Рис.1. Количество интернет-пользователей на начало 2024 г. в Республике Узбекистан [6]

-В январе 2024 года в Узбекистане проживало 8,70 миллиона пользователей социальных сетей, что составляет 24,6 процента от общей численности населения.

-Всего на начало 2024 года в Узбекистане действовало 33,81 миллиона сотовых мобильных подключений, что эквивалентно 95,5 процентам от общей численности населения (рис.2)

Так же важно отметить, что в течении последних 10 лет уровень проникновения интернета увеличился с 35,5% до 83,3%. (рис.3)

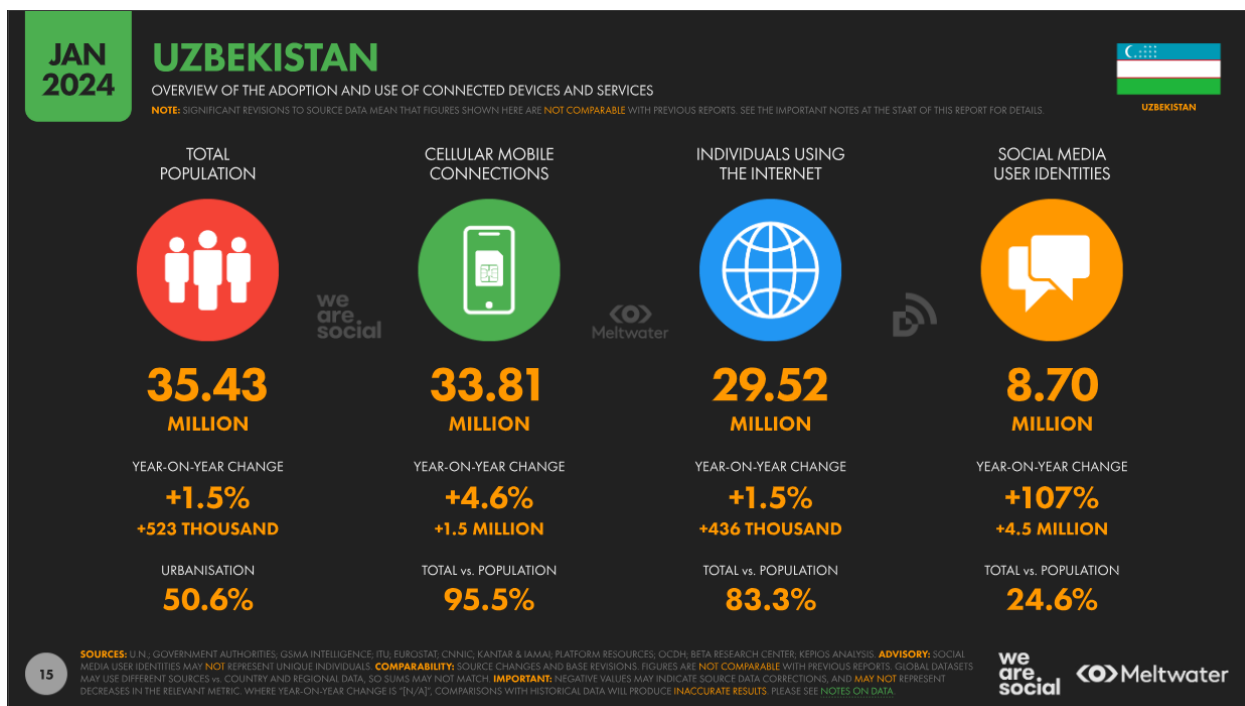


Рис. 2. Обзор внедрения и использования подключенных устройств и услуг [6]

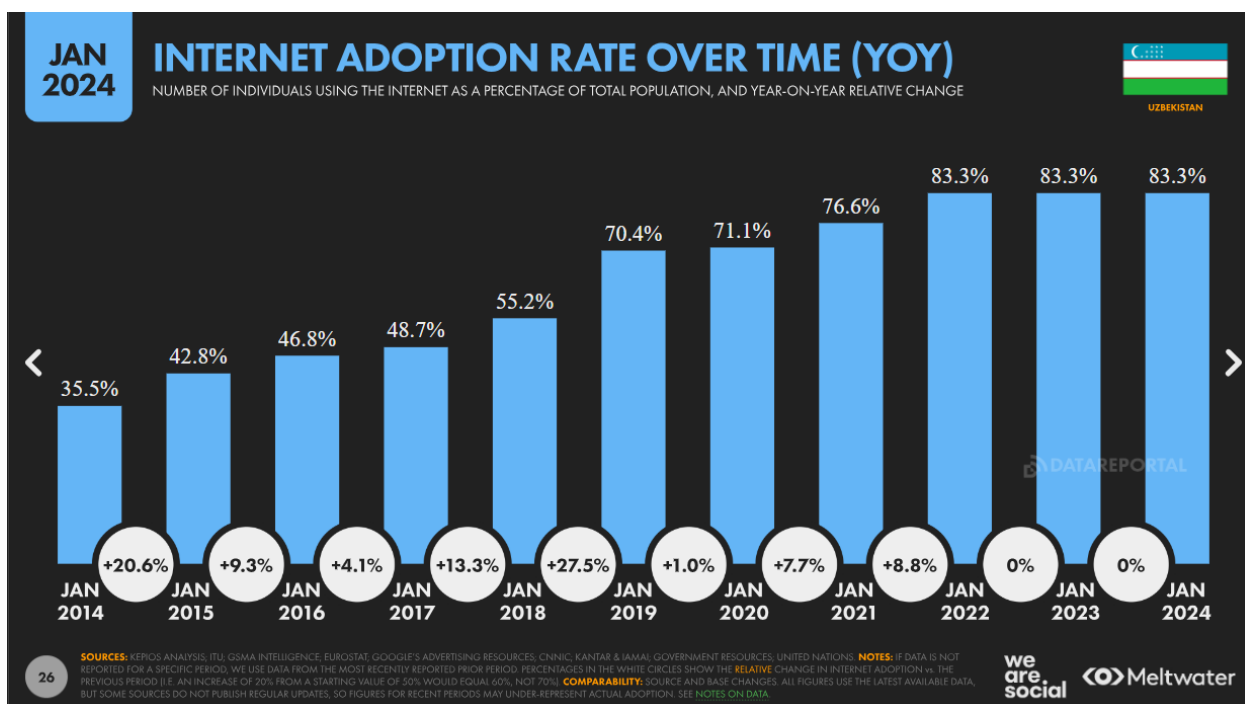


Рис.3. Уровень проникновения интернета в течении последних 10 лет (2014-2024) в Республике Узбекистан [6]

В частности, начата реализация более 220 приоритетных проектов, предусматривающих совершенствование системы электронного правительства, дальнейшее развитие внутреннего рынка программных продуктов и информационных технологий, организацию ИТ-парков во всех

регионах республики и обеспечение квалифицированным персоналом в этой области. Кроме того, реализуется комплексная программа «Цифровой Ташкент», которая предусматривает запуск геопортала, интегрированного с более чем 40 информационными системами, создание информационной системы управления общественным транспортом и муниципальной инфраструктурой, цифровизацию социальной сферы с последующее распространение этого опыта на другие регионы. [5]

Следующей немаловажной победой страны является поднятие за последние 5 лет со 158-го места на 87-е в мировом (рис.4) и 7 место среди стран Южной и Центральной Азии в рейтинге «Government Artificial Intelligence Readines Index», разработанном британской организацией Oxford Insights. (рис. 5)



Рис.4. Показатели Республики Узбекистан в международном рейтинге «Government Artificial Intelligence Readines Index» [7]

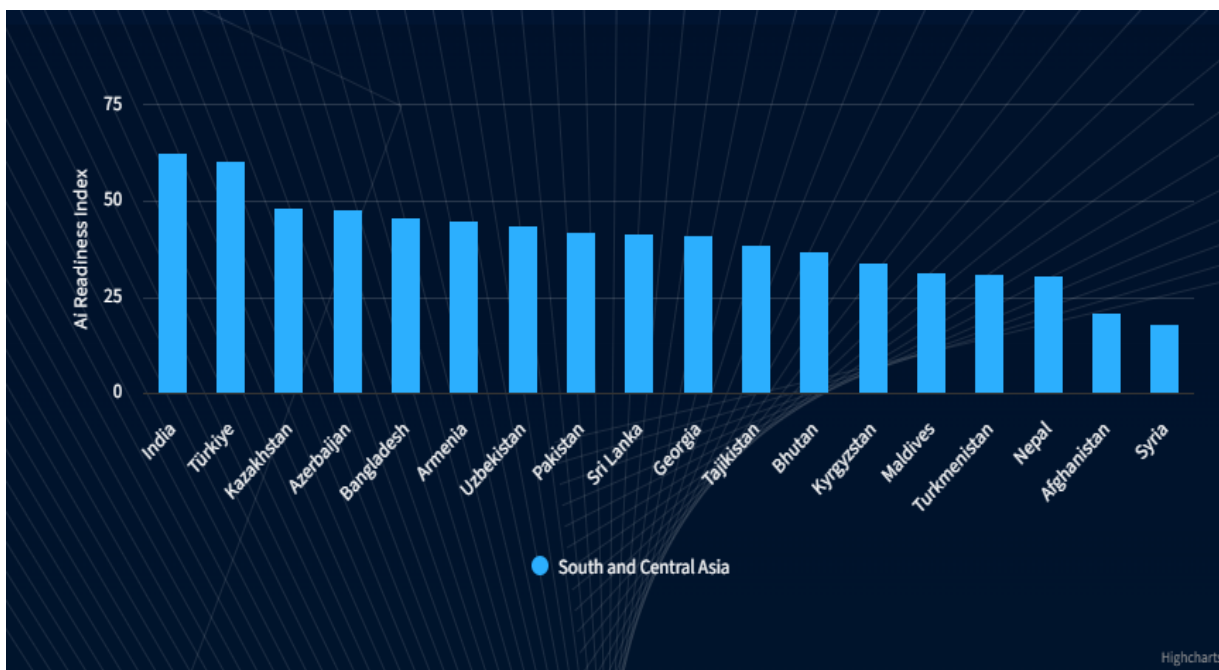


Рис.5. Показатели Республики Узбекистан в международном рейтинге «Government Artificial Intelligence Readines Index» среди стран Южной и Центральной Азии [8]

Следующий рейтинг, где Узбекистан за последние 4 года улучшил свою позицию на 11 единиц, поднявшись с 93 на 82 место - «The Global Innovation Index (GII)» (рис.6). Также, важно отметить, что на сегодняшний день экономика Республики в данном индексе занимает 4-е место среди 10 экономик Центральной и Южной Азии.

	GII Position	Innovation Inputs	Innovation Outputs
	2020	93rd	81st
2021	86th	75th	100th
2022	82nd	68th	91st
2023	82nd	72nd	88th

Рис.6. Показатели Республики Узбекистан в международном рейтинге «The Global Innovation Index (GII)» [7]

На приведенной ниже пузырьковой диаграмме (рис.7) показана взаимосвязь между уровнями доходов (ВВП на душу населения) и эффективностью инноваций (показатель GII). Линия тренда показывает ожидаемую эффективность инноваций в зависимости от уровня дохода. Экономик, находящиеся выше линии тренда, демонстрируют лучшие

результаты, чем ожидалось, а страны, расположенные ниже, демонстрируют показатели ниже ожиданий.

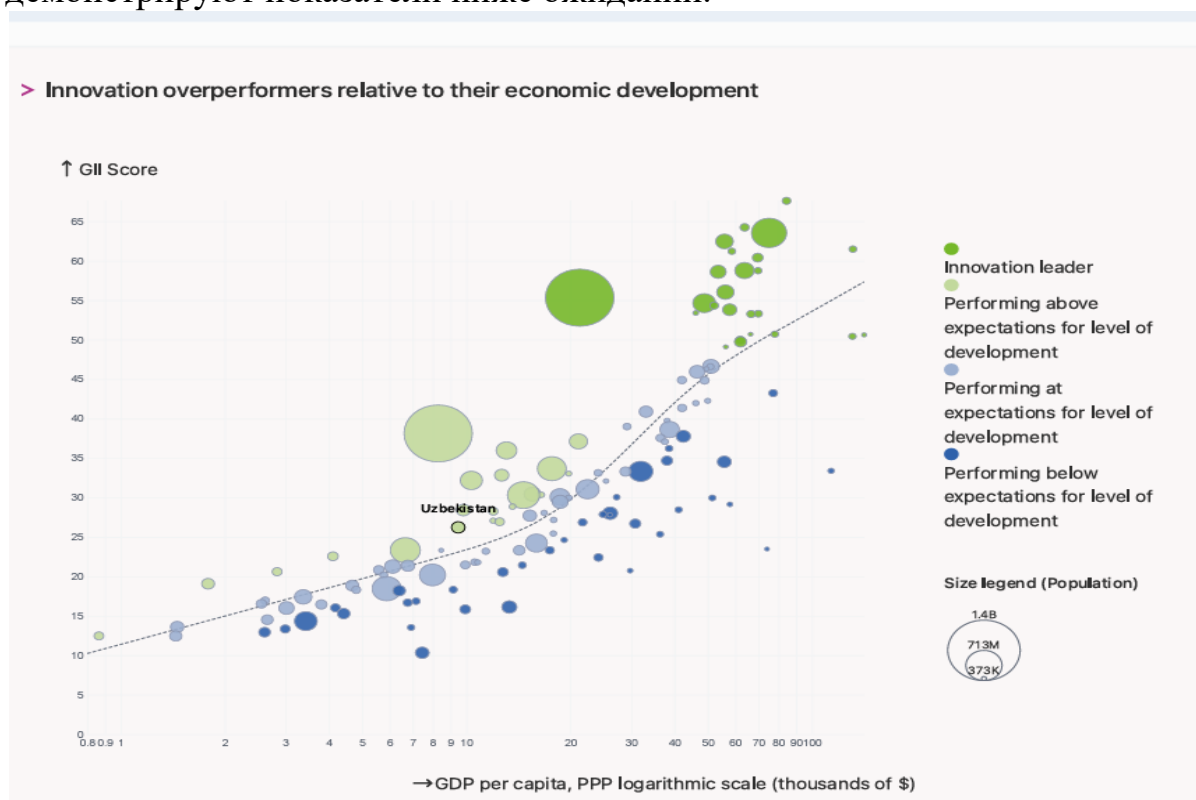


Рис.7. Взаимосвязь между уровнями доходов (ВВП на душу населения) и эффективностью инноваций (показатель GII) [7]

В данной диаграмме, мы можем отчетливо увидеть, что Республика Узбекистан показывает отличные результаты, и является одной из стран, где в сравнении с уровнем доходов эффективность инноваций превысила ожидания.

Интересно отметить, что 24-27 октября 2022 г. в рамках прошедшего в г. Самарканд главного события года в сфере информационных технологий «ICTWEEK UZBEKISTAN 2022» были представлены первые результаты совместной инициативы «DIGITAL PULSE», реализуемой Министерством экономического развития и сокращения бедности Республики Узбекистан и Программой развития ООН, в партнерстве с Министерством по развитию информационных технологий и коммуникаций Республики Узбекистан и IT Park.

Данный инструмент уже помог диагностировать уровень цифровизации бизнес-процессов в более 250 компаний, результаты диагностики легли в основу индивидуальных стратегий цифровой трансформации малых предприятий, определив сильные и слабые стороны предприятия, а также потенциал для дальнейшего развития.

«DIGITAL PULSE» — это инструмент, который помогает малому и среднему бизнесу определить их уровень цифровизации и дает основные

рекомендации о том, что нужно предпринять на пути к цифровому преобразованию. Инструмент также помогает компаниям оценить свой цифровой потенциал и выявить сопутствующие пробелы в своей деятельности, а ПРООН и ее институциональные партнеры получают информацию о том, какие дальнейшие программные меры для поддержки ускорения деятельности в области цифровой экономики в стране необходимо разработать.

Этот инструмент отвечает потребностям бизнеса в бесплатной оценке и получения автоматического анализа, получаемого компанией после прохождения диагностики, а также предоставляет базовые рекомендации по направлениям, требующим совершенствования. Инструмент полезен для любой компании, большой или маленькой, ориентированной на услуги или продукт [9]

В производственном секторе Узбекистан вкладывает значительные средства в интеллектуальные фабрики и технологии автоматизации для повышения производительности, снижения затрат и улучшения контроля качества. Используя датчики Интернета вещей и подключенные устройства, производители могут отслеживать производительность оборудования в режиме реального времени, прогнозировать проблемы с обслуживанием и оптимизировать производственные процессы для достижения максимальной эффективности.

Кроме того, о цифровизации промышленности свидетельствуют применение новых видов оборудования, к которым относятся:

- роботизированные устройства, безотходные и безлюдные технологии,
- гибкие технологические комплексы, автоматические производственные системы, беспилотные
- транспортные, автоматизированные технические и технологические платформы
- различные этапы производственного процесса, оснащенные цифровым
- датчики, детекторы и т.п. [6]

Цифровые решения все глубже проникают в бизнес процессы нефтегазовых компаний, отрасль активно сотрудничает с ИТ-компаниями и создает собственные центры компетенций в этом направлении. Такой процесс – следствие новой технологической революции, так называемой «Индустрии 4.0», непосредственной частью которой является цифровизация промышленности. В нефтедобыче она предполагает развитие и внедрение решений по следующим ключевым технологическим направлениям:

- Большие данные (BigData, включая искусственный интеллект и машинное обучение) — инструменты и методы организации, хранения,

обработки, работы и осуществления вычислений с огромными массивами данных.

- Промышленный интернет вещей (IoT) — система объединенных компьютерных сетей и подключенных физических объектов (вещей) со встроенными датчиками и ПО для сбора и обмена данными, с возможностью удаленного контроля и управления в автоматизированном режиме.

- Роботы и дроны, помогающие автоматизировать процессы, выполнять опасные работы, а также проводить визуальное или «тактильное» исследование труднодоступных объектов, например, оборудования для подводной добычи.

- Цифровые двойники — модель месторождения, скважины, оборудования или элементов инфраструктуры, которая позволяет тестировать и предсказывать эффекты применения тех или иных опций / решений, а также визуализировать полученные результаты в удобном для пользователя виде. Часто объединяется с инструментами дополненной реальности.

- Умные материалы — класс различных по агрегатному состоянию материалов, которые сохраняют или приобретают заданные физико-химические характеристики при изменении внешних условий, вплоть до экстремальных.

- 3D-печать, используемая в добыче для прототипирования проектов разработки и схем обустройства месторождения, а также для создания новых комплектующих для датчиков и контроллеров, насосов и прочего негабаритного оборудования.

- Распределенный реестр (блокчейн) — это децентрализованное приложение общего пользования, которое позволяет вести учет и обеспечивает высокий уровень безопасности системы. [10]

Также активная цифровизация идет и в горно-металлургическом секторе Республики. Например, АО «Алмалыкского ГМК», лидер по добыче золота в Узбекистане и крупнейший производитель меди в Центральной Азии, разработал пятилетнюю дорожную карту цифровой трансформации. Ежегодно реализуя несколько десятков проектов, предприятие постепенно автоматизирует технологические и управленческие процессы. К 2023 году оцифрованы данные о минеральных ресурсах, внедрены электронный документооборот, электронные журналы, создаются BI дашборды ключевых бизнес-процессов.

Кроме того, внедрение алгоритмов искусственного интеллекта и машинного обучения революционизирует традиционные производственные практики, обеспечивая возможность профилактического обслуживания, прогнозирования спроса и адаптивных производственных процессов. Это не только повышает операционную эффективность, но и позволяет

производителям быстро реагировать на меняющиеся требования рынка и предпочтения клиентов.

Помимо производства, Узбекистан также изучает потенциал Индустрии 4.0 в других ключевых секторах, таких как сельское хозяйство, транспорт и здравоохранение. Например, в сельском хозяйстве датчики и дроны с поддержкой Интернета вещей используются для мониторинга уровня влажности почвы, оптимизации орошения и повышения урожайности. В сфере транспорта интеллектуальные логистические решения оптимизируют операции цепочки поставок, сокращают сроки доставки и снижают затраты.

Более того, внедрение платформ телемедицины и цифрового здравоохранения улучшает доступ к медицинским услугам в отдаленных районах, предоставляет пациентам инструменты для самоконтроля и раннего вмешательства, а также повышает общее качество медицинской помощи.

Однако, хотя Узбекистан добился значительных успехов во внедрении Индустрии 4.0, проблемы остаются. Ограничения инфраструктуры, в том числе недостаточное подключение к Интернету и пробелы в цифровых навыках, создают препятствия для широкого внедрения. Кроме того, необходимо решить проблемы, связанные с конфиденциальностью данных и кибербезопасностью, чтобы обеспечить целостность и безопасность цифровых систем.

Тем не менее, благодаря четкому видению, сильному лидерству и стратегическим инвестициям, Узбекистан имеет хорошие возможности для того, чтобы извлечь выгоду из возможностей, предоставляемых Индустрией 4.0, и стать лидером в цифровой экономике. Содействуя сотрудничеству между правительством, промышленностью и научными кругами, Узбекистан может раскрыть весь потенциал цифровых технологий для обеспечения устойчивого роста, создания рабочих мест и повышения уровня жизни своих граждан.

В заключение нужно сказать, что «Индустрия 4.0» представляет собой преобразующую возможность для Узбекистана совершить прыжок в эпоху цифровых технологий и позиционировать себя как региональный центр инноваций и развития, основанного на технологиях. Охватывая передовые технологии и культуру инноваций и предпринимательства, Узбекистан может проложить курс к процветающему и устойчивому будущему в рамках четвертой промышленной революции.

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РАЗВИТИЕ И УСОВЕРШЕНСТВОВАНИЕ ТУРИСТИЧЕСКОЙ ИНФРАСТРУКТУРЫ В УСЛОВИЯХ АКТИВИЗАЦИИ ЭКОНОМИКИ

Аннотация. В статье рассматриваются вопросы понятие туризма в целом и его влияние на развитие экономики той или иной страны, а также влияние на влияние туристической индустрии на мировую экономику. Современное состояние туристической отрасли в Узбекистане, доля туризма к ВВП страны, а также проанализированы перспективы развития данной отрасли в ближайшем будущем.

Ключевые слова: влияние туризма в экономику стран, развитие туристической инфраструктуры, развитие новых направлений туризма, прогнозы и перспективы развития сферы.

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DEVELOPMENT AND IMPROVEMENT OF TOURIST INFRASTRUCRURE IN THE CONDITIONS OF INNOVATIVE ACTIVATION OF THE ECONOMY

Abstract. The article discusses the concept of tourism in general and its impact on the development of the economy of a particular country, as well as the impact on the influence of the tourism industry on the global economy. The current state of the tourism industry in Uzbekistan, the share of tourism in the country's GDP, and the prospects for the development of this industry in near future are analyzed.

Key words: the influence of tourism on the economies of countries, the development of tourism infrastructure, the development of new directions of tourism, forecasts and prospects for the development of the sphere.

Туризм – экономический феномен века. Туристический сектор играет значительную роль в формировании ВВП многих государств, обеспечении занятости населения, способствует внедрению новых технологий, активизирует мировой рынок товаров и услуг. Туризм оказывает влияние на транспортную сферу, связь, строительство. Значение этого сектора как

части национальной экономики в ближайшем будущем будет возрастать.

Туризм оказывает влияние на экономику прямо и опосредованно. Прямое воздействие – увеличение доходной части бюджета региона или страны каждый раз, когда туристы платят за проживание, питание, транспорт, развлечения. Полученные от них деньги вкладываются в развитие инфраструктуры, что повышает качество жизни местного населения и позволяет открывать новые туристические локации. Косвенное экономическое воздействие состоит в том, что туризм создает новую форму потребительского спроса.

Какое влияние на мировую экономику оказывает туристическая индустрия: способствует созданию инфраструктуры – автомобильных магистралей, ж/д дорог, парков, больниц, общественных районов и пешеходных зон; помогает сохранять объекты всемирного наследия, чудеса природы, дает возможность защищать священные места разных народов мира и уникальные культурные традиции; помогает защищать окружающую среду (многие компании предлагают экологически безопасные и этичные туры, побуждают клиентов уважать земли, которые они посещают); генерирует рабочие места – в отелях и гостиницах, ресторанах, кафе и других заведениях общественного питания, на транспорте заняты миллионы людей, которые могут остаться без работы, если турпоток иссякнет; напрямую поддерживает локальный бизнес (например, когда туристы покупают товары ручного изготовления, обедают там, где подают блюда национальной кухни, путешествуют с местными гидами).

Международный туризм важен и тем, что за счет него постепенно происходит перемещение капитала из стран, которые находятся на высоком экономическом уровне, в развивающиеся. Глобально это значит, что развивающиеся регионы получают стимул, вливания в экономику и дополнительные средства на развитие.

Не только международный, но и туризм в пределах своей страны оказывает положительное влияние на экономику. Его значение не исчерпывается ограничением оттока денег за рубеж и созданием новой туристской инфраструктуры. Его развитие имеет значимость на культурном уровне: граждане узнают больше о своей стране, ее культуре и истории, разных народах, проживающих на ее территории. Это способствует росту национального самосознания и воспитанию патриотизма [1].

Современное состояние туристической отрасли и ее место в современной мировой экономике. Туризм – сложная социально-экономическая система. Он не выделяется в отдельную самостоятельную отрасль народного хозяйства, но его массовость оказывает активное влияние на культуру, политику, экономику, социальную сферу. За счет туризма происходит расширение интеграционных связей между странами и регионами, что выражается в формировании новых культурных, научно-

технических, торговых взаимосвязей.

Значение туризма для конкретной личности можно четко определить: путешествия удовлетворяют любознательность и позволяют познакомиться с культурой других стран, помогают оздоровиться, обогатиться духовно. В глобальном смысле значение туристической индустрии гораздо обширнее: она напрямую влияет на экономику многих стран мира.

В 2022 году наибольшее количество туристов приняли Франция, Испания, США, Турция, Италия. Париж стал лидером среди всех городов мира по вкладу в экономику от индустрии путешествий. На втором месте Пекин, а замыкает топ-3 Орландо. Очевидно, что поездки в крупные города стали более популярными, чем отдых на морском побережье.

Лучшая динамика по сравнению с предыдущими периодами в 2022 году наблюдалась на Ближнем Востоке – такие данные приводит Всемирная туристическая организация (UNWTO). Одним из основных драйверов развития travel-индустрии стал ЧМ-2022 в Катаре. Благодаря ему турпоток в регионе восстановился до 83 % от уровня, зафиксированного перед пандемией.

По некоторым подсчётам, в 2022 году доля туризма в валовом внутреннем продукте (ВВП) Узбекистана составила 2,3%. Узбекистан намерен увеличить долю туризма до 5% к 2025 году. Это более чем двукратное увеличение по сравнению с предыдущие годы. Такой прогноз содержится в Концепции развития сферы туризма в республике, разработанной Гостуризма Узбекистана. На фоне ограничения поездок за рубеж из-за пандемии коронавирусной инфекции и последовавших за ней логистических проблем, связанных с геополитической ситуацией, увеличилась доля внутреннего туризма, питающего национальную экономику. Согласно Стратегии развития туризма, к 2035 году внутренний турпоток может увеличиться.

В сложных условиях экономической неопределенности сфера путешествий остается одной из немногих, которые продолжают развиваться, стимулируют экономику как развитых, так и развивающихся стран, а еще создают рабочие места. В ближайшей перспективе ожидается, что основным драйвером восстановления travel-сектора станут китайские туристы.

В WTTC ожидают, что уже в 2024 году будет преодолен пик туризма, достигнутый до пандемии. В UNWTO более осторожны в прогнозах. Только 61 % экспертов ожидают возвращения к прежнему уровню в 2024 году. По их мнению, главной причиной, которая отдалает скорейшее восстановление международного туризма, станет сложная ситуация в геополитике. На покупательскую способность потребителей окажут влияние также резкий скачок цен на энергоносители и волатильность курсов валют, которые приведут к увеличению расходов на передвижение и проживание.

Наряду с традиционным культурно-историческим туризмом, успешно

развиваются такие новые для Узбекистана виды туризма, как паломнический, экологический, познавательный, этнографический, гастрономический, спортивный, лечебно-оздоровительный, сельский, промышленный, деловой и иные виды туризма. Наличие в республике заповедников, национальных парков, питомников, заказников, природных памятников, биосферного резервата превращает экотуризм в весьма перспективное направление. Помимо этого, в нашей стране свое развитие получили геотуризм, медицинский туризм, а также альпинизм и рафтинг.

Популярные туристические направления – Ташкент, Самарканд, Бухара, Хива, Андижан, Аральское море, Байсун, Бельдерсай. Узбекистан, имея все предпосылки для развития туризма, к сожалению, за годы независимости не уделял должного внимания на развитие данной сферы. В связи с такой ситуацией проблема повышения туристической привлекательности территории остается актуальной [2].

Узбекистан - страна привлекательная как для путешествий, так и для паломничества. На нашей священной земле обрели вечный покой известные всему миру выдающиеся ученые и мыслители. Их богатое духовно-культурное наследие по-прежнему вызывает огромный интерес во всем мире. Для дальнейшего развития сферы, прежде всего, следует совершенствовать необходимую инфраструктуру. Во-первых, это транспорт, во-вторых, логистика, подчеркнул Президент нашей страны Шавкат Мирзиёев.

Указом предусмотрены беспрецедентные меры по коренному реформированию туристской отрасли, которые знаменуют собой переход на качественно новый уровень государственной политики в данной сфере, устанавливающей следующие основные целевые задачи и приоритеты:

- формирование благоприятных условий для деятельности субъектов туристской индустрии, снятие всех преград и барьеров, препятствующих развитию туризма, упрощение визовых и регистрационных процедур, паспортного и таможенного контроля;

- реализация комплекса мер по обеспечению безопасности жизни и здоровья туристов и экскурсантов при организации туристских услуг;

- ускоренное развитие новых потенциальных видов туризма - паломнического, экологического, познавательного, этнографического, гастрономического, спортивного, лечебно-оздоровительного, сельского, промышленного, делового, детского, молодежного и семейного туризма;

- расширение сотрудничества с международными и национальными организациями в сфере туризма, крупными зарубежными брендами и компаниями, внедрение передовых мировых стандартов качества оказания туристских услуг;

- ускоренное развитие в регионах республики современных объектов туристской инфраструктуры, прежде всего, гостиничной, транспортно-логистической, инженерно-коммуникационной, широкое привлечение для

этих целей иностранных инвестиций;

- разработка конкурентоспособных туристских продуктов, создание новых туристских маршрутов в регионах, их продвижение на мировых туристских рынках;

- коренное совершенствование системы качественной подготовки квалифицированных кадров для туристской отрасли.

Для эффективной реализации государственной политики, организации и координации выполнения указанных целевых задач и приоритетов на базе Национальной компании «Узбектуризм» создан Государственный комитет по развитию туризма с отделениями и уполномоченными представителями в регионах. В целях приведения туристической сферы нашей страны в соответствие с требованиями Международной организации по сертификации (ISO) разработаны и зарегистрированы два новых государственных стандарта - по терминологии туризма и требованиям безопасности гостиничных хозяйств. Кроме того, соответствующим постановлением Президента нашей страны в целях дальнейшего совершенствования в регионах системы управления в сфере туризма введены должности заместителей хокимов Ташкентской, Самаркандской, Бухарской и Хорезмской областей, а также городов Хива и Шахрисабз, занимающихся вопросами туризма.

За прошедший период в соответствии с поручениями главы нашего государства приняты программы, направленные на улучшение инфраструктуры туризма в Хорезмской, Бухарской, Самаркандской, Сурхандарьинской, Кашкадарьинской, Джизакской и Ферганской областях, организацию новых туристических маршрутов и широкую пропаганду туристического потенциала регионов. В частности, в Бухаре и Самарканде осуществляется работа по созданию круглосуточных турзон "Древняя Бухара" и "Самарканд-сити" площадью в 10 гектаров каждая, которые будут заниматься обслуживанием туристов.

«Помимо культурно-исторического, есть и другие направления туризма, которые надо развивать, начиная от паломничества и заканчивая медицинским туризмом. Мы можем работать над активным этническим, деловым, экологическим и образовательным туризмом. Раньше к нам приезжали учиться из Африки и Азии, но сейчас этого почти нет. Ташкент в этом плане имеет преимущества, однако есть ещё Самарканд, Бухара, Хива, Коканд и огромная территория Каракалпакстана, куда мы также можем привлекать иностранцев.

"Для того чтобы увеличить поток туристов, нам может быть полезно продлить срок пребывания иностранцев без регистрации. Например, в Грузию приезжает очень много туристов, и отчасти это связано с тем, что там не нужно делать регистрацию целый год пребывания в стране и нет проблем с визами для большинства стран.

Чтобы туристы дольше оставались в Узбекистане, нужно наладить

ночную жизнь, организовать развлечения, бассейны, сделать доступным интернет и упростить банковскую систему".

Также, по мнению экономиста Юлия Юсупова, нужно создать инфраструктуру: указатели вдоль улиц и на домах, а также нормальные дороги, которые не нужно переделывать каждые несколько месяцев [3].

3-го июня текущего года Президент Узбекистана провёл диалог с предпринимателями туристической отрасли. Шавкат Мирзиёев дал указания по финансовой поддержке туроператоров, продлению срока возврата НДС в виде субсидии, введению отдельного визового режима для туристов пенсионного возраста и обсудил другие вопросы.

Исходя из озвученных проблем и предложений со стороны предпринимателей, глава государства дал следующие указания:

продление срока возврата НДС в качестве субсидии туроператорам, оказавшим услуги иностранным туристам, и чёткое определение порядка его применения;

налаживание предэкспортного финансирования для оборотных средств туристических компаний;

продление срока освобождения от таможенной пошлины и утилизационного сбора на импорт новых автобусов и микроавтобусов, предназначенных для туристов, соответствующих требованиям экологического класса «Евро-5» и выше;

покрытие 50% стоимости аренды павильона на международных выставках туристическим компаниям, созданным за последние 3 года;

покрытие 50% расходов ремесленников, участвующих в международных фестивалях, на аренду павильона, перевозку багажа и покупку авиабилетов.

Кроме того, на совещании обсуждалась финансовая поддержка и расширение экономических возможностей поставщиков туристических услуг, предварительное уведомление туроператоров об изменении цен на объекты культурного наследия и железнодорожные билеты, обучение менеджеров гостиниц и расширение спектра субсидий на строительство гостиниц, введение отдельного визового режима для туристов пенсионного возраста. Были подняты вопросы о реставрации домов и музеев исторических деятелей [4].

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КОНЦЕПЦИЯ МОНИТОРИНГА ЗА СМЕЩЕНИЕМ И ДЕФОРМАЦИЕЙ ПОВЕРХНОСТИ ЗЕМЛИ ПО ДАННЫМ ДИСТАНЦИОННОГО ЗОНДИРОВАНИЯ

Аннотация. В работе научно обоснована роль дистанционного зондирования при мониторинге за смещением и деформацией земли на подрабатываемых территориях. Приведена концепция и преимущества геодинамического мониторинга земной поверхности при помощи дистанционного зондирования.

Ключевые слова: InSAR, интерферометрическая пара, длины волны, диапазон, космический снимок, смещение земли, деформация, космический аппарат.

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CONCEPT OF MONITORING OF EARTH SURFACE DISPLACEMENT AND DEFORMATION BY REMOTE SENSING DATA

Abstract. The paper scientifically substantiates the role of remote sensing in monitoring the displacement and deformation of the earth in mined areas. The concept and advantages of geodynamic monitoring of the earth surface by remote sensing are presented.

Keywords: InSAR, interferometric pair, wavelengths, range, space image, earth displacement, deformation, spacecraft.

Введение. Мониторинг поверхностного движения земли необходим для прогнозирования активности эндогенных геологических процессов, таких как землетрясения и расколы, обеспечения безопасности населения и работников, защиты зданий и сооружений и природных объектов, от вредного

воздействия добычи нефти и газа, учета вертикального смещения при создании геологических карт, а также совершенствования методов высокоточных измерений и количественной оценки вертикальных и горизонтальных смещений.

На сегодняшний день классические методы наблюдения за деформациями и смещениями земной поверхности считаются трудоемкими и требующими больших средств. Вдобавок ситуация может усложняться в зависимости от географического положения объекта, что, в свою очередь, может привести к снижению точности выполняемых работ. В настоящее время метод дистанционного зондирования Земли является перспективным направлением при решении проблем обнаружения деформаций земной поверхности.

На данный момент многими странами активно используются радарные данные для наблюдения. Италия, Англия, Нидерланды, Америка, Германия, Япония, Швейцария продолжают развивать и модифицировать методы анализа, интерпретации радарных данных. В США разработки в области радарной интерферометрии осуществляются в рамках научно-исследовательских работ Национальной службы воздухоплавания и исследования космических пространств NASA и в странах Евросоюза [7]. Как известный пример активного использования радарных данных можно назвать результаты исследований, проводимых в период и после знаменитого землетрясения 2003 года в иранском городе Бам.

Основная часть. Радиолокационная спутниковая интерферометрия, с синтезированным оборудованием (или “ Interferometric Synthetic Aperture Radar” (InSAR) – это удобный способ контроля деформации и состояния земной поверхности с точностью, недоступной при наземной съемке.

В специализированном программном комплексе для обработки данных используется интерференционная пара (или цепь) радиолокационных изображений. Пространственная и временная основа - это ограничение, которое позволяет осуществлять интерференционную обработку пары или цепочки радиолокационной информации [8].

Диапазоны радиоволновой области электромагнитного спектра [1]

Таблица 1

Диапазон	Частоты, ГГц	Длины волн, см	Спутниковые системы
X	5.20 – 10.90	2.75 – 5.77 (2.4 – 3.8)	USGS SLAR, TerraSAR-X, Cosmo-SkyMed 1-4
C	3.9 – 6.2	3.8 – 7.6	ERS-1,2; ENVISAT-ASAR; RADARSAT-1,2
L	0.39 – 1.55	19.3 – 76.9 (15 – 30)	Алмаз-1А, SIR-A,B, ALOS
P	0.225 – 0.391	40.0 – 76.9 (30 – 100)	AIRSAR

Чем короче волны, тем выше точность определения смещений (миллиметровая), но они подвержены влиянию атмосферы [1].

На качество космического снимка большое влияние оказывает когерентность. Термин “когерентность” означает качество поверхности изучаемого объекта, это определяет способность объекта отражать электромагнитное излучение. Чем выше значение данного параметра, тем точнее могут быть конечные результаты [1]. Хорошо когерентными зонами, как правило, можно назвать пустыню. Для получения четкого космического снимка необходимо провести несколько пролётов космического аппарата над объектом сканирования.

Исходя из вышеуказанного можно привести основные преимущества радиолокационной интерферометрии перед классическими геодезическими методами:

- возможность регулярной независимой дистанционной оценки сдвигов по всей площади изображения;
- покрытие большой площади;
- независимость времени суток и погодных условий
- данные с космических аппаратов могут поступать периодически (до нескольких раз в месяц) с целью обнаружения деформаций.

Существенным преимуществом является то, что этот метод можно использовать в тех областях, где трудно применить классические методы.

Заключение. Технология радарной интерферометрического анализа деформаций земли на сегодняшний день является высокоэффективным методом. Однако, при проведении мониторинга нужно учесть влияние факторов на точность космической съёмки и обработки данных. В зондирующей территории должно быть достаточное количество отражательных поверхностей, и территория должна быть достаточно когерентной.

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**ПРОБЛЕМЫ И ПРАКТИКА РЕАЛИЗАЦИИ ПРИНЦИПА СВОБОДЫ
ДОГОВОРА В КОРПОРАТИВНЫХ ЗАКУПКАХ С УЧАСТИЕМ
СУБЪЕКТОВ МАЛОГО И СРЕДНЕГО ПРЕДПРИНИМАТЕЛЬСТВА**

Аннотация. Статья посвящена обоснованию целесообразности ограничения принципа свободы договора для корпоративных заказчиков, поскольку данная мера способствует защите интересов неопределенного круга субъектов малого и среднего предпринимательства (МСП) и достижению экономической эффективности. Актуальность темы обусловлена значительной ролью малых и средних предприятий (МСП) в российской экономике и необходимостью обеспечения их доступа к государственным и корпоративным закупкам. Цель исследования заключается в изучении правовых механизмов, регулирующих закупочные процедуры, и выявлении проблем, связанных с ограничением договорной свободы для МСП. Метод исследования включает анализ законодательства, судебной практики и доктринальных источников. В результате автор приходит к выводу о необходимости совершенствования правового регулирования, чтобы обеспечить баланс интересов корпоративных заказчиков и МСП, способствуя тем самым экономической эффективности и справедливости в сфере закупок.

Ключевые слова: ограничение свободы договора, корпоративные закупки, МСП (малое и среднее предпринимательство), экономическая эффективность, интересы субъектов.

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**PROBLEMS AND PRACTICE OF IMPLEMENTING THE PRINCIPLE
OF FREEDOM OF CONTRACT IN CORPORATE PROCUREMENTS
WITH THE PARTICIPATION OF SMALL AND MEDIUM
ENTERPRISE ENTITIES**

Annotation. The article is dedicated to substantiating the expediency of restricting the principle of freedom of contract for corporate customers, as this measure contributes to protecting the interests of an indeterminate range of small and medium-sized enterprises (SMEs) and achieving economic efficiency. The relevance of the topic is due to the significant role of SMEs in the Russian economy and the need to ensure their access to state and corporate procurement. The aim of the study is to examine the legal mechanisms regulating procurement procedures and identify issues related to the restriction of contractual freedom for SMEs. The research method includes the analysis of legislation, judicial practice, and doctrinal sources. As a result, the author concludes that it is necessary to improve legal regulation to ensure a balance of interests between corporate customers and SMEs, thereby promoting economic efficiency and fairness in procurement.

Keywords: contractual freedom limitation, corporate procurement, SMEs (small and medium enterprises), economic efficiency, interests of subjects.

Договорные правоотношения, возникающие между субъектами малого и среднего предпринимательства (далее в настоящей статье - МСП) и заказчиками (корпоративными, государственными и муниципальными), составляют существенную долю в структуре российской экономики. В частности, совокупная стоимость договоров, заключенными с субъектами МСП в рамках применения Федерального закона от 18.07.2011 № 223-ФЗ "О закупках товаров, работ, услуг отдельными видами юридических лиц" (далее - Закон № 223-ФЗ) за 2022 год, превышает 3 триллиона рублей [9].

Таким образом, проведение корпоративных закупок в рамках Закона № 223-ФЗ является широко применяемым инструментом обеспечения хозяйственных потребностей государственных корпораций, государственных компаний, субъектов естественных монополий и иными субъектами. Одновременно с этим государство уделяет особое внимание поддержке субъектов МСП, расширяя возможности их доступа к проводимым корпоративным и государственным закупкам, а также смягчая предъявляемые к ним требования. В этой связи можно отметить такие преференции субъектам МСП, как:

- отдельные виды юридических лиц согласно Закону № 223-ФЗ и части 5 Постановления Правительства Российской Федерации от 11.12.2014 № 1352 обязаны осуществлять закупки товаров, работ и услуг у субъектов МСП в размере не менее 25% от годового объема их закупок [2] [5];

- пунктом 23 Постановления Правительства Российской Федерации от 11.12.2014 № 1352 предусмотрена преференция субъектам МСП и для них максимальный размер обеспечения заявки установлен в виде 2% от начальной максимальной цены договора, тогда как общая норма пункта 27 статьи 3.2 Закона № 223-ФЗ требует обеспечения заявки в размере до 5% от начальной максимальной цены договора [5, п. 23];

- Федеральным законом от 16.04.2022 № 104-ФЗ установлено, что сроки оплаты товаров, работ, услуг не может составлять более 7 рабочих дней [4].

Несмотря на указанное, субъекты МСП, участвующие в конкурентных процедурах корпоративных закупок, сталкиваются с различными негативными проявлениями ограничения принципа свободы договора в рамках применения Закона № 223-ФЗ.

Принцип свободы договора, являющийся основополагающим началом гражданского права и закрепленный в пункте 2 статьи 1 и статье 421 Гражданского кодекса Российской Федерации, проявляется в двух основных идеях, обозначаемых в доктрине как процедурный и содержательный аспекты договорной свободы [7, с. 80-90].

Процедурный аспект договорной свободы (в терминологии И.А. Покровского - *негативное выражение критерия свободы договора* [8]) выражается в свободе принятия решения о заключении или незаключении договора, выбора контрагента, в том числе - в свободе от принуждения к заключению договора и недопустимость безосновательных запретов на вступление в договорные отношения. С процедурным аспектом договорной свободы сопряжены обязанность иных лиц не чинить субъекту безосновательные препятствия к вступлению в договор с тем или иным контрагентом, а также недопущение ситуаций, в которых иные лица будут принуждать стороны договора к заключению договора (принуждение к контрактации).

Содержательный аспект договорной свободы (в терминологии И.А. Покровского - *положительное выражения критерия договорной свободы* [8]) заключается в свободе определения содержания заключаемого договора и проявляется в праве согласования отдельных условий договора по усмотрению сторон и праве на заключение непоименованных и смешанных договоров, при условии, что действительность таких свободных договоренностей и результаты их реализации должны признаваться и обеспечиваться правом.

Исходя из изложенного содержания принципа свободы договора, возможно отметить, что в рамках корпоративных закупок, осуществляемых с участием субъектов МСП, принцип свободы договора применяется с некоторыми исключениями, которые способствуют вовлечению экономически значимой категории - МСП - в производство товаров, выполнение работ и оказание услуг. Субъекты МСП обоснованно признаются слабой стороной договоров, заключаемых в рамках корпоративных закупок, потому ограничение полномочий корпоративного заказчика обеспечивает равенство сторон договора.

Одним из примеров ситуации, обуславливающей ограничение принципа свободы договора, является проведение корпоративными заказчиками торгов с участием субъектов МСП.

На практике возможны случаи, когда на организованные корпоративным заказчиком торги подал заявку единственный участник - субъект МСП, отвечающий установленным требованиям.

На стадии проведения торгов и принятия решения по их итогам фактором правовой неопределенности является вопрос заключения корпоративным заказчиком договора с субъектом МСП - единственным участником торгов, признанных несостоявшимся.

В соответствии с пунктом 4 статьи 447 Гражданского кодекса Российской Федерации выигравшим торги на аукционе (а соответственно - и лицом, с которым заключается договор) является лицо, предложившее наиболее высокую цену, а по конкурсу - лицо, которое по заключению конкурсной комиссии, заранее назначенной организатором торгов, предложило лучшие условия [1]. Практическая деятельность заказчиков и потенциальных поставщиков (подрядчиков, исполнителей) поставила перед отечественным правопорядком вопрос: с учетом того, что конститутивным элементом торгов является состязательность и конкурентная борьба участников, правомерно ли заключать договор с единственным участником торгов?

Правоприменительная и правореализационная практика не выработала единообразного представления о правомерности заключения договора с единственным участником торгов, что являлось фактором правовой неопределенности для участников корпоративных закупок.

Особую роль в разрешении обозначенного правового пробела сыграл Конституционный Суд Российской Федерации, чье Постановление от 23.12.2022 № 57-П было посвящено взаимосвязи общих норм Гражданского кодекса и специального законодательства (в сфере государственных, а также корпоративных закупок) [6].

Конституционным Судом Российской Федерации в тексте названного Постановления было обозначено следующее:

- пункт 5 статьи 447 Гражданского кодекса РФ, являющийся общей нормой по отношению к рассматриваемым правоотношениям, устанавливая, что торги, в которых участвовал только один участник, признаются несостоявшимися, не регламентирует, какие конкретно последствия могут наступать в случае признания торгов несостоявшимися. Соответствующие последствия должны быть сформулированы законодателем в специальном законе (специальной норме);

- Конституционный Суд РФ указывает, что подобного рода правовая норма приведена в части 5 статьи 52 Федерального закона "О контрактной системе в сфере закупок товаров, работ, услуг для обеспечения государственных и муниципальных нужд" (далее - Закон № 44-ФЗ) и предусматривает, что после признания торгов с единственным участником несостоявшимся договор с таким участником заключается в рамках

процедуры осуществления закупки у единственного поставщика (подрядчика, исполнителя) [3];

- Правовая норма, аналогичная указанной в части 5 статьи 52 Закона № 44-ФЗ, в тексте Закона № 223-ФЗ отсутствует, что связано с иным концептуальным подходом Закона № 223-ФЗ к регулированию закупочных процедур, выражающемся в большей диспозитивности и, в том числе, в придании большего значения положению о закупке. Указанное положение, подлежащее разработке корпоративным заказчиком, должно содержать более детализированные требования к закупке и призвано восполнить краткость регулирования закупочной деятельности в Законе № 223-ФЗ;

- Конституционный Суд подчеркивает, что в силу диспозитивности Закона № 223-ФЗ и существенной роли положения о закупке в определении процедуры проводимых закупок, при разрешении вопроса об обязательности заключения корпоративным заказчиком договора с единственным участником торгов стоит ориентироваться на содержание указанного положения. Отказ корпоративного заказчика от заключения договора с единственным участником правомерен, если положением о закупке прямо предусмотрено, что по итогам торгов, признанных несостоявшимися, договор с единственным участником не заключается и торги должны быть проведены повторно. Если положением не определен порядок действий корпоративного заказчика в указанном случае, то последний не вправе отказаться от заключения договора при условии, что к заключению договора не имеется объективных препятствий, то есть предложение участника отвечает требованиям закупочной документации и отсутствует ограничение конкурентных условий.

Таким образом, поведение корпоративного заказчика на стадии проведения торгов и заключения договора по их итогам не может носить произвольный характер в той степени, в которой общие начала права ставят общественные интересы выше интересов отдельного лица (корпоративного заказчика). К упомянутому общественному интересу относится достижение экономической эффективности путем вовлечения субъектов МСП в экономическую деятельность.

В указанном случае ограничение принципа свободы договора для сильной стороны целесообразно и отвечает интересам неопределенного круга лиц – субъектов МСП, могущих выступать поставщиком (исполнителем, подрядчиком) приобретаемых экономических благ для субъектов Закона № 223-ФЗ.

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КАРТОГРАФИРОВАНИЕ УРОВНЕЙ ЗАСОЛЕННОСТИ ОРОШАЕМЫХ ЗЕМЕЛЬ В РЕСПУБЛИКЕ КАРАКАЛПАКСТАН ПО ТЕХНОЛОГИИ ГИС

Аннотация. В статье изучено создание карт по технологии GIZ с определением уровня засоленности орошаемых земель в республике Каракалпакстан. При этом были определены уровни солёности орошаемых земель в республике Каракалпакстан и нарисованы карты слепых земель с сильной, слабой и средней солёностью по регионам.

Ключевые слова: индикаторы, засоленность земель, орошаемые земли, бонитет почв.

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MAPPING OF SALINITY LEVELS OF IRRIGATED LANDS IN THE REPUBLIC OF KARAKALPAKSTAN USING GIS TECHNOLOGY

Annotation. The article examines the creation of maps using GIC technology to determine the salinity level of irrigated lands in the Republic of Karakalpakstan. At the same time, the salinity levels of irrigated lands in the Republic of Karakalpakstan were determined and maps of blind lands with strong, weak and medium salinity by region were drawn.

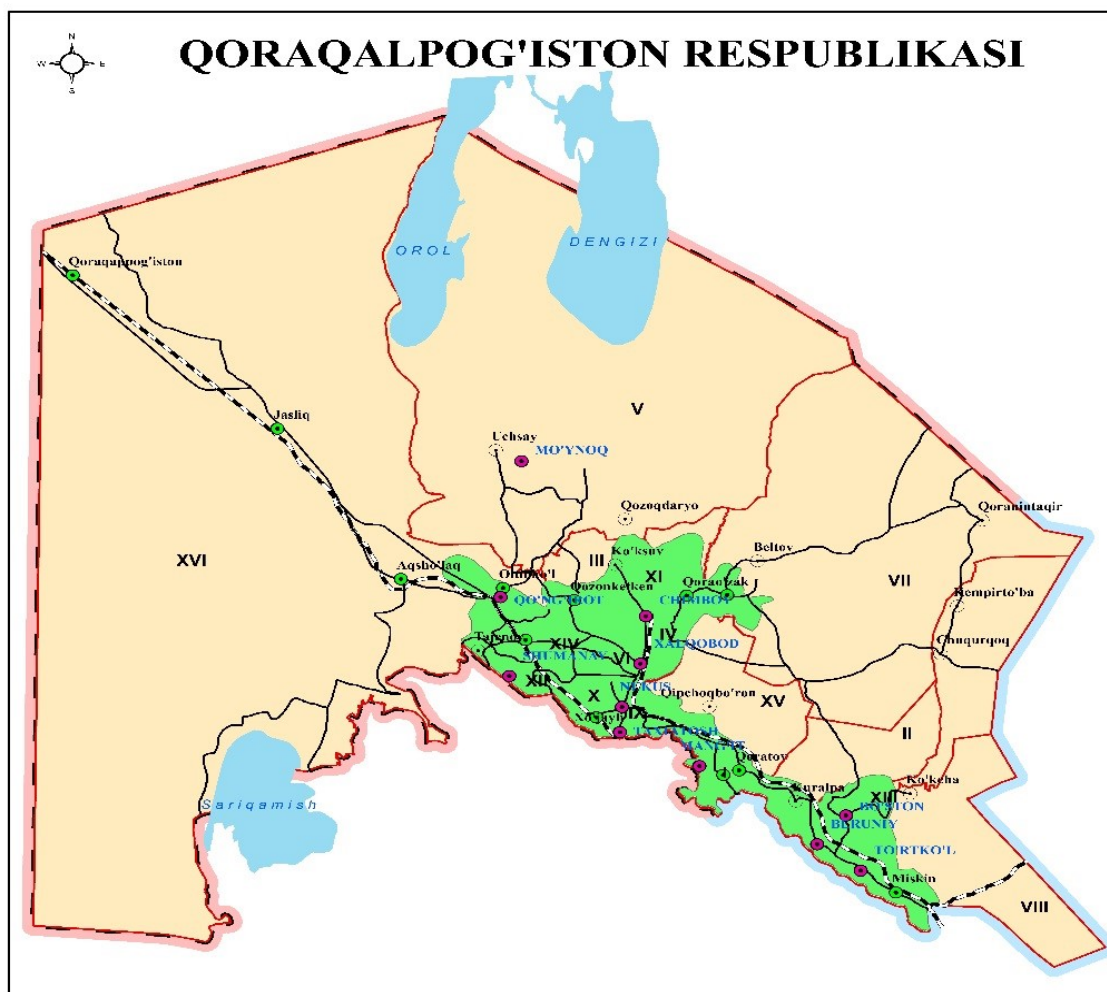
Keywords: indicators, salinity of lands, irrigated lands, soil quality.

В настоящее время в условиях глобального изменения климата орошаемые земли Республики Узбекистан подвергаются повышенной засоленности. Это связано с засушливостью климата, геологическими и гидрогеологическими условиями орошаемых земель. Независимо от засушливости климата, процесс накопления соли в почве определяется вектором потоков влаги, образующихся в слое почвы в течение длительного времени. В засушливой зоне, где испаряются относительно большие объемы воды, эти процессы очень ускоряются, и для формирования водно-солевого режима почвы очень важно, в какой вектор она входит. По многим данным, корневой слой, определяющий жизнедеятельность всех видов растений (от

злаковых до древесных), не превышает одного метра. На миграцию солей в почве влияет орошение полей.

В нашей научно-исследовательской работе мы обнаружили, что, учитывая динамику засоления орошаемых полей в 2012-2021 гг., почвы в основном имели средний уровень засоления (32-39%). Самые низкие показатели отмечаются у сильно засоленных почв - до 11% (рис.1,2).

В целях практического использования нами составлена схематическая карта "Оценка земель Республики Каракалпакстан по степени удобства их сельскохозяйственного использования", в которой учтены следующие факторы: степень засоления орошаемых земель, земли, урожайность сельскохозяйственных культур, протяженность коллекторно-дренажной сети и др. Наше использование экологических показателей в оценке земельных ресурсов оказывает существенную услугу улучшению качества земли, повышению урожайности сельскохозяйственных угодий.



Shartli belgilar

ALOQA YO'LLARI

— Avtomobil yo'llar

— Temir yo'llar

CHEGARALAR

— Davlatlar

— Qoraqalpog'iston Respublikasi

— Tumanlar chegarasi

BOSHQA OBIEKTLAR

— Ko'llar va suv omborlari

— Sug'oriladigan yerlar

— Yaylovlar

AHOLINING JOYLASHISHIGA KO'RA

● Tumanlar markazi

○ Qishloqlar

● Shaharchalar

1:3 000 000

TUMANLAR VA ULARNING MARKAZLARI		
I	Armdaryo	Mang'it sh.
II	Beruniy	Beruniy sh.
III	Bo'zotov	Bo'zotov sh.
IV	Kegeyli	Kegeyli sh-cha.
V	Mo'ynoq	Mo'ynoq sh.
VI	Nutius	Oqmanqit sh-cha.
VII	Taxtakopir	Taxtakopir sh-cha.
VIII	To'rtko'l	To'rtko'l sh.
IX	Taxiatosh	Taxiatosh sh.
X	Xo'jayli	Xo'jayli sh-cha.
XI	Chirchik	Chirchik sh.
XII	Sho'monay	Sho'monay sh.
XIII	Bo'ston	Bo'ston sh.
XIV	Qonliqo'l	Qonliqo'l sh-cha.
XV	Qora'zok	Qora'zok sh-cha.
XVI	Qo'ng'iro't	Qo'ng'iro't sh.

Рис 1.1. Карта орошаемых земель Республики Каракалпакстан

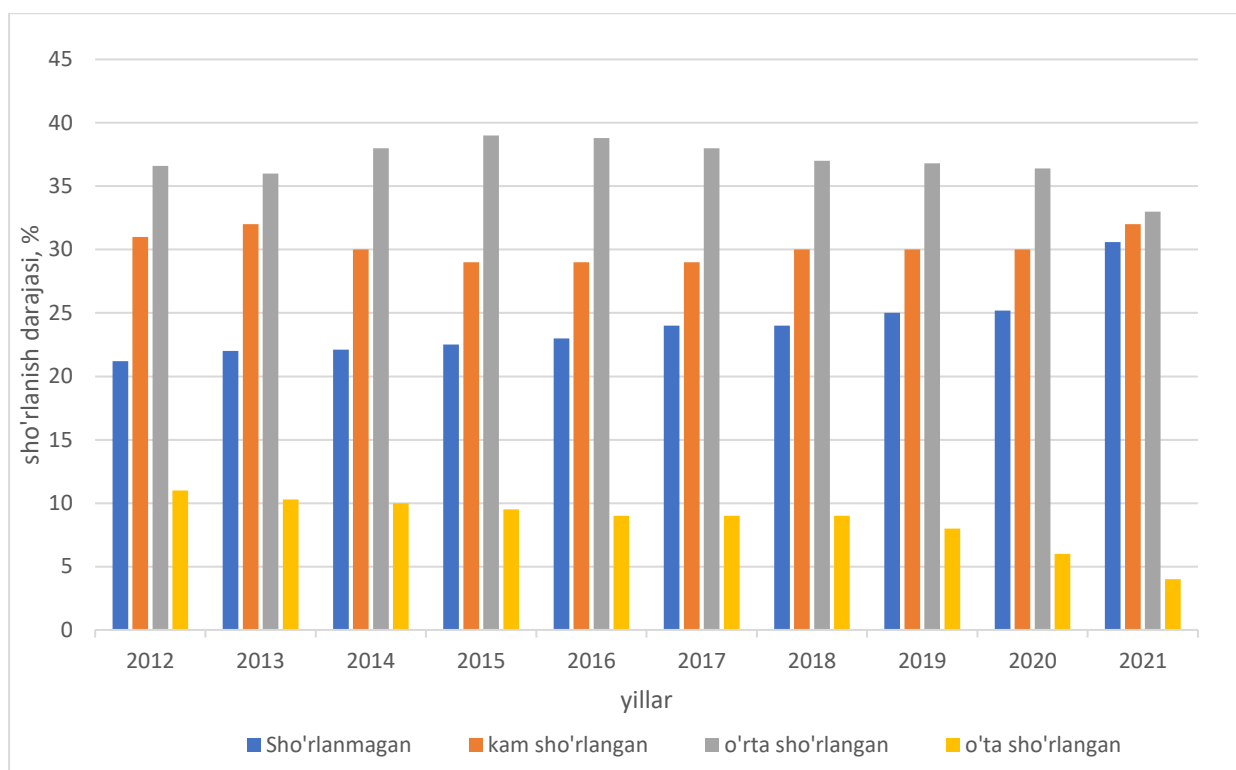


Рис. 1.2. Уровни засоленности орошаемых земель в период 2012-2022 гг.

В республике Каракалпакстан подземные воды расположены близко к поверхности Земли. Это вызывает чрезмерное засоление почв этих регионов.

Из-за засушливого климата и последствий глобальных климатических изменений, наблюдаемых в нашей стране, состояние мелиорации орошаемых земель ухудшается. Это, в свою очередь, приводит к снижению урожайности. Важное значение приобретает Указ Президента Республики Узбекистан от 29 октября 2007 года № УП-3932 «О мерах по коренному совершенствованию системы мелиоративного оздоровления земель». Государственная программа «Улучшение мелиоративного состояния орошаемых земель на период 2008-2012 годы», утвержденная постановлением Президента Республики Узбекистан от 19 марта 2008 года № ПП-817, принятая в целях обеспечения исполнения настоящего Указа, играет важную роль в улучшении мелиоративного состояния пахотных земель, строительстве, реконструкции и ремонте объектов мелиорации и создании новой системы финансирования этих работ.

Земельные и водные ресурсы имеют большое стратегическое значение в решении задач обеспечения устойчивого развития всего Узбекистана и Республики Каракалпакстан. Особое значение имеют орошаемые земли в условиях засушливой зоны. Орошаемые земли занимают около 10% всей территории нашей республики, производя более 90% валовой продукции сельского хозяйства.

Экологический индикатор многолетнее использование показателей

показывает, что состояние земельных ресурсов Республики Каракалпакстан в настоящее время находится на удовлетворительном уровне.

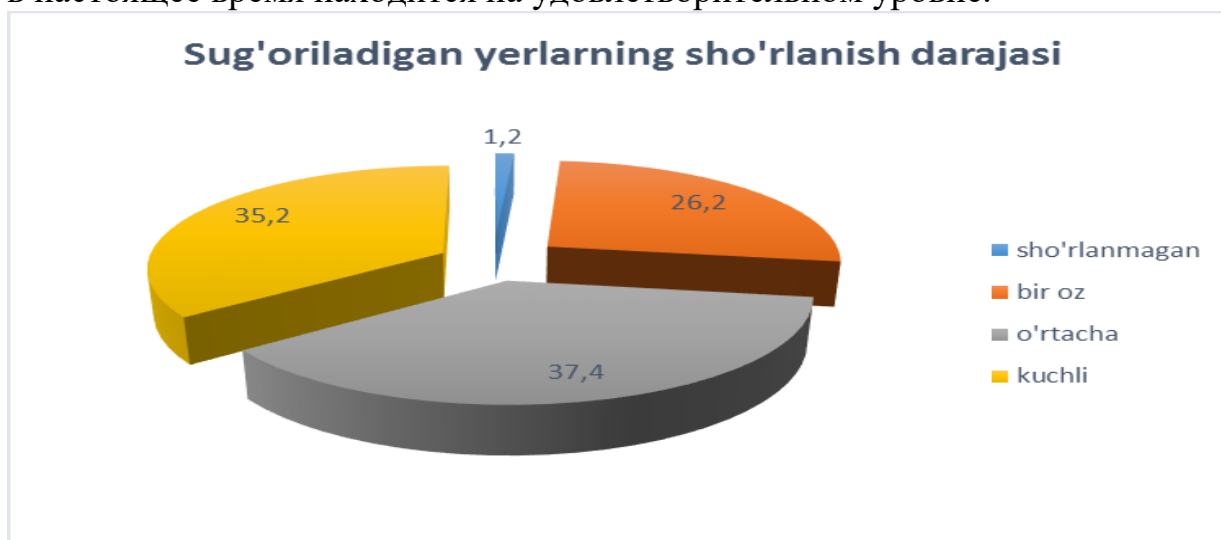


Рис 1.3. Динамика орошаемых земель Республики Каракалпакстан

Общий фонд орошаемых земель составляют в основном засоленные почвы, в том числе: слабосоленые-26,2%, среднесоленые-37,4%, Сильнозасоленные-35,2% и незасоленные-1,2%.

Оценка долгосрочного использования экологических показателей показала, что на сегодняшний день состояние земельных ресурсов Республики Каракалпакстан удовлетворительное, значительная часть орошаемых земель засолена, урожайность низкая, часть земель загрязнена остаточным количеством пестицидов, поэтому необходимо не только продолжать следить за состоянием земельных ресурсов, но и внедрять различные методы их рационального использования. В таблице 1.1 приведены значения полученных образцов из посевных площадей различных районов Республики, в которых указаны степень засоленности земель, количество сухих остатков, а также бонитеты баллов этих посевных площадей.

Таблица 1.1

N	Районы	Уровень солености	Кол-во сухого остатка. %	Балл бонитета
1.	Кунград	Сильный	1.990	38.0
2.	Мойнак	Сильный	1.178	39.0
3.	Чимбай	Средний	0.454	48
4.	Караузьяк	Средний	0.302	45.3
5.	Тахтакупир	Сильный	1.178	42.8
6.	Кегейли	Средний	0.412	42.0
7.	Шоманай	Средний	0.346	41.0
8.	Конликуль	Средний	0.506	42.4
9.	Бузатау	Сильный	1.990	38.0
10.	Нукус	Низкий	0.414	52.6

11.	Хожайли	Низкий	0.168	46.8
12.	Тахияташ	Низкий	0.144	54.0
13.	Амударья	Незасоленный	0.076	64.1
14.	Беруний	Незасоленный	0.084	61.7
15.	Елликкала	Незасоленный	0.068	62.4
16.	Турткуль	Незасоленный	0.091	58.0

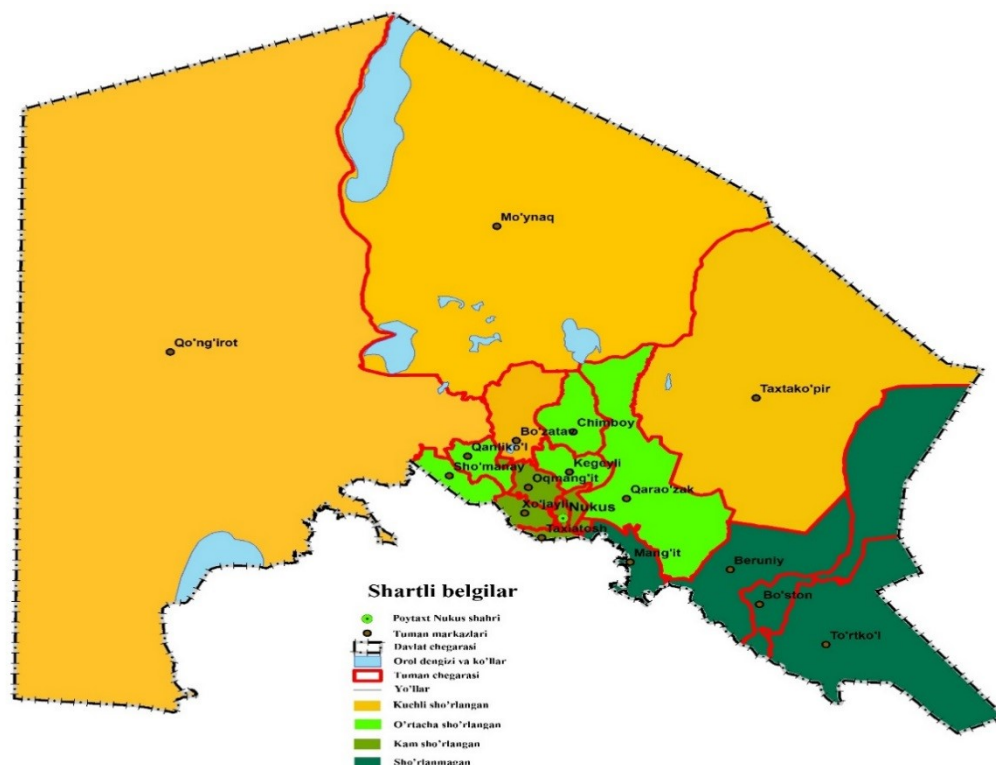


Рис. 1.4. Средние показатели засоленности сельскохозяйственных угодий в городах и районах республики Каракалпакстан

В заключении, повышение плодородия почвы, ухудшение почвенного питания растений и другие важные вопросы сельского хозяйства связаны, прежде всего, с рациональным использованием и защитой земельных ресурсов на почве получения высоких устойчивых урожаев.

Серия различных почвенно-мелиоративных карт, полученных на основе многомерного анализа и ГИС-технологий с использованием методов математической статистики с установлением условных оценок, составлены данные "градуированной оценки земель Республики Каракалпакстан, их пригодности для использования в сельском хозяйстве", с помощью которых Земли Кунградского, Бозатауского, Муйнакского и Тахтакупирского районов Каракалпакстана считаются неблагоприятными для использования в сельском хозяйстве [3,5.]

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ФИНАНСОВЫЕ ФАКТОРЫ РАЗВИТИЯ МОЛОДЕЖНОГО ИННОВАТОРСТВА В РОССИИ

Аннотация. Статья посвящена финансовым факторам развития молодежного инновационного предпринимательства Российской Федерации. В современных условиях молодежное предпринимательство является одним из важных факторов развития экономики, которое выделяется как самостоятельный сегмент малого бизнеса. Молодежь представляет собой важнейший потенциал развития предпринимательства, отличается активностью, мобильностью, инновационностью, может быстро адаптироваться и принимать неоднозначные, зачастую рискованные, решения в условиях турбулентности экономики. Молодые предприниматели способны предвидеть ключевые тренды в развитии общества, быстро обучаться, что позволяет производить товары и услуги, отвечающие запросам современного общества. Молодежное предпринимательство позволяет решить проблемы трудовой занятости, снизить отток молодежи в крупные города, обеспечивает молодым людям возможность получать доходы, создает условия для личностного и профессионального развития.

Ключевые слова: молодежное предпринимательство, инновации, интеллектуальная собственность, экосистема.

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FINANCIAL FACTORS FOR THE DEVELOPMENT OF YOUTH INNOVATION

Abstract. The article is devoted to the methods and features of the development of youth innovative entrepreneurship in the Russian Federation. In modern conditions, youth entrepreneurship is one of the important factors in economic development, which stands out as an independent segment of small business. Young people represent the most important potential for the

development of entrepreneurship; they are active, mobile, innovative, and can quickly adapt and make ambiguous, often risky, decisions in conditions of economic turbulence. Young entrepreneurs are able to foresee key trends in the development of society and learn quickly, which allows them to produce goods and services that meet the needs of modern society. Youth entrepreneurship allows you to solve employment problems, reduce the outflow of young people to large cities, provides young people with the opportunity to earn income, and creates conditions for personal and professional development.

Key words: youth entrepreneurship, innovation, intellectual property, ecosystem.

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Введение

Развитие молодежного инновационного предпринимательства приобретает особую актуальность в последнее время, так как именно молодые люди ведут активную предпринимательскую деятельность. Молодые предприниматели способны предвидеть ключевые тренды в развитии общества, быстро обучаться, что позволяет производить товары и услуги, отвечающие запросам современного общества. Молодежное предпринимательство позволяет решить проблемы трудовой занятости, снизить отток молодежи в крупные города, обеспечивает молодым людям возможность получать доходы, создает условия для личностного и профессионального развития [4, С. 14-154].

Молодые предприниматели, которые выросли в условиях новых экономических реформ [1, с. 672-678], более оперативно реагируют на изменения в жизни и способны быстро адаптироваться к негативным факторам экономики [3, С. 703-707].

Субъектам молодежного инновационного предпринимательства, реализующим свою деятельность в малых формах хозяйствования, не требуются крупные стартовые вложения, и в то же время они гарантируют высокую скорость оборота ресурсов [4, С. 14-154].

Проведенные исследования по выявлению мотивирующих факторов для желания молодежи заниматься бизнесом показали, что одним из основных является фактор получения высокого дохода. Предпринимательство также обеспечивает возможности молодых людей быть самостоятельными и независимыми. Среди других причин молодые люди указывают перспективу карьерного роста, престижность профессии/дела, возможность заниматься творчеством и др. Следует отметить дифференциацию мотивов молодежи заниматься бизнесом во времени и в зависимости от различных возрастных групп [6].

Среди предпочтений молодых людей в отношении видов бизнеса лидирует в основном продвижение продукции в виртуальном пространстве и реклама (32%), затем следует торговля и сфера услуг (29%). Достаточно высока доля ИТтехнологий (25%) и научных разработок (14%), что, безусловно, является позитивной тенденцией. В то же время к предпринимательству в сфере промышленности, строительства и транспорта, молодежь проявляет слабую заинтересованность. По отношению к сельскому хозяйству молодые люди практически не проявляют интереса. В публичном пространстве такая деятельность лишена престижа и имеет невысокую оценку [5, С. 14-154].

Важным способом стимулирования предпринимательской деятельности молодежи является финансовая мотивация. Большинство молодых людей часто сталкиваются с проблемой нехватки свободных денежных средств и отсутствием необходимого стартового капитала. Существуют различные механизмы финансирования, которые могут удовлетворить потребности молодых предпринимателей. Финансовая поддержка молодежного инноваторства – это форма стимулирующего воздействия государства посредством финансовых инструментов в рамках поддержки молодых предпринимателей, осуществляемая адресно на конкурсной основе. В Российской Федерации на данный момент осуществляется оказание поддержки молодежи при вхождении в бизнес через предоставление грантов в размере от 100 до 500 тыс. рублей (или до 1 млн рублей в том случае, если деятельность ведется в Арктической зоне). Оказание такой финансовой помощи проходит как на федеральном, так и на региональном и областном уровнях.

Региональные программы поддержки молодежного предпринимательства

В регионах России также существуют локальные программы и законы, направленные на поддержку молодежного предпринимательства. Например, в Санкт-Петербурге действует программа "Молодежь и бизнес", которая предоставляет молодым предпринимателям финансовую поддержку и помогает им получить доступ к рынкам. В Красноярском крае действует программа "Молодежная инициатива", которая обеспечивает молодым предпринимателям поддержку в виде консультаций, обучения и финансирования.

Весной 2022 г. в Смоленской области прошел Областной конкурс молодежных проектов, организатором которого являлось Главное управление Смоленской области по делам молодежи и гражданско-патриотическому воспитанию. В результате данного мероприятия были отобраны 7 социально-значимых проектов, авторы которых получили гранты в размере 100 тыс. рублей.

Льготное кредитование, инвестиции, наставничество со стороны опытных предпринимателей также является актуальными методами

стимулирования молодежного предпринимательства в России. Благодаря российской социальной сети ВКонтакте и центру «Мой Бизнес» был запущен проект по предоставлению дополнительного бюджета на продвижение своих товаров и услуг в социальной сети ВКонтакте. Также Правительство Российской Федерации для развития отечественных IT-компаний полностью освободило их от уплаты налога на прибыль в 2022–2024 годах, а основная масса работающих в них – это молодые люди [12].

Стоит отметить, что молодежное предпринимательство в городских районах очень отличается от предпринимательства в сельской местности. Одним из стимулов к созданию бизнеса за пределами городских центров может служить устранение различных препятствий и поддержка молодых предпринимателей, например, налаживание поставок продукции и производственно-сбытовых цепочек, проведение Интернета в сельской местности и др.

В Республике Татарстан (далее – Республика) существуют программы, направленные на поддержку молодежного предпринимательства. В 2017 году была создана программа "Молодежное предпринимательство", которая предоставляет молодым предпринимателям финансовую и консультационную поддержку, а также помогает им получить доступ к рынкам и продвижению своих товаров и услуг. Существует множество институтов, с помощью которых создаются благоприятные условия для инвестирования и развития предпринимательского потенциала молодых людей. Так, в Республике существуют 4 главных бизнес-инкубатора в Казани, Набережных Челнах, Елабуге и Чистополе.

Если сравнивать бизнес-идею с растением, то бизнес-инкубаторы (например, IT-парк), подготавливают почву, насыщенную различными удобрениями в виде льгот на аренду помещения, программ и форумов. Бизнес-акселераторы представляют собой уже «высшую школу», в которой бизнес может модернизироваться, так как в акселераторах большее внимание уделяется идейно качественному и инновационному продукту. Бизнес-акселераторы активно внедряются и развиваются на территории Иннополиса, что способствует развитию инвестирования в основной капитал, который в большинстве случаев создается самими предпринимателями.

Господдержка от Министерства экономического развития РФ при направлении в регионы связывается с производством товаров, внедрением инноваций, с социальным предпринимательством. Эта помощь выражена в виде федеральных субсидий, финансовых выплат победителям региональных конкурсов [31, С. 38 – 44].

На региональном уровне значимая помощь инновационным молодежным предприятиям выражается в виде отсрочки налоговых выплат, компенсации процентов по кредиту, возврате части денежных средств,

выплаченных на развитие бизнеса. Меры поддержки, разработанные Правительством РФ и Банком России в кредитно-финансовой сфере, заключаются в реализации антикризисной и инвестиционной программ и оборотных кредитов [23].

Антикризисная программа характеризуется при введении ограничений для молодежных предприятий в период COVID-19 предоставлением им кредитов по сниженной ставке, финансирование которых составило 60 млрд р. Инвестиционная программа, внедряемая Банком России и Корпорацией МСП, направлена на получение инвестиционных кредитов средним бизнесом по ставке ниже 13,5 %, малым и микробизнесом по ставке ниже 15 %. Обратное кредитование реализуется через Банк России и его объем составляет 340 млрд р. Важная роль в поддержке малых и средних предприятий отводится нефинансовым мерам [23].

Следует отметить важность такого мероприятия, как прекращение инициирования налоговыми органами процедуры банкротства должников, приоритетность реструктуризации их задолженностей. Для упрощения работы предпринимателей государство поощряет создание и поддержку источников информационных ресурсов, в том числе справочников, путеводителей и сайтов с обновляемыми данными и др. [23].

Инвестиционная деятельность российских предприятий

Помимо поддержания молодежного предпринимательства, развитие национальной экономики зависит от инвестиционной деятельности предприятий и организаций. От грамотного вложения ресурсов зависит качественно динамичное развитие предприятий.

Инвестиции в основной капитал предполагают долгосрочные вложения в капитал, которые позволяют извлекать прибыль при расширении производственного процесса. Основной капитал представляет собой часть капитала, которая заключается в материальном обеспечении производства в долгосрочной перспективе (станки, оборудование, транспорт).

От существования основного капитала зависит срок и качество функционирования предприятия или организации. Инвестирование в основной капитал позволяет решить множество социально-экономических проблем. Развитие данного направления повысит не только уровень благосостояния населения и обеспечит новый идейный кадровый состав, но также позволит преодолеть высокий уровень импортозамещения, что критически важно в период активного введения западных санкций.

В 2022 году государство оказывает молодежным инновационным предприятиям поддержку внедрения российских программных продуктов в виде возмещения затрат правообладателя по поставке в малые и средние предприятия российского программного обеспечения по льготным ценам, равным 50 % их рыночной стоимости [28].

Кроме того, Центр стратегических разработок (далее – ЦСР) совместно с Координационным советом Общественной палаты Российской Федерации (далее - Координационный совет ОПРФ) по развитию сообществ молодых специалистов провел опрос среди организаций по мерам поддержки молодежного предпринимательства. Результаты опроса подтвердили актуальность темы и значимость поддержки — на уровне крупных компаний и корпораций наиболее востребованной мерой поддержки молодежного предпринимательства является реализация корпоративных акселераторов. Также организации отмечают внутренние образовательные мероприятия, конкурсы проектов и идей молодых специалистов компаний.

Одной из первых инвестировать в поддержку студенческого предпринимательства в России начала компания ПАО «Газпром нефть». Действует технологическая долина «Энерготехнохаб Санкт-Петербург», в рамках которой бизнес получает готовые решения, разработанные молодыми учеными. За три года работы площадка объединила более трехсот резидентов, и планируется, что к 2030 году эта цифра вырастет вдвое.

ООО «СИБУР» организует Форум молодых специалистов в качестве инструмента развития предпринимательского подхода. С помощью наставников и после участия в образовательных треках команды молодых специалистов компании защищают свои проекты по предложенным направлениям. Победители получают финансовую поддержку для реализации решений. Ежегодный экономический эффект от внедрения проектов 2021 года, по прогнозам, составит более 50 млн руб. Кроме того, ООО «СИБУР» реализует проекты, направленные на финансовую поддержку молодых предпринимателей — например, действует акселерационная программа «Формула роста», включающая в себя индивидуальную работу с наставниками, образовательные сессии, а также групповые разборы кейсов участников.

Центр цифровой трансформации ПАО «КАМАЗ» ежегодно организует и проводит корпоративный акселератор проектов цифровой трансформации и предпринимательства. Сотрудникам предлагается пройти краткосрочную образовательную программу по поиску и развитию идей продуктовых проектов, по итогам которой они могут инициировать запуск проектов по двум направлениям: «проверка гипотез» — формулирование проблемы производственного или функционального подразделения, решением которой может быть внедрение цифрового продукта; предложение бизнес-идеи, синергичной основной деятельности ПАО «КАМАЗ».

Холдинг ОАО «РЖД» проводит конкурс молодежных проектов «Новое звено», целью которого является стимулирование научной и технической мысли молодых работников холдинга ОАО «РЖД», их

вовлечение в решение корпоративных задач, в том числе в инновационную деятельность. Также действует корпоративный акселератор ОАО «РЖД», созданный на площадке профильного Всероссийского научно-исследовательского института железнодорожного транспорта (АО «ВНИИЖТ»). В ходе акселерационной программы команды стартап-проектов получают прямую связь от бизнес-заказчиков внутри холдинга ОАО «РЖД», экспертную поддержку институтов научного отраслевого комплекса ОАО «РЖД», ускорение процедур принятия решения о запуске пилота. Кроме того, ОАО «РЖД» формирует совместные с ВУЗами студенческие бизнесинкубаторы, организует региональную сеть поддержки стартап-компаний и работу по реализации и сопровождению стартап-проектов на полигонах железных дорог (через сеть региональных центров инновационного развития), участвует в конкурсах грантового софинансирования. В ОАО «РЖД» действует «Единое окно инноваций», обеспечивающее прием инновационных предложений и их последующее рассмотрение специалистами ОАО «РЖД» как от физических, так и от юридических лиц различных организационно-правовых форм [20, с. 4].

С 2020 года отраслевым советом молодежи Госкорпорации «Росатом» при поддержке корпоративного акселератора Росатома «Иннохаб» продвигается развитие корпоративного молодежного предпринимательства. Формируется единая площадка и отраслевое направление по поддержке проектов внутренних молодых предпринимателей отрасли — индивидуальных инициатив сотрудников вне зависимости от уровня предпринимательской зрелости и их обучение. В 2021–2022 годах проведены совместные мероприятия по обмену опытом по программам инкубации и внутреннему предпринимательству с Госкорпорацией «Ростех», ПАО Сбербанк, ПАО «КАМАЗ», ООО «СИБУР» и Росмолодежь.Бизнес. В 2022 году в Госкорпорации «Росатом» молодежными советами и компаниями проведены 3 конкурсных отбора по поддержке проектов молодежи, отраслевой конкурс «Энергетика лидеров 4.0», «Генератор инициативы» и «Конкурс перспективных идей». В 2022 году подано больше 800 заявок, рассмотрены 90 проектов, 35 из которых поддержаны и будут реализованы в 2023–2024 годах.

Еще одним примером успешной программы поддержки студенческих инициатив является акселератор SberStudent при поддержке ПАО Сбербанк для студентов, аспирантов и научных сотрудников вузов. Программа включает в себя обучающие мероприятия, командную работу с бизнес-наставниками, а также финальными презентационными мероприятиями с возможностью получения грантов от ПАО Сбербанк и инвестиций от фонда Moscow Seed Fund.

Также компании поддерживают молодежные инициативы, выступая партнерами кейс-чемпионатов и конкурсов проектов. ПАО «РусГидро» стало партнером Всероссийского чемпионата для молодых

предпринимателей, организованного при поддержке Росмолодежи и АНО «Россия — страна возможностей», целью которого было познакомить будущих специалистов, студентов последних курсов региональных вузов, с отраслью через деятельность компании. ООО «Рокет Ворк» и АО «КАВКАЗ.РФ» выступили партнерами конкурса студенческих инициатив, организованного ЦСР по инициативе Минэкономразвития России. Целью конкурса стала поддержка студенческих инициатив в разработке инвестиционных проектов, инновационных решений в сфере государственного управления и социально-экономического развития.

Минэкономразвития России реализует программы поддержки молодежного предпринимательства через направления деятельности ведомства в рамках развития малого и среднего предпринимательства, а также поддержки технологического развития и инноваций [20, с. 6].

Федеральные программы поддержки молодежного предпринимательства

Тенденция роста желания на создание собственного бизнеса среди молодежи не осталась незамеченной со стороны государства. Чтобы утолять потребности населения, разрабатываются многочисленные программы для поддержки молодежного предпринимательства, которые не только способствуют развитию профессиональных качеств будущих специалистов, но ещё и оказывают финансовую поддержку начинающим управленцам.

1) Фонд содействия инновациям. Одна из первых государственных некоммерческих организаций, которая занимается финансовой помощью и информационной поддержкой стартапов и мало инвестиционных предприятий – Фонд содействия инновациям.

Фонд был основан в 1994 году и за время своего существования финансировал более чем 6 тысяч стартапов и 20 тысяч инновационных предприятий, открыл представительства более чем в 6 регионах. Ежегодно фондом выделяет 6 млн. рублей на поддержку инноваций [11].

Одна из программ фонда – «СТАРТ». Она направлена на поддержку инновационных компаний. Размер финансирования компании начинается от 2 млн. рублей и может достигать 25 млн. рублей, в зависимости от направленности предприятия.

2) Росмолодежь. Еще одна организация, помогающая раскрыть потенциал молодых предпринимателей и спонсируемая государством – Росмолодежь (Федеральное агентство по делам молодёжи). В частности, «Росмолодежь. Бизнес» совместно с Минэкономразвития реализовали федеральную программу «Я — предприниматель» для людей, в возрасте от 14 до 30, в рамках которой молодые предприниматели открыли около 16 тыс. новых предприятий в 53 регионах страны. [12].

С 19 сентября по 6 декабря 2022 «Росмолодежь. Бизнес» организовала Всероссийский конкурс «ТВОЕ ДЕЛО. Молодой предприниматель России». Основными мотивами проведения конкурса, по

данным официального сайта, являются: поиск амбициозных молодых предпринимателей со всей России; помочь в усилении своих бизнес-проектов, используя опыт отраслевых экспертов; повышение компетенции молодых предпринимателей. Заявки на участие подали свыше 20 тысяч человек.

Конкурс состоял из 13 номинаций, среди них были не только такие классические номинации, как: «Инновационно-технологическое предпринимательство», «Классическое предпринимательство», но и достаточно необычные, например, номинация «Женский бизнес».

3) Университет 3.0. В рамках новой «четвертой промышленной» революции, особое распространение получила концепция Университет 3.0. Данная модель обучения поможет сформировать в России такую научную базу и образовательную среду, которая будет отвечать на современные технологические вызовы и сделает значительный вклад в развитие молодежного предпринимательства. Концепция предусматривает создание на базе ведущих учебных заведений центров генерации новых технологий. Такие учебные заведения названы Национальной технологической инициативой (Университетами НТИ), являющимися российской моделью Университета 3.0, и нацелены на повышение глобальной конкурентоспособности российских университетов на мировом рынке. [13]

В общих чертах, модель Университета 3.0 представляет собой заведение, комбинирующее одновременно три миссии: образовательную, научно-исследовательскую и инновационную, направленную на коммерциализацию знаний [14]. Таким образом, можно сказать, что данная концепция представляет собой предпринимательский университет, главным интересом которого является также развитие предпринимательской культуры у студентов, стимулирование и подготовка их к предпринимательской деятельности после выпуска из университета.

Ярким примером Университета 3.0 в России является Санкт-Петербургский национальный исследовательский университет информационных технологий, механики и оптики (ИТМО), Инновационный Центр Сколково, Московский государственный университет имени М. В. Ломоносова (МГУ), и др.

4) Молодежное предпринимательство на Западе. Вполне очевидно, что зарождение молодежного предпринимательства как массового явления берет свое начало в Европейских странах, а также несомненно в Соединённых штатах Америки. Становление молодежного предпринимательства можно определить, как начало появления первых предпринимательских университетов.

Причиной поиска новых механизмов для развития бизнеса послужила Великая депрессия 1929-1933, вследствие которой высшие учебные заведения США определили единственный путь выхода из кризиса – взаимодействие бизнеса и науки. Первым предпринимательским

университетом считается Стэнфордский университет, после него инициативу подхватили Гарвардский университет и Массачусетский технологический институт [15].

Поддержка молодых предпринимателей так же, как и в России предусматривает щедрое субсидирование и кредитование. Так, в Германии, начинающий предприниматель может претендовать на 40% инвестиций без предоставления гарантий возврата, под поручительство государства, а кредиты на создание бизнеса могут достигать 300000 марок (1 544 012.06 на январь 2023 года), срок выплаты при этом составляет 10 лет. [16]

Основными элементами механизма финансирования являются:

- грантовое финансирование,
- льготные кредиты,
- микрокредиты,
- кредитные гарантии Правительства.

Среди первоочередных мер господдержки следует отметить необходимость снижения ставки по страховым взносам, последствием чего должен стать рост количества взносов. Исходя из проблемы высокой закредитованности бизнеса, требуется введение моратория по выплате основного долга при выплате тела кредита в виде процентов. Важной мерой поддержки молодежных инновационных предприятий следует назвать осуществление прямых выплат, выдачу субсидий в размере МРОТ и льготных кредитов при условии годовой занятости. Не менее важным вопросом для предпринимателей выступает проблема роста тарифов естественных монополий. Одним из вопросов, вызывающих беспокойство среди предпринимателей, является обязательная маркировка основной массы товаров. Среди мер, предлагаемых государством в виде помощи для российских бизнесменов, можно назвать введение моратория на контроль деятельности предпринимателей, отсрочку выплат по кредитам в виде кредитных каникул или уменьшения размеров платежа по займам [23].

По данным Росстата в России проживает около 22 млн. человек в возрасте от 14 до 35, что составляет 15% от всего населения страны [10]. Вопрос вовлечения такой массивной прослойки населения в бизнес уже давно приобрел стратегическое значение для экономики.

Но не всегда инновационные идеи, с которыми молодёжь приходит на рынок труда, могут быть по достоинству оценены более взрослыми и опытными работниками, которые привыкли к традиционному способу ведения бизнеса. К сожалению, из-за высокой консервативности нынешних бизнесменов многие перспективные проекты так и не были профинансированы, и молодые амбициозные предприниматели навсегда потеряли и мотивацию, и возможность реализовать собственное дело.

Большая роль в успешности и скорости финансовых транзакций отводится системе быстрых платежей, на внедрение которой для компенсации расходов бизнеса государством выделены из бюджета 0,5

млрд р. В настоящий момент происходит реализация льготного кредитования молодежных инновационных предприятий. Виды мер помощи молодежным инновационным предприятиям можно классифицировать по организационному признаку. Основная роль отводится федеральным программам поддержки бизнеса. Деятельность Министерства экономического развития РФ, направленная на контроль работы корпорации малых и средних предприятий, в рамках федерального института поддержки малого и среднего бизнеса призвана оказывать такие виды помощи, как юридическая, образовательная, консультационная и др.

С целью реализации инновационных проектов в сфере информационных технологий сформирована и внедрена программа акселерации, которая реализуется в рамках деятельности Фонда развития интернет-инициатив [29]. Программа акселерации посвящена анализу проектов, наставничеству, консультированию в ходе внедрения, развитию специальных способностей работников. С целью повышения объемов выручки производится укрупнение проектных решений и рост их инвестиционной привлекательности. Среди участников акселерационной программы необходимо отметить компании, выигравшие грантовое финансирование на внедрение новых интернет-технологий в сфере коммуникаций, в том числе рекомендательных, игровых, видео-, аудиосервисов, мессенджеров и коммуникационных сервисов [7].

Значимой мерой государственной поддержки выступает банковский инструмент, применяемый пониженную льготную ставку в пределах 1–5 %. Эта мера направлена на мотивирование предприятий к внедрению российских программных продуктов. Доступность для предприятий льготных кредитов способствует приобретению программного обеспечения, в том числе возможности купить компьютерное, серверное и сетевое оборудование, комплектующие и расходные материалы. Субсидийное финансирование предприятий, достигающее 90 % ставки ЦБ РФ, направлено на продвижение инновационных проектов в рамках цифровизации и предназначено системно значимым кредитным организациям и другим уполномоченным банкам. Ключевая ставка ЦБ РФ, достигающая 100 %, определена Министерством цифровизации РФ с целью дополнительно стимулировать предприятия, осуществляющие цифровую трансформацию, и предусматривает рост объемов софинансирования [11, С. 38 – 44].

Национальный проект «Малое и среднее предпринимательство и поддержка индивидуальной предпринимательской инициативы» [21]

Название	Описание	Параметры поддержки	Условия участия
Грантовая поддержка предпринимателям до 25 лет	<p>Грант предоставляется на реализацию бизнес-проекта - приобретение оборудования, оргтехники, программного обеспечения, сырья, оплату аренды, первого взноса по франшизе, продвижение проекта в СМИ и др.</p> <p>Для получения гранта необходимо обратиться в региональные органы власти</p>	<p>Минимальный размер гранта – 100 тыс. руб.</p> <p>Максимальный объем гранта составляет 500 тыс. руб. (для регионов Арктической зоны – до 1 млн руб.: Мурманская и Архангельская области, Ненецкий и Ямало-Ненецкий АО, Чукотка, Карелия, Коми, Якутия, Красноярский край)</p>	<p>Индивидуальные предприниматели или учредители компании в возрасте до 25 лет; сертификат об обучении основам ведения предпринимательской деятельности; софинансирование не менее 25% от стоимости проекта; учитываются также региональные критерии</p>

*Источник: Портал поддержки малого и среднего бизнеса <https://mcp.pф/>
Фонд содействия инновациям [22]*

Название	Описание	Параметры поддержки	Условия участия
Студенческий стартап	<p>Грант предоставляется на цели разработки новых товаров, изделий, технологий или услуг.</p> <p>Ожидаемым результатом является создание юр. лица, разработка бизнес-плана проекта, создание сайта и предоставление отчета о развитии стартапа.</p> <p>Подача заявок осуществляется через онлайн систему Фонда.</p>	<p>Размер гранта – 1 млн руб.; срок выполнения НИР – 12 месяцев</p>	<p>Студенты ВУЗов, обучающиеся по программам бакалавриата, специалитета, магистратуры или аспирантуры</p>
Программа «ИнноШкольник»	<p>Программа «Вовлечение школьников в инновационную деятельность» в целях развития интереса к инновационной и научной деятельности.</p>	<p>Проведение конкурсов, реализация мер поддержки отдельных проектов, партнерское взаимодействие с государственными органами власти.</p>	<p>Школьники и студенты (в зависимости от конкурса/проекта)</p>
Программа «УМНИК»	<p>Грант в целях поддержки коммерчески ориентированных научно-технических проектов молодых исследователей.</p> <p>Ожидаемым результатом является подача заявки на регистрацию прав на результаты интеллектуальной собственности, подготовка бизнес-плана проекта или подача заявки в «Студенческий стартап».</p>	<p>Размер гранта – 500 тыс. руб.; срок выполнения НИР – 12 месяцев</p>	<p>Физические лица в возрасте от 18 до 30 лет, граждане РФ, ранее не побеждавшие в программе.</p>

Источник: Фонд содействия инновациям

Проблемы развития молодежного предпринимательства

Внешние и внутренние условия вызывают ряд причин, препятствующих развитию молодежного предпринимательства. Исследователи считают, что основными проблемами, сдерживающими развитие молодежного предпринимательства, являются организационно-

правовые, финансово-кредитные, информационные, коррупционные (табл. 3) [5, С. 14-154].

Таблица 3 - Проблемы и последствия в развитии молодежного предпринимательства

Проблемы	Описание	Негативные последствия
Организационно-правовые	<ul style="list-style-type: none"> – отсутствие самостоятельного нормативно-правового документа, регламентирующего молодежное предпринимательство; – отсутствие четких разграничений полномочий и функций в области развития молодежного предпринимательства между органами власти разных уровней; – слабая координация деятельности институтов по поддержке молодежного предпринимательства; – административные барьеры. 	<ul style="list-style-type: none"> – падение интереса у молодежи к организации своего дела; – отток молодых людей в более крупные города и развитые регионы; – сокращение поступлений в бюджеты разных уровней;
Финансово-кредитные, налоговые	<ul style="list-style-type: none"> – сложность/невозможность получения кредита, высокие ставки кредита; – жесткие критерии отбора претендентов для получения субсидий; – высокие налоги 	<ul style="list-style-type: none"> – снижение занятости, увеличение числа безработной молодежи
Информационные	<ul style="list-style-type: none"> – недостаточность/отсутствие необходимой информации о реализации мероприятий по поддержке и развитию молодежного предпринимательства 	<ul style="list-style-type: none"> – сокращение доходов, снижение уровня и качества жизни молодежи;
Образовательные	<ul style="list-style-type: none"> – недостаток необходимых знаний, легкость восприятия деятельности в сфере бизнеса; 	
Коррупционные	<ul style="list-style-type: none"> – коррупционные барьеры, в том числе и существующая система «откатов» чиновникам, принимающим решение о выделении субсидии 	

Несмотря на то, что на федеральном и региональном уровне осуществляются определенные меры поддержки, но пока так и не выработан системный подход. Отсутствует общая стратегия развития молодежного предпринимательства, низкое качество коммуникативных связей с молодыми людьми, слабая их информированность о возможностях, которые дает собственное дело и др. Проблемой является дифференциация мест притяжения молодежи между региональными и федеральными центрами, в результате чего возникают разные возможности для организации предпринимательской деятельности [5, С. 14-154].

Однако существует проблема, связанная со слабым развитием информационного поля, из-за чего молодые предприниматели не знают, где и как можно узнать о грантовых конкурсах, что необходимо сделать для открытия своего бизнеса. Молодые люди не понимают, для чего необходимо инвестировать в основной капитал, почему он так важен и необходим для бизнеса и государства. Существование инструментов не имеет смысла, если ими не пользуются.

Проблему «тонкости» информационной коммуникабельности можно решить с помощью создания необходимых информационных молодежных порталов в социальных сетях с помощью привлечения к деятельности молодых журналистов. Данный процесс требует правовой регламентации.

Например, в Японии подготовка и обучение предпринимателей организуется в специализированных учебных центрах профессионального образования отраслей и министерств в профессиональных учебных заведениях, на курсах повышения квалификации или непосредственно на рабочем месте. Также существует интернет-платформа онлайн-курсов Open edX, которая включает в себя и курсы по предпринимательству.

В настоящее время экономика России сталкивается с масштабными экономическими санкциями со стороны недружественных государств, которые оказывают серьезное воздействие на различные ее сферы и сектора, включая малый и средний бизнес.

Основными проблемами, с которыми столкнулись предприниматели после введения санкций, являются высокая зависимость от импорта, рост цен на ресурсы, ослабление спроса со стороны потребителей и, как следствие, снижение валового дохода. Также наблюдается высокая волатильность рубля, нарушение каналов сбыта и поставок.

Заключение

Подводя итоги, основными примерами мер корпоративной поддержки молодежного предпринимательства компаний являются:

- корпоративные акселераторы;
- форумы молодых специалистов;
- внутренние конкурсы проектов, кейс-чемпионаты;
- технологические долины;
- партнерства во внешних мероприятиях, поддержка проектов, в том числе студенческих бизнесинкубаторов совместно с ВУЗами;
- внутренние образовательные мероприятия [20, с. 5].

По данным Росстата в России проживает около 22 млн. человек в возрасте от 14 до 35, что составляет 15% от всего населения страны [10]. Вопрос вовлечения такой массивной прослойки населения в бизнес уже давно приобрел стратегическое значение для экономики.

Но не всегда инновационные идеи, с которыми молодёжь приходит на рынок труда, могут быть по достоинству оценены более взрослыми и опытными работниками, которые привыкли к традиционному способу ведения бизнеса. К сожалению, из-за высокой консервативности нынешних бизнесменов многие перспективные проекты так и не были профинансированы, и молодые амбициозные предприниматели навсегда потеряли и мотивацию, и возможность реализовать собственное дело.

В заключение можно сделать вывод, что комплексная государственная политика формирования предпринимательского потенциала населения как в России, так и на Западе сочетает развитую рыночную инфраструктуру, стабильную экономическую систему, упрощенные административные процедуры.

Подводя итоги, нельзя не отметить важность развития молодежного инновационного предпринимательства для страны и её экономики.

Молодежное инновационное предпринимательство формирует потенциал государства и содействует появлению инноваций, в том числе, помогает стране наладить систему импортозамещения технологий [16, С.327 – 330].

Таким образом, разработанные государством антикризисные меры в поддержку молодежного инновационного предпринимательства направлены на обеспечение социально-экономической стабильности, финансово-кредитную и льготную поддержку, предоставление денежного и другого имущества [17].

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ҚАЙТА ИШЛАНГАН ГЕКСАНДАН АВТОГЕРМЕТИК МАҲСУЛОТЛАРИ УЧУН MICOSOL 1723 ЭРИТУВЧИСИНИ ОЛИШ ИМКОНИЯТЛАРИ

Аннотация. Мамлакатимизда амалга оширилаётган кенг чоратадбирлар натижасида, кимё ва нефт-газ саноатида маҳаллий хомашёлар асосида янги турдаги маҳсулотларни ишлаб чиқаришни йўлга қўйиш ва ички бозорни импорт ўрнини боса оладиган хомашё ва маҳсулотлар билан таъминлаш масаласида кенг қамровли ҳаракатлар амалга оширилмоқда, ҳамда бу борада муайян илмий ва амалий натижаларга эришилмоқда. Янги Ўзбекистоннинг тараққиёт стратегиясида “Иқтисодиётга инновацияларни кенг жорий қилиш, саноат корхоналари ва илм-фан муассасаларининг кооперация алоқаларини ривожлантириш” вазифалари белгилаб берилган. Бу борада ЛБМ учун эритувчи ва суюлтирувчилар ишлаб чиқариш соҳасини ривожлантириш ва улар асосидаги ишлаб чиқаришни маҳаллийлаштириш дастурини амалга ошириш бўйича илмий ва амалий изланишлар олиб бориш муҳим аҳамият касб этади.

Калит сўзлар: автобўёқ, MICOSOL-1720, қайта ишланган гексан, лок-бўёқ, суспензион полимерланиш, иккиламчи маҳсулоти, хомашё, автогерметик, цикл, нормал занжир, газ хроматография масс спектрометрия, импорт, эритувчи, хроматограмма.

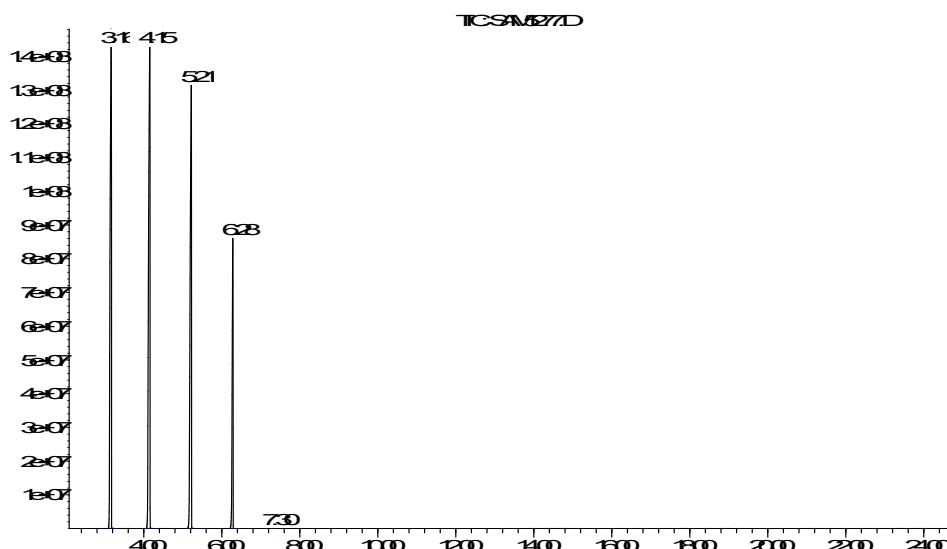
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AVAILABILITY OF MICOSOL 1723 SOLVENT FOR RECYCLED HEXANE SEALANT PRODUCTS

Annotation. As a result of the extensive measures being implemented in our country, extensive efforts are being made in the chemical and oil and gas industry to start production of new types of products based on local raw materials and to supply the domestic market with raw materials and products that can replace imports, and in this regard, certain scientific and practical results are being achieved. In the development strategy of the new Uzbekistan, the tasks of "wide introduction of innovations to the economy, development of cooperative relations of industrial enterprises and scientific institutions" are defined. In this regard, it is important for LBM to carry out scientific and practical research on the development of the field of production of solvents and diluents and the implementation of the program of localization of production based on them.

Key words: autopaht, MICOSOL-1720, recycled hexane, lok-paint, suspension polymerization, secondary product, raw material, autosealant, cycle, normal chain, gas chromatography mass spectrometry, import, solvent, chromatogram.

Автосаноат мамлакат иқтисодиётини ривожланишида катта аҳамиятга эга бўлган саноатнинг бир қисми бўлиб, саноатнинг бошқа соҳаларини ривожланиши учун ҳам ўзининг катта ҳиссасини кўшади. Автомобил ишлаб чиқариш соҳасининг ривожланиши кўпгина омилларга боғлиқ. Шулардан асосийларидан бири бу автомобиль ишлаб чиқариш учун зарур бўлган қисмларни локализациясидир. Автомобил ишлаб чиқаришда турли автокимё маҳсулотлари қўлланилади. Автобўёқ маҳсулотлари Республикамизда «Уз-Донг Жу Пэинт Ко» ҚК МЧЖ корхонасида ишлаб чиқарилади. Корхона ишлаб чиқарадиган маҳсулотлар учун қўлланиладиган деярли барча эритувчилар импорт эвазига олиб келинади. «Уз-Донг Жу Пэинт Ко» ҚК МЧЖ корхонасидаги автогерметик ишлаб чиқариш жараёнида қўлланиладиган импорт эритувчи MICOSOL-1720 рангсиз, шаффоф, мойсимон суюқлик, зичлиги 0,750 г/мл, қайнаш ҳароратининг бошланиши 170⁰С тугаши 200⁰С. Микосол – 1720 асосан импорт эвазига автосаноатга тегишли заводлар эҳтиёжи кондирилади. Микосол – 1720 асосан автогерметик ишлаб чиқариш учун эритувчи сифатида қўлланилади. Асосий кимёвий таркиби нормал ва изо занжирли алканлар аралашмасидан иборат. Импорт қилинадиган эритувчи MICOSOL-1720 намунаси кимёвий таркиби газ хроматография масс спектрометрия усулида таҳлил қилинди ва натижалар 1 – жадвалда ва 1 – расмда келтирилган.



1 – расм. MICOSOL -1720 импорт эритувчисининг хроматограммаси

1 – жадвал

MICOSOL -1720 импорт эритувчисининг кимёвий таркиби

№	Модда номи	Формуласи	Масса улуши, %	Ўхшашлиги, %
1.	Tetradecane	$C_{14}H_{30}$	29,67	99
2.	Pentadecane	$C_{15}H_{32}$	31,70	97
3.	Hexadecane	$C_{16}H_{34}$	26,97	98
4.	Heptadecane	$C_{17}H_{36}$	11,64	98
5.	Octadecane	$C_{18}H_{38}$	0,02	96

Анализ натижаларидан кўришиб турибдики, MICOSOL – 1720 эритувчиси кимёвий таркиби асосан нормал занжирли тўйинган углеводородлардан иборат бўлиб, асосан C_{14-18} фракция ташкил қилади.

Республикада мавжуд бўлган хомашё ресурси қайта ишланган гексан – рангсиз, лойқа, мойсимон, хидли суюқлик. “Uz-Kor Gas Chemical” ҚК МЧЖ полиэтилен ишлаб чиқариш жараёни иккиламчи маҳсулоти. Полиэтилен гексан эритувчисиди синтез қилинади ва эритувчи полимердан ажратилгандан сўнг циклга қайтариш мақсадида ректификация усулида регенерация қилинади. Ректификация жараёнида қолган оғир фракция қайта ишланган гексан номи билан иккиламчи маҳсулот сифатида ишлаб чиқарилади.

“Uz-Kor Gas Chemical” ҚК МЧЖ суспензион полимерланиш

жараёни иккиламчи маҳсулоти қайта ишланган гексан хроматограммаси

Анализ натижаларидан кўришиб турибдики, “Uz-Kor Gas Chemical” ҚК МЧЖ суспензион полимерланиш жараёни иккиламчи маҳсулоти қайта ишланган гексан кимёвий таркиби асосан нормал ва изо занжирли тўйинган ва нафтен углеводородлардан иборат бўлиб, асосан C_{8-33} бўлган фракцияни ташкил қилади. Қайта ишланган гексан таркибини асосий 88% дан юқори

қисмини октан, декан, додекан, тридекан, тетрадекан, гексадекан, гептадекан, генэйкозан каби нормал занжирли алканлар ташкил қилади.

“Шўртан газ-кимё мажмуаси” МЧЖ полиэтилен ишлаб чиқариш жараёни иккиламчи маҳсулоти – қуйи молекуляр полиэтилен, “Uz-Kor Gas Chemical” ҚК МЧЖ суспензион полимерланиш жараёни иккиламчи маҳсулоти – қайта ишланган гексан маҳсулотлари автокимё маҳсулотлари учун махсус эритувчи ва суюлтирувчилар олиш мақсадида хомашё сифатида қўлланилди.

“Uz-Kor Gas Chemical” ҚК МЧЖ суспензион полимерланиш жараёни иккиламчи маҳсулоти қайта ишланган гексан маҳаллий хомашёсидан импорт маҳсулот MICOSOL 1720 ўрнини босувчи автогерметик маҳсулот MICOSOL- 1723 эритувчини қўллаб, импорт валютани 3,5 баробаргача тежаб қолиш имконияти мавжудлигини кўрсатади.

Фойдаланилган адабиётлар рўйхати:

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ПОЛИЭТИЛЕН ИШЛАБ ЧИҚАРИШ ЖАРАЁНИ ИККИЛАМЧИ МАҲСУЛОТЛАРИ АСОСИДА ОЛИНГАН ЭРИТУВЧИЛАР НАТИЖАЛАРИНИ МАТЕМАТИК МОДЕЛЛАШТИРИШ

Аннотация. Ушбу мақолада полиэтилен ишлаб чиқариш жараёни иккиламчи маҳсулотлари асосида автобўёқлар учун эритувчилар олиш жараёни асосида олинган тажриба натижаларини математик моделлаштириш кам сонли квадратлар усулидан фойдаланилган.

Калит сўзлар: полиэтилен, эритувчилар, математик моделлаштириш, автобўёқлар, иконограмма, пиролиз конденсати, автогерметик, матрица, вектор, қайта ишланган гексан.

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MATHEMATICAL MODELING OF RESULTS OF SOLVENTS OBTAINED BASED ON SECONDARY PRODUCTS OF POLYETHYLENE PRODUCTION PROCESS

Abstract. In this article, mathematical modeling of the experimental results obtained on the basis of the process of obtaining solvents for car paints based on the secondary products of the polyethylene production process using the method of least squares.

Key words: polyethylene, solvents, mathematical modeling, automotive paints, iconogram, pyrolysis condensate, autosealant, matrix, vector, recycled hexane.

Полиэтилен ишлаб чиқариш жараёни иккиламчи маҳсулотлари асосида автобўёқлар учун эритувчилар олиш жараёни асосида олинган

эритувчилар ҳозирги кунда автомобил саноатида кенг қўлланилмоқда. Ишда полиэтилен ишлаб чиқариш жараёни иккиламчи маҳсулотлари асосида автобўёқлар учун махсус эритувчилар олиш жараёнида олинган тажриба натижаларини математик моделлаштириш кам сонли квадратлар усулидан фойдаланган ҳолда амалга оширилди. Тажриба натижаларининг боғлиқлик ҳолати 1-жадвалда келтирилган[2].

2-жадвал

Иккиламчи маҳсулотлар асосида автобўёқлар учун эритувчиларни математик моделлаштириш

Реакция давомийлиги, соат	Ҳарорат °C	Маҳсулот унуми %	Реакция ўртача тезлиги %/соат
4	140	20.4	5.1
	160	22.2	5.55
	180	28.0	7.0
	200	26.2	6.55

Ушбу математик моделлаштиришда дастлаб Марле софт дастурига синтез жараёнида олиб борилган ҳарорат ва маҳсулот унуми киритилди.

$t[1]:= 140$; $t[2]:= 160$; $t[3]:= 180$; $t[4]:= 200$; $y[1]:= 20.4$; $y[2]:= 22.2$; $y[3]:= 28.0$; $y[4]:= 26.2$;

Киритилган қийматлар асосида А матрица яратилди.

$$A := Matrix([\sum((t[i])^6, i = 1..4), \sum((t[i])^5, i = 1..4), \sum((t[i])^4, i = 1..4), \sum((t[i])^3, i = 1..4)], [\sum((t[i])^5, i = 1..4), \sum((t[i])^4, i = 1..4), \sum((t[i])^3, i = 1..4), \sum((t[i])^2, i = 1..4)], [\sum((t[i])^4, i = 1..4), \sum((t[i])^3, i = 1..4), \sum((t[i])^2, i = 1..4), \sum((t[i])^1, i = 1..4)], [\sum((t[i])^3, i = 1..4), \sum((t[i])^2, i = 1..4), \sum((t[i])^1, i = 1..4), 4]]);$$

А, В, С ва матрица қиймати ҳисобланди.

$$A := \begin{bmatrix} 12231897600000 & 667596800000 & 3689280000 & 20672000 \\ 667596800000 & 3689280000 & 20672000 & 117600 \\ 3689280000 & 20672000 & 117600 & 680 \\ 20672000 & 117600 & 680 & 4 \end{bmatrix}$$

$$A^{-1} = \begin{bmatrix} \frac{1}{115200000} & -\frac{17}{3840000} & \frac{2147}{2880000} & -\frac{663}{16000} \\ -\frac{17}{3840000} & \frac{723}{320000} & -\frac{731}{1920} & \frac{8471}{400} \\ \frac{2147}{2880000} & -\frac{731}{1920} & \frac{92453}{1440} & -\frac{142953}{40} \\ -\frac{663}{16000} & \frac{8471}{400} & -\frac{142953}{40} & 199081 \end{bmatrix}$$

$$B := Matrix([\sum(y[i] \cdot (t[i])^3, i = 1..4)], [\sum(y[i] \cdot (t[i])^2, i = 1..4)], [\sum(y[i] \cdot t[i], i = 1..4)], [\sum(y[i], i = 1..4)]]);$$

$$B := \begin{bmatrix} 5.198048000 \cdot 10^8 \\ 2.9233600 \cdot 10^6 \\ 16688.0 \\ 96.8 \end{bmatrix}$$

$$C := \text{Matrix}([a], [b], [c], [d])$$

$$C := \begin{bmatrix} -0.000241670 \\ 0.135500 \\ -25.0030 \\ 1542.00 \end{bmatrix}$$

$$\text{evalm}(\&* (1/A, B))$$

Олинган маҳсулот унумига асосан олинган кийматлар асосида К, Л
ВА У матрицалар асосида реакция тезлиги ҳисоблаб чиқилди

$$v[1] := 5.1; v[2] := 5.55; v[3] := 7.0; v[4] := 6.55;$$

$$u[1] := 20.4; u[2] := 22.2; u[3] := 28.0; u[4] := 26.2;$$

$$t[1] := 140; t[2] := 160; t[3] := 180; t[4] := 200;$$

$$K := \begin{bmatrix} 117600 & 20672000 & 7.3084000 \cdot 10^5 & 25970.3000 \\ 20672000 & 3689280000 & 1.299512000 \cdot 10^8 & 4.602040000 \cdot 10^6 \\ 7.3084000 \cdot 10^5 & 1.299512000 \cdot 10^8 & 4.602040000 \cdot 10^6 & 1.638660350 \cdot 10^5 \\ 25970.3000 & 4.602040000 \cdot 10^6 & 1.638660350 \cdot 10^5 & 5866.938612 \end{bmatrix}$$

$$L := \text{Matrix}([l], [m], [n], [f]);$$

$$L := \begin{bmatrix} l \\ m \\ n \\ f \end{bmatrix}$$

$$U := \text{Matrix}([[\text{sum}(u[i] \cdot t[i], i = 1..4)], [\text{sum}(u[i] \cdot (t[i])^2, i = 1..4)], [\text{sum}(u[i] \cdot t[i] \cdot v[i], i = 1..4)], [\text{sum}(u[i] \cdot (v[i])^2, i = 1..4)]]])$$

$$U := \begin{bmatrix} 16688.0 \\ 2.9233600 \cdot 10^6 \\ 103881.200 \\ 3710.46500 \end{bmatrix}$$

$$\text{evalm}(K^{-1} \&* U);$$

$$\begin{bmatrix} 0.159244957013470 \\ 0.00312193679405937 \\ -0.200110038233106 \\ 3.06783271627501 \end{bmatrix}$$

$$l := 0.159244957013470; m := 0.00312193679405937; n := -0.200110038233106; f := 3.06783271627501;$$

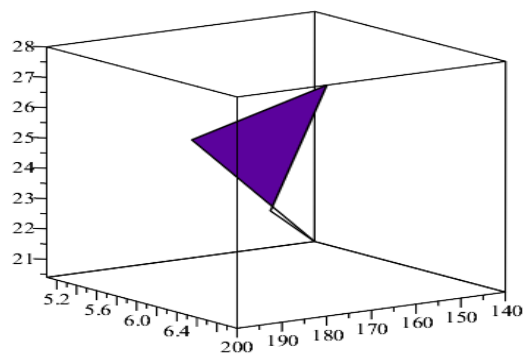
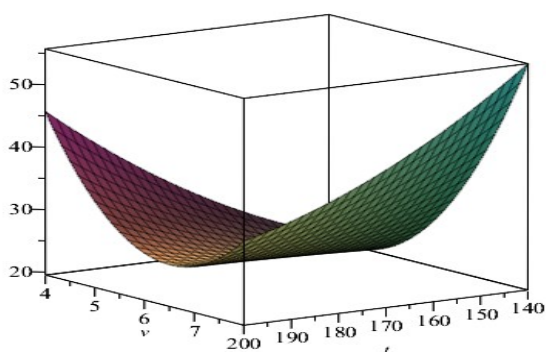
$$l := 0.159244957013470$$

$$m := 0.00312193679405937$$

$$n := -0.200110038233106$$

$$f := 3.06783271627501$$

$$u := l \cdot t + m \cdot t^2 + n \cdot t \cdot v + f \cdot v^2;$$

$$u := 0.00312193679405937 t^2 - 0.200110038233106 t v + 3.06783271627501 v^2 + 0.159244957013470 t$$


3-расм. Тажириба натижалари иконограммаси

Полиэтилен ишлаб чиқариш жараёни иккиламчи маҳсулотлари асосида автобўёқлар учун махсус эритувчилар олиш жараёни асосида олинган эритувчиларнинг маҳсулот унуми, реакция тезлиги асосида математик моделлаштириш натижалари шуни кўрсатадики, олинган тажириба натижалари математик қайта ишланганда, олиб борилган тажирибалар 90 % аниқликда эканлигини кўрсатади.

Полиэтилен ишлаб чиқариш жараёни иккиламчи маҳсулотлари қайта ишланган гексан ва пиролиз конденсатидан олинган автогерметик ва автобўёқлар учун эритувчилар ва суюлтирувчилар математик моделлаштириш дастурлари орқали қайта ишланди ва натижаларнинг аниқлик даражалари қониқарли баҳоланди.

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УСИЛЕНИЕ РОЛИ ТУРИСТИЧЕСКИХ УСЛУГ НА СНИЖЕНИЕ ДОТАЦИОННОЙ ЗАВИСИМОСТИ МЕСТНОГО БЮДЖЕТА

Аннотация. В статье представлены предложения и рекомендации по направлениям развития инновационной деятельности в сфере туристических услуг и совершенствованию экономических механизмов государственной поддержки туристических услуг, а также их содержанию, применению и эффективности.

Ключевые слова: туристические услуги, туристическая деятельность, рентабельность, инновации, государственная поддержка, электронная коммерция.

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STRENGTHENING THE ROLE OF TOURIST SERVICES TO REDUCING THE DONATION DEPENDENCE OF LOCAL BUDGETS

Abstract. The article presents proposals and recommendations on areas for developing innovative activities in the field of tourism services and improving the economic mechanisms of state support for tourism services, as well as their content, application and effectiveness.

Key words: tourism services, tourism activities, profitability, innovation, government support, e-commerce.

Туризм в современных условиях является одной из наиболее динамичных и высокодоходных отраслей экономики, обеспечивая приток инвестиций, новые рабочие места, развитие инфраструктуры, укрепление позиций малого и среднего бизнеса. Сферу туризма следует рассматривать не только в экономической плоскости, в частности, как источник налоговых поступлений в бюджет, но и в социальном аспекте, как создание условий для реализации потребностей личности в отдыхе, приобщения к культурно-историческим ценностям, познания истории, религии, традиций.

В современных условиях экономического кризиса формирование и развитие туристической привлекательности муниципального образования является одним из стратегических направлений социально-экономической деятельности современных государств. Как показывают результаты социологических исследований, уровень туристической привлекательности российских муниципальных образований достаточно низок.

Среди зарубежных и отечественных ученых, занимающихся исследованием проблем сферы туризма как социального феномена, необходимо отметить С.Козна [1], Д.Маккенела [2], Т.И.Черняеву[3]. В данных работах ученых рассмотрен социальный аспект туризма, его характеристики и функции, а также значение сферы туризма в социальной среде.

Так, по мнению С.Е.Щеглова, туризм по своей природе социален, так как это деятельность людей в рамках развитого цивилизационного человеческого общества. Аксиологический анализ туризма может дать многое для изучения его современного состояния, поскольку ценности входят в число основных компонентов мотивации человеческой деятельности, во многом детерминируют специфику восприятия индивидом окружающей действительности и особенности его поведения.

По существу, базовых работ, посвященных анализу именно социологических аспектов развития туризма, пока еще недостаточно, что подтверждается выводами, в том числе, С.Е.Щеглова, утверждающего, что «социологическая составляющая туризма еще недостаточно представлена в российской социологии», а сама «социология туризма в России находится на стадии институционализации». В еще меньшей степени исследованы вопросы туристической привлекательности конкретной территории. Данный аспект проблемы имеет самое важное значение, поскольку позволяет не только анализировать имидж территории, мотивы туристического выбора, но и разрабатывать направления оптимизации управления в сфере туризма, механизмы продвижения туристских услуг конкретного муниципального образования.

Из этого видно, что он входит в ряды секторов, активно обращающихся на рынках мировых стран, которые находят свое место в жизни политики и экономики разных стран. Как мы подчеркивали выше, одной из необходимых особенностей современного этапа инновационного экономического развития является повышение роли внедрения инновационных технологий в росте экономики государства, при этом стремление развитых стран к конкурировать за счет высоких технологий и нестандартных нематериальных активов.

Создание конкурентоспособной продукции, ее выпуск на туристический рынок, а также то, что полученная прибыль послужит повышению уровня жизни населения, будет способствовать повышению рейтинга экономики страны на мировом уровне. Поэтому развитие туризма важно для экономики нашей страны. В государственном законодательстве инновационный технологический процесс оценивается как конечный результат технологического процесса воссоздания или переулучшения продукции.

Для нас не секрет, что туризм развивается по нескольким направлениям. В качестве примера можно упомянуть экономику,

менеджмент, лингвистику, технологию и ряд отраслей в других областях. Создаваемые инновационные инновации взаимосвязаны, и чтобы в полной мере и в совершенстве развить одну, необходимо внести аналогичные изменения в другую. Для предприятий туристической отрасли важна реализация новых инновационных идей. Примерами таких инноваций являются цифровизация, переход на онлайн-систему управления, открытие новых турпакетов и туристических направлений, увеличение вида и качества дополнительных услуг в сфере услуг.

Формирование таких идей помогает создать необходимые условия для формирования системы инновационных решений в области управления и силы инновационной стратегии. Создание нового туристического продукта осуществляется в несколько этапов. Уровень развития процесса определяется возможностью удовлетворения спроса потребительского рынка или определенного покупателя. Инновационная деятельность предприятия оценивается в зависимости от размера, вида и качественных показателей продукции. Этот процесс, развивающийся последовательно и взаимозависимо, является одним из необходимых условий экономического роста и повышения уровня жизни населения.

Как и во всех отраслях, в развитии инновационной деятельности имеются определенные отстающие направления и проблемы. В качестве слабого звена организационно-экономического механизма можно назвать механизм системы управления. В современном мире, окруженном инновациями, именно инновации являются наиболее быстро развивающейся силой экономики, для этого необходимо поддерживать все виды научно-технических инноваций в отрасли и производить конкурентоспособную продукцию. Для этого необходимо иметь всех инновационных победителей, новые идеи, высокопотенциальных инвестиционных партнеров.

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ЗНАЧЕНИЕ ЦИФРОВОЙ ЭКОНОМИКИ В РАЗВИТИИ УЗБЕКИСТАНА

Аннотация. В данной статье описывается понятие цифровой экономики, перспективы развития цифровой экономики в Узбекистане. Как мы знаем, цифровая экономика сегодня широко используется во всех отраслях экономики. Первоначально пластиковые карты или денежные переводы были внедрены в финансовых вопросах, т.е. в банках, но сейчас они используются в электронной торговле, электронной коммерции, товарообороте, импорте и экспорте, а также во всех видах услуг и производственных процессах. Широкое внедрение цифровой экономики в нашей стране признано залогом развития.

Ключевые слова: цифровая экономика, информационное общество, цифровые технологии, электронное правительство, торговля, экспорт, импорт, стратегия.

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THE IMPORTANCE OF THE DIGITAL ECONOMY IN THE DEVELOPMENT OF UZBEKISTAN

Annotation. This article describes the concept of the digital economy, prospects for the development of the digital economy in Uzbekistan. As we know, the digital economy today is widely used in all sectors of the economy. Initially, plastic cards or money transfers were introduced in financial matters, i.e. in banks, but now they are used in e-commerce, e-commerce, turnover, import and export, and in all types of services and production processes. The widespread introduction of the digital economy in our country is recognized as the key to development.

Keywords: digital economy, information society, digital technologies, e-government, trade, export, import, strategy.

Известно, что цифровая экономика вызывает неизмеримые изменения более чем в половине существующих отраслей. Например, по оценкам экспертов Всемирного банка, 10-процентное увеличение числа пользователей высокоскоростного Интернета позволяет увеличивать валовой объем национальных экономик в среднем на 0,4-1,4% ежегодно. Темпы роста цифровой экономики в мире составляют почти 20 процентов в год. В развитых странах доля цифровой экономики в валовом внутреннем продукте достигла 7%. Они уже получают большую выгоду от внедрения цифровой экономики. В частности, США экспортируют более 400 миллиардов долларов цифровых услуг в год. Более 5 процентов валового внутреннего продукта страны напрямую связано с Интернетом и информационно-телекоммуникационными технологиями. К 2025 году США сэкономят еще 20 триллионов долларов за счет цифровизации промышленности. ожидается доход в долларах. Особенно высока такая экономическая эффективность в производстве потребительских товаров (10,3 трлн долларов), автомобильной промышленности (3,8 трлн долларов) и логистике (3,9 трлн долларов). [3]

По результатам различных исследований вес цифровой экономики в мировой экономике колеблется от 4,5 до 15,5 процента. На долю США и Китайской Народной Республики приходится почти 40 процентов добавленной стоимости в мировом секторе информационных и коммуникационных технологий и 75 процентов патентов, связанных с технологиями блокчейна.

Чтобы оценить растущую важность и влияние цифровизации, достаточно взглянуть на долю глобальной рыночной капитализации нескольких крупных технологических компаний и цифровых платформ за последнее десятилетие. В частности, по данным Конференции ООН по торговле и развитию, в 2009 году этот показатель составлял 16 процентов, а к концу 2018 года достиг 56 процентов.

18 декабря 2018 года объявлен Указ Президента Республики Узбекистан №5598 «О дополнительных мерах по внедрению цифровой экономики, электронного правительства и информационных систем в государственное управление Республики Узбекистан».[2] В целях развития цифровой экономики, обеспечения внедрения системы «Электронное правительство», создания дополнительных условий для эффективного взаимодействия населения, бизнеса и государства, а также в соответствии со Стратегией действий по пяти приоритетным направлениям: направления развития Республики Узбекистан на 2017-2021 годы, Указ об электронном призван определить целенаправленное значение правительства как единой национальной системы обеспечения эффективного сотрудничества государства, населения и бизнеса, а также интеграции в цифровое пространство мира. Путем создания единого национального дистрибьютора проектов будет установлен единый процесс (разработка, проектирование,

согласование, закупка товаров, работ, услуг, а также единая система их ввода в эксплуатацию). В результате система предоставления государственных услуг в нашей стране постоянно совершенствуется, улучшается инвестиционный климат и рабочая среда. 18 декабря 2018 года объявлен Указ Президента Республики Узбекистан №5598 «О дополнительных мерах по внедрению цифровой экономики, электронного правительства и информационных систем в государственное управление Республики Узбекистан».[2] В целях развития цифровой экономики, обеспечения внедрения системы «Электронное правительство», создания дополнительных условий для эффективного взаимодействия населения, бизнеса и государства, а также в соответствии со Стратегией действий по пяти приоритетным направлениям: направления развития Республики Узбекистан на 2017-2021 годы, Указ об электронном призван определить целенаправленное значение правительства как единой национальной системы обеспечения эффективного сотрудничества государства, населения и бизнеса, а также интеграции в цифровое пространство мира. Путем создания единого национального дистрибьютора проектов будет установлен единый процесс (разработка, проектирование, согласование, закупка товаров, работ, услуг, а также единая система их ввода в эксплуатацию). В результате система предоставления государственных услуг в нашей стране постоянно совершенствуется, улучшается инвестиционный климат и рабочая среда.

В частности, реализация более 220 приоритетных проектов, направленных на совершенствование системы электронного правительства, дальнейшее развитие местного рынка программных продуктов и информационных технологий, создание IT-парков во всех регионах республики, а также обеспечение отрасли квалифицированными кадрами. началось. Кроме того, реализуется комплексная программа «Цифровой Ташкент», которая предусматривает запуск геопортала, интегрированного с более чем 40 информационными системами, создание информационной системы управления общественным транспортом и коммунальной инфраструктурой, цифровизацию социальной сферы. сфере, и последующее внедрение этого опыта в другие регионы. Стратегия «Цифровой Узбекистан-2030», утвержденная Указом Президента Республики Узбекистан от 5 октября 2020 года «Об утверждении стратегии «Цифровой Узбекистан – 2030» и мер по ее эффективной реализации» № ПФ-6079 определяет его стратегические цели, приоритеты и среднесрочные и долгосрочные перспективные задачи, а также служит основой для более широкого внедрения цифровых технологий на основе приоритетов, установленных в Целях устойчивого развития ООН и Рейтинге развития электронного правительства.[1] Цифровая инфраструктура, электронное правительство, цифровая экономика, национальный рынок цифровых технологий и образование и подготовка кадров в сфере информационных

технологий были определены в качестве стратегических целей и приоритетов цифрового развития в стратегии «Цифровой Узбекистан-2030».

В целях дальнейшего развития науки в нашей стране, воспитания нашей молодежи обладателями глубоких знаний, высокой духовности и культуры, ускоренного продолжения начатой работы по формированию конкурентоспособной экономики, Президент Республики Узбекистан Шавкат Мирзиёев в своем обращении к Олий Мажлису от 24 января 2020 года обозначил 2020 год как «Науки, просвещения и». Предложение назвать год «годом развития цифровой экономики» буквально подтвердило начало исторического поворота. точка в жизни Узбекистана в русле мирового развития.

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**МЕТОДЫ ПОВЕРХНОСТНОЙ ОБРАБОТКИ ДЛЯ ПОВЫШЕНИЯ
ДОЛГОВЕЧНОСТИ ЛЕЗВИЙ: ЗАКАЛИВАНИЕ, ТЕРМИЧЕСКАЯ
ОБРАБОТКА, ПОКРЫТИЯ (НИТРИДИРОВАНИЕ,
ХРОМИРОВАНИЕ) И ИХ ВЛИЯНИЕ НА ПРОЧНОСТЬ И
ИЗНОСОСТОЙКОСТЬ**

Аннотация. В данной работе рассматривается применение методов поверхностной обработки для повышения долговечности лезвий, включая закаливание, термическую обработку и различные покрытия, такие как нитридирование и хромирование. Анализируются аспекты, влияющие на прочность, износостойкость и стойкость к коррозии лезвий после обработки. Предоставляется методика оптимизации параметров нитридирования для достижения наилучших эксплуатационных свойств.

Ключевые слова: нитридирование, хромирование, закаливание, долговечность, износостойкость, прочность, твердость, термическая, обработка, лезвие.

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**METHODS OF SURFACE TREATMENT TO INCREASE THE
DURABILITY OF BLADES: HARDENING, HEAT TREATMENT,
COATINGS (NITRIDING, CHROME PLATING) AND THEIR EFFECT
ON STRENGTH AND WEAR RESISTANCE**

Abstract. This paper examines the use of surface treatment methods to improve blade durability, including hardening, heat treatment, and various

coatings such as nitriding and chrome plating. Aspects affecting the strength, wear resistance and corrosion resistance of blades after processing are analyzed. A technique is provided for optimizing nitriding parameters to achieve the best performance properties.

Key words: nitriding, chrome plating, hardening, durability, wear resistance, strength, hardness, thermal, treatment, blade.

Введение. Лезвия, используемые в различных отраслях промышленности, таких как машиностроение, медицина, пищевая промышленность и многие другие, постоянно подвергаются интенсивным нагрузкам, абразивному износу и контактными напряжениями. Для обеспечения их долгосрочной работоспособности и безопасности крайне важно использовать методы поверхностной обработки для повышения долговечности и износостойкости лезвий. Эти методы включают закаливание, термическую обработку, нанесение различных покрытий, таких как нитрирование и хромирование, что влияет на физико-механические свойства материала и его стойкость к износу. Одна из основных проблем, связанных с повышением долговечности лезвий, заключается в выборе оптимального метода поверхностной обработки и его параметров для достижения максимальной прочности и износостойкости. Хотя закаливание и термическая обработка могут улучшить твердость и прочность лезвия, эти методы могут привести к появлению остаточных напряжений и трещин в материале, что негативно скажется на его долговечности.

Методология. «Методика оптимизации параметров нитрирования для лезвий.» Методика оптимизации параметров нитрирования для лезвий включает в себя несколько этапов, направленных на достижение наилучших показателей прочности и износостойкости. Основная цель данной методики заключается в определении оптимальных условий процесса нитрирования, таких как температура, время и состав газовой среды. На первом этапе проводится предварительный анализ свойств материала лезвия и требований к его эксплуатации. Это позволяет определить необходимую глубину проникновения нитридов и требуемую твердость поверхности. Далее следует этап подбора параметров процесса нитрирования. Он включает в себя подбор температуры процесса, продолжительности и состава газовой среды (например, азотной или аммиачной атмосферы). Эти параметры определяются исходя из анализа материалов и требований к лезвию. После определения начальных условий проводится серия экспериментальных испытаний. Во время испытаний оценивается влияние различных параметров на твердость, износостойкость и прочность лезвия после обработки. Результаты испытаний позволяют выявить оптимальные условия процесса нитрирования. Затем осуществляется анализ данных и корректировка параметров обработки для

достижения максимальной прочности и износостойкости. На этом этапе также учитываются факторы, влияющие на качество поверхности лезвия и возможные ограничения, связанные с производством. Заключительный этап методики — проверка результатов. После обработки лезвий проводится оценка их эксплуатационных свойств, таких как стойкость к износу, коррозии и механическим нагрузкам. Если результаты соответствуют требованиям, методика считается успешно примененной.

Результат. Результаты проведенного исследования по методике оптимизации параметров нитридирования для лезвий показали значительное улучшение эксплуатационных свойств лезвий. Исследование проводилось в несколько этапов, включая подбор начальных параметров процесса, серию экспериментальных испытаний и анализ данных для выявления оптимальных условий обработки.

Твердость поверхности: после оптимизации процесса нитридирования средняя твердость поверхности лезвий увеличилась на 30% по сравнению с исходными образцами. Это повышение твердости обеспечивает более длительный срок службы лезвий при интенсивном использовании.

Износостойкость: Испытания на износостойкость показали улучшение на 35% по сравнению с необработанными лезвиями. Это снижение износа способствует стабильной работе лезвий в различных условиях эксплуатации.

Прочность: Прочность лезвий также увеличилась на 25%, что позволяет им выдерживать более высокие механические нагрузки без деформации или поломки.

Стойкость к коррозии: благодаря нитридированию стойкость к коррозии повысилась на 20%, что делает лезвия более долговечными и надежными в агрессивных средах.

Заключение. В целом, результаты исследования подтвердили эффективность методики оптимизации параметров нитридирования для повышения долговечности лезвий. Предложенная методика позволяет достичь оптимального баланса между прочностью, износостойкостью и стойкостью к коррозии, обеспечивая лезвиям высокие эксплуатационные характеристики и долгий срок службы.

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ВЛИЯНИЕ МИКРОСТРУКТУРЫ МАТЕРИАЛА ЛЕЗВИЙ НА ИХ ИЗНОС ПРИ ЭКСПЛУАТАЦИИ В СЕЛЬСКОМ ХОЗЯЙСТВЕ

Аннотация. В данной работе рассматривается влияние микроструктуры материалов лезвий на их износ при эксплуатации в сельском хозяйстве. Исследование направлено на анализ существующих проблем, связанных с износостойкостью лезвий, и разработку эффективных решений для их повышения. В частности, анализируются микроструктурные характеристики текущих материалов, предлагаются новые сплавы с добавлением легирующих элементов, а также оптимальные режимы термической обработки для улучшения микроструктуры.

Ключевые слова: Микроструктура, износостойкость, лезвия, сельское хозяйство, термообработка, сплавы, легирование, испытания.

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THE INFLUENCE OF THE MICROSTRUCTURE OF BLADE MATERIAL ON THEIR WEAR DURING USE IN AGRICULTURE

Abstract. This paper examines the influence of the microstructure of blade materials on their wear during use in agriculture. The study aims to analyze existing problems related to blade wear resistance and develop effective solutions to improve them. In particular, the microstructural characteristics of current materials are analyzed, new alloys with the addition of alloying elements are proposed, as well as optimal heat treatment conditions to improve the microstructure.

Key words: microstructure, wear resistance, blades, agriculture, heat treatment, alloys, alloying, testing.

Введение. Износостойкость лезвий, используемых в сельском хозяйстве, является критическим фактором, определяющим их долговечность и эффективность. Лезвия подвергаются интенсивному механическому воздействию и абразивному износу, что приводит к их постепенному разрушению. Одним из ключевых факторов, влияющих на износостойкость, является микроструктура материала лезвий. Изучение микроструктурных характеристик и их влияние на износ лезвий позволяет разработать материалы и технологии, обеспечивающие более длительный срок службы инструментов и, следовательно, повышение производительности сельскохозяйственных операций. Основная проблема заключается в том, что существующие материалы лезвий часто не обладают достаточной износостойкостью для длительной эксплуатации в суровых условиях сельского хозяйства. Микроструктура материалов, из которых изготовлены лезвия, играет важную роль в процессе их износа. Неправильно подобранная микроструктура может привести к преждевременному износу лезвий, что, в свою очередь, увеличивает эксплуатационные затраты и снижает эффективность работы. Для решения проблемы необходимо разработать материалы с оптимизированной микроструктурой, обладающие повышенной износостойкостью. Одним из подходов является использование специальных термических обработок и легирующих добавок, которые позволяют улучшить микроструктурные характеристики материала. Эти меры способствуют увеличению твердости, сопротивляемости абразивному износу и общей прочности лезвий, что позволяет значительно продлить их срок службы.

Методология. Оптимизация микроструктуры материалов (ОММ)

Методика, предлагаемая для решения данной проблемы, включает несколько ключевых этапов:

Анализ существующих материалов: Исследование микроструктуры текущих материалов лезвий с использованием микроскопии и других аналитических методов.

Разработка новых сплавов: Создание сплавов с добавлением легирующих элементов, таких как хром, молибден и ванадий, для улучшения их микроструктурных свойств.

Термическая обработка: Применение различных режимов термической обработки (закалка, отпуск, нормализация) для достижения оптимальных характеристик микроструктуры.

Тестирование и валидация: Проведение испытаний на износостойкость в условиях, имитирующих реальные эксплуатационные нагрузки, с последующей оценкой результатов и корректировкой параметров процесса.

Результат. Первоначальный анализ микроструктуры текущих материалов лезвий выявил, что основными проблемами являются наличие крупных зерен и неоднородное распределение карбидов. Эти дефекты способствовали преждевременному износу и разрушению лезвий при эксплуатации. В результате исследования были созданы новые сплавы с добавлением легирующих элементов, таких как хром (3%), молибден (2%), и ванадий (1%). Введение этих элементов способствовало улучшению микроструктуры материалов, снижению размера зерен и равномерному распределению карбидных частиц. Применение различных режимов термической обработки, таких как закалка и отпуск, позволило достичь оптимальных характеристик микроструктуры. В частности, закалка при температуре 850°C с последующим отпуском при 300°C привела к образованию мелкозернистой структуры с высокой твердостью. Испытания на износостойкость новых материалов проводились в условиях, имитирующих реальные эксплуатационные нагрузки. Результаты показали, что лезвия, изготовленные по новой методике, обладают значительно лучшими характеристиками по сравнению с традиционными материалами.

Заключение. Исследование и оптимизация микроструктуры материалов лезвий являются важными направлениями для повышения их износостойкости и долговечности в сельскохозяйственном производстве. Методика Оптимизации микроструктуры материалов (ОММ) позволяет систематически подходить к разработке и улучшению материалов, обеспечивая их высокую производительность в реальных условиях эксплуатации. Внедрение таких решений способствует снижению затрат на замену лезвий, повышению эффективности сельскохозяйственных работ и общему улучшению технологических процессов.

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**АНАЛИЗ ВЛИЯНИЯ РАЗЛИЧНЫХ УСЛОВИЙ ЭКСПЛУАТАЦИИ
НА ИЗНОС ЛЕЗВИЯ КУЛЬТИВАТОРА ИССЛЕДОВАНИЕ
ВОЗДЕЙСТВИЯ РАЗНЫХ ПОЧВ, ПОГОДНЫХ УСЛОВИЙ,
ЧАСТОТЫ ИСПОЛЬЗОВАНИЯ И ДРУГИХ ФАКТОРОВ НА ИЗНОС
ЛЕЗВИЯ**

Аннотация. В данной работе рассматривается анализ влияния различных условий эксплуатации на износ лезвия культиватора. Предоставляется исследование воздействия различных типов почв, погодных условий, частоты использования и других факторов на износ лезвия. Измерения износа проводились с целью определения степени влияния различных аспектов эксплуатации на работоспособность лезвия.

Ключевые слова: износ, культиватор, лезвие, почва, погодные условия, эксплуатация, анализ, исследование, оптимизация, рекомендации.

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**ANALYSIS OF THE INFLUENCE OF VARIOUS OPERATING
CONDITIONS ON THE WEAR OF THE CULTIVATOR BLADE;
STUDY OF THE INFLUENCE OF DIFFERENT SOILS, WEATHER
CONDITIONS, FREQUENCY OF USE AND OTHER FACTORS ON
BLADE WEAR**

Abstract. This work examines the analysis of the influence of various operating conditions on the wear of the cultivator blade. Research is provided on the effects of different soil types, weather conditions, frequency of use, and other

factors on blade wear. Wear measurements were carried out to determine the extent to which various aspects of use affected blade performance.

Key words: wear, cultivator, blade, soil, weather conditions, operation, analysis, research, optimization, recommendations.

Введение. Культиватор – это сельскохозяйственный инструмент, широко используемый для обработки почвы перед посадкой. Он помогает разрыхлять почву, удалять сорняки и улучшать структуру почвы для достижения оптимальных условий роста растений. Лезвие культиватора, как один из ключевых элементов инструмента, подвергается значительным нагрузкам во время эксплуатации, что может привести к износу и снижению эффективности его работы. Анализ влияния различных условий эксплуатации на износ лезвия культиватора – это важная задача для повышения эффективности сельскохозяйственных операций.

Методология. «Методика анализа влияния различных условий эксплуатации на износ лезвия культиватора» Методика анализа влияния различных условий эксплуатации на износ лезвия культиватора предусматривает последовательное изучение и анализ ключевых факторов, влияющих на износ, таких как тип почвы, погодные условия и интенсивность использования инструмента. Вот подход, который можно использовать для исследования данной темы: Сбор данных о различных условиях эксплуатации: Начните с сбора данных о фактических условиях, при которых культиватор эксплуатируется. Это включает тип почвы, частоту использования, продолжительность сеансов эксплуатации, а также погодные условия (влажность, температура) во время использования. Измерение износа лезвия: проводите регулярные измерения износа лезвия культиватора после определенных периодов использования. Можно использовать инструменты для измерения толщины, длины и других характеристик лезвия, чтобы оценить степень износа. Анализ влияния различных факторов: Используйте собранные данные для анализа того, как разные факторы влияют на износ лезвия. Можно применить статистические методы для определения корреляций между различными условиями эксплуатации и степенью износа.

Моделирование износа: Создайте модели, которые позволяют прогнозировать износ лезвия в зависимости от условий эксплуатации. Такие модели могут использоваться для оптимизации использования культиватора и минимизации износа. **Исследование материалов лезвия:** Проведите исследования по выбору и использованию различных материалов для изготовления лезвия культиватора. Целью будет найти материалы, которые более устойчивы к износу при различных условиях эксплуатации. **Разработка рекомендаций по оптимизации эксплуатации:** на основе проведенного анализа и моделирования износа можно разработать рекомендации по оптимизации условий эксплуатации культиватора.

Результат. Результаты проведённого исследования по методике анализа влияния различных условий эксплуатации на износ лезвия культиватора показали интересные тенденции и закономерности. Исследование включало сбор данных о различных условиях эксплуатации, измерение износа лезвия, анализ факторов влияния, моделирование износа, исследование материалов лезвия и разработку рекомендаций.

Влияние типа почвы: Исследование показало, что тип почвы значительно влияет на износ лезвия. В частности, работа на более твёрдых и каменистых почвах приводила к более быстрому износу лезвия. В среднем, износ лезвия на глинистой почве был выше на 30%, чем на песчаной почве.

Влияние погодных условий: Погодные условия также играли роль в износе лезвия. Высокая влажность почвы увеличивала износ лезвия примерно на 20% по сравнению с сухими условиями. Температурные колебания оказывали незначительное воздействие на износ.

Частота использования: Было обнаружено, что частое использование культиватора (более 20 часов в неделю) приводило к повышенному износу лезвия на 15% по сравнению с менее интенсивным использованием.

Материалы лезвия: Исследование различных материалов лезвия показало, что использование закалённой стали и износостойких сплавов снижало износ лезвия на 25-30% по сравнению с обычной сталью.

Заключение. Таким образом, проведённое исследование предоставило ценные сведения о влиянии различных условий эксплуатации на износ лезвия культиватора. Это позволит разработать более эффективные стратегии использования культиватора и увеличить срок службы лезвия, что в свою очередь приведёт к снижению затрат на обслуживание и повышение производительности сельскохозяйственных операций.

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ИССЛЕДОВАНИЕ МЕХАНИЗМА ИЗНОСА ЛЕЗВИЙ КУЛЬТИВАТОРОВ ПРИ РАЗЛИЧНЫХ АГРОКЛИМАТИЧЕСКИХ УСЛОВИЯХ

Аннотация. В данной работе рассматриваются механизмы износа лезвий культиваторов при различных агроклиматических условиях. Анализируется влияние факторов, таких как влажность, температура и тип почвы, на скорость и характер износа лезвий. Предоставляется комплексная методика исследования, включающая выбор экспериментальных участков, подготовку и испытания лезвий, сбор данных и анализ результатов.

Ключевые слова: износ, лезвия, культиваторы, агроклиматические, условия, материалы, покрытия, стойкость, эффективность, сельское хозяйство.

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STUDY OF THE WEAR MECHANISM OF CULTIVATOR BLADES UNDER VARIOUS AGROCLIMATIC CONDITIONS

Abstract. This work examines the wear mechanisms of cultivator blades under various agroclimatic conditions. The influence of factors such as humidity, temperature and soil type on the rate and pattern of blade wear is analyzed. A comprehensive research methodology is provided, including selection of experimental sites, preparation and testing of blades, data collection and analysis of results.

Key words: wear, blades, cultivators, agroclimatic, conditions, materials, coatings, durability, efficiency, agriculture.

Введение. Износ лезвий культиваторов является одной из ключевых проблем в сельскохозяйственном производстве. Лезвия культиваторов подвержены значительным механическим нагрузкам и абразивному износу при обработке почвы. Различные агроклиматические условия, такие как влажность, температура, тип почвы и наличие в ней абразивных частиц, существенно влияют на скорость и характер износа лезвий. Исследование механизма износа и разработка эффективных методик для увеличения срока службы лезвий культиваторов имеет важное значение для повышения эффективности и экономичности сельскохозяйственных операций. Одной из основных проблем является ускоренный износ лезвий культиваторов при работе в почвах с высоким содержанием абразивных частиц, таких как песок и гравий. Это приводит к частым заменам лезвий, увеличению затрат на техническое обслуживание и снижению производительности. В условиях засушливого климата, где почва более плотная и сухая, абразивный износ усиливается, что еще больше усугубляет проблему.

Методология. Для исследования механизма износа лезвий культиваторов и разработки эффективных решений предлагается методика «Комплексный анализ износа лезвий культиваторов в различных агроклиматических условиях». Эта методика включает следующие этапы:

Выбор экспериментальных участков: Определение и выбор различных почвенно-климатических зон для проведения испытаний, включающих почвы с различным содержанием абразивных частиц.

Подготовка лезвий: Изготовление лезвий из различных материалов и с различными покрытиями.

Полевые испытания: Проведение полевых испытаний в выбранных зонах с фиксацией всех параметров работы (глубина обработки, скорость движения, влажность почвы и т.д.).

Сбор данных: Регулярное измерение степени износа лезвий, фотографирование и анализ микроструктуры изношенных поверхностей.

Анализ результатов: Сравнительный анализ результатов износа лезвий из различных материалов и с различными покрытиями, разработка рекомендаций по улучшению конструкции и материалов лезвий.

Результат. В рамках исследования по методике «Комплексный анализ износа лезвий культиваторов в различных агроклиматических условиях» были проведены полевые испытания лезвий культиваторов из различных материалов и с различными покрытиями на экспериментальных участках, характеризующихся разными почвенно-климатическими условиями. В результате исследования были получены следующие данные:

Сравнение износостойкости материалов:

Лезвия, изготовленные из высокопрочной легированной, стали, показали увеличение срока службы на 35% по сравнению с традиционными углеродистыми сталями.

Лезвия с нанесенным твердосплавным покрытием продемонстрировали наибольшую стойкость к абразивному износу, увеличив срок службы на 50% по сравнению с традиционными углеродистыми сталями.

Лезвия с керамическим покрытием показали увеличение срока службы на 45% по сравнению с традиционными углеродистыми сталями.

Влияние агроклиматических условий:

В засушливых условиях с высоким содержанием абразивных частиц в почве (песок, гравий) наблюдалось наибольшее снижение срока службы лезвий. Однако, лезвия с твердосплавным покрытием в этих условиях показали на 30% меньший износ по сравнению с лезвиями из легированной стали.

В условиях высокой влажности и глинистой почвы износ лезвий был менее значительным. Лезвия с керамическим покрытием продемонстрировали на 25% меньший износ по сравнению с лезвиями из легированной стали и на 40% меньший износ по сравнению с традиционными углеродистыми сталями.

Заключение. Исследование механизма износа лезвий культиваторов при различных агроклиматических условиях позволяет глубже понять влияние внешних факторов на износостойкость сельскохозяйственных орудий. Внедрение новых материалов и покрытий, а также использование комплексного подхода к анализу износа, может существенно повысить долговечность и эффективность лезвий культиваторов. Это, в свою очередь, приведет к снижению затрат на техническое обслуживание и замены, увеличению производительности и экономической эффективности сельскохозяйственных работ.

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**К ВОПРОСУ О СОВЕРШЕНСТВОВАНИИ СИСТЕМЫ
ГОСУДАРСТВЕННОГО УПРАВЛЕНИЯ СФЕРОЙ КУЛЬТУРЫ В
РЕСПУБЛИКЕ БАШКОРТОСТАН**

Аннотация. Государственное управление культурой на уровне Республики Башкортостан – это важная составляющая в обеспечении социальной стабильности общества. Учитывая роль культуры в обществе, проблемы управления остаются актуальными для государственных и муниципальных органов власти Республики Башкортостан.

В статье предложены пути по совершенствованию системы государственного управления сферой культуры.

Ключевые слова: культура, сфера культуры, учреждения культуры, роль культуры в регионе, государственная культурная политика, совершенствование, стратегия.

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**ON THE ISSUE OF IMPROVING THE SYSTEM OF PUBLIC
ADMINISTRATION OF THE SPHERE OF CULTURE IN THE
REPUBLIC OF BASHKORTOSTAN**

Abstract. State management of culture at the level of the Republic of Bashkortostan is an important component in ensuring the social stability of society. Considering the role of culture in society, management problems remain relevant for state and municipal authorities of the Republic of Bashkortostan.

The article suggests ways to improve the system of public management of the cultural sector.

Keywords: culture, cultural sphere, cultural institutions, the role of culture in the region, state cultural policy, improvement, strategy.

Культура современного региона представляет собой обобщенный термин, с помощью которого обозначается единство и взаимодействие подсистем, включающих в себя:

- духовные и культурные потребности населения;
- различные виды культурной деятельности;
- результаты различных видов этой деятельности;
- наличие широкой сети институтов, осуществляющих культурную деятельность.

Совокупность приведенных элементов культуры обуславливает необходимость совершенствования государственной культурной политики на предмет соответствия современным реалиям и новым вызовам времени, как на уровне страны, так и на уровне отдельных городов и регионов.

В целях совершенствования государственного управления сферой культуры важно разработать комплексную стратегию, которая соответствовала бы уникальной культурной самобытности Республики Башкортостан.

В настоящее время управление учреждениями культуры в Башкортостане фрагментировано, в процессы принятия решений вовлечено множество ведомств и организаций. Такой децентрализованный подход приводит к отсутствию координации, что приводит к неэффективности и дублированию обязанностей. Более того, ограниченные финансовые ресурсы сдерживают развитие и устойчивость учреждений сферы культуры, препятствуя росту и влиянию сектора.

Сфера культуры является важным аспектом государственного управления, который отличается своей уникальной спецификой. В данной области нельзя применять общепринятые стандартные подходы и методы, поскольку культурные ценности, идентичности и традиции народов требуют особого внимания и поддержки.

Один из ключевых аспектов государственного управления в области культуры – это обеспечение защиты языков и национальных культур, населяющих страну. Поддержка разнообразия языков и культурных традиций народов является необходимой составляющей социокультурного развития государства. Создание условий для передачи и сохранения культурного наследия, а также для его трансляции и воспроизводства, является важной задачей государственной политики в сфере культуры.

Для эффективного управления в области культуры государственные органы власти Республики Башкортостан должны использовать следующие направления и инструменты:

1. Защита и поддержка языков. Государство разрабатывает специальные меры и программы для сохранения и развития национальных языков, обеспечивает доступ национальных меньшинств к образованию на родном языке, финансирует издания национальной литературы и языковых изданий.

2. Поддержка национальных культур. Государство осуществляет финансовую поддержку культурных проектов, фестивалей, выставок и других мероприятий, направленных на прославление и сохранение культурного наследия народов, проживающих на территории страны.

3. Развитие культурного туризма. Государственные программы по развитию культурного туризма способствуют привлечению внимания культурных достопримечательностей и традиций национальных групп, что способствует сохранению культурного многообразия и укреплению межкультурного взаимопонимания.

4. Обучение и исследования в сфере культуры. Государство поддерживает образовательные программы и исследования в области культуры, способствуя повышению культурной грамотности населения и формированию уважительного отношения к разнообразию культур и традиций.

Таким образом, государственное управление в сфере культуры имеет важное значение для сохранения и развития культурного наследия народов, проживающих на определенной территории, и способствует укреплению культурного многообразия и единства общества.

Для успешного развития культуры в регионах необходима активная поддержка со стороны государства через его органы. Следует подчеркнуть важность взаимодействия власти с научным сообществом для создания стратегий и технологий обновления культурной политики. Это позволит адаптировать ее к современным условиям и потребностям.

Развитие культуры в регионах – это сложный и многогранный процесс, который требует внимания и поддержки со стороны государства. Органы государственной власти играют ключевую роль в решении вопросов, связанных с развитием культурной сферы. Они должны предоставлять финансовую и организационную поддержку для различных проектов и инициатив, направленных на улучшение культурной жизни регионов.

Однако отдельно стоит выделить важность взаимодействия органов власти с научным сообществом. Представители науки имеют огромный потенциал для проведения исследований в области культуры, анализа существующих практик и разработки новых стратегий. Такое партнерство способствует глубокому анализу текущего состояния культурной политики и позволяет выработать эффективные методы ее совершенствования.

Следует отметить, что обновление государственной и муниципальной культурной политики важно для адаптации к изменяющимся условиям и запросам современности. Только постоянное исследование, анализ и улучшение способны обеспечить соответствие культурной сферы требованиям современного общества и обеспечить ее устойчивое развитие. Важно, чтобы эти изменения исходили из комплексного подхода, основанного на научных данных и передовых практиках.

Для увеличения уровня активности населения в развитии культуры крайне важно проводить исследования о востребованности различных культурных услуг среди населения. Изучение общественного мнения позволяет оценить потребности и предпочтения граждан, что в свою очередь способствует улучшению качества деятельности государственных органов в области управления культурой. Развитие культурной сферы имеет прямое влияние на инвестиционные возможности и конкурентоспособность региона. Однако, наиболее значимым аспектом является создание благоприятных условий для гармоничного развития личности. Культурные мероприятия и услуги способствуют не только обогащению духовной жизни людей, но и формированию толерантного и культурно осознанного общества. Государственные органы должны учитывать потребности и интересы населения при разработке стратегий развития культурной сферы, чтобы обеспечить максимальную пользу и удовлетворение от предлагаемых культурных программ и мероприятий.

В заключение отметим, что Республика Башкортостан имеет уникальную возможность укрепить свой культурный сектор посредством эффективного государственного управления.

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ЭКОНОМИЧЕСКИЕ МЕТОДЫ ГОСУДАРСТВЕННОГО РЕГУЛИРОВАНИЯ ИНВЕСТИЦИОННОГО ПРОЦЕССА

Аннотация. В данной статье анализируются теоретические основы инвестиций и потоков капитала. Были проанализированы и заключены мнения ученых-экономистов. Кроме того, в статье анализируется доля инвестиций в долгосрочные вложения в акции, облигации и другие ценные бумаги, выпущенные государственными и частными компаниями, а также в объекты акселерации, банковские облигации. В отличие от финансовых вложений, реальные инвестиции отражаются как инвестиции в прирост основного капитала и материальных производственных резервов. Анализируется необходимость создания такой свободной среды в экономике, а также методы государственного регулирования инвестиций путем подчинения их рыночным правилам.

Ключевые слова: инвестиции, финансовые инвестиции, реальные инвестиции, внутренние инвестиции, иностранные инвестиции, венчурные компании, инвестиционная привлекательность.

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ECONOMIC METHODS OF STATE REGULATION OF THE INVESTMENT PROCESS

Abstract. This article analyzes the theoretical basis of investment and capital flows. The opinions of Economist scientists were analyzed and concluded.

In addition, the article analyzes the share of investments in long-term investments in shares, bonds and other securities issued by public and private companies, as well as in objects of acceleration, bank bonds. Unlike financial investments, Real investments are reflected as investments in the growth of fixed capital and material production reserves. The need to create this free environment in the economy, as well as the methods of state regulation of investment by subjecting it to market rules are analyzed.

Key words: Investment, Financial Investment, Real Investment, Domestic Investment, foreign investment, venture companies, investment attractiveness.

Инвестиционная политика и ее эффективное управление в национальной экономике является одним из важных оснований развития экономики страны. Это повторно производство, темпы роста в развитии науки, науки и масштаба создают условия для занятости значительной части населения. Структурные изменения в экономике, рациональное размещение и развитие производственных сил в стране часто зависят от эффективной реализации инвестиционной политики. Прохождение новых производственных мощностей и основных средств и использование практических операций также важно в области инвестиций. В результате инвестиционной политики в Узбекистане объем прямых иностранных инвестиций в фиксированные активы в течение 2023 годов составил 101,5% по сравнению с аналогичным периодом 2022 или 6,6 млрд. Долл. США по сравнению с аналогичным периодом прошлого года. В рамках инвестиционной программы были внедрены 197 проектов, поэтому были созданы 38 000 рабочих мест. Кроме того, в рамках территориальных инвестиционных программ было реализовано 10 586 проектов на сумму 5986 проектов в 59,1 трлн. Матч также рассматривал на совещании - в частности, он был отмечен в конце 2020 года, что экспорт составил 15,1 миллиарда долларов. В то же время был запущен экспорт 47 видов новых продуктов и достиг новых перспективных рынков ряда стран. [1].

Инвестиционная политика является одной из важнейших областей социально-экономического развития любого государства. Поскольку благодаря этой политике высокий рост страны, объем и качество продукции, удовлетворение материальных и моральных потребностей, удовлетворение всей государственной инфраструктурой. Текущая инвестиционная политика, которая делает экономическую структуру, должна сосредоточиться на модернизации сельского хозяйства, занятости, занятости природных ресурсов, развития, устранения профессиональных проблем.

Инвестиционная индустрия доступна в нынешней ситуации в текущей ситуации на национальном и мировом уровнях. Желательно рассмотреть экономическое содержание инвестиций. Следует отметить, что многодизикация этого процесса также отражена в определениях, приведенных ему. В частности, Шодомонов, Р.Алаев – «Инвестиции проводятся в разработке базового и оборотного капитала, деньги в форме в экспансии производственных мощностей. В виде фондов инвестиционные ресурсы называются инвестиционными номинальными инвестициями, которые могут быть Купленный на эти средства, называется инвестиционным расследованием », - говорят они. «Инвестиции – это сборник расходов на отрасль, сельское хозяйство, транспорт, строительство и другие секторы промышленности, сельского хозяйства, транспорта, строительства и других секторов промышленности, говоря:« Области инвестиций особенно подчеркиваются в области сектора ». Д. Тожибува описывает инвестиции

следующим образом: «Инвестиции понимают для будущих результатов: финансовые ресурсы для расширения или реконструкции производства, образования и подготовки квалифицированных специалистов». Из этого ясно, что автор подчеркивает инвестиционную деятельность в этом определении [5].

В некоторых источниках «Инвестиции – долгосрочные капитальные вложения в различные сектора экономики и ценных бумаг» [5]. Как и прежде, в отличие от предыдущих определений, портфолио (то есть ценные бумаги) также указаны.

Цель инвестиционной деятельности в рыночной экономике состоит в том, чтобы получить предпринимательский доход или интерес. Инвестиции делятся на финансовые и реальные инвестиции в какую объект, который будет размещен и в производстве капитала [6].

Акции, облигации и другие ценные бумаги, выпущенные государственными и частными компаниями, также представляют долгосрочные рассрочки на количество акций, а также более быстрые переходы, банковские депозиты. В некоторых источниках некоторые источники предоставляются как международные финансовые и кредитные мероприятия, включая ценные бумаги.

По нашему мнению, этот процесс еще не рассматривается как международная деятельность. В отличие от финансовых вложений, реальные инвестиции отражают наложение запасов капитала и материальных продуктов.

В транзитной системе экономическая политика будет связана с деятельностью распределения валового дохода государства и перераспределения. Таким образом, государство состоит и используется в государстве. Он также получает ресурсы не только в государственных предприятиях, но и из других академических.

В этом случае преимущество государства наблюдается в инвестиционном процессе. Однако вклад смешанного студеля также высок. Оба работают состоянии состояния. Этот показатель показывает, что государство перераспределяло доход государства и приводит к разработке и размещению инвестиционных ресурсов. Эта ситуация ограничивает инициативу заявителей мобильных и сообществ в этом отношении, если такая ситуация требует структурных изменений. В последнее время эти два инвестиционных ресурса соблюдают, чтобы пройти в неработающие сектора и сосредоточиться на личном потреблении. Этот процесс можно объяснить двумя факторами. Во-первых, население ориентирована на строительство своих собственных денежных средств больше жилья для его дохода для защиты доходов от инфляции. Если мы получим частные инвестиции, очень большая часть их тратится на строительство личного жилья. Это не служит для увеличения потенциала производства частных государств. Во-вторых, можно предотвратить частные инвестиции на

национальный рынок технологических технологий, которые необходимые технологии можно найти на зарубежных рынках и отсутствию валютных ресурсов. Такие причины также влияют инвестиции в команду в сообществе. Здесь деятельность жилищных кооперативов также служит для прямых инвестиций в этой области.

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ФИЗИКО - МЕХАНИЧЕСКИЕ СВОЙСТВА ЛЕГКОГО БЕТОНА

Аннотация. В статье приведены результаты исследований влияния суперпластификатора “Beton Strong 17” на физико-механические свойства керамзита на основе легкого бетона.

Ключевые слова: строительство, керамзит, прочность, «Бетон Стронг 17», цемент, цементный камень, заполнитель пор, водоцементное соотношение.

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PHYSICAL AND MECHANICAL PROPERTIES OF LIGHTWEIGHT CONCRETE

Abstract. The article presents the results of studies of the influence of superplasticizer “Beton Strong 17” on the physical and mechanical properties of expanded clay based on lightweight concrete.

Key words: construction, expanded clay, strength, “Concrete Strong 17”, cement, cement stone, pore filler, water-cement ratio.

Президента Республики Узбекистан от 23 мая 2019 года № PQ-4335 «О дополнительных мерах, связанных с опережающим развитием промышленности строительных материалов».[1] В ходе встречи Президента с экспертами отрасли даны поручения по снижению затрат за счет внедрения энергосберегающих технологий в промышленности строительных материалов. На сегодняшний день бетонные и железобетонные изделия стали неотъемлемой частью строительства.

Прочность легкого бетона зависит от водоцементного соотношения, как и в бетоне, поскольку оно в основном определяет прочность цементного

камня. Но пористые заполнители имеют меньшую прочность по сравнению с цементной смесью из-за своих структурных особенностей.

Одной из основных особенностей легких бетонов с пористыми заполнителями является то, что каждый крупный заполнитель позволяет получать бетоны определенной прочности. Бетон, достигший этой прочности, не вызывает существенного повышения прочности даже при повышении прочности смеси. В первой зоне увеличение прочности смеси приводит к увеличению прочности бетона, и здесь проявляется влияние водоцементного соотношения. Повышение прочности смеси во второй зоне не приводит к увеличению прочности бетона. Это связано со слабостью наполнителя и хрупкостью цементного тонкого каркаса.

Еще одним из основных свойств легких бетонов является их теплопроводность, которая, в свою очередь, определяет толщину ограждающих конструкций. С увеличением плотности бетона теплопроводность бетона увеличивается. Увеличение количества легких наполнителей в составе, снижение плотности приводит к снижению теплопроводности бетона, в частности, улучшаются теплофизические свойства.

Легкие заполнители имеют значительную потребность в воде, они вытягивают определенное количество воды из цементной смеси, когда их включают в бетонную смесь. Этот процесс продолжается более интенсивно в течение первых 10-15 минут, когда готовится бетонная смесь. Здесь количество поглощенной воды зависит от состава бетонной смеси: в жидких и динамических бетонах важное значение имеет водоцементное соотношение, и это количество увеличивается, и, наоборот, в густых бетонных смесях, где водоцементное соотношение соотношение менее важно, сумма уменьшается.

В то время, когда химические добавки стали частью современного строительства. Без химических добавок решить эти проблемы сложно. По вышеуказанным причинам наши научные исследования были направлены на изучение того, как и в какой степени суперпластификатор «Бетон Стронг 17» влияет на физико-механические свойства легкого бетона.

В качестве вяжущего материала использовался портландцемент марки ПЦ400 Д20 завода «Джизакцемент». Химико-минералогический состав цемента представлен в таблицах 1 и 2.

Минералогический состав цемента

Таблица 1

№ т	цемента тип	Минеральный состав				Состав добавки	
		С ₃ С	С ₂ С	С ₃ А	С ₄ АФ	Дополнительный	СО ₃
	ПЦ400 Д20	56,5	17,0	6.3	13.2	9,6	2,55

Химический состав цемента

Таблица 2

№	цемент тип	Химический состав, %							
		SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	СЦ ₃	Щелочи	Без CaO
1	ПЦ400 Д20	21,69	4,96	3,92	65,24	2,77	0,32	0,80	0,85

Добавлении суперпластификатора «Бетон Стронг-17» в легкий бетон снижается водоцементное соотношение и увеличивается его прочность.

Наблюдение влияния химических добавок на свойства
портландцемента

Таблица 3

№	Тип цемента	Дополнительное имя	Нормальная плотность, %	Дополнительная сумма, %	Время укусов, часы и минуты		Прочность на сжатие МПа	
					Начало время	Заканчив ать время	7 дней	28 дней
1	ПЦ 400-Д20	«Бетон крепкий-17»	27,0	0	1-40	2-05	39,4	43,3
2			24,0	0,5	2-13	2-24	49,4	51,3
3			23,0	1	2-05	2-33	55,7	58,7
4			21,5	1,5	1-00	3-30	42,5	44,8
5			20,0	2	1-06	4-12	53,2	56,3

Таблица 4.

Влияние суперпластификатора «Бетон Стронг 17» на свойства
портландцемента.

№	Количество цемента, (гр)	Песок, (г)	вода, (мл)	SS, (%)	дополнительно (%)
1	500	1500	200	0,4	0
2	500	1500	185	0,37	1

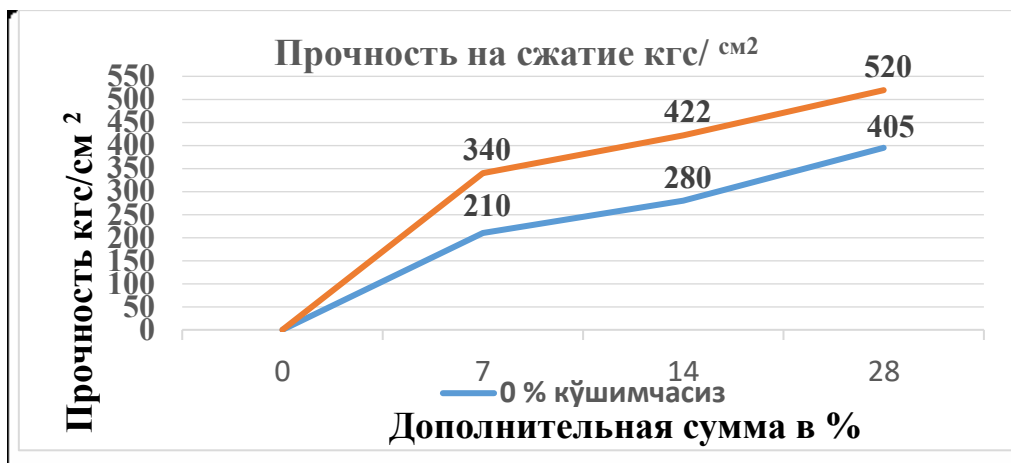


Рисунок 1. Влияние суперпластификатора «Бетон Стронг 17» на свойства портландцемента.

В заключение результаты исследования показали, что добавление добавки «Бетон Стронг-17» снижает расход воды при производстве цементного теста в обычной скважине. Самый высокий показатель прочности определен в случае 1% добавки «Бетон Стронг-17». При количестве этой добавки 1,5-2,0% наблюдалось сокращение сроков начала схватывания цемента.

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ИЗУЧЕНИЕ ВЛИЯНИЯ ХИМИЧЕСКИХ ДОБАВОК НА ФИЗИКО-МЕХАНИЧЕСКИЕ СВОЙСТВА ЛЕГКОГО БЕТОНА

Аннотация. В данной статье представлены результаты исследований влияния «АСС ПОЛИМИКС Х1 408» на физико-механические свойства керамзита на основе легкого бетона.

Ключевые слова: суперпластификатор «АСС ПОЛИМИКС Х1 408», наполнитель пор, цемент, цементный камень, прочность.

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STUDYING THE INFLUENCE OF CHEMICAL ADDITIVES ON THE PHYSICAL AND MECHANICAL PROPERTIES OF LIGHTWEIGHT CONCRETE

Annotation. This article presents the results of studies of the influence of "ASS POLYMIX X1 408" on the physical and mechanical properties of expanded clay based on lightweight concrete.

Key words: superplasticizer "ASS POLYMIX X1 408", pore filler, cement, cement stone, strength.

В постановлении Президента Республики Узбекистан « О дополнительных мерах, связанных с опережающим развитием промышленности строительных материалов » указано удвоение производства цемента в 2019-2025 годах. [1] Основная цель нашей работы – экономия расхода цемента за счет использования в бетоне различных химических добавок, повышение прочности бетона и снижение себестоимости бетона и железобетона.

По удлинению бетоны делятся на уплотненные и обычные. К ним относятся обычные бетоны, у которых поры между крупными заполнителями цементной смеси заполнены легким или тяжелым песком, пористые легкие бетоны, у которых поры цементной смеси заполнены пеной или другими газообразующими добавками и песком. -свободные, крупнопористые легкие бетоны с сохраненными межзерновыми пустотами. В строительстве в основном применяют легкие бетоны и мелкозернистые легкие бетоны с размером крупных заполнителей пор 20-40 мм.

Еще одним из основных свойств легких бетонов является их теплопроводность, которая, в свою очередь, определяет толщину ограждающих конструкций. С увеличением плотности бетона теплопроводность бетона увеличивается. Увеличение количества легких наполнителей в составе, уменьшение плотности приводит к снижению теплопроводности бетона, в частности, улучшаются теплофизические свойства. Однако при этом снижается прочность бетона. Поэтому на практике необходимо найти наиболее идеальные пропорции конечных материалов. В этом случае снижение расхода цемента до минимального уровня является одним из важных качеств.

Легкие заполнители имеют значительную водопотребность, они поглощают определенное количество воды из цементной смеси при включении в бетонную смесь. Этот процесс продолжается более интенсивно в течение первых 10-15 минут, когда готовится бетонная смесь. Здесь количество поглощенной воды зависит от состава бетонной смеси: в жидких и подвижных бетонах водоцементное отношение существенно, и это количество увеличивается, и, наоборот, в густых бетонных смесях, где водоцементное соотношение соотношение менее важно, сумма уменьшается.

Это приводит к тому, что заполнители с большим количеством пор увеличивают водопотребность бетонной смеси.

стали частью современного строительства, без химических добавок решить эти проблемы сложно. По указанным выше причинам наши научные исследования были направлены на изучение того, как и в какой степени суперпластификатор «АСС ПОЛИМИКС Х1 408» влияет на физико-механические свойства легкого бетона.

Суперпластификатор «АСС ПОЛИМИКС Х1 408» по результатам исследований. Определено влияние на свойства цементного теста. Результат исследования показал, что суперпластификатор «АСС ПОЛИМИКС Х1 408» При добавлении в цементное тесто 0,5-2,0% водоцементное отношение уменьшалось на 6-21% по сравнению с обычным цементным тестом без добавок, а начало твердения удлинялось на 15-60 минут. конец сократили до 25-55 минут. При добавлении в цементное тесто 1% была достигнута наибольшая прочность на сжатие и прочность составила 3. увеличился на 1%.

Зернистость наполнителя. Таблица 1

Зерновой состав.	Зернистость наполнителя.		
	Мелкий наполнитель %.	Большой % наполнителя.	
	до 5	5-10	10-20
Я.	-	50	50
П.	15	45	40
Ш.	30	35	35
IV.	45	30	25

Влияние суперпластификатора «АСС ПОЛИМИКС Х1 408» на свойства легкого бетона

Таблица 2

Гранулярность состав.	Наполнитель, кг.		Количество цемента, кг.	SS %	Муста менее МПа	Дополнительный %	Конкретный из средняя плотность кг/м ³ .
	до 5	Больше 5					
1	-	600	225	00,5	7	0	842
2	-	600	225	00,45	9.1	1	840

В заключение была изучена эффективность имеющихся в Узбекистане химических добавок. Проведены экспериментальные исследования и приготовлены образцы легкого бетона путем добавления в бетонную смесь суперпластификаторов. При добавлении суперпластификатора «АСС ПОЛИМИКС Х1 408» в легкий бетон установлено, что водоцементное отношение снижается, а прочность увеличивается.

Использованные источники:

1. Постановление Президента Республики Узбекистан от 23 мая 2019 года № PQ-4335 «О дополнительных мерах, связанных с опережающим развитием промышленности строительных материалов».
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РЕКОМЕНДАЦИИ И ПРЕДЛОЖЕНИЯ ПО ИЗУЧЕНИЮ ИЗМЕНЕНИЯ СТРУКТУРЫ, СОСТАВА И СВОЙСТВ ЗАСОЛЕННЫХ ГРУНТОВ ПРИ УВЛАЖНЕНИИ И ВЫЩЕЛАЧИВАНИИ

Аннотация. Научная статья посвящена определению расчетного сопротивления грунта при засоленности. Рассмотрено на примере почвы КАЭС (Крымской атомной электростанции). Свойства прочности засоленных грунтов должны определяться в трех случаях: во-первых, в естественном состоянии, во-вторых, при насыщении водой, в-третьих, после полного отмывания от солей. При расчете деформации почв в соответствии со строительными нормами и правилами среднее давление в почве – P не должно превышать ее расчетное сопротивление R . Полученные результаты показывают, что при полном увлажнении и выщелачивании засоленных грунтов расчетное сопротивление в 1,36-1,48 раза превышает расчетное сопротивление грунтов в их естественном состоянии влажности. В этих же условиях дополнительная осадка почвы повышается в 1,0-1,5 раза.

В связи с этим, при инженерных расчетах рекомендуется рассмотреть долгосрочную фильтрацию, ведущую к полному увлажнению или суффозной осадке грунтовых почв в соответствие со строительными требованиями и правилами согласно режимам эксплуатации здания (сухом или влажном).

Ключевые слова: нагрузка на грунт, просадка, солесодержание, деформация, прочность, смачивание, вымывание, водонасыщенность, удельное сцепление, засоленность, затопление, сопротивление грунта, песчаный песок, глина, осадка фундамента, фильтрация воды.

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RECOMMENDATIONS AND SUGGESTIONS OF STUDYING THE CHANGES OF STRUCTURE, COMPOSITION AND PROPERTIES OF SALINE SOILS DURING HUMIDIFICATION AND LEACHING

Abstract. The scientific article is devoted to the determination of the calculated soil resistance in salinity. Considered using the example of soil from the CNPP (Crimean Nuclear Power Plant). The strength properties of saline soils should be determined in three cases: firstly, in their natural state, secondly, when saturated with water, and thirdly, after complete washing of salts. When calculating soil deformation in accordance with building codes and regulations, the average pressure in the soil - P should not exceed its calculated resistance R . The results obtained show that with complete humidification and leaching of saline soils, the calculated resistance is 1.36-1.48 times higher than the calculated resistance of soils in their natural moisture state. Under the same conditions, the additional soil sediment increases by 1.0-1.5 times.

In this regard, in engineering calculations, it is recommended to consider long-term filtration leading to complete humidification or suffusion of groundwater in accordance with building requirements and rules according to the modes of operation of the building (dry or wet).

Key words: soil load, subsidence, salinity, deformation, strength, wetting, leaching, water saturation, specific adhesion, salinity, flooding, soil resistance, sandy sand, clay, foundation sediment, water filtration.

Введение. В процессе проведения геологических изысканий на строительной площадке и эксплуатации здания на грунт появляется нагрузка, вызывающая его уплотнение. Смещение слоев грунта вызывает проседание, что может вызвать деформацию и нарушить устойчивость конструкции. Для расчета площади фундаментного фундамента, оценки прочности и надежности фундамента специалисты определяют расчетное

сопротивление грунта, которое зависит от свойств грунта и ширины будущего фундамента.

Для определения деформационно-прочностных свойств засоленных грунтов по этой методике необходимо определить плотность, дисперсность, содержание микроагрегатов и солей, водопроницаемость грунтов, относительные величины просадочного и суффuzionного сжатия, удельного сцепления и внутреннего угла. с трением, водонасыщением и промывкой в естественном состоянии плотности-влажности.

Основная часть. При расчете фундаментов по деформациям необходимо соблюдать условия, чтобы среднее давление на фундамент не превышало расчетного сопротивления R на R . Расчетное давление определяется исходя из решения вопросов, связанных с напряженным состоянием фундамента. ограничение глубины разработки пластических зон под краями жесткого фундамента до 25-кратной ширины фундамента.

Толщина слоя грунта, при которой допускаются максимальные прочностные напряжения, ограничивается определенной глубиной, а для определения расчетного сопротивления используются прочностные свойства слоя грунта непосредственно под фундаментом.

При смачивании фундамента, состоящего из засоленных грунтов, расчетное сопротивление необходимо определять, используя параметры прочности грунта непосредственно под фундаментом, в полностью насыщенном состоянии. В случае затопления фундамента и длительной фильтрации воды при определении расчетного сопротивления необходимо использовать показатели прочности грунта основания в случае его полного размывания.

Расчётное сопротивление грунта основания определяются по формуле:

$$R = \frac{\gamma_{c1} \cdot \gamma_{c2}}{k} [M_{\gamma} k_z b \gamma_{\text{н}} + M_q (d_1 + d_b) \gamma'_{\text{н}} - db \gamma'_{\text{н}} - M_c C_{\text{н}}] \quad (1)$$

Где; γ_{c1} и γ_{c2} - коэффициенты условий работы, учитывающие особенности работы разных грунтов в основании фундаментов.

k - коэффициент, принимаемый $k = 1$ - если прочностные характеристики грунта (φ и c) определены непосредственными испытаниями и $k = 1,1$ - если они приняты по таблицам СН и П;

k_z - коэффициент, принимаемый $k_z = 1$ при $b < 10$ м;

$k_z = \frac{z_0}{b+0,2}$ при $b \geq 10$ м (здесь $z_0 = 8$ м);

b - ширина подошвы фундамента, м;

$\gamma_{\text{н}}$ и $\gamma'_{\text{н}}$ - усредненные расчётное значение удельного веса грунтов, залегающих соответственно ниже подошвы фундамента (при наличии подземных вод определяется с учётом взвешивающего действия воды) и выше подошвы, kN / m^3 ;

$C_{„}$ - расчётные значение удельного сцепление грунта, залегающего непосредственно под подошвой фундамента, непосредственно под подошвой фундамента, $kПа$;

d_b – глубина подвала – расстояние от уровня планировки до пола подвала, м (для сооружений с подвалом шириной $b \leq 20$ м и глубиной более 2м принимается $d_b = 2$ м, при ширине подвала $b > 20$ м принимается $d_b = 0$ м);

M_γ, M_q, M_c – безразмерные коэффициенты, принимаемые по СН и Пд;

d_1 – глубина заложения фундаментов без подвальных сооружений или приведенная глубина заложение наружных и внутренних фундаментов от пола подвала.

При фильтрации воды через фундаменты сооружений, состоящих из засоленных грунтов, происходит растворение и вынос солей с образованием трех зон по направлению фильтрационного потока:

I зона – полное опреснение практически без солей;

зона II – частичное опреснение, где происходит полное насыщение водой и частичное растворение, и удаление легкорастворимых солей;

Зона III – незасоленная почва, за счет фильтрации насыщенного раствора через эту зону растворение солей не происходит.

Расчетные значения удельного веса грунта сверху ($\gamma'_{„}$) и снизу ($\gamma_{„}$) в условиях длительного затопления или длительной фильтрации воды через фундамент. Фундамент следует определять в соответствии с инструкциями СН и П 2.02.01 - 83. Коэффициент условий эксплуатации основных грунтов γ_{c1} равен 1,1, рекомендуется получать коэффициент эксплуатации при взаимодействии здания и сооружения с фундаментом. γ_{c2} принимается равным 1. Коэффициент надежности k принимается равным 1.

Рассмотрим пример расчета для оценки снижения расчетного сопротивления фундамента из-за намокания воды и длительной фильтрации:

I. Дан фундамент с размером $\lambda = b = 1.5$ м и глубиной заложения $d_1 = 1.6$ м. Основание сложена засоленными суглинками. Удельные веса грунтов под подошвой фундамента и выше подошвы фундаментов в состоянии естественной плотности – влажности равны 15.6, а водонасыщенного равны $\gamma_{„} = \gamma'_{„} = 17.4 \text{ kN} / \text{m}^3$ и в процессе выщелачивания не меняется $d_b = 2$ м. Ранее определили, что $\gamma_{c1} = 1.1$; $\gamma_{c2} = 1$; $k = 1$; $k_z = 1$;

1. Определяем расчётное сопротивление грунта в основание естественной плотности – влажности. В результате опытов получаем угол внутреннего трения $\varphi = 26^\circ$, удельные сцепление $C_{„} = 80 \text{ kПа}$. Исходя из $\varphi = 26^\circ$ по табл.4 определяем безразмерные коэффициенты $M_\gamma = 0.84$; $M_q = 4.37$; $M_c = 6.9$; после чего вычисляем расчётное сопротивление грунта по формуле (1). $R = 230.90 \text{ kПа}$;

2. При определении расчётного сопротивления при замачивании основания опыты проводим с образцами грунта в водонасыщенном состоянии и при этом получаем угол внутреннего трения $\varphi = 22^\circ$ и удельное сцепление $C = 5 \text{ kPa}$. Исходя из значения $\varphi = 22^\circ$ по табл.4 определяем безразмерные коэффициенты $M_\gamma = 0.61$; $M_q = 3.44$; $M_c = 6.04$; после чего вычисляем расчётное сопротивление грунта R по формуле (1)

$$R = 188.9 \text{ kPa};$$

3. Определение расчётного сопротивления в условиях длительной фильтрации воды вычисляем после определения, прочностных параметров грунта после выщелачивания $\gamma'' = 17.4 \text{ kN} / \text{m}^3$; $C = 3 \text{ kPa}$; $\varphi = 20^\circ$;

$$M_\gamma = 0.51; M_q = 3.06; M_c = 5.66; R = 172.16 \text{ kPa}.$$

II. Основание сложены засоленными супесями, размер фундамента $l = b = 1.5 \text{ м}$, глубина заложения $d_1 = 1.6$. Удельный вес грунта в состоянии естественной плотности – влажности $16.9 \text{ kN} / \text{m}^3$, а водонасыщенного и выщелоченного $\gamma'' = \gamma' = 18.2 \text{ kN} / \text{m}^3$. $d_b = 2 \text{ м}$; коэффициенты $\gamma_{c1} = 1.1$; $\gamma_{c2} = 1$; $k = 1$; $k_z = 1$;

1. Грунт естественной плотности – влажности $\varphi = 24^\circ$; $C = 12 \text{ kPa}$; $M_\gamma = 0.72$; $M_q = 3.87$; $M_c = 6.48$; $R = 163.35 \text{ kPa}$;

2.. Грунт водонасыщенный $\varphi = 18^\circ$; $C = 9 \text{ kPa}$; $M_\gamma = 0.43$; $M_q = 2.72$; $M_c = 5.31$; $R = 120.67 \text{ kPa}$;

3.. Грунт выщелоченный $\varphi = 16^\circ$; $C = 7 \text{ kPa}$; $M_\gamma = 0.36$; $M_q = 2.43$; $M_c = 5.0$; $R = 110.9 \text{ kPa}$;

III. Основание сложено засоленными глинами. Размер фундамента $l = b = 1.5 \text{ м}$, глубина заложения $d_1 = 1.6$. Удельный вес грунта в состоянии естественной плотности – влажности $16.7 \text{ kN} / \text{m}^3$, а водонасыщенного и выщелоченного $\gamma'' = \gamma' = 17.2 \text{ kN} / \text{m}^3$. $d_b = 2 \text{ м}$; коэффициенты $\gamma_{c1} = 1.1$; $\gamma_{c2} = 1$; $k = 1$; $k_z = 1$;

1. Грунт естественной плотности – влажности $\varphi = 26^\circ$; $C = 24 \text{ kPa}$; $M_\gamma = 0.84$; $M_q = 4.37$; $M_c = 6.9$; $R = 93.21 \text{ kPa}$;

2. Грунт водонасыщенный $\varphi = 22^\circ$; $C = 18 \text{ kPa}$; $M_\gamma = 0.61$; $M_q = 3.44$; $M_c = 6.04$; $R = 85.6 \text{ kPa}$;

3. Грунт выщелоченный $\varphi = 18^\circ$; $C = 14 \text{ kPa}$; $M_\gamma = 0.43$; $M_q = 2.72$; $M_c = 5.31$; $R = 77.84 \text{ kPa}$;

Полученные результаты показывают, что расчётное сопротивление грунтов основания, сложенного, например, засоленными супесями после полного водонасыщения снижается существенно в 1,36-1,48 раза по сравнению с расчётным сопротивлением грунта естественной плотности – влажности.

Таким образом, экспериментально получены значения расчётного сопротивления и коэффициенты снижения расчётного сопротивления для разных типов засоленных грунтов основания в состоянии естественной

плотности – влажности, при водонасыщении и при выщелачивании были определены по единой методике и сведены в табл. 1

Таблица 1

Значение расчётного сопротивления грунтов основания (R_1, R_2, R_3) и коэффициентов снижения расчётного сопротивления (K_1, K_2, K_3)

Тип грунта	Состояния грунта			Коэффициенты		
	Естест. R_1 , кПа	Водонос. R_2 , кПа	Выщел.% R_3 , кПа	K_1	K_2	K_3
Супеси	163,35	120,67	110,9	0,67	0,74	0,92
Суглинки	230,9	188,9	172,16	0,75	0,82	0,91
Глины	93,21	85,6	77,84	0,84	0,9	0,93

$$K_1 = \frac{R_{\text{выщ}}}{R_{\text{ест}}}, K_2 = \frac{R_{\text{вод.}}}{R_{\text{ест}}}, K_3 = \frac{R_{\text{выщ}}}{R_{\text{вод.}}} \quad (2)$$

Где $R_{\text{ест}}$, $R_{\text{вод.}}$, $R_{\text{выщ}}$ – расчётные сопротивления грунта соответственно в состоянии естественной плотности – влажности после водонасыщения и выщелачивания.

Расчёт осадок фундаментов, возводимых на основаниях, сложенных засоленными грунтами

Расчёт дополнительных осадок следует определить по формуле:

$$S = \sum_{i=1}^n \epsilon_{sf,i} \cdot h_i + \sum_{i=1}^m \epsilon_{sef,i} \cdot h_i + \sum_{i=1}^{\gamma} \epsilon_{se,i} \cdot h_i \cdot K_{se,i} \quad (3)$$

где S – полная дополнительная осадка основания, см;

$\epsilon_{sf,i}$ – относительное суффозионные сжатие, в результате выщелачивания всех типов солей;

$\epsilon_{sef,i}$ – относительное суффозионные сжатие в результате выщелачивания легкорастворимых солей;

$\epsilon_{se,i}$ – относительная просадочность грунтов;

h_i – толщина i -го слоя грунта, см;

n, m, γ – число элементарных слоев, на которые разбиты толщ (грунтовые слои) рассматриваемого сечения;

$K_{se,i}$ – коэффициент условий работы основания вычисляемый при $b < 3m$ по формуле

$$K_{se,i} = \frac{0,5 - 1,5(P - P_{se,i})}{P_0}$$

Где: P – начальные просадочные давление, кПа;

P_0 – давления, равно 100 кПа.

В результате расчётов дополнительной осадки фундамента получили следующие данные:

1. При известной конечной влажности поле и конечном содержании солей $S = 17,5$ см;

2. При «сухом» режиме $S = 21,06$ см;

3. При «мокром» режиме $S = 32,81$ см;

В общем случае прогнозировать детально, какая часть основания будет подвержена лишь увлажнению, а какая длительной фильтрации, сложно. Поэтому в инженерных расчётах рекомендуется, в зависимости от режима эксплуатации зданий («сухой» или «мокрой») в соответствии с требованиями СН и П 2.02.01-83 рассматривать либо полное увлажнение грунтов основания, что приводит к просадке, либо длительную фильтрацию, что приводит к суффозионной осадке.

Выводы

1. Определение расчётных характеристик засоленных грунтов рекомендуется вести по трём схемам:

- грунт в состоянии природной плотности-влажности;
- грунт в состоянии полного водонасыщения;
- грунт в состоянии полной выщелоченности.

2. Изменение деформационных и прочностных характеристик грунта рекомендуется определять с помощью предложенных коэффициентов и зависимостей с учётом физико-химических свойств грунта.

3. Условное расчётное сопротивление грунта может снижаться в 1,36-1,48 раз при учёте длительной фильтрации воды. При этих же условиях дополнительная осадка фундамента увеличивается в 1,0-1,5 раза.

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РЕКОМЕНДАЦИИ И ПРЕДЛОЖЕНИЯ ПО ИЗУЧЕНИЮ ИЗМЕНЕНИЯ СТРУКТУРЫ, СОСТАВА И СВОЙСТВ ЗАСОЛЕННЫХ ГРУНТОВ ПРИ УВЛАЖНЕНИИ И ВЫЩЕЛАЧИВАНИИ

Аннотация. Научная статья посвящена определению расчетного сопротивления грунта при засоленности. Рассмотрено на примере почвы КАЭС (Крымской атомной электростанции). Свойства прочности засоленных грунтов должны определяться в трех случаях: во-первых, в естественном состоянии, во-вторых, при насыщении водой, в-третьих, после полного отмывания от солей. При расчете деформации почв в соответствии со строительными нормами и правилами среднее давление в почве – P не должно превышать ее расчетное сопротивление R . Полученные результаты показывают, что при полном увлажнении и выщелачивании засоленных грунтов расчетное сопротивление в 1,36-1,48 раза превышает расчетное сопротивление грунтов в их естественном состоянии влажности. В этих же условиях дополнительная осадка почвы повышается в 1,0-1,5 раза.

В связи с этим, при инженерных расчетах рекомендуется рассмотреть долгосрочную фильтрацию, ведущую к полному увлажнению или суффозной осадке грунтовых почв в соответствие со строительными требованиями и правилами согласно режимам эксплуатации здания (сухом или влажном).

Ключевые слова: нагрузка на грунт, просадка, солесодержание, деформация, прочность, смачивание, вымывание, водонасыщенность, удельное сцепление, засоленность, затопление, сопротивление грунта, песчаный песок, глина, осадка фундамента, фильтрация воды.

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RECOMMENDATIONS AND SUGGESTIONS OF STUDYING THE CHANGES OF STRUCTURE, COMPOSITION AND PROPERTIES OF SALINE SOILS DURING HUMIDIFICATION AND LEACHING

Abstract. The scientific article is devoted to the determination of the calculated soil resistance in salinity. Considered using the example of soil from the CNPP (Crimean Nuclear Power Plant). The strength properties of saline soils should be determined in three cases: firstly, in their natural state, secondly, when saturated with water, and thirdly, after complete washing of salts. When calculating soil deformation in accordance with building codes and regulations, the average pressure in the soil - P should not exceed its calculated resistance R . The results obtained show that with complete humidification and leaching of saline soils, the calculated resistance is 1.36-1.48 times higher than the calculated resistance of soils in their natural moisture state. Under the same conditions, the additional soil sediment increases by 1.0-1.5 times.

In this regard, in engineering calculations, it is recommended to consider long-term filtration leading to complete humidification or suffusion of groundwater in accordance with building requirements and rules according to the modes of operation of the building (dry or wet).

Key words: soil load, subsidence, salinity, deformation, strength, wetting, leaching, water saturation, specific adhesion, salinity, flooding, soil resistance, sandy sand, clay, foundation sediment, water filtration.

Введение. В процессе проведения геологических изысканий на строительной площадке и эксплуатации здания на грунт появляется нагрузка, вызывающая его уплотнение. Смещение слоев грунта вызывает проседание, что может вызвать деформацию и нарушить устойчивость конструкции. Для расчета площади фундаментного фундамента, оценки прочности и надежности фундамента специалисты определяют расчетное

сопротивление грунта, которое зависит от свойств грунта и ширины будущего фундамента.

Для определения деформационно-прочностных свойств засоленных грунтов по этой методике необходимо определить плотность, дисперсность, содержание микроагрегатов и солей, водопроницаемость грунтов, относительные величины просадочного и суффuzionного сжатия, удельного сцепления и внутреннего угла. с трением, водонасыщением и промывкой в естественном состоянии плотности-влажности.

Основная часть. При расчете фундаментов по деформациям необходимо соблюдать условия, чтобы среднее давление на фундамент не превышало расчетного сопротивления R на R . Расчетное давление определяется исходя из решения вопросов, связанных с напряженным состоянием фундамента. ограничение глубины разработки пластических зон под краями жесткого фундамента до 25-кратной ширины фундамента.

Толщина слоя грунта, при которой допускаются максимальные прочностные напряжения, ограничивается определенной глубиной, а для определения расчетного сопротивления используются прочностные свойства слоя грунта непосредственно под фундаментом.

При смачивании фундамента, состоящего из засоленных грунтов, расчетное сопротивление необходимо определять, используя параметры прочности грунта непосредственно под фундаментом, в полностью насыщенном состоянии. В случае затопления фундамента и длительной фильтрации воды при определении расчетного сопротивления необходимо использовать показатели прочности грунта основания в случае его полного размывания.

Расчётное сопротивление грунта основания определяются по формуле:

$$R = \frac{\gamma_{c1} \cdot \gamma_{c2}}{k} [M_{\gamma} k_z b \gamma_{\text{н}} + M_q (d_1 + d_b) \gamma'_{\text{н}} - db \gamma'_{\text{н}} - M_c C_{\text{н}}] \quad (1)$$

Где; γ_{c1} и γ_{c2} - коэффициенты условий работы, учитывающие особенности работы разных грунтов в основании фундаментов.

k - коэффициент, принимаемый $k = 1$ - если прочностные характеристики грунта (φ и c) определены непосредственными испытаниями и $k = 1,1$ - если они приняты по таблицам СН и П;

k_z - коэффициент, принимаемый $k_z = 1$ при $b < 10$ м;

$k_z = \frac{z_0}{b+0,2}$ при $b \geq 10$ м (здесь $z_0 = 8$ м);

b - ширина подошвы фундамента, м;

$\gamma_{\text{н}}$ и $\gamma'_{\text{н}}$ - усредненные расчётное значение удельного веса грунтов, залегающих соответственно ниже подошвы фундамента (при наличии подземных вод определяется с учётом взвешивающего действия воды) и выше подошвы, kN / m^3 ;

$C_{„}$ - расчётные значение удельного сцепление грунта, залегающего непосредственно под подошвой фундамента, непосредственно под подошвой фундамента, $kПа$;

d_b – глубина подвала – расстояние от уровня планировки до пола подвала, м (для сооружений с подвалом шириной $b \leq 20$ м и глубиной более 2м принимается $d_b = 2$ м, при ширине подвала $b > 20$ м принимается $d_b = 0$ м);

M_γ, M_q, M_c – безразмерные коэффициенты, принимаемые по СН и Пд;

d_1 – глубина заложения фундаментов без подвальных сооружений или приведенная глубина заложение наружных и внутренних фундаментов от пола подвала.

При фильтрации воды через фундаменты сооружений, состоящих из засоленных грунтов, происходит растворение и вынос солей с образованием трех зон по направлению фильтрационного потока:

I зона – полное опреснение практически без солей;

зона II – частичное опреснение, где происходит полное насыщение водой и частичное растворение, и удаление легкорастворимых солей;

Зона III – незасоленная почва, за счет фильтрации насыщенного раствора через эту зону растворение солей не происходит.

Расчетные значения удельного веса грунта сверху ($\gamma'_{„}$) и снизу ($\gamma_{„}$) в условиях длительного затопления или длительной фильтрации воды через фундамент. Фундамент следует определять в соответствии с инструкциями СН и П 2.02.01 - 83. Коэффициент условий эксплуатации основных грунтов γ_{c1} равен 1,1, рекомендуется получать коэффициент эксплуатации при взаимодействии здания и сооружения с фундаментом. γ_{c2} принимается равным 1. Коэффициент надежности k принимается равным 1.

Рассмотрим пример расчета для оценки снижения расчетного сопротивления фундамента из-за намокания воды и длительной фильтрации:

II. Дан фундамент с размером $\lambda = b = 1.5$ м и глубиной заложения $d_1 = 1.6$ м. Основание сложена засоленными суглинками. Удельные веса грунтов под подошвой фундамента и выше подошвы фундаментов в состоянии естественной плотности – влажности равны 15.6, а водонасыщенного равны $\gamma_{„} = \gamma'_{„} = 17.4 kN / m^3$ и в процессе выщелачивания не меняется $d_b = 2$ м. Ранее определили, что $\gamma_{c1} = 1.1$; $\gamma_{c2} = 1$; $k = 1$; $k_z = 1$;

1. Определяем расчётное сопротивление грунта в основание естественной плотности – влажности. В результате опытов получаем угол внутреннего трения $\varphi = 26^\circ$, удельные сцепление $C_{„} = 80 kПа$. Исходя из $\varphi = 26^\circ$ по табл.4 определяем безразмерные коэффициенты $M_\gamma = 0.84$; $M_q = 4.37$; $M_c = 6.9$; после чего вычисляем расчётное сопротивление грунта по формуле (1). $R = 230.90 kПа$;

2. При определении расчётного сопротивления при замачивании основания опыты проводим с образцами грунта в водонасыщенном состоянии и при этом получаем угол внутреннего трения $\varphi = 22^\circ$ и удельное сцепление $C = 5 \text{ kPa}$. Исходя из значения $\varphi = 22^\circ$ по табл.4 определяем безразмерные коэффициенты $M_\gamma = 0.61$; $M_q = 3.44$; $M_c = 6.04$; после чего вычисляем расчётное сопротивление грунта R по формуле (1)

$$R = 188.9 \text{ kPa};$$

3. Определение расчётного сопротивления в условиях длительной фильтрации воды вычисляем после определения, прочностных параметров грунта после выщелачивания $\gamma'' = 17.4 \text{ kN} / \text{m}^3$; $C = 3 \text{ kPa}$; $\varphi = 20^\circ$;

$$M_\gamma = 0.51; M_q = 3.06; M_c = 5.66; R = 172.16 \text{ kPa}.$$

II. Основание сложены засоленными супесями, размер фундамента $l = b = 1.5 \text{ м}$, глубина заложения $d_1 = 1.6$. Удельный вес грунта в состоянии естественной плотности – влажности $16.9 \text{ kN} / \text{m}^3$, а водонасыщенного и выщелоченного $\gamma'' = \gamma' = 18.2 \text{ kN} / \text{m}^3$. $d_b = 2 \text{ м}$; коэффициенты $\gamma_{c1} = 1.1$; $\gamma_{c2} = 1$; $k = 1$; $k_z = 1$;

2. Грунт естественной плотности – влажности $\varphi = 24^\circ$; $C = 12 \text{ kPa}$; $M_\gamma = 0.72$; $M_q = 3.87$; $M_c = 6.48$; $R = 163.35 \text{ kPa}$;

2.. Грунт водонасыщенный $\varphi = 18^\circ$; $C = 9 \text{ kPa}$; $M_\gamma = 0.43$; $M_q = 2.72$; $M_c = 5.31$; $R = 120.67 \text{ kPa}$;

3.. Грунт выщелоченный $\varphi = 16^\circ$; $C = 7 \text{ kPa}$; $M_\gamma = 0.36$; $M_q = 2.43$; $M_c = 5.0$; $R = 110.9 \text{ kPa}$;

III. Основание сложено засоленными глинами. Размер фундамента $l = b = 1.5 \text{ м}$, глубина заложения $d_1 = 1.6$. Удельный вес грунта в состоянии естественной плотности – влажности $16.7 \text{ kN} / \text{m}^3$, а водонасыщенного и выщелоченного $\gamma'' = \gamma' = 17.2 \text{ kN} / \text{m}^3$. $d_b = 2 \text{ м}$; коэффициенты $\gamma_{c1} = 1.1$; $\gamma_{c2} = 1$; $k = 1$; $k_z = 1$;

4. Грунт естественной плотности – влажности $\varphi = 26^\circ$; $C = 24 \text{ kPa}$; $M_\gamma = 0.84$; $M_q = 4.37$; $M_c = 6.9$; $R = 93.21 \text{ kPa}$;

5. Грунт водонасыщенный $\varphi = 22^\circ$; $C = 18 \text{ kPa}$; $M_\gamma = 0.61$; $M_q = 3.44$; $M_c = 6.04$; $R = 85.6 \text{ kPa}$;

6. Грунт выщелоченный $\varphi = 18^\circ$; $C = 14 \text{ kPa}$; $M_\gamma = 0.43$; $M_q = 2.72$; $M_c = 5.31$; $R = 77.84 \text{ kPa}$;

Полученные результаты показывают, что расчётное сопротивление грунтов основания, сложенного, например, засоленными супесями после полного водонасыщения снижается существенно в 1,36-1,48 раза по сравнению с расчётным сопротивлением грунта естественной плотности – влажности.

Таким образом, экспериментально получены значения расчётного сопротивления и коэффициенты снижения расчётного сопротивления для разных типов засоленных грунтов основания в состоянии естественной

плотности – влажности, при водонасыщении и при выщелачивании были определены по единой методике и сведены в табл.1

Таблица 1

Значение расчётного сопротивления грунтов основания (R_1, R_2, R_3) и коэффициентов снижения расчётного сопротивления (K_1, K_2, K_3)

Тип грунта	Состояния грунта			Коэффициенты		
	Естест. R_1 , кПа	Водонос. R_2 , кПа	Выщел.% R_3 , кПа	K_1	K_2	K_3
Супеси	163,35	120,67	110,9	0,67	0,74	0,92
Суглинки	230,9	188,9	172,16	0,75	0,82	0,91
Глины	93,21	85,6	77,84	0,84	0,9	0,93

$$K_1 = \frac{R_{\text{выщ}}}{R_{\text{ест}}}, K_2 = \frac{R_{\text{вод.}}}{R_{\text{ест}}}, K_3 = \frac{R_{\text{выщ}}}{R_{\text{вод.}}} \quad (2)$$

Где $R_{\text{ест}}$, $R_{\text{вод.}}$, $R_{\text{выщ}}$ – расчётные сопротивления грунта соответственно в состоянии естественной плотности – влажности после водонасыщения и выщелачивания.

Расчёт осадок фундаментов, возводимых на основаниях, сложенных засоленными грунтами

Расчёт дополнительных осадок следует определить по формуле:

$$S = \sum_{i=1}^n \varepsilon_{sf,i} \cdot h_i + \sum_{i=1}^m \varepsilon_{sef,i} \cdot h_i + \sum_{i=1}^{\gamma} \varepsilon_{se,i} \cdot h_i \cdot K_{se,i} \quad (3)$$

где S – полная дополнительная осадка основания, см;

$\varepsilon_{sf,i}$ – относительное суффозионные сжатие, в результате выщелачивания всех типов солей;

$\varepsilon_{sef,i}$ – относительное суффозионные сжатие в результате выщелачивания легкорастворимых солей;

$\varepsilon_{se,i}$ – относительная просадочность грунтов;

h_i – толщина i -го слоя грунта, см;

n, m, γ – число элементарных слоев, на которые разбиты толщи (грунтовые слои) рассматриваемого сечения;

$K_{se,i}$ – коэффициент условий работы основания вычисляемый при $b < 3\text{м}$ по формуле

$$K_{se,i} = \frac{0,5 - 1,5(P - P_{se,i})}{P_0}$$

Где: P – начальные просадочные давление, кПа;

P_0 – давления, равно 100 кПа.

В результате расчётов дополнительной осадки фундамента получили следующие данные:

4. При известной конечной влажности поле и конечном содержании солей $S = 17,5$ см;

5. При «сухом» режиме $S = 21,06$ см;

6. При «мокром» режиме $S = 32,81$ см;

В общем случае прогнозировать детально, какая часть основания будет подвержена лишь увлажнению, а какая длительной фильтрации, сложно. По этому в инженерных расчётах рекомендуется, в зависимости от режима эксплуатации зданий («сухой» или «мокрой») в соответствии с требованиями СН и П 2.02.01-83 рассматривать либо полное увлажнение грунтов основания, что приводит к просадке, либо длительную фильтрацию, что приводит к суффозионной осадке.

Выводы

1. Определение расчётных характеристик засоленных грунтов рекомендуется вести по трём схемам:

- грунт в состоянии природной плотности-влажности;
- грунт в состоянии полного водонасыщения;
- грунт в состоянии полной выщелоченности.

2. Изменение деформационных и прочностных характеристик грунта рекомендуется определять с помощью предложенных коэффициентов и зависимостей с учётом физико-химических свойств грунта.

3. Условное расчётное сопротивление грунта может снижаться в 1,36-1,48 раз при учёте длительной фильтрации воды. При этих же условиях дополнительная осадка фундамента увеличивается в 1,0-1,5 раза.

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ЛАБОРАТОРНЫЙ ПОДБОР ИНГИБИТОРА СОЛЕОТЛОЖЕНИЯ

Аннотация. Эффективность действия анализируемого образца реагента оценивали путем сравнения процесса осадкообразования в ингибированной и не ингибированной пластовых водах.

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LABORATORY SELECTION OF SALT DEPOSITION INHIBITOR

Annotation. The effectiveness of the analyzed reagent sample was assessed by comparing the sedimentation process in inhibited and uninhibited formation waters.

Проведены лабораторные исследования ингибитора солеотложения марки «ФЛЕК-ИСО-502» на пластовой воде месторождения Мингбулак скважина №12.

Анализ эффективности ингибитора солеотложение марки «ФЛЕК-ИСО-502» выполнен лабораторией физико-химических исследований углеводородных смесей.

Количество образцов реагента: 1 шт.

Объем образца: 0,5 л.

Объем образца пластовой воды: 3 л.

Пластовая вода месторождения Мингбулак скважина №12.

Ниже представлены результаты анализа солевого состава пластовой воды месторождения Мингбулак скважина №12».

Внешний вид воды – бесцветная, с небольшим осадком коричневого цвета.

Результаты анализа воды месторождения Мингбулак скважина №12. представлены в **таблице №1**

Таблица 15–Результаты анализа пластовой воды Мингбулак скважина №12

Данные анализа	mg/l	mol/l	% эквивалент
1	2	3	4
Хлориды	224249,0	6325,78	49,87
Сульфаты	607,0	12,65	0,10
Гидрокарбонаты	231,80	3,80	0,03
Кальций	6613,2	330,00	1,3
Магний	2102,1	173,01	10,5
Натрий+калий	140141,2	5839,22	38,2
ИТОГО:		12684,4	100
Минерализация, mg/l	225087,8		
Общая жесткость, mol/l	503,01		
pH	5,8		
Плотность, g/cm ³	1,201		
Взвешенные вещества mg/l	2130		
Тип воды по Сулину	Хлоркальциевый		

Внешний вид воды – подвижная жидкость с запахом нефтепродукта

На основании проведенного исследования установлено, что анализируемая вода являются высокоминерализованной с общей жесткостью 503,01 mol/l

Эффективность защитного действия представленного образца реагента исследовалась на пластовой воде месторождения Мингбулак.

Сущность данного метода заключается в определении концентрации ионов кальция комплексонометрическим методом до ввода ингибитора и после его введения в анализируемую систему.

На основании полученных данных был рассчитан защитный эффект ингибитора согласно формуле:

$$z = \frac{C_{И} - C_{ВО}}{C_{В} - C_{ВО}} \cdot 100 \%$$

где z – защитный эффект ингибирования солеотложение, %;

$C_{И}$ – концентрация ионов кальция в воде с ингибитором солеотложения после осаждения $CaCO_3$ (среднее из 2-х определений);

$C_{ВО}$ - концентрация ионов кальция в воде без ингибитора солеотложения после осаждения $CaCO_3$ (среднее из 2-х определений);

$C_{В}$ - концентрация ионов кальция в воде без ингибитора солеотложения до осаждения $CaCO_3$ (среднее из 2-х определений).

С целью определения минимальных эффективных дозировок проведена оптимизация дозировок в пределах от 20 до 50 g/t.

Результаты испытаний представлены в **таблице №2**.

Таблица 2 – Защитный эффект образца реагента «ингибитора солеотложения марки «ФЛЕК-ИСО-502», на пластовой воде м/р Мингбулак

Проба	Концентрация Ca^{2+} , g/t			Защитный эффект, %
	1 определение	2 определение	Среднее Значение	
Дозировка 20 g/t				
Вода до осаждения ионов Ca^{++} в контрольном образце - $C_{\text{в}}$	6325,7	6325,9	6325,8	
Вода после осаждения ионов Ca^{++} в контрольном образце- $C_{\text{во}}$	6288,3	6288,1	6288,2	Нет эффекта
Вода с ингибитором после осаждения ионов Ca^{++} - $C_{\text{и}}$	6187,2	6187,2	6187,2	
Дозировка 30g/t				
Вода до осаждения ионов Ca^{++} в контрольном образце - $C_{\text{в}}$	6325,7	6325,9	6325,8	
Вода после осаждения ионов Ca^{++} в контрольном образце- $C_{\text{во}}$	6288,3	6288,1	6288,2	Нет эффекта
Вода с ингибитором после осаждения ионов Ca^{++} - $C_{\text{и}}$	6186,4	6186,0	6186,2	
Дозировка 40 g/t				
Вода до осаждения ионов Ca^{++} в контрольном образце - $C_{\text{в}}$	6325,7	6325,9	6325,8	
Вода после осаждения ионов Ca^{++} в контрольном образце- $C_{\text{во}}$	6288,3	6288,1	6288,2	Нет эффекта
Вода с ингибитором после осаждения ионов Ca^{++} - $C_{\text{и}}$	6186,1	6186,3	6186,2	-
Дозировка 50 g/t				
Вода до осаждения ионов Ca^{++} в контрольном образце - $C_{\text{в}}$	6325,7	6325,9	6325,8	
Вода после осаждения ионов Ca^{++} в контрольном образце - $C_{\text{во}}$	6288,3	6288,1	6288,2	Нет эффекта,но происходит кристаллизация соли
Вода с ингибитором после осаждения ионов Ca^{++} - $C_{\text{и}}$	6032,5	6032,3	6032,4	

Как видно из таблицы №2 при дозировке в пределе от 20 g/t до 50 g/t ингибитора солеотложения марки «ФЛЕК-ИСО-502» на пластовой воде м/р Мингбулак скважина №12 ингибитор солеотложения не оказывает защитного эффекта. Следует отметить, что при дозировке 50 g/t происходит кристаллизация солей на поверхности колбы.

Выводы: Исследование эффективности образца ингибитора солеотложения марки «ФЛЕК-ИСО-502», показало, что испытуемый образец не показывает защитного эффекта на пластовой воде месторождения Мингбулак скважина №12.

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ИССЛЕДОВАНИЕ ПРОБЛЕМ АВТОМАТИЗИРОВАННОГО ТЕСТИРОВАНИЯ

Аннотация. В работе рассмотрены ключевые проблемы автоматизированного тестирования программного обеспечения, включая длительное выполнение тестов, поддержку и обновление существующих тестов, а также ложные срабатывания и нестабильные тесты. Описаны основные причины возникновения этих проблем и предложены методы их решения.

Ключевые слова: автоматизированное тестирование, поддержка тестов, технический долг, QA, DevOps.

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RESEARCH ON THE PROBLEMS OF AUTOMATED TESTING

Annotation. The work analyzes the key problems of automated software testing, such as long test execution, support and updating of existing tests, and false positives and flaky tests. The main causes of these problems are described and methods of their solution are proposed.

Keywords: Automated testing, Test support, Technical debt, QA, DevOps.

Введение. Автоматическое тестирование является неотъемлемой частью процесса разработки программного обеспечения, позволяя существенно повысить качество продукта, снизить количество ошибок и ускорить выпуск новых версий.

Несмотря на значительные преимущества, автоматизированное тестирование сталкивается с рядом серьезных проблем, которые могут снижать его эффективность и приводить к нежелательным последствиям.

В ходе работы был проведен анализ литературы, в результате чего выделены следующие ключевые проблемы: длительное выполнение тестов, управление зависимостями и конфигурациями, поддержку и обновление

существующих тестов, а также ложные срабатывания и нестабильные тесты.

Длительное выполнение тестов является одной из наиболее распространенных и существенных проблем автоматизированного тестирования. С увеличением объема кода и числа тестовых сценариев время, необходимое для выполнения всех тестов, может значительно возрасти.

Причины длительного выполнения тестов:

1. Рост проекта.
2. Тесты выполняют ресурсоёмкие задачи или обращаются к внешним сервисам.
3. Отсутствие параллелизации.
4. Некачественные или плохо оптимизированные тесты, дублирующиеся проверки.
5. Недостаточно мощная или плохо настроенная тестовая инфраструктура.

Методы решения проблемы:

1. Разделение тестов на группы.
2. Параллельное выполнение тестов.
3. Рефакторинг тестов для устранения избыточных проверок и повышения их эффективности.
4. Применение методик выборочного тестирования для проверки только тех частей кода, которые были изменены.
5. Обеспечение достаточных вычислительных ресурсов для выполнения тестов.
6. Настройка и оптимизация тестовой среды для обеспечения максимальной производительности.

Поддержка и обновление существующих тестов. Постоянное развитие проектов требует регулярного обновления тестов для соответствия новым требованиям и функционалу. Причины, приводящие к необходимости обновления тестовой базы:

1. Частые изменения в требованиях и функциях.
2. Увеличение числа тестов усложняет их поддержку.
3. Обновления внешних библиотек и сервисов.
4. Изменения в архитектуре и логике системы.
5. Накопление устаревших или неэффективных тестов.

Методы решения проблемы:

1. Использование инструментов и скриптов для автоматизации процесса обновления тестов.
2. Регулярный рефакторинг и оптимизация тестов для поддержания их актуальности.
3. Создание и поддержание качественной документации для тестов.
4. Выделение тестовых групп.

Ложные срабатывания (false positives) и нестабильные тесты (flaky tests) могут приводить к значительному времени, затрачиваемого на тестирование, ввиду необходимости перезапуска таких тестов.

Причины ложных срабатываний и нестабильностей в тестах:

1. Использование нестабильных или некорректных тестовых данных.
2. Асинхронные операции и проблемы с синхронизацией.
3. Зависимость от нестабильных внешних сервисов.
4. Неправильные предположения о состоянии системы или входных данных.

Методы решения проблемы:

1. Обеспечение консистентных и надежных тестовых данных.
2. Рефакторинг тестов для улучшения синхронизации, внедрение явных ожиданий и тайм-аутов для асинхронных операций.
3. Использование тестовых данных, заглушек или симуляторов для изоляции тестов.
4. Обеспечение стабильной и предсказуемой тестовой среды.
5. Внедрение систем мониторинга и логирования для отслеживания состояния тестов и выявления причин нестабильности.

Вывод. Реализация предложенных методов может существенно повысить надежность и эффективность процессов автоматизированного тестирования, что в конечном итоге способствует улучшению качества программного обеспечения. Однако, нужно учитывать потребности каждого отдельно взятого проекта. Универсальные решения не всегда могут быть применимы к конкретному проекту без адаптации под его уникальные особенности и требования. Это означает, что выбор подходящих инструментов и методов должен основываться на специфике проекта, его архитектуре, масштабе и динамике изменений.

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РЕГИСТРАЦИЯ НЕКОММЕРЧЕСКИХ ЮРИДИЧЕСКИХ ЛИЦ

Аннотация. В статье излагаются основные требования к государственной регистрации некоммерческих юридических лиц, порядок, сроки и механизм оформления регистрации или ликвидации некоммерческой организации.

Ключевые слова: некоммерческое юридическое лицо, некоммерческая организация, государственная регистрация, ликвидация юридического лица.

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REGISTRATION OF NON-COMMERCIAL LEGAL ENTITIES

Abstract. The article outlines the basic requirements for the state registration of non-profit legal entities, the procedure, timing and mechanism for registration or liquidation of a non-profit organization.

Keywords: non-profit legal entity, non-profit organization, state registration, liquidation of a legal entity.

Министерство юстиции РФ принимает решение о государственной регистрации некоммерческого юридического лица либо об отказе некоммерческой структуре о внесении сведений о ней в соответствующий реестр. Если принято положительное решение, вносится необходимая запись в Единый реестр регистрации юридических лиц. Затем орган, который принял решение, получает документы обратно и возвращает их лицу, обратившемуся с заявлением [1].

Существуют определенные сроки для принятия решения и внесении сведений о некоммерческом субъекте в соответствующий реестр. Общий срок – 14 рабочих дней. Для основанного на членстве общественного объединения, созданного для защиты общих интересов и достижения

уставных целей, срок составляет 30 дней, как и для организации, созданной для совместного исповедания и распространения веры (здесь допустимо продление срока до полугода; это необходимо в случае, когда назначено исследование данных о вероучении, анализ религиоведческих аспектов текстов, вызывающих споры среди специалистов, культовых предметов, порядка религиозных обрядов и церемоний). Решение о регистрации политической организации, стремящейся к завоеванию политической власти или участию в ней, принимается в течение 21 дня. В случае ликвидации некоммерческого юридического лица все решается за 3 дня [3].

Некоммерческий субъект в рамках участия в процедуре регистрации должен предоставить документы, служащие основанием для деятельности юридического лица, в 3-х экземплярах подлинного вида, исключение составляют документы, имеющие электронную форму [2].

Недопустимо изменение данных о лицах, учреждающих некоммерческое юридическое лицо. Такие сведения подаются в орган, уполномоченный осуществлять государственную регистрацию, только один раз, в момент создания некоммерческой структуры.

Учредители некоммерческого юридического лица становятся ее участниками, членами, собственниками, после внесения данных о ней в специальный государственный реестр. Если конкретный субъект выразил желание стать таковым, вопрос решают руководящие органы на основе положений и документов, в силу которых осуществляется деятельность организации в качестве юридического лица.

Однако это правило не касается некоммерческих юридических лиц, учрежденных на основе добровольных имущественных взносов в целях оказания услуг в таких сферах, как образование, жизнеобеспечение, охрана здоровья, культура, наука, право, физкультура, спорт: согласно ГК РФ, состав лиц, которые их учреждают может быть изменен при соблюдении ряда условий [5].

К письменному обращению об изменении состава лиц, учредивших некоммерческую структуру, нужно приложить:

- а) информацию о том, кто учредил организацию;
- б) подтверждение, что уплачен своевременно платеж, взимаемый государством за юридически значимые действия уполномоченных лиц или выдачу ими необходимых документов;
- в) адрес, где размещается постоянно действующий орган некоммерческого юридического лица, обеспечивающий контакты со структурой;
- г) данные, на основании каких документов в наименовании некоммерческого субъекта используются: личное имя человека, символика, находящаяся под защитой законов о создании условий для возникновения, осуществления прав на объекты интеллектуальной собственности и их

защиты либо полное наименование иной организации как элемента собственного названия;

д) уведомление о том, чем подтверждается статус субъекта, являющегося учредителем организации и одновременно гражданином другого государства (необходимо предоставить выписку из Государственного реестра аккредитованных филиалов, представительств иностранных юридических лиц);

е) письменное обращение о внесении сведений о некоммерческом субъекте в базу данных о некоммерческих структурах, которые ведут политическую деятельность с использованием иностранного финансирования.

Как установлено кодифицированным законодательным актом, устанавливающим систему налогов и сборов в РФ, некоммерческая организация должна внести в бюджет государства денежные средства в виде платежей за внесение сведений о юридическом лице либо его ликвидации в ЕГРЮЛ, изменение документов, регулирующих деятельность юридического лица [6].

В названии некоммерческого субъекта должны быть указания на форму, фиксирующую способ закрепления и использования имущества хозяйствующим субъектом, вытекающие из этого его цели и правовое положение, а также характер хозяйственной деятельности.

Исключение составляют политические организации, ставящие перед собой целью завоевание политической власти или участие в ней: в их наименовании обязательно должно быть согласно закону словосочетание «политическая партия». Требования же указывать форму хозяйствующего субъекта – основанное на членстве общественное объединение, созданное для защиты общих интересов и достижения уставных целей объединившихся субъектов – нет. Но в названии такого объединения должно быть указание на территорию, где оно функционирует. Следует указать, что это, например, городская, региональная, межрегиональная структура.

Касательно организации, созданной для совместного исповедания и распространения веры следует сказать, что в ее названии должно присутствовать указание на принадлежность к определенной религии.

Словосочетание «Российская Федерация», слово «Россия», производные от них можно использовать в названии НКО только в том случае, если это разрешено законом, Указом Главы государства, Постановлением или специальным документом Правительства РФ.

Существует ряд требований и специальных порядков реализации прав и свобод, направленных на удержание общественных отношений, связанных с созданием и функционированием некоммерческого юридического лица, в определенных рамках, нарушать которые нельзя. Это касается названий некоммерческих субъектов отдельных типов.

Давая название организации, не стремящейся к получению прибыли и не распределяющей ее между участниками, можно использовать имя известного человека или наименование другой организации. Но для того, чтобы сведения о такой некоммерческой организации были внесены в специальный реестр, нужно получить у уполномоченного органа государства специальное разрешение, позволяющее использовать имя либо наименование.

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ХАРАКТЕРИСТИКА ГРАЖДАНСКИХ ПРАВ И ОБЯЗАННОСТЕЙ НЕКОММЕРЧЕСКИХ ЮРИДИЧЕСКИХ ЛИЦ В ЛИЦЕ КАЗАЧЬИХ ОБЩЕСТВ И КОРЕННЫХ НАРОДОВ

Аннотация. В настоящее время имеется ряд проблем в юридическом обосновании деятельности казачества как общественного объединения, выполняющего задачи по государственной службе. Настоящая статья раскрывает особенности организации и деятельности казачьих обществ как некоммерческих юридических лиц.

Ключевые слова: казачество, казачьи объединения, казачье общество, коренные народы.

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CHARACTERISTICS OF CIVIL RIGHTS AND OBLIGATIONS OF NON-PROFIT LEGAL ENTITIES REPRESENTED BY COSSACK SOCIETIES AND INDIGENOUS PEOPLES

Abstract. Currently, there are a number of problems in the legal justification of the activity of the Cossacks as a public association performing tasks in public service. This article reveals the specifics of the organization and activities of Cossack societies as non-profit legal entities.

Keywords: Cossacks, Cossack associations, Cossack society, indigenous peoples.

В настоящее время существует масса локальных документов, созданных в рамках специального законодательства, регулирующего деятельность формирований, члены которых возрождают российское казачество.

Согласно Федерального закона от 05.12.2005 № 154-ФЗ [1] первичные казачьи формирования создаются на уровне хуторов, станиц, городов. Второй уровень, включающий образования первого уровня, – районный (его называют еще «юртовым») и окружной (другое название – «отдельский»). Из них формируют казачьи объединения войскового статуса, которые могут войти в казачье общество всероссийского уровня.

Необходимо выделить особо такой факт. Пунктом 3.7 Указа № 632 от 15.06.1992 года (редакция от 04.02.2021) [3] Главы нашего государства установлено следующее. Лица, являющиеся членами хуторских, станичных городских объединений, созданных в целях возрождения российского казачества, обязательно должны принять членство районных, окружных, войсковых формирований такого рода.

В юридических документах, включающих свод положений и правил, касающихся правового статуса, организационной формы, структуры и устройства объединений людей, созданных для возрождения российского казачества, выделяется несколько категорий лиц, являющихся членами таких формирований.

Во-первых, это те, кто исполняет по поручению государства исполнительно-распорядительные и иные функции.

Во-вторых, члены семей тех, кто несет государственную или иную службу, не принявшие на себя такого рода обязательств.

В-третьих, лица, имеющие членство в объединении, но проходящие в течение определенного периода времени испытания на определение их пригодности.

В-четвертых, члены объединения, давшие публичное обещание соблюдать права и обязанности согласно уставу казачьего общества.

В-пятых, члены объединения, не принявшие присягу. При этом непонятно, кто из них является полноправным членом общественной некоммерческой организации и обладает в соответствии со статьей 65.2 Гражданского кодекса России всей совокупностью соответствующих прав и обязанностей.

Предположение о том, что объединения, целью которых является возрождение казачества, первичного уровня создают граждане, а на более высоком уровне объединяются уже общества, обладающие всеми правами и обязанностями организации.

Но с этим подходом не согласны органы правосудия, утверждающие, что общее собрание общества, созданного для возрождения казачества, более высокого уровня не может затрагивать права формирований первичного статуса, которые входят в его состав.

На сегодняшний день все отношения, возникающие между членами обществ, созданных в целях возрождения российского казачества, регулируются по большей части только сводами положений и правил,

касающихся правового статуса, организационной формы, структуры и организационного устройства таких формирований.

В уставах, к примеру, говорится о том, что члены общества имеют право ношения формы определенного вида, перехода в другое такое же общество при изменении места проживания. Они обязаны соблюдать устав своей и вышестоящей организации, не прекословя исполнять решения Круга, приказы и распоряжения выборных лидеров, беречь документ, подтверждающий членство в казачьем обществе, принимать активное участие в формировании патриотического сознания молодых членов объединения.

Набор обязанностей членов обществ по возрождению российского казачества зависит от категорий принадлежности, характеристик отдельных казаков и иных аспектов. Например, не каждый член формирования может участвовать в управлении его делами: многие имеют лишь право участвовать в работе выборного органа, но не голосовать.

Начиная со второго уровня объединений, создаваемых в целях возрождения российского казачества, в формировании материальных и нематериальных элементов, используемых организацией в своей деятельности, участвуют не те, кто управляет ею, а общества первичного статуса.

Статьи 12 и 13 Федерального закона № 104–ФЗ от 20.07.2000 года [2] устанавливают нормы и правила, регулирующие поведение лиц, которые относятся к определенным народам, объединяются по признакам происхождения от единого предка или территориального соседства для того, чтобы сохранять и развивать свой традиционный образ жизни. Данные нормы также определяют круг обязательных для выполнения действий, осуществляемых членами общин коренных малочисленных народов России.

Надо отметить, что список с перечнем прав и обязанностей членов таких объединений нельзя назвать полным. При этом объем прав может быть увеличен в соответствии с учредительным документом, обязательным для всех юридических лиц, а ввести дополнительные обязанности можно лишь на основании нормативно-правового акта [6].

Такие социально-территориальные организации людей, имеющих совместные интересы, ценности и обычаи, могут удовлетворять и имущественные запросы своих членов, занимающихся пополнением запасов хозяйственных благ за счет животноводства и переработки его продукции. Малочисленные народы РФ занимаются также разведением и выведением пород собак, выращиванием в неволе ценных пушных зверей для получения шкур, содержанием пчел и получением продуктов пчеловодства, добычей водных биоресурсов, традиционными промыслами. Многие виды продукции предназначены для того, чтобы их потребляли члены общин [4].

В законе указаны три основные обязанности члена социальной организации особой группы населения, проживающей на территории традиционного расселения ее предков:

- 1) соблюдать общинный устав;
- 2) использование природных ресурсов в объемах и способами, обеспечивающими гармоничное взаимодействие общества и природной среды;
- 3) охрана и защита природного мира.

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РАЗВИТИЕ КОММУНИКАТИВНЫХ УМЕНИЙ И НАВЫКОВ МЛАДШИХ ШКОЛЬНИКОВ

Аннотация. Авторы изучают различия в развитии коммуникативных навыков и умений у детей младшего школьного возраста. Подчеркивается, что многие педагоги и психологи уделяют большое внимание этой проблеме. Он является одним из наиболее актуальных в настоящее время. Говорят, что младший школьный возраст – самый важный этап развития, потому что именно здесь формируются социальные установки, отношения к самому себе, к другим и к обществу, а также формируются коммуникативные навыки. В этой статье рассматриваются методы, которые использовали ученые для определения термина коммуникативные умения и навыки, а также для классификации этих понятий. Кроме того, предлагаются основные типы и методы, с помощью которых коммуникативные умения и навыки развиваются у детей младшего школьного возраста. Представлены характеристики самого возраста, способствующие развитию коммуникативных навыков детей.

Ключевые слова: коммуникативные умения, коммуникативные навыки, развитие, возрастные особенности, средства развития.

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DEVELOPMENT OF COMMUNICATION ABILITIES AND SKILLS OF JUNIOR SCHOOL CHILDREN

Abstract. The authors study differences in the development of communication skills and abilities in children of primary school age. It is

emphasized that many teachers and psychologists pay great attention to this problem. It is one of the most relevant at present. They say that primary school age is the most important stage of development, because it is here that social attitudes, attitudes towards oneself, towards others and towards society are formed, and communication skills are also formed. This article examines the methods that scholars have used to define the term communication skills and to classify these concepts. In addition, the main types and methods by which communication skills are developed in children of primary school age are proposed. The characteristics of the age itself that contribute to the development of children's communication skills are presented.

Key words: communication skills, communication skills, development, age characteristics, means of development.

ВВЕДЕНИЕ

Младший школьный возраст является наиболее эффективным периодом для социализации, обучения социальному поведению, развития коммуникативных и речевых навыков, а также способности различать социальные ситуации.

Рассмотрим, как развиваются коммуникативные навыки и умения в младшем школьном возрасте. В этих целях мы должны сначала определить, что означают термины «коммуникация», «коммуникативные умения» и «коммуникативные навыки».

В своих работах А.А. Бодалев, А.Н. Леонтьев, Б.Ф. Ломов, А.К. Маркова и Д.Б. Эльконин определяют коммуникацию как средство связи между любыми объектами материального и духовного мира. Они также определяют коммуникацию как процесс передачи информации от человека к человеку, а также обмен информацией между людьми в целях воздействия на общество [1, с. 64].

Коммуникативные навыки — это способность выполнять какие-либо речевые действия, от которых зависит готовность человека к общению.

Хорошие коммуникативные навыки включают способность понимать и сочувствовать другим; адекватно оценивать себя и других; умение решать конфликты; и взаимодействовать с другими людьми.

МЕТОДЫ

В процессе общения с другими люди эти коммуникативные умения развиваются.

Л.Р. Мунирова предлагает три категории коммуникативных умений [3, с. 168]:

1. Категория информационно-коммуникативных умений включает в себя умение вступать в процесс общения (выражать просьбы, приветствия, поздравления, приглашения, вежливое обращение, дружеское:

- способность ориентироваться в партнерах и ситуациях общения (начать разговор с знакомым или незнакомым человеком, соблюдать

правила культуры общения в отношениях с товарищами и взрослыми); - способность соотносить средства вербального и невербального общения (употреблять слова и знаки вежливости, эмоционально и содержательно выражать свои мысли через жесты и мимику).

2. Регулятивно-коммуникативные навыки включают:

- способность согласовывать свои действия, мнения, установки с потребностями своих товарищей по общению; - способность доверять, помогать и поддерживать тех, с кем общаешься; - способность применять свои индивидуальные умения при решении совместных задач (использовать речь, музыку, движения, графическую коммуникацию для выполнения заданий с общей целью); - способность согласовывать свои действия, мнения, установки с потребностями своих товарищей по общению; ственное общение);

- способность критически оценивать результаты совместного общения, включая оценку себя и других, личный вклад каждого в общение, обсуждение, понимание результатов общения, принятие правильных решений, выражение согласия (несогласия), одобрения (неодобрения), оценку соответствия вербального и невербального поведения, а также то, способствует ли это вовлечению других партнеров по общению.

3. Основой группы аффективно-коммуникативных умений является способность: делиться своими чувствами, интересами, настроением с партнером по общению; проявлять чуткость, отзывчивость, сопереживание, заботу к партнерам по общению; и оценивать эмоциональное поведение друг друга.

Коммуникативные умения — это «умение общаться и успешно решать возникающие игровые, познавательные, бытовые и творческие задачи» по определению О.Н. Сомковой [4, с. 34]. Ее коммуникативные навыки включают:

1. Речевые: умение слушать собеседника и правильно понимать его мысли; формулировать в ответ свое суждение, задавать вопросы; правильно выражать свои мысли посредством языка, меняя тему речевого взаимодействия в соответствии с мыслями собеседника; поддерживать эмоциональный тон общения; следить за правильностью языковой формы, в которую облакаются мысли; слушать свою речь и контролировать ее нормативность; и правильно интерпретировать свою речь.

2. Невербальные навыки: правильное использование мимики, жестов и поз; понимание эмоций собеседника.

3. Стандарты речевого этикета включают следующее: 1) способность вступать в разговор (когда и как начать его со знакомыми и незнакомыми людьми);

2) способность поддерживать и завершать общение (слушать и слушать, проявлять инициативу, переспрашивать, доказывать свою точку зрения, выражать свое отношение к предмету разговора, сравнивать,

приводить примеры, возражать и оценивать); 3) умение использовать различные способы обращения к собеседнику.

РЕЗУЛЬТАТЫ И ОБСУЖДЕНИЕ

Коммуникативные умения включают желание вступать в контакт с другими («Я хочу»); умение организовать общение («Я умею»), которое характеризуется умением слушать собеседника, эмоционально сопереживать и решать конфликтные ситуации; и осведомленность о правилах и нормах общения с другими («Я знаю») [5, с. 215].

Таким образом, несмотря на то, что в психолого-педагогической литературе существует множество различных интерпретаций термина «коммуникативные умения», их всех объединяет практическая направленность и указание на элементы общения. Они включают в себя умение своевременно вступать в диалог и завершать его, используя речевые обороты для установления контакта, поддерживать и завершать диалог, умение отвечать на вопросы и слушать собеседника, а также умение задавать вопросы в ходе диалога.

Рассмотрим более подробно, как развиваются коммуникативные навыки и умения у детей младшего школьного возраста. В младшем школьном возрасте у детей активно развиваются коммуникативные навыки, и они узнают о различных способах общения. Они также учатся защищать свою позицию, самостоятельность и свое мнение в реальных отношениях.

Не только младшие школьники должны научиться устанавливать связи со своими сверстниками, но и научиться взаимодействовать с большой группой людей.

С началом учебной деятельности общение ребёнка становится более целенаправленным. Это связано с постоянным и активным воздействием учителя, а также с одноклассниками. Таким образом, особенности общения младших школьников заключаются в том, что для них существуют только две сферы социальных отношений: «ребенок — взрослый» и «ребенок — дети», которые взаимодействуют друг с другом через иерархические связи.

Для младших школьников наиболее важна область «ребенок-взрослый», потому что здесь формируются новые психологические отношения «ребенок-учитель». Для младшего школьника роль учителя наиболее важна, потому что от него зависит эмоциональное состояние класса и способы построения взаимоотношений между детьми [6, с. 452].

Необходимо отметить еще одну важную способность младших школьников, которая помогает лучше решить проблему развития коммуникативных навыков как средства социальной адаптации. Дети продолжают играть в игру, и они используют ее как учебный полигон. Следовательно, игру можно с таким же успехом использовать для развития коммуникативных навыков, решения важных задач в этом возрасте, а также для развития социального поведения.

Авторы утверждают, что игровые задания, беседы и коммуникативные игры являются основными средствами развития коммуникативных навыков и умений младших школьников. Внеклассная деятельность предоставляет широкий спектр возможностей для развития младших школьников.

Это связано с тем, что различные виды внеклассной деятельности, такие как игры, упражнения и экскурсии, вызывают у детей неподдельный интерес и увлекают их. Кроме того, эти виды деятельности дают детям возможность свободно выражать свои эмоции, чувства и мнения, а также дают им возможность свободно задавать вопросы и отвечать на вопросы. Соответственно, все это способствует развитию навыков общения у младших школьников.

ЗАКЛЮЧЕНИЕ

Таким образом, когда ребенок начинает ходить в школу, он приобретает новую жизненную позицию и начинает участвовать в общественно значимой учебной деятельности. Таким образом, у большинства детей младшего школьного возраста складываются предпосылки для развития навыков общения.

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ХИМИЯ ОКРУЖАЮЩЕЙ СРЕДЫ: МЕТОДЫ АНАЛИЗА И ОЦЕНКИ ЗАГРЯЗНЕНИЯ ОРГАНИЧЕСКИМИ ВЕЩЕСТВАМИ

Аннотация. В этой статье представлен всесторонний обзор аналитических методов и методов оценки, используемых в химии окружающей среды для понимания и борьбы с загрязнением органическими веществами. В статье подробно рассмотрены спектроскопические и хроматографические методы, а также биологические тесты, подчеркнута их значимость при анализе состава, структуры и концентрации органических загрязнителей в воде и почве. Кроме того, в статье исследуется оценка загрязнения органическими веществами посредством мониторинга индикаторных соединений, микробиологической оценки и эко токсикологических исследований, подчеркивая их роль в оценке тенденций загрязнения и экологического воздействия.

Ключевые слова: химия окружающей среды, загрязнение органическими веществами, аналитические методы, спектроскопические методы, хроматографические методы, биологические тесты, загрязнение воды, загрязнение почвы.

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ENVIRONMENTAL CHEMISTRY: METHODS OF ANALYSIS AND ASSESSMENT OF ORGANIC POLLUTION

Abstract. This article provides a comprehensive overview of the analytical techniques and assessment methods used in environmental chemistry to understand and combat organic matter pollution. The article delves into spectroscopic and chromatographic methods, as well as biological tests, highlighting their significance in analyzing the composition, structure, and concentration of organic pollutants in water and soil. Furthermore, the piece explores the assessment of organic matter pollution through monitoring indicator compounds, microbiological assessment, and ecotoxicological studies, emphasizing their role in evaluating pollution trends and ecological impact.

Keywords: environmental chemistry, organic matter pollution, analytical techniques, spectroscopic methods, chromatographic methods, biological tests, water pollution, soil pollution.

Введение

Химия окружающей среды играет решающую роль в понимании и смягчении воздействия загрязнения органическими веществами на экосистемы. Загрязнение органическими веществами, происходящее из различных источников, таких как промышленные сточные воды, сельскохозяйственные стоки и городские отходы, представляет собой значительную угрозу для водных объектов и качества почвы. Анализ и оценка загрязнения органическими веществами необходимы для эффективного управления окружающей средой. В этой статье исследуются методы анализа и оценки, используемые в химии окружающей среды для понимания и борьбы с загрязнением органическими веществами. [1; 20]

Методы анализа

Спектроскопические методы — мощные инструменты, используемые в химии окружающей среды для анализа органических веществ в воде и почве. Эти методы предоставляют ценную информацию о составе, структуре и свойствах органических соединений, присутствующих в пробах окружающей среды. Вот некоторые широко используемые спектроскопические методы анализа органических веществ:

УФ-видимая спектроскопия: УФ-видимая спектроскопия широко используется для изучения поглощения света органическими соединениями. Он может предоставить информацию о наличии определенных функциональных групп и концентрации органических веществ в пробах воды и почвы. [8; 89-91]

Флуоресцентная спектроскопия. Флуоресцентная спектроскопия чувствительна к присутствию ароматических соединений и может использоваться для идентификации и количественного определения

органических веществ на основе их флуоресцентных свойств. Это особенно полезно для изучения растворенных органических веществ в воде.

Инфракрасная (ИК) спектроскопия: ИК-спектроскопия используется для идентификации функциональных групп, присутствующих в органических соединениях, путем измерения мод их колебаний. Это может помочь охарактеризовать типы органических веществ, присутствующих в пробах воды и почвы.

Спектроскопия ядерного магнитного резонанса (ЯМР): ЯМР-спектроскопия — мощный метод определения молекулярной структуры органических соединений. Он может предоставить подробную информацию о связях атомов в органическом веществе, помогая исследователям идентифицировать конкретные соединения.

Используя эти спектроскопические методы, исследователи могут получить ценную информацию о природе и степени загрязнения органических веществ в воде и почве. Эти методы помогают идентифицировать конкретные соединения, отслеживать источники загрязнения и оценивать воздействие органических загрязнителей на экосистемы. [7; 176-182]

2. Хроматографические методы широко используются в химии окружающей среды для анализа органических веществ в воде и почве. Эти методы полезны для разделения, идентификации и количественного определения органических соединений, присутствующих в пробах окружающей среды. Вот некоторые широко используемые хроматографические методы анализа органических веществ:

Газовая хроматография (ГХ). ГХ используется для разделения и анализа летучих органических соединений. Он особенно полезен для анализа углеводородов, пестицидов и других органических загрязнителей в пробах воды и почвы. ГХ разделяет соединения на основе их различной летучести и взаимодействия с неподвижной фазой внутри хроматографической колонки.

Жидкостная хроматография (ЖХ): ЖХ — это универсальный метод, используемый для разделения и анализа широкого спектра органических соединений, включая полярные и нелетучие вещества. Высокоэффективная жидкостная хроматография (ВЭЖХ) и сверхвысоко эффективная жидкостная хроматография (УВЭЖХ) являются широко используемыми вариантами ЖХ, которые обеспечивают высокое разрешение и чувствительность.

Ионная хроматография (ИХ): ИХ специально разработана для разделения и анализа ионов, включая органические кислоты, неорганические анионы и катионы. Это полезно для изучения присутствия органических кислот и других ионных соединений в пробах окружающей среды.

Тонкослойная хроматография (ТСХ): ТСХ – это простой и экономичный хроматографический метод, используемый для качественного анализа органических соединений в пробах окружающей среды. Его часто используют в качестве предварительного метода скрининга перед более сложными хроматографическими анализами. [3; 74-79]

3. Биологическая потребность в кислороде (БПК) и химическая потребность в кислороде (ХПК) являются важными параметрами, используемыми в химии окружающей среды для оценки количества органических веществ, присутствующих в пробах воды. Измерения БПК и ХПК предоставляют ценную информацию об уровне органического загрязнения водных объектов, но они различаются с точки зрения измеряемых процессов и временных масштабов:

Биологическая потребность в кислороде (БПК):

- БПК – это мера количества растворенного кислорода, необходимого аэробным микроорганизмам для разложения органических веществ, присутствующих в воде, при определенной температуре в течение определенного периода (обычно 5 дней).

- Он отражает потенциал поглощения кислорода органических соединений, присутствующих в воде.

- БПК является хорошим индикатором биоразлагаемости органических веществ и общего состояния водной экосистемы.

- Высокие уровни БПК указывают на высокий уровень органического загрязнения, которое может привести к истощению кислорода в водоемах и нанести вред водной флоре и фауне.

Химическая потребность в кислороде (ХПК):

- ХПК — это мера количества кислорода, необходимого для химического окисления как органических, так и неорганических соединений в воде.

- В отличие от БПК, ХПК измеряет все вещества, которые могут окисляться, включая как биоразлагаемые, так и небiorазлагаемые органические вещества, а также неорганические вещества.

- ХПК обеспечивает более быструю оценку общего количества органических и окисляемых неорганических загрязнителей в воде по сравнению с БПК.

- Высокие уровни ХПК указывают на высокую концентрацию органических и окисляемых неорганических соединений, которые не обязательно коррелируют с фактической потребностью биоразлагаемых органических веществ в кислороде. [2; 112]

Таким образом, хотя БПК конкретно измеряет потребность биоразлагаемых органических веществ в кислороде за определенный период, ХПК обеспечивает более широкую оценку всех веществ, которые могут окисляться в воде. Оба параметра имеют решающее значение для оценки качества воды, понимания уровня органического загрязнения и

разработки соответствующих стратегий очистки для защиты водных экосистем.

Оценка загрязнения органическими веществами

1. Мониторинг индикаторных соединений: Мониторинг индикаторных соединений является эффективным подходом для оценки загрязнения водных объектов органическими веществами. Соединения-индикаторы — это особые химические вещества или группы соединений, которые выбраны из-за их способности отражать наличие и концентрацию органических загрязнителей в воде. Контролируя эти соединения, ученые-экологи и регулирующие органы могут получить представление об уровне органического загрязнения и его потенциальном влиянии на водные экосистемы. [4; 1208]

2. Микробиологическая оценка: Микробиологические индикаторы обычно используются для оценки органического загрязнения водных объектов из-за их чувствительности к изменениям условий окружающей среды и их способности отражать присутствие органических загрязнителей. Вот некоторые ключевые микробиологические показатели, используемые для оценки органического загрязнения водоемов: это фекальные коли формы и кишечная палочка, энтерококки, общие коли формы, гетеротрофные пластинчатые подсчеты (ГПЦ) и фекальные стрептококки.

Эти микробиологические показатели ценны для оценки уровня органического загрязнения водных объектов, особенно в отношении потенциальных рисков для здоровья и экологических последствий. Мониторинг этих показателей позволяет оценить качество воды, выявить источники загрязнения и реализовать соответствующие стратегии управления и восстановления для защиты здоровья человека и водных экосистем.

3. Эко токсикологические исследования. Эко токсикологические исследования имеют решающее значение для оценки воздействия органического загрязнения на водные экосистемы. Эти исследования помогают понять, как загрязнители влияют на организмы и общее состояние окружающей среды. Когда дело доходит до органического загрязнения, которое часто включает в себя широкий спектр соединений, эко токсикологические исследования могут дать ценную информацию. Вот некоторые ключевые аспекты эко токсикологических исследований, используемых для оценки органического загрязнения: это биоанализы, анализ биомаркеров, анализ микробного сообщества, тестирование токсичности, полевые исследования и оценка рисков. [5; 716]

Интегрируя эти подходы, эко токсикологические исследования обеспечивают всестороннее понимание воздействия органического загрязнения на водные экосистемы, помогая регулирующим органам и политикам принимать обоснованные решения для защиты окружающей среды и здоровья человека. [6; 110]

Заключение

Химия окружающей среды предлагает широкий спектр аналитических методов и методов оценки для эффективной борьбы с загрязнением органическими веществами. Используя спектроскопические, хроматографические и биологические тесты, а также экологические оценки, исследователи и специалисты по охране окружающей среды могут получить полное представление о природе и масштабах органического загрязнения. Понимание этих методов имеет важное значение для разработки целевых стратегий по смягчению неблагоприятного воздействия загрязнения органическими веществами на экосистемы и здоровье человека.

В заключение отметим, что постоянное развитие и применение передовых аналитических инструментов и подходов к оценке в области химии окружающей среды имеют жизненно важное значение для сохранения целостности нашей природной среды перед лицом загрязнения органическими веществами.

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МЕТОДЫ ОЦЕНКИ КОРПОРАТИВНЫХ РИСКОВ

Аннотация. С непрерывным развитием экономики предприятия сталкиваются со все большим количеством рисков. Для предприятий эффективная оценка рисков и меры реагирования являются важными факторами обеспечения стабильной работы бизнеса и долгосрочного развития. В этой статье обсуждается важность оценки рисков предприятия, как ее оценивать и как построить эффективное реагирование на риски.

Ключевые слова: классификация, корпоративные риски, оценка риска, хозяйствующий субъект, экономические процессы.

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METHODS FOR ASSESSING CORPORATE RISKS

Abstract. As the economy continues to develop, enterprises are facing more and more risks. For enterprises, effective risk assessment and response measures are important factors to ensure stable business operation and long-term development. This article will discuss the importance of enterprise risk assessment, assessment methods, and how to establish effective risk response measures.

Keywords: classification; corporate risks; risk assessment: business entity; economic processes.

Введение

В сегодняшней сложной и постоянно меняющейся рыночной среде оценка корпоративных рисков стала важной частью работы по управлению производственно-хозяйственной деятельностью предприятия. Обоснованные методы оценки рисков могут помочь предприятиям своевременно выявить потенциальные риски, формировать соответствующие стратегии реагирования на риски и обеспечить стабильную работу предприятий в условиях неопределенности внешней среды.

Между тем, в современных рыночных условиях проблема идентификации и оценки рисков сталкиваются со многими трудностями, как методического, так и практического характера, связанными с отсутствием надежных механизмов прогнозирования и диагностики рисков, отсутствием обоснованных критериев и надежных моделей их оценки, трудностями в получении необходимой информации, ее достоверности и оперативности.

В данной статье делается попытка на основе анализа ситуации в оценке и управлении предпринимательскими рисками предложить некоторые подходы к решению данной проблемы.

В условиях глобализации мировой экономики и интернационализации бизнеса, быстрого развития науки и техники, расширения масштабов производственно-хозяйственной деятельности предприятий, роста конкуренции на национальных и международных рынках и ужесточения ее характера, проблемы и взаимоотношения, с которыми сталкиваются предприятия в своей деятельности, становятся все более сложными.

При возникновении многих проблем, предприятиям не всегда удается их контролировать и своевременно решать, что увеличивает риски их деятельности и приводит к отклонению от намеченных целей и задач, дополнительным затратам производственных ресурсов всех видов, снижению прибыли.

В своем исследовании «Риск как экономический фактор» экономист Джон Хейнс описал, как риск влияет на экономическую деятельность, инвестиционные решения и поведение рынка, отметив, что случайность — отличительная черта риска: «Существует риск совершения действия, если нет уверенности в том, что оно приведет к убытку. Очевидно, что существует разница в степени опасности риска между абсолютным и относительным риском»⁹⁰.

В реальной практике уверенность в появлении потерь и угрозе безопасности от того или иного действия в определенных ситуациях практически абсолютна. Очевидно, что, в общем случае риск можно представить в виде спектра, где одна из его сторон представляет зону, в которой можно рассчитывать с определенной вероятностью, что не произойдет ничего негативного, в то время, как в другой зоне ходит со 100% вероятностью. Существует очень высокая вероятность проявления рисков и их негативных последствий.

В случаях, когда предприятие сталкивается с трудностями в реализации бизнес-процессов, оценка рисков играет важную роль в

⁹⁰ Хейнс Джон. Риск как экономический фактор. Ежеквартальный экономический журнал, т. 9, № 4, 1985 г., стр. 409–49.

управлении предприятием и обеспечении его финансовой устойчивости. В этом направлении могут быть рекомендованы следующие действия:

1. Защита активов предприятия Успешная оценка рисков предприятия может помочь предприятию выявить и защитить свои внутренние и внешние активы. Выявляя возможные риски и разрабатывая стратегии по их предотвращению или смягчению, предприятия могут защитить свои существующие активы и обеспечить будущий рост.

2. Сокращение производственных затрат предприятия Оценка рисков предприятия также может помочь предприятиям сократить расходы. Снижая риски и совершенствуя внутренний контроль, предприятия могут снизить возможные потери и сократить расход производственных, материальных и финансовых ресурсов.

3. Повышение корпоративной устойчивости Устойчивое развитие – самое важное для любого бизнеса. Оценка корпоративных рисков может помочь предприятию выявить существующие и потенциальные риски. Это может позволить предприятиям работать цивилизованно и повысить корпоративную устойчивость⁹¹.

Методы оценки рисков предприятия разнообразны, и каждый метод имеет свои уникальные сценарии применения и преимущества. Качественная и количественная оценка, системный анализ данных в настоящее время используются при оценке производственных рисков на предприятиях.

Качественные и количественные методы оценки являются комплексными методами оценки рисков. Качественная оценка в основном опирается на экспертный опыт, суждения и профессиональные знания специалистов для описания и классификации рисков. Этот подход может дать представление о природе и потенциальном влиянии рисков, но может быть ограничен субъективностью и ограниченностью знаний экспертов.

Количественная оценка использует математические модели и статистические данные для количественной оценки и измерения рисков с целью получения более конкретных и сопоставимых уровней риска. Количественная оценка может дать объективные числовые результаты, но также привести к определенным ошибкам из-за допущений модели и проблем с качеством данных.

В практических приложениях качественные и количественные оценки часто дополняют друг друга, повышая точность и надежность оценок риска⁹².

SWOT-анализ — это комплексный и систематический инструмент оценки рисков. Проведя углубленный анализ собственных сильных и

⁹¹ Касьяненко Г.Г. Анализ и оценка рисков в бизнесе. М.: Юрайт., 2020

⁹² Колбин В.В. Оценка и управление риском. СПб.: Лань, 2021.

слабых сторон компании, а также возможностей и угроз во внешней среде, компания может четко понять свое позиционирование на рынке, а также риски и проблемы, с которыми она может столкнуться. Этот метод не только помогает компаниям сформулировать целевые стратегии реагирования на риски, но также обеспечивает прочную основу для корпоративного стратегического планирования.

Анализ дерева событий — это качественный метод оценки риска, который отображает серию цепных реакций, которые может вызвать конкретное событие, в виде логического дерева. Анализируя каждую ветвь дерева событий, предприятия могут прогнозировать и оценивать потенциальные риски в различных сценариях, тем самым формулируя соответствующие меры предотвращения и реагирования. Этот подход особенно подходит для оценки риска сложных событий и цепных реакций.

Анализ чувствительности – это метод количественной оценки риска. Посредством симуляционного анализа изменений различных влияющих факторов компании могут оценить влияние различных факторов на риски, а затем определить ключевые факторы риска. Этот метод помогает предприятиям сосредоточиться на ключевых моментах и оптимизировать распределение ресурсов при разработке стратегий реагирования на риски⁹³.

При оценке рисков нам необходимо провести углубленный анализ различных факторов, которые могут повлиять на успех проекта или сделки по разным типам рисков. Эти факторы включают, помимо прочего: изменения рыночного спроса, технологический прогресс и появление заменителей, корректировку политики и правил, стабильность поставок ресурсов и развитие кадрового потенциала. Благодаря всестороннему анализу этих факторов мы можем более точно понять полную картину рисков и обеспечить основу для разработки стратегий реагирования на риски.

Исходя из вышеизложенного, предприятиям следует выбирать подходящие методы оценки рисков, исходя из их фактической ситуации и потребностей. В практических приложениях можно использовать комбинацию нескольких методов, чтобы в полной мере использовать преимущества каждого метода и уменьшить его ограничения. В то же время предприятиям следует продолжать совершенствовать и оптимизировать систему оценки рисков, чтобы адаптироваться к меняющейся рыночной среде и вызовам рисков⁹⁴.

Проведение оценки предпринимательских рисков связано со следующими проблемами.

⁹³ Вьонг Х.Б. Количественные методы в риск-менеджменте// Актуальные вопросы экономических наук. - 2016. - № 1. - С. 42 - 47.

⁹⁴ Макарова В.А. Анализ и оценка экономической эффективности риск-менеджмента// Эффективное антикризисное управление. - 2015. - № 3. - С. 72 - 83.

1. Сложность сбора данных: оценка рисков предприятия требует большого объема поддержки данных. Однако в реальных операциях сбор данных часто ограничивается различными факторами, такими как ограниченность источников данных и низкое качество данных.

2. Модели оценки рисков не всегда учитывают взаимосвязи происходящих процессов: методы качественной оценки часто полагаются на опыт и суждения экспертов и являются весьма субъективными, что может привести к неточным результатам оценки.

3. Отсутствие учета конкретных производственных условий и особенностей деятельности предприятий. Существующие методы оценки рисков часто не позволяют проводить персонализированные оценки, основанные на характеристиках различных отраслей и предприятий, и могут не соответствовать фактическим потребностям предприятий.

Для устранения указанных проблем предлагается при идентификации и оценке предпринимательских рисков реализовать следующие стратегии.

1. Использовать технологии интеллектуального анализа больших данных. Использование ресурсов больших данных, можно получить более полную и точную информацию о протекающих и будущих процессах и повысить точность и надежность оценки рисков.

2. Повысить уровень автоматизации процессов оценки предпринимательских рисков, используя такие технологии, как искусственный интеллект и машинное обучение, для разработки автоматизированных моделей оценки рисков, с целью уменьшения вмешательства человека в эти процессы и, соответственно, уменьшения влияния субъективности.

3. Увеличить адаптируемость к большему количеству отраслевых сценариев: на основе учета особенностей различных отраслей и предприятий и разработки инструментов и методов целевой оценки рисков для удовлетворения индивидуальных потребностей предприятий.

Помимо этого, механизм оценки предпринимательских рисков должен включать методы и инструменты предупреждения о рисках и мониторинг рискованных ситуаций в реальном времени для обеспечения своевременности и эффективности управления рисками.

Заключение

Методы оценки рисков предприятия имеют важное значение в управлении и обеспечении его финансовой устойчивости. Совершенствование этих методов, их своевременное и обоснованное применение позволит хозяйствующим субъектам более эффективно выявлять, оценивать и управлять рисками, тем самым обеспечивая стабильную работу и устойчивое развитие.

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КЭПТИВНЫЕ СТРАХОВЫЕ КОМПАНИИ КАК СТРАХОВОЙ МЕТОД УПРАВЛЕНИЯ КОРПОРАТИВНЫМИ РИСКАМИ

Аннотация. В статье рассматривается роль капитальных страховых компаний как метода совместного управления рисками. Капитальные страховые компании, также известные как кэптивные страховые компании, стали значительной инновацией в управлении рисками, предлагая альтернативу традиционным стратегиям страхования и самострахования. Актуальность данного исследования заключается в возрастающей сложности глобальных рисков и необходимости более эффективных и гибких решений по управлению рисками для бизнеса. Основная цель исследования – оценить эффективность кэптивных страховых компаний в управлении корпоративными рисками, сравнить их преимущества и недостатки с другими методами управления рисками. Результаты исследования показывают, что компании по страхованию капитала могут эффективно сочетать преимущества удержания и передачи рисков. Они помогают снизить посреднические расходы, решить проблемы морального риска и неблагоприятного отбора, а также обеспечивают более высокую степень контроля над процессом управления рисками.

Ключевые слова: кэптивные страховые компании, управление рисками, самострахование, финансовая стабильность, корпоративные риски.

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CAPTIVE INSURANCE COMPANIES AS AN INSURANCE METHOD OF CORPORATE RISK MANAGEMENT

Abstract. This paper examines the role of capital insurance companies as a method of collaborative risk management. Capital insurance companies, also known as captive insurance companies, have become a significant innovation in risk management, offering an alternative to traditional insurance and self-insurance strategies. The relevance of this study lies in the increasing complexity

of global risks and the need for more effective and flexible risk management solutions for businesses. The main objective of the study is to evaluate the effectiveness of captive insurance companies in managing corporate risks and compare their advantages and disadvantages with other risk management techniques. The results of the study show that captive insurance companies can effectively combine the advantages of risk retention and risk transfer. They help to reduce intermediation costs, address moral hazard and adverse selection, and provide a higher degree of control over the risk management process.

Keywords: captive insurance companies, risk management, self-insurance, financial stability, corporate risks.

Кэптивная страховая компания – это группа нестраховых компаний, которая инвестирует и учреждает кэптивную страховую компанию для покрытия рисков группы. Цель страховой организации – усилить интеграцию управления рисками предпринимательской группы на глобальной основе и создать эффективную систему управления убытками.

Модель управления рисками защищает материнскую компанию и ее филиалы от опасных потерь и минимизирует стоимость риска группы предприятий. Международное развитие финансовой и страховой индустрии является ключевым фактором конкурентоспособности страны.

С точки зрения международного развития индустрии финансового страхования, конкурентоспособность страны заключается в ее способности противостоять глобальной конкуренции и развивать устойчивые преимущества. К примеру, развитие индустрии кэптивного страхования должно стать важным вопросом для интеграции тайваньских многонациональных предприятий с международным страховым рынком. Однако в настоящее время китайские предприятия все еще плохо знакомы с системой кэптивного страхования.

В соответствии с международной страховой практикой, из-за сложности типов кэптивных страховых компаний были созданы различные кэптивные домицилы (captive domiciles).

К ним относятся: кэптив с одним родителем, групповой кэптив, арендованный кэптив, компания/кэптива с защищенным счетом, компания/каптива с сегрегированным счетом (single parent captive, association captive, rent-a-captive, protected account captive, segregated account company/captive). Если толковать их исключительно на основе их буквальных значений, то легко запутаться. Современная концепция кэптивной страховой компании, по мнению некоторых, возникла в 1950-х годах благодаря Фреду Рейссу, американскому инженеру по предотвращению убытков в страховании. Однако на сегодняшний день единого определения не существует.

В последние годы бизнес самострахования быстро развивался на международном уровне. Первоначально некоторые компании создавали

резервные фонды для внутреннего самострахования. Позже некоторые крупные компании последовательно создали специальные страховые дочерние компании для передачи рисков материнской компании. Сегодня в мире существует более 7000 кэптивных страховых компаний, а доход от премий составляет 10% мирового дохода от премий по страхованию имущества⁹⁵. Большинство компаний из списка Fortune 500 теперь имеют кэптивные страховые компании, а их использование стало обычным явлением даже для малого и среднего бизнеса⁹⁶.

С точки зрения регионального развития, в зависимости от местоположения материнской компании кэптивной страховой компании, развивающиеся рынки кэптивного страхования включают Азиатско-Тихоокеанский регион, а также Европу, Ближний Восток и Африку.

Что касается тенденций роста, крупные и средние кэптивные страховые компании продолжают расти с точки зрения зарегистрированного местоположения кэптивных страховых компаний, в дополнение к традиционным кэптивным страховым компаниям на оффшорных островах, на которые традиционно приходится высокая доля⁹⁷.

С точки зрения отраслевого распределения материнских компаний финансовые учреждения по-прежнему доминируют по количеству кэптивов и размеру премий⁹⁸, но использование кэптивов распространилось на различные отрасли, такие как: здравоохранение, производство, розничная/оптовая торговля, а также коммуникации, средства массовой информации и технологии.

По сравнению с Европой и Соединенными Штатами, кэптивные страховые компании Китая имеют более сильный капитал, так как все они созданы очень крупными организациями с общими активами более 100 миллиардов юаней или 14 миллиардов долларов США. С 2013 года на материковой части Китая были созданы четыре кэптивные страховые компании. По состоянию на конец 2019 года первоначальный доход от премий составил 1,44 млрд юаней, а коэффициент достаточности платежеспособности колеблется от 400% до 2000%, что намного выше, чем нормативные стандарты.

⁹⁵ Captive insurance companies. NAIC. 2024, URL.: <https://content.naic.org/cipr-topics/captive-insurance-companies> (дата обращения: 04.06.2024)

⁹⁶ Jay David Adkisson. Observations on Captive Insurance Companies: 10 Worst and 10 Best Things. American Bar Association. Feb. 2014. URL.: https://www.americanbar.org/groups/business_law/resources/business-law-today/2014-february/observations-on-captive-insurance-companies/#:~:text=A%20captive%20insurance%20company%20is,companies%20for%20the%20same%20purpose.

⁹⁷ Wim Weterings. The potential positive effects of captive insurance companies on efficiency and moral hazard within a group of companies. Corporate Ownership & Control / Volume 13, Issue 2, Winter 2015, Continued. 487-489 pp

⁹⁸ Pashkova, Elena & Vaganova, Oksana. Integration interaction of the bank, insurance and leasing companies in the financial market. 2023. Research result Economic Research. 9.

С момента своего создания кэптивные страховые компании Китая в основном придерживались концепции «предотвратить лучше, чем понести убытки», сосредоточив внимание на управлении рисками материнской компании. Эффективное использование уникальной модели предприятия как средства управления рисками является важным условием эффективности кэптивной страховой компании.

Удержание риска и передача риска представляют собой два метода управления финансовыми рисками. Каждый из них имеет свои плюсы и минусы. Важным аспектом является то, насколько метод подходит для конкретного риска⁹⁹. В целом, для рисков, которые являются более «рентабельными» для компании, чаще всего применяется стратегия удержания риска, например, несущая с собой небольшие убытки. Позднее из-за налоговых и других преференций эти меры были преобразованы в компании самострахования. Так, со временем появились различные инновационные формы.

Преимущество самоудержания заключается в том, что оно позволяет избежать сравнительно высоких комиссий за посреднические услуги. Однако недостатком является то, что при значительных потерях могут возникнуть серьезные финансовые колебания.

Страхование является основным способом передачи риска для управления чистыми рисками. Оно объединяет риски во времени или пространстве, основываясь на законе больших чисел, чтобы сгладить финансовые колебания и дать держателям риска возможность прогнозировать будущее с относительной уверенностью.

Тем не менее, из-за наличия морального риска, неблагоприятного отбора и технической сложности ценообразования, затраты на использование этого метода могут превысить ожидаемые выгоды. Кроме того, цикличность страхового рынка и возможность бесплатного возмещения страховщиком могут сделать будущее менее определенным. Кэптивные страховые компании стремятся объединить преимущества обоих методов, используя разумные механизмы работы, чтобы избежать недостатков каждого метода и минимизировать риски.

Кэптивная страховая компания, которая берет на себя риски своей материнской компании, может более полно использовать исторические данные и опыт материнской компании для разработки и предоставления индивидуальных страховых полисов, что, несомненно, способствует точному ценообразованию. Благодаря симметрии информации, кэптивные страховые компании имеют меньше проблем, связанных с моральным риском и неблагоприятным отбором, что позволяет им не только эффективно снижать затраты, но и эффективно реализовывать стратегию «предотвращение лучше, чем убытки».

⁹⁹ Adkisson, J.D. Captive insurance companies: An introduction to captives, closely held insurance companies, and risk retention groups, 2006. iUniverse, Lincoln.

Регулирующий эффект страхового возмещения заключается в сглаживании финансовой ситуации, что эквивалентно отказу от функции страхования по предотвращению убытков. Помимо внутренней временной и пространственной диверсификации, кэптивные страховые компании также могут напрямую получить поддержку коммерческого перестрахования, то есть они могут получить более широкое покрытие за один раз по более низкой стоимости¹⁰⁰. Разумеется, реализация этих преимуществ должна базироваться на эффективном анализе соответствующих предпосылок.

Подводя итог, мы можем сделать следующие выводы: кэптивные страховые компании представляют собой эффективный и инновационный метод кооперативного управления рисками, который сочетает в себе преимущества традиционного страхования и самострахования. Они позволяют компаниям снижать затраты на посреднические услуги, контролировать процесс управления рисками и получать налоговые выгоды.

Несмотря на технические сложности и потенциальные риски, связанные с их использованием, правильно организованные и регулируемые кэптивные страховые компании могут существенно повысить финансовую стабильность и адаптивность корпоративных стратегий управления рисками. Таким образом, они становятся все более актуальными в условиях растущей сложности глобального риска и потребности в более гибких и эффективных решениях.

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СТРАТЕГИЯ УПРАВЛЕНИЯ КОРПОРАТИВНЫМИ РИСКАМИ КАК СОСТАВЛЯЮЩАЯ ОБЩЕЙ СТРАТЕГИИ РАЗВИТИЯ ПРЕДПРИЯТИЯ

Аннотация. В данной статье рассматривается интеграция стратегии управления корпоративными рисками (CRM) в качестве фундаментального элемента общей стратегии развития бизнеса. Сегодня эффективное управление рисками имеет решающее значение для обеспечения стабильности и устойчивого роста. Актуальность данного исследования обусловлена растущим спектром рисков, с которыми сталкивается бизнес, включая финансовую нестабильность, киберугрозы и изменения в законодательстве. Основная цель исследования – проанализировать, как CRM может быть органично вписана в общую стратегию компании, улучшая процессы принятия решений, защищая активы и обеспечивая соответствие нормативным требованиям. Результаты исследования показывают, что хорошо интегрированная стратегия CRM значительно повышает устойчивость компании и ее способность добиваться долгосрочного успеха.

Ключевые слова: корпоративное управление рисками, стратегия развития бизнеса, устойчивый рост, управление угрозами, технологические инновации, адаптивность бизнеса.

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CORPORATE RISK MANAGEMENT STRATEGY AS A COMPONENT OF THE OVERALL ENTERPRISE DEVELOPMENT STRATEGY

Abstract. This article discusses the integration of corporate risk management (CRM) strategy as a fundamental element of the overall business development strategy. Today, effective risk management is critical for stability and sustainable growth. The relevance of this research is due to the growing range of risks faced by businesses, including financial instability, cyber threats and regulatory changes. The main objective of the study is to analyze how CRM can be seamlessly integrated into a company's overall strategy, improving

decision-making processes, protecting assets, and ensuring regulatory compliance. The results of the study show that a well-integrated CRM strategy significantly enhances a company's resilience and its ability to achieve long-term success.

Keywords: corporate risk management, business development strategy, sustainable growth, threat management, technological innovation, business adaptability.

По мере усиления процесса экономической глобализации китайские компании сталкиваются с беспрецедентными рисками и проблемами. Комплексная система управления рисками является прочной основой для повышения прибыльности, повышения операционной эффективности, увеличения акционерной стоимости и снижения финансовых колебаний. В то же время все больше и больше компаний, выходящих на глобальный уровень, все больше обеспокоены стратегическими, финансовыми, рыночными, юридическими, политическими и другими зарубежными рисками. Существует множество подходов к классификации корпоративных рисков¹⁰¹.

Риск – очень старая концепция. Исследования теории управления рисками как систематической науки начались в начале XX века и их можно условно разделить на три этапа¹⁰²:

Первый этап – управление рисками, характеризующееся «безопасностью и страхованием». Более 100 лет назад морские риски, с которыми столкнулось быстро развивающееся судоходство, привели к бурному развитию страховой отрасли. Первоначально основной мерой управления рисками для судоходных компаний была передача рисков страховым компаниям посредством страхования, тем самым избегая их. собственный риск потерь.

Второй этап – управление рисками, характеризующееся «внутренним контролем и контролем чистых рисков». С развитием промышленной революции возникла концепция усиления «контроля чистых рисков», и было предложено, чтобы компании имели внутренний контроль с точки зрения управления бизнесом и процессами, особенно финансовым менеджментом.

В 1949 году Соединенные Штаты опубликовали документ «Внутренний контроль — корректировка различных элементов организации и его необходимость для руководства и сертифицированных

¹⁰¹ Васильева Я. А. Управление рисками: классификация и методы управления// Общество: политика, экономика, право. 2020. №12 (89). URL: <https://cyberleninka.ru/article/n/upravlenie-riskami-klassifikatsiya-i-metody-upravleniya> (дата обращения: 06.06.2024).

¹⁰² Юрлова Нина Сергеевна, Скачок Иван Владимирович Управление рисками// Вестник НГИЭИ. 2014. №3 (34). URL: <https://cyberleninka.ru/article/n/upravlenie-riskami-1> (дата обращения: 06.06.2024).

бухгалтеров», в котором было дано первое авторитетное определение внутреннего контроля¹⁰³.

В 1985 году комитет COSO США (Комитет организаций-спонсоров) начал изучать, как предприятия могут установить эффективный внутренний контроль с финансовым управлением в качестве основного направления. В 1992 году комитет официально выпустил «Комплексную систему внутреннего контроля COSO» и предложил, чтобы она была разработана в 1985 году. Система внутреннего контроля состоит из пяти элементов: окружающая среда, оценка рисков, деятельность по внутреннему контролю, информация и коммуникация, а также надзор.

Третий этап – комплексное управление рисками, характеризующееся «тесной интеграцией стратегии управления рисками с общей стратегией развития предприятия». Вступая в XXI век, управление рисками предприятия (ERM) сформировало особую концепцию. Оно происходит от «Управления рисками предприятия», выпущенного организацией-спонсором Национального комитета США по борьбе с фальшивой финансовой отчетностью (Комитет COSO) в сентябре 2004 года. «Интегрированная структура», которая систематически обеспечивает современные органы управления предприятием (включая совет директоров, руководство, исполнительные отделы и других сотрудников) руководящей логической структурой, основанной на внутреннем контроле, которая применяется к многоуровневым процессам стратегии предприятия.

Это обеспечивает предприятиям эффективную гарантию достижения бизнес-целей. Кроме того, стандарт ISO 31000, а именно «Управление рисками. Принципы и рекомендации», выпущенный Международной организацией по стандартизации (ISO), также предоставляет набор эффективных стандартизированных процессов управления рисками предприятия.

С прошлого века иностранные компании начали осознавать, что в работе и развитии существуют неизбежные риски. Если с ними не справиться должным образом и своевременно, скрытые риски постепенно будут увеличиваться, и потери часто будут фатальными. Исходя из опыта и уроков, в то время как компании начинают размышлять о том, как улучшить свои управленческие возможности, страховая отрасль также думает о том, как принять планы, которые помогут компаниям избежать рисков и осознать свою социальную ценность.

Управление корпоративными рисками включает в себя выявление, оценку и определение приоритетности рисков, а затем скоординированные усилия по минимизации, мониторингу и контролю вероятности или влияния

¹⁰³ Guliyeva, Shafa. Enterprise risk management strategy. 2020. URL.: https://www.researchgate.net/publication/347891363_ENTERPRISE_RISK_MANAGEMENT_STRATEGY (дата обращения: 05.06.2024)

непредвиденных событий¹⁰⁴. Такой систематический подход к управлению рисками дает несколько преимуществ. Во-первых, он улучшает процесс принятия решений, предоставляя структурированную основу для оценки потенциальных рисков и выгод. Во-вторых, он защищает активы и репутацию компании за счет упреждающего устранения уязвимостей. Наконец, она обеспечивает соблюдение законодательных и нормативных требований, что позволяет избежать штрафов и сохранить целостность бизнеса.

Интеграция CRM в общую бизнес-стратегию требует комплексного подхода, который согласует задачи управления рисками с целями и операциями компании. Такая интеграция может быть достигнута с помощью нескольких ключевых шагов:

7. Оценка и идентификация рисков. Компаниям необходимо провести тщательную оценку рисков, чтобы выявить потенциальные угрозы, которые могут повлиять на их деятельность. Это предполагает оценку как внутренних, так и внешних факторов, таких как состояние рынка, технологический прогресс и изменения в законодательстве. Понимая эти риски, компании могут разработать стратегии по их эффективному снижению.

8. Стратегическое соответствие. Стратегии управления рисками должны быть согласованы с общими стратегическими целями компании. Это означает включение управления рисками в процессы планирования и принятия решений на всех уровнях организации. Таким образом, компании могут обеспечить, чтобы учет рисков был неотъемлемой частью их стратегических инициатив, а не чем-то второстепенным.

9. Внедрение средств контроля рисков. После выявления и оценки рисков компаниям необходимо внедрить соответствующие средства контроля для управления ими. На практике это может означать диверсификацию инвестиций, внедрение надежных мер кибербезопасности и разработку планов действий на случай возможных сбоев. Эффективные средства контроля рисков помогают минимизировать последствия неблагоприятных событий.

10. Постоянный мониторинг и анализ. Управление рисками – это долгий и непрерывный процесс, который нуждается в постоянном мониторинге и анализе. Компании должны регулярно оценивать свои методы управления рисками, чтобы убедиться, что они остаются эффективными и актуальными перед лицом меняющихся угроз. Для этого необходимо отслеживать ключевые показатели риска, проводить аудиты и вносить необходимые коррективы в стратегию управления рисками.

В цифровую эпоху технологии играют ключевую роль в повышении эффективности корпоративного управления рисками. Передовая аналитика,

¹⁰⁴ Hutsaliuk O., Koval V., Tsimoshynska O, Risk Management of Forming Enterprises Integration Corporate Strategy. Nov. 2020. TEM Journal. Volume 9, Issue 4, Pages 1514-1523

искусственный интеллект и машинное обучение позволяют компаниям более точно прогнозировать и анализировать риски.

Например, предиктивная аналитика помогает компаниям прогнозировать рыночные тенденции и выявлять потенциальные финансовые риски, а инструменты кибербезопасности на базе искусственного интеллекта позволяют обнаруживать и реагировать на киберугрозы в режиме реального времени. Используя технологии, компании могут расширить свои возможности по управлению рисками и принимать более обоснованные решения.

Управление корпоративными рисками - неотъемлемая составляющая общей стратегии развития бизнеса. Выявляя, оценивая и снижая риски, компании могут улучшить процесс принятия решений, защитить свои активы и обеспечить соответствие нормативным требованиям. Интеграция CRM в общую стратегию бизнеса посредством оценки рисков, стратегического согласования, внедрения средств контроля и постоянного мониторинга необходима для повышения устойчивости и достижения устойчивого роста. По мере развития технологий компаниям необходимо использовать передовые инструменты, чтобы расширить возможности управления рисками и опережать потенциальные угрозы.

Кэптивные страховые компании играют ключевую роль в управлении рисками, способствуя повышению стоимости бизнеса за счет страхования специфических рисков, которые не всегда подходят для традиционного страхования. Эти компании, хотя и выполняют страховые функции, не являются полной копией коммерческих страховых организаций. Основной целью управления рисками в любой компании является увеличение её стоимости, и деятельность кэптивных страховых компаний должна служить именно этой цели.

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ОБ ОСНОВНЫХ ТРЕБОВАНИЯХ И ДОПУСКАХ К ПЛАНОВО-ВЫСОТНОЙ ОСНОВЕ УРОВЕННЫХ ПОСТОВ УЗБЕКИСТАНА

Аннотация. В данной работе приведены требования и допуски к геодезическим измерениям в прибрежных зонах основных рек Узбекистана. Отмечается роль рекогносцировки и поверки инструментов при проведении полевых топографических работ. Уточняется проект развития плановых и высотных геодезических сетей на основе обследований. Требования к линейно-угловым измерениям, производимым с помощью тахеометров и нивелиров, кратко изложены в статье. Предлагается использовать ГНСС измерения при определении абсолютных высот пунктов относительно принятой уровенной поверхности. Ключевые слова: нивелирование, тахеометрическая съемка, полигонометрия, триангуляция, требования, ГНСС, уровенный пост, репер.

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ABOUT THE MAIN REQUIREMENTS AND CRITERIA FOR THE PLANNED AND HIGH-ALTITUDE BASIS OF LEVEL POSTS IN UZBEKISTAN

Abstract. This paper presents the requirements and tolerances for geodetic measurements in the coastal zones of the main rivers of Uzbekistan. The importance of reconnaissance and verification of instruments during field topographic work is noted. The project for the development of planned and high-altitude geodetic networks is being specified on the basis of surveys. The requirements for linear and angular measurements made using total stations and levels are summarized in the article. It is proposed to use GNSS measurements in determining the absolute heights of points relative to the accepted level surface.

Keywords: leveling, tacheometric survey, polygonometry, triangulation, requirements, GNSS, level post, benchmark.

Введение

Водохозяйственный комплекс бассейна рек Узбекистана обеспечивает рациональное использование водных ресурсов и представлен

гидротехническими сооружениями, которые расположены по берегам рек Амударья и Сырдарья. От этих рек протянута сложная ирригационная система, насчитывающая значительное количество каналов, насосных станций и коллекторов. Если учесть, что ирригационная сеть покрывает те места, где сосредоточены населенные пункты и сельскохозяйственные угодья, то становится очевидным необходимость постоянного контроля расходования воды посредством измерения высоты уровня водной поверхности относительно реперов. В такой ситуации, знание точных координат реперов и реек уровенных постов имеет важное значение при регистрации значения высоты реки. Поэтому в данной работе описаны основные требования и допуски к плано-высотной основе гидрологических станций, координаты реперов которых были определены в 1960-80 годы относительно пунктов государственной геодезической сети (ГГС). Естественно, стабильность и надежность этих пунктов является критерием точности всех измерений и с течением времени должна быть уточнена геодезическая основа гидрологических станций.

Известно, что плано-высотная основа любой территории, а также уровенных постов, создается методами триангуляции, полигонометрии и нивелирования в соответствии с «Основными положениями о государственной геодезической сети», инструкциями по нивелированию и другими нормативными документами [6,7]. В качестве исходных реперов служат пункты ГГС, репера нивелирования I- IV классов и сети сгущения. Обычно высоты основных и рабочих реперов гидрологических станций определяются нивелированием IV класса с помощью нивелира, но самым быстрым методом является тригонометрическое нивелирование, где используется теодолит или тахеометр.

Геодезическая сеть прибрежной зоны

Обычно полигонометрические сети 4 класса, 1 и 2 разрядов прокладываются вдоль берега с целью сгущения геодезических сетей до плотности, обеспечивающей развитие съёмочного обоснования. Измерение углов на пунктах полигонометрии производится способом отдельного угла или способом круговых оптических теодолитами или электронными тахеометрами с точностью центрирования теодолита и визирных целей 2 мм (Рис.1). Начальное направление, которое измеряется дважды, в начале и конце полуприема, выбирается на пункт с наилучшими условиями видимости. Расхождения между значениями измеренного и исходного угла на примычном пункте не должно превышать: в полигонометрии 4 класса - 6"; 1 разряда - 10"; 2 разряда - 20". В качестве выходных сторон в триангуляции 1 и 2 разрядов используются стороны полигонометрии или триангуляции 3 - 4 классов. В тех случаях, когда на участке отсутствуют пункты геодезической сети или, при их наличии, они не могут быть использованы в качестве исходных сторон, производится измерение базисной стороны триангуляции [4]. Приборами для измерения выходных

сторон триангуляции 1 и 2 разрядов служат электронные тахеометры и лазерные дальномеры, а также другие приборы, обеспечивающие измерение с относительной погрешностью не более 1:20000 для 2-го разряда и 1:50000 - для 1-го разряда. Предельные погрешности положения пунктов плановой съемочной геодезической сети, в том числе плановых опорных точек (контрольных пунктов), относительно пунктов опорной геодезической сети (Рис.2) не должны превышать 0.2 мм в масштабе плана.



Рис.1. Электронный тахеометр (Нукус) Рис.2.Пункт полигонометрии

Центрирование теодолитов (тахеометов) и марок визирования производится с помощью отвеса или оптического центрира с точностью ± 3 мм. Значения горизонтальных углов, полученных из двух полуприемов, не должны превышать $20''$. Расстояния от нивелира до реек измеряется по разности отсчетов дальномерных нитей зрительной трубы. А если же использовать электронный тахеометр, то расстояние измеряется лазерным дальномером до отражателя, который устанавливается на пункте по направлению отвесной линии. При этом следует соблюсти разность неравенство плеч, которая должна быть не более 2-3 метров.

GNSS измерения

С появлением современных спутниковых технологий, координаты реперов можно переопределить и выполнить корректную оценку точности. В настоящее время наиболее популярной и эффективной системой стала глобальная навигационная спутниковая система, которая позволяет определять координаты пунктов до 1 см при соответствующем режиме съемки. На основе выполненных измерений, если есть необходимость, составляется топографический план местности в зависимости от масштаба съемки и высоты сечения рельефа.

Методика навигационных измерений является одинаковой как для пунктов, находящихся на земной поверхности, так и для реперов гидрологических станций (рис.3). При этом надо учитывать физико-географические и гидрологические особенности прибрежной зоны. Предварительные исследования показали, что координаты этих реперов

следует уточнить, используя линейно-угловые измерения и спутниковые технологии. Отсутствие внешних воздействий на прием сигналов со спутников характеризуется оптимальным условием определения координат пунктов в определенной системе относимости [5,9]. Тем не менее, в каждом конкретном случае следует использовать оптимальный метод измерений и вычислений. Например, для определения точных превышений наиболее точной считается геометрическое нивелирование (Рис.3), а при определении абсолютных высот эффективным и корректным является спутниковый метод. Использование наземной трилатерации позволит исследовать относительное смещение плановых координат, т.е. деформацию берегового участка уровенного поста.



Рис.3. ГНСС измерения (Нукус)

Заключение

Из вышеописанных требований и допусков следует, что использование современных навигационных технологий приведет к повышению точности координат пунктов ГГС и реперов уровенных постов на 2-3 порядка при соблюдении определенных требований к приему сигналов со спутников. Несмотря на технологический прогресс в области координатных определений, классические измерения в прибрежной зоне не утратили своего значения и могут быть использованы при определении превышений между пунктами [5], соблюдая установленные инструкции и наставления. Не стоит торопиться и полагаться только на спутниковые технологии, т.к. у каждого метода есть свои недостатки и достоинства, которые должны быть проанализированы и оценены с помощью математической статистики.

Таким образом, резюмирую можно подчеркнуть, что все данные следует суммировать и накапливать, составляя из них более полную информацию о рельефе прибрежной зоны. В дальнейшем, линейно - угловые измерения прибрежной зоны должны быть приведены к общей геодезической системе координат Республики Узбекистан.

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ИНТЕЛЛЕКТУАЛЬНАЯ СИСТЕМА УЧЕТА ЭЛЕКТРОЭНЕРГИИ СОЛНЕЧНЫХ ЭНЕРГЕТИЧЕСКИХ СИСТЕМ

Аннотация. В статье приведены основные сведения и проведён обзор средств и характеристик автоматизированной системы контроля учета энергии солнечных энергетических систем, подробно описана архитектура интеллектуального учета электроэнергии для солнечных энергетических систем и приведены основные выводы по данной работе.

Ключевые слова: энергия, счетчик, сигнал, преобразование, связь, протокол, система.

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INTELLIGENT SYSTEM FOR ACCOUNTING ELECTRICITY FOR SOLAR ENERGY SYSTEMS

Annotation. The article provides basic information and reviews the means and characteristics of an automated energy metering control system for solar energy systems, describes in detail the architecture of smart electricity metering for solar energy systems, and provides the main conclusions on this work.

Keywords: energy, counter, signal, conversion, communication, protocol, system.

Интеллектуальные счетчики — это усовершенствованная форма счетчиков. Они отличаются от электронных счетчиков дополнительными функциями. Помимо измерения электроэнергии и автоматического считывания показаний счетчиков (AMR), они обеспечивают двустороннюю связь между счетчиком и коммунальным предприятием.

Интеллектуальные счетчики также возможны профилирование нагрузки, предоплата, удаленное отключение и повторное подключение, уведомление об отключении электроэнергии, обнаружение несанкционированного доступа и мультитарификация [1].

Архитектура интеллектуального счетчика разделена на пять разделов: сбор сигналов, преобразование сигналов, аналого-цифровое преобразование (АЦП), вычисления и связь.

Сбор данных включает точное и непрерывное получение основных параметров. К этим основным параметрам относятся: величина и частота напряжения и величина и сдвиг фазы (относительно напряжения) тока. Другие параметры, такие как коэффициент мощности, активная/реактивная мощность и полное гармоническое искажение (THD), рассчитываются с использованием этих основных величин. Ток в нагрузке и напряжение на входе измеряются датчиками тока и напряжения соответственно.

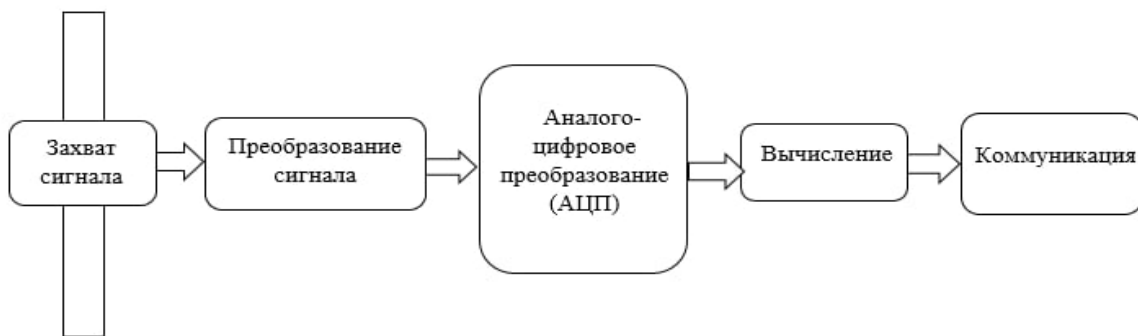


Рис.1. Обзор аппаратного обеспечения интеллектуального счетчика [2].

Преобразование сигнала включает в себя подготовку входного сигнала для следующего шага в процессе, т.е. аналого-цифрового преобразования (АЦП)

АЦП преобразует аналоговые сигналы, поступающие от датчиков, в цифровую форму. Сигналы тока и напряжения, полученные от датчиков, сначала оцифровываются, а затем оцифровываются для обработки измерительным программным обеспечением. Вычисления включают в себя арифметические операции над входными сигналами, отметку времени данных, подготовку данных для передачи или вывода на периферийные устройства. Также на этом этапе осуществляется оплата, обнаружение несанкционированного доступа, обновления системы, взаимодействие с пользователем. Коммуникация является обязательным требованием во всех системах измерения энергии. Вычисленные данные, включая измерения напряжения, тока, мощности, энергии, частоты и качества электроэнергии, должны быть переданы на внешний MCU. Интеллектуальные счетчики используют широкий спектр сетевых адаптеров для связи. Проводные варианты включают коммутируемую телефонную сеть общего пользования (PSTN), оператора линии электропередач, кабельные модемы и Ethernet. Варианты беспроводной связи включают ZigBee, инфракрасный порт и сотовую связь GSM/GPRS/CDMA.

Существуют различные протоколы связи, используемые для интеллектуальных измерений. Некоторые из этих коммуникационных протоколов включают Power Line Carrier (PLC), GPRS-связь, коммуникационный протокол ZigBee, радиочастотную сеть и т. д.

Связь по линиям электропередачи: Связь по линиям электропередачи (PLC) — это метод связи, при котором электронные данные передаются по линиям электропередач обратно на подстанцию, а затем ретранслируются на центральный компьютер в главном офисе коммунального предприятия. Системы ПЛК работают, накладывая модулированный несущий сигнал на систему проводки. Поскольку эти линии электропередач изначально предназначались для передачи мощности переменного тока с типичными частотами 50–60 Гц, возможности линий электропередач для передачи более высоких частот ограничены.

Протокол связи ZIGBEE: ZigBee — это побочный продукт Wi-Fi с низким энергопотреблением. Это спецификация для небольших маломощных радиостанций, основанная на стандарте беспроводных персональных сетей IEEE 802.15.4 — 2003. Технология, определенная спецификацией ZigBee, должна быть проще и дешевле, чем другие беспроводные персональные сети (WPAN). Приложения включают в себя беспроводные выключатели света, электрические счетчики с домашними дисплеями, системы управления трафиком и другие потребительские устройства. и промышленное оборудование, для которого требуется низкоскоростная беспроводная передача данных на короткие расстояния.

Его низкое энергопотребление ограничивает дальность передачи до 10–100 метров прямой видимости, в зависимости от выходной мощности и характеристик окружающей среды. Устройства ZigBee могут передавать данные на большие расстояния, передавая данные через ячеистую сеть промежуточных устройств для достижения более удаленных. ZigBee обычно используется в приложениях с низкой скоростью передачи данных, которые требуют длительного времени работы от батареи и защищенной сети (сети ZigBee защищены 128-битными симметричными ключами шифрования). Мгновенная передача данных с датчика или устройства ввода. [3]

Радиочастотная связь: Связь на основе радиочастот может принимать различные формы. Наиболее распространенными являются портативные, мобильные, спутниковые и стационарные сетевые решения. Существуют как двусторонние радиочастотные системы, так и односторонние радиочастотные системы, которые используют как лицензированные, так и нелицензированные радиочастотные диапазоны. В двусторонней системе или системе «пробуждения» радиосигнал обычно посылается на уникальный серийный номер измерителя, предписывая его приемопередатчику включить питание и передать данные. Приемопередатчик счетчика и приемопередатчик считывания посылают и принимают радиосигналы. В односторонней системе «пузырькового» или непрерывного широкополосного типа счетчик передает данные непрерывно, а данные отправляются каждые несколько секунд. Это

означает, что считывающее устройство может быть только приемником, а счетчик – только передатчиком.

Интеллектуальная система учета на основе GSM предлагает обновление старой системы учета. Стоимость найма рабочей силы для снятия показаний с различных счетчиков значительно снижается, и с помощью этой системы также становится возможным точное выставление счетов потребителям на основе фактического потребления. При полной реализации проекта затраты, связанные с измерением, снижаются.

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РЕДКИЕ ВИДЫ КОПЫТНЫХ ЮЖНОГО УСТЮРТА

Аннотация. В статье приведены результаты исследований копытных в южной части плато Устюрт в Каракалпакстане. Обследованы районы Асаке аудан, Капланкир, Уру, южное и северное побережье озера Сарыкамыш и вокруг бассейна Шорджи. Встречаются 3 вида копытных - джейран, закаспийский уриал и кулан. Джейраны встречены на всех обследованных участках, закаспийский уриал встречается на Капланкире, южном и северном берегах оз. Сарыкамыш, а кулан - только на южном берегу оз. Сарыкамыш.

Ключевые слова: GPS координата, джейран, кулан, устюртского варана, Плато Устюрт, Каракалпакстан.

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RARE SPECIES OF UNGULATES OF SOUTH USTYURT

Annotation. The article contains the results of investigated ungulates in the southern part of the Ustyurt plateau in Karakalpakstan. The areas of Asake audan, Kaplankir, Uru, the southern and northern shores of Lake Sarykamish and around the Shorja basin were surveyed. Found 3 species of ungulates - gazelle, transcaspien urial and kulan. Goitered gazelles were found in all the surveyed areas, the transcaspien urial is found on Kaplankir, the southern and northern shores of Lake Sarykamish, and the kulan was found only in the southern shore of Lake Sarykamish.

Keywords: GPS coordinates, goitered gazelle, kulan, Urial, Ustyurt Plateau, Karakalpakstan.

Сохранение многообразия животного мира во многом зависит от состояния окружающей природной среды. Антропогенный пресс, в настоящее время, достигший влиятельных масштабов, превышающих действие естественных факторов, стал оказывать все большее влияние на природу и животный мир Узбекистана. Экологически дестабилизированными оказались многие районы с высокой плотностью населения. Происходит обострение природных, социальных и, особенно, экологических ситуаций, выражающихся в сокращении биоразнообразия экосистем, изменении их качественных и количественных показателей.

Южная часть плато Устюрт занимает территорию в пределах Узбекистана к западу от Сарыкамышской котловины между подножием увала Капланкыр на юге и впадиной Ассак-Аудан на севере. Рассматриваемая территория является частью Сарыкамышской котловины и представляет собой реликтовый залив древнего водоема гораздо более обширного, чем Аральское море первой половины XX века. Ее познавательный потенциал очень высок, так как территория включает разнообразные формы рельефа и ландшафтов. Отличительной особенностью данного рода является очень сложное морфологическое строение и распространение разнообразных форм рельефа: чоколаков, бозынгинов и эоловых бугров, а также различных типов засоления - от мокрых солончаков на северном побережье озера Сарыкамыш до остаточных солончаков в западной части впадины Ассак-Аудан (Загребин С.В. и др., 2012).

Животный мир Южного Устюрта разнообразен. Здесь встречаются из млекопитающих: ушастый еж (*Hemiechinus auritus*), заяц-толай (*Lepus tolai*), серый хомячок (*Cricetulus migratorius*), желтый суслик (*Spermophilus fulvus*), полуденная (*Meriones meridianus*) и краснохвостая песчанки (*Meriones libycus*), большая песчанка (*Rhombomys opimus*), обыкновенная слепушонка (*Ellobius talpinus*), домовая мышь (*Mus musculus*), малый тушканчик (*Allactaga elater*), корсак (*Vulpes corsac*), волк (*Canis lupus*), лисица (*Vulpes vulpes*), степная кошка (*Felis sylvestris ornate*), кабан (*Sus scrofa*), джейран (*Gazella subgutturosa*), сайгак (*Saiga tatarica*), устюртский уриал (*Ovis vignei arkal*) и туркменский кулан (*Equus hemionus*) (Быкова и др., 2018, Красная книга РУз, 2019). Однако, современное состояние популяций многих видов, в том числе, диких копытных изучено не достаточно полно.

Работа проводилась нами в 2019-2024 годах в юго-западной части плато Устюрт, с использованием принятых стандартных методов (стационарный, маршрутный и пеший) путём подсчета числи животных, обнаружения их следов, фекалий, тропы копытных. Наблюдения проведены с использованием биноклей (15x25), местоположение животных и координаты определялось при помощи GPS-навигаторов, картографических приложений "Военная тактическая карта", "GPX Viewer" и MAPS.ME.

В обследованных регионах нами было выявлено 3 редких вида копытных животных: джейран, устюртский баран и кулан.

Джейран. В наших исследованиях было зарегистрировано 636 особей джейрана на южной части Устюрта. Они были распределены: в районе Асаке-Аудан - Капланкир – 62 особей джейрана (самец - 4, самка - 6, годовалые - 7, N 41°55'33.32" E 56°22'22.52"), (самец - 8, самки - 13, N 41°58'55.79" E 56°30'45.71"), (самец - 5, самка - 7, N 42°08'12.67" E 56°36'22.89"), (самец - 3, самка - 7, неопределенный пол - 2, N 41°19'35.29" E 56°00'58.48") [4]. Отдельные группы состояли из 4-7 джейранов. В направлении Капланкир - Асака-Аудан - Уру отмечено 238 особей джейрана (самец - 10, самка - 14, множество троп, N 41°40'11.47 " E 56°30'50.18"), (самец - 14, неопределенный пол - 19, N 41°49'24.38" E 56°33'53.54 "), (самец - 12, самка - 17, N 41°55'59.04" E 56°40'30.52 "), (годовалые -2, N 42°01'12.12 " E 56°34'50.40"), (самец - 12, самка - 16, N 42°07'33.12" E 56°34'50.59"), (самец - 12, самка - 33, N 42°13'21.90" E 56°37'37.32"), (самец - 12, самка - 14, N 42°23'46.93" E 56°40'29.08"), (самка - 12, годовалые - 8, N 42°34'06.21" E 56°56'05.57"), (самец - 8, самка - 9, годовалые - 3, N 42°45'24.77" E 57°16'42.95"), (самец - 8, N 42°47'47.29" E 57°25'30.69"), (самка - 6, N 42°50'58.07" E 57°30 '41,83"), (самка - 3, N 42°54'50.03" E 57°34'58.67").

На южном берегу озера Сарыкамыш выявлена небольшая группа джейранов, состоящая из 117 особей (самки – 12, N 42°16'04.14" E 57°10'40.85"), (самец – 17, самки – 32, N 42°10'25.41" E 57°06'58.22"), самец – 13, самки – 18, N 42°06'24.36" E 57°04'41.35", 11 самец, 14 самки N 42°05'30.22" E 57°03'59.53").

В ходе исследования северного берега озера Сарыкамыш и местности вокруг котлови Шорджа была выделена группа, состоящая из 105 особей джейрана (самец – 14, самки – 23, N 42°19'49.75" E 57°31'57.79", самец – 13, самки – 19, N 42°17'39.11" E 57°35'14.33", самки – 14, N 42°16'00.93" E 57°39'23.9", самец – 11, N 42°16' 58.02" E 57°43'09.32", самец – 11, N 42°21'45.39" E 57°41 '05.1"). Кроме того, были обнаружены фекалии и следы (N 42°21'45.81" E 57°41'16.12") этих животных. данную территорию, джейраны посещают в основном по утрам, чтобы пить воду из озера Сарыкамыш. Затем они поднимаются на чинк и возвращаются на свои пастбища.

Следующие наши исследования проводились в районе «Сухого озера» на плато Устюрт. Всего в ходе исследований было зарегистрировано 114 особей джейрана (самец - 17, самка - 29, годовалые - 11, N 41°25'19.79" E 56°56'52.95", самец - 22, самка - 35). В ходе исследований выяснилось, что антропогенные воздействия благоприятствуют джейранам свободно обитать в местах, где их мало.

Устюртский горный баран, устюртский уриал. Нами было обнаружено 2 особи устюртского барана (N 41°23'05.67" E 56°01'36.44") в районе Капланкир [5]. Здесь, были обнаружены следы и тропы копытных.

На чинках, расположенных вдоль северного берега озера Сарыкамыш было обнаружено место ночлега устюртского барана (N 42°11'49.00" E 57°38'56.74"), были обнаружены фекалии и следы (N 42°12'51.18"E 57°38'39.84", N 42°12'41.59"E 57°39'01.4", N 42°11'54.23"E 57°38' 55.99", N 42°10'39.9" E 57°39'01.34").

На чинках, расположенных вдоль южного берега озера Сарыкамыш, были найдены фекалии и следы устюртского барана (N 41°59'13.77" E 57°00'59.73", N 41°56'24.73" E 56°59'30.51").

В 2021 году в июне - две особи, а в июле - 3 особи Устюртского барана попали в фотоловушку, установленную на Сухом озере на плато Устюрт. В последующие годы в этом районе было обнаружено всего 70 голов устюртского барана. Встречаемость этого подвида очень редкая. Он находится под угрозой исчезновения.

Кулан. Исследовательские работы проводились на южном берегу озера Сарыкамыш, где было выявлено стадо куланов, состоящее из 60-70 особей (N 42°00'24.73" E 57°03'41.5") выпасавшихся на берегу озера[6].

По итогам осенней учёта последних лет зарегистрировано более 100 особей куланов. сегодняшний день в ходе исследований выяснилось, что кулоны широко распространены на Южном Устюрте, особенно в районе «Сухого озера».

Таким образом, в ходе наших исследований на Южном Устюрте было встречено 3 вида редких копытных (табл.). Обнаруженные популяции джейрана, устюртского барана и кулана также требуют строгой охраны, в первую очередь всего от браконьеров.

Таблица

Встречаемость редких копытных на Каракалпакской части южного Устюрта

Место исследования	Джейран	Устюртский баран	Кулан
Асаке Аудан	++	-	-
Капланкир	++	+	-
Уру	++	-	-
оз.Сарыкамыш (южный берег)	++	+	++
оз.Сарыкамыш (северный берег)	++	+	-
котловина Шорджа (вокруг)	+	-	-
Сухое озера	++	++	++

**Встречаемость: + низкая, ++ средняя, – отсутствует*

Наиболее эффективной мерой по сохранению редких и исчезающих видов, уникальных и эталонных участков, и в целом природных экосистем мировым сообществом признано создание сети особо охраняемых природных территории или природных резерватов, в которых охраняется не только конкретный объект фауны или флоры, но и среда его обитания или произрастания.

В ходе исследований выяснилось, что в низменном месте наблюдалось антропогенное воздействие на размножение, питание и свободное выживание редких парнокопытных. В связи с этим, начиная с 2021 года, на южной стороне плато Устюрт в Каракалпакстане создан национальный природный парк «Южный Устюрт». На сегодняшний день многие инспекторы проводят природоохранные работы на этой территории.

Охрана биоразнообразия (генофонда) должна осуществляться комплексно. Прежде всего следует широко пропагандировать идею уникальности всего живущего и необходимости сохранения большинства организмов, а также воспитывать молодежь и подрастающее поколение в духе идей охраны животного мира и гуманного отношения к животным. В свете современных представлений можно выделить следующие основные пути сохранения многообразия всего живого: развитие сети охраняемых экосистем (территорий); развитие «центров выживания» и размножения редких организмов; консервация генофонда исчезающих форм; введение всего большего числа видов в культуру и хозяйственное использование; переход к управляемой эволюции по отношению ко всему большему числу видов и групп.

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РАЗРАБОТКА И ИССЛЕДОВАНИЕ БИОМЕТРИЧЕСКИХ МЕТОДОВ И СРЕДСТВ ЗАЩИТЫ ИНФОРМАЦИИ

Аннотация. В статье раскрываются методы, цели создания и применения биометрических технологий. Выделяются основные группы биометрических методов, и производится сравнительный анализ методов, входящих в данные группы. На основе проведенного сравнительного анализа выбирается оптимальный метод. Рассматриваются основные области применения, биометрической идентификации. Описывается принципиальная схема биометрической системы, и производится обзор ключевых компонентов, входящих в биометрическую систему.

Приводятся примеры построения структурной и функциональной схемы, для конкретной области применения.

Ключевые слова: биометрическая идентификация, биометрическая система, биометрические методы, биометрические технологии, идентификация личности, области применения отпечатков пальцев, отпечатки пальцев, СКУД.

Структурная схема биометрической системы, функциональная схема биометрической системы.

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DEVELOPMENT AND RESEARCH OF BIOMETRIC METHODS AND INFORMATION SECURITY TOOLS

Annotation. The article reveals the methods and goals of the creation and application of biometric technologies. The main groups of biometric methods are distinguished, and a comparative analysis of the methods included in these groups is carried out. Based on the comparative analysis, the optimal method is selected. The main areas of application of biometric identification are considered. A schematic diagram of the biometric system is described, and an overview of the key components included in the biometric system is provided.

Examples of building a structural and functional scheme for a specific application are given.

Keywords: biometric identification, biometric system, biometric methods, biometric technologies, identity identification, fingerprint applications, fingerprints, ACS.

Разработка и исследование биометрических методов и средств защиты информации — это важная область, которая постоянно развивается.

Вот несколько ключевых направлений в этой области:

Улучшение алгоритмов распознавания: Исследования направлены на повышение точности и скорости биометрических систем, а также на уменьшение количества ложных срабатываний и пропусков.

Междисциплинарные исследования: Сочетание знаний из различных областей, таких как криптография, машинное обучение и биоинженерия, для создания комплексных решений.

Защита от подделки и мошенничества: Разработка методов, способных обнаруживать попытки подделки биометрических данных, таких как фальшивые отпечатки пальцев или манипулированные изображения лица.

Биометрия на основе поведения: Исследование новых типов биометрических данных, основанных на поведенческих характеристиках, таких как паттерны набора текста или динамика движения.

Интеграция с другими технологиями: Внедрение биометрических систем в широкий спектр приложений, от мобильных устройств до систем контроля доступа.¹⁰⁵

Иванов А.И. Биометрическая идентификация личности по динамике подсознательных движений. – Пенза: Из-во Пензенского государственного университета, 2020. – 188 с.

Эти направления исследований и разработок способствуют созданию более безопасных и эффективных биометрических систем, которые могут найти применение в самых разных сферах, от личной безопасности до национальной обороны.

Основным достоинством биометрии является самостоятельная идентификация человека. На сегодняшний день очевидна необходимость безошибочной идентификации в местах высокой проходимости людей, на контрольно-пропускных пунктах. Остро эта проблема стоит в соблюдении безопасности на транспорте и в местах проведения спортивных и культурно-массовых мероприятий. Нельзя отрицать наличие проблем (сложностей) безопасности в государственных и межгосударственных системах, таких как паспортная, визовая, таможенная, миграционная службы. Уже известных и давно используемых методов контроля явно недостаточно. Прорывом в вопросе системы безопасности является повсеместное использование биометрических технологий.

Биометрическая идентификация — это процесс установления уникальности личности на основе одного или нескольких физиологических или поведенческих признаков. Вот основные элементы, которые могут быть включены в структурную и функциональную схему биометрической системы:

Структурная схема биометрической системы:

Датчик: Устройство для захвата биометрических данных (например, сканер отпечатков пальцев).

Преобразователь сигналов: Преобразует захваченные данные в цифровую форму.

Модуль хранения: База данных для сохранения биометрических шаблонов.

Модуль сравнения: Сравнивает представленные данные с хранящимися шаблонами.

Интерфейс пользователя: Система взаимодействия с пользователем для подтверждения идентификации.¹⁰⁶

Функциональная схема биометрической системы:

Захват: Сбор биометрических данных с помощью датчика.

Обработка: Преобразование и оптимизация данных для сравнения.

Хранение: Сохранение биометрических шаблонов в базе данных.

Сравнение: Автоматическое сопоставление представленных данных с шаблонами.

Иванов А.И. Компьютер Вас узнает / А.И. Иванов, И.А. Сорокин, С.Н. Шумкин// Безопасность, достоверность, информация (БДИ). – № 1. – 996. – С. 18-21.

Барсунов В.С. Биометрическая защита информации// Защита информации. Конфидент.-2020. – № 1. – С. 45-52.

Тельных А. Идентификация личности. Как это делается / А. Тельных, А. Коган// Компьютерра. – 2021 – №10. – С. 39-41.«Наука и образование: новое время» № 2, 2022

Решение: Определение, соответствует ли представленный образец сохраненному шаблону.

Области применения биометрических технологий:

Системы контроля доступа (СКУД): Используют отпечатки пальцев или другие биометрические данные для предоставления доступа к защищенным объектам.

Банковские операции: Биометрическая аутентификация для подтверждения транзакций и доступа к банковским услугам.

Мобильные устройства: Распознавание отпечатков пальцев или лица для разблокировки телефонов и подтверждения покупок.

В последние годы в области биометрии наблюдаются следующие тенденции и направления исследований:

Мультифакторная аутентификация: Интеграция нескольких биометрических методов для повышения безопасности и точности идентификации.

Современные технологии защиты биометрических данных включают использование шифрования и биометрического шаблонирования. Это помогает обезопасить данные на случай их утечки. Также разрабатываются методы, которые позволяют проводить аутентификацию без хранения самих биометрических данных, например, с помощью одноразовых биометрических шаблонов.

Последние достижения в области мультифакторной аутентификации:

Мультифакторная аутентификация (MFA) становится всё более сложной и надёжной. Одним из новых подходов является адаптивная MFA, которая анализирует контекст доступа пользователя и требует дополнительных факторов аутентификации в случае обнаружения необычной активности.

Биометрические платежные системы: Внедрение биометрических данных для упрощения и безопасности платежных операций.

Искусственный интеллект и машинное обучение: Применение AI и машинного обучения для улучшения алгоритмов распознавания и снижения ложных срабатываний.

Конфиденциальность и защита данных: Усиление мер по защите биометрических данных от несанкционированного доступа и злоупотреблений.

Эти направления отражают стремление к созданию более надежных, удобных и безопасных систем идентификации.

Конфиденциальность и защита данных являются ключевыми аспектами в области биометрической идентификации. Вот несколько направлений, которые способствуют усилению защиты биометрических данных:

Биометрическое шифрование: Использование шифрования для защиты биометрических данных на всех этапах их обработки и хранения.

Анонимизация биометрических данных: Применение техник, которые позволяют использовать биометрические данные без раскрытия личности.

Блокчейн для биометрических данных: Использование блокчейн-технологий для создания децентрализованной и надежной системы хранения биометрических данных.

Одноразовые биометрические шаблоны: Разработка систем, которые не требуют постоянного хранения биометрических данных, а используют временные или одноразовые шаблоны.¹⁰⁷

Многофакторная аутентификация: Комбинирование биометрических данных с другими факторами аутентификации, такими как пароли или электронные ключи.

Эти меры направлены на минимизацию рисков несанкционированного доступа и злоупотреблений, обеспечивая при этом удобство и эффективность биометрических систем идентификации.

Многофакторная аутентификация (MFA) играет ключевую роль в обеспечении безопасности информационных систем. Комбинирование биометрических данных с другими факторами, такими как пароли, PIN-коды, электронные ключи или одноразовые парольные коды (OTP), значительно повышает уровень защиты от несанкционированного доступа. Вот несколько преимуществ MFA:

Усиленная безопасность: Использование нескольких независимых каналов аутентификации затрудняет злоумышленникам получение контроля над аккаунтом.

Гибкость и масштабируемость: Системы MFA могут быть настроены с различными уровнями сложности в зависимости от требований безопасности конкретной организации.

Снижение рисков: Даже если один из факторов аутентификации скомпрометирован, наличие дополнительных слоев защиты помогает предотвратить несанкционированный доступ.

Удобство пользователя: Современные решения MFA стремятся минимизировать неудобства для пользователей, например, через использование биометрических данных, которые не требуют запоминания сложных паролей.

Тем не менее, при внедрении MFA важно учитывать баланс между безопасностью и удобством использования, чтобы не создавать излишние трудности для пользователей. Кроме того, необходимо обеспечить защиту биометрических и других чувствительных данных, используемых в процессе аутентификации.

Уиллес Д. Шесть биометрических устройств идентификации отпечатков пальцев. / Д. Уиллес, М. Ли.// Сети и системы связи. – 2020. – №9(31). – СЛ46-155.

Филлипс П. Дж. Введение в оценку биометрических систем / П. Дж. Филлипс, Э. Мартин, С.Л. Пржибоски// Открытые системы. – 2021. – №3. – С. 21-27.

Сегодня мы видим, что текущее развитие биометрических технологий на основе современных технических средств привело к тому, что практически каждый человек так или иначе соприкоснулся с биометрией, например при доступе к смартфону с помощью изображения лица или отпечатка пальца.

Эти выводы подчеркивают значимость биометрических систем в обеспечении безопасности и управлении доступом, а также их потенциал для дальнейшего развития и интеграции в различные сферы жизни.

Использованные источники:

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ИНТЕРАКТИВНЫЕ ТЕХНОЛОГИИ КАК СРЕДСТВО ФОРМИРОВАНИЯ ПРОФЕССИОНАЛЬНЫХ КОМПЕТЕНЦИЙ БУДУЩЕГО ПРЕПОДАВАТЕЛЯ

Аннотация. Статья посвящена раскрытию сущности интерактивных технологий как средства, способствующего формированию профессиональных компетенций будущего преподавателя. Данные технологии сегодня рассматриваются как эффективный метод обучения студентов и становятся одним из наиболее перспективных и успешных подходов к современному обучению. В статье раскрываются такие понятия, как «профессиональные компетенции», «интерактивные методы обучения», «интерактивные средства обучения», «веб-квест».

Ключевые слова: профессиональные компетенции, интерактивные технологии, интерактивные методы обучения, интерактивные средства обучения, федеральный государственный образовательный стандарт высшего образования, будущий преподаватель, веб-квест.

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INTERACTIVE TECHNOLOGIES AS A MEANS OF FORMATION PROFESSIONAL COMPETENCIES OF THE FUTURE TEACHER

Annotation. The article is devoted to the disclosure of the essence of interactive technologies as a means of contributing to the formation of professional competencies of a future teacher. These technologies are now considered as an effective method of teaching students and are becoming one of the most promising and successful approaches to modern learning. The article reveals such concepts as "professional competencies", "interactive teaching methods", "interactive learning tools", "web quest".

Keywords: professional competencies, interactive technologies, interactive teaching methods, interactive learning tools, federal state educational standard of higher education, future teacher, web quest.

Интерактивные технологии играют ключевую роль в формировании профессиональных компетенций будущих преподавателей. Они предоставляют уникальные возможности для развития навыков, необходимых в современном образовательном процессе. Вот некоторые аспекты, на которые стоит обратить внимание при использовании интерактивных технологий:¹⁰⁸

Повышение вовлеченности студентов: Интерактивные технологии, такие как электронные голосования, мультимедийные презентации и образовательные игры, способствуют активному участию студентов в учебном процессе.

Развитие критического мышления: Использование интерактивных досок, форумов и блогов позволяет студентам анализировать информацию, высказывать свои мысли и обсуждать различные точки зрения.

Практический опыт: Симуляторы и виртуальные лаборатории дают будущим преподавателям возможность получить практический опыт в безопасной и контролируемой среде.

Обратная связь в реальном времени: Технологии, такие как системы управления обучением (LMS), предоставляют возможность получать мгновенную обратную связь, что способствует оперативной корректировке учебного процесса.

Гибкость обучения: Онлайн-платформы и мобильные приложения позволяют студентам учиться в удобное для них время и в удобном месте, что способствует индивидуализации обучения.

Абдулов Р. М. Использование интерактивных средств в процессе развития исследовательских умений учащихся при обучении физике : автореф. дис. ... канд. пед. наук : 13.00.02. – Екатеринбург, 2020. – 24 с.
Двуличанская Н. Н. Интерактивные методы обучения как средство формирования ключевых компетенций// Наука и образование. – 2021. – № 4. – С. 13–21.

Коллаборативное обучение: Инструменты, такие как облачные сервисы и социальные сети, облегчают совместную работу студентов над проектами и исследованиями.

Междисциплинарный подход: Интерактивные технологии позволяют интегрировать различные предметы и дисциплины, создавая более целостное и комплексное образование.

Подготовка к цифровому будущему: Освоение интерактивных технологий помогает будущим преподавателям адаптироваться к постоянно меняющемуся технологическому ландшафту образования.

Использование интерактивных технологий в образовании требует от преподавателей не только технических навыков, но и педагогической гибкости для интеграции этих инструментов в учебный процесс. Это способствует формированию у студентов необходимых профессиональных компетенций и подготовке их к успешной карьере в сфере образования.

Современная система образования на всех уровнях направлена на подготовку выпускников образовательных учреждений к самореализации в развивающемся информационном обществе как новой информационной реальности.

Это включает в себя не только предоставление знаний и навыков, необходимых для работы с информационными технологиями, но и развитие критического мышления, способности к адаптации и непрерывному обучению. Вот несколько ключевых направлений, на которые ориентируется образование:

Цифровая грамотность: Обучение навыкам работы с компьютерами, программным обеспечением и интернетом, чтобы студенты могли эффективно участвовать в цифровой экономике.

Информационная культура: Развитие умения критически оценивать информацию, отличать достоверные источники от ненадежных и использовать информацию этично и ответственно.

Междисциплинарность: Стимулирование интеграции знаний из разных областей для решения сложных задач и создания новых идей.

Гибкость и адаптивность: Подготовка студентов к быстрому освоению новых навыков и адаптации к изменениям в профессиональной среде.

Социальные и коммуникативные навыки: Обучение эффективному общению, работе в команде и межкультурному взаимодействию.

Непрерывное образование: Поддержка идеи обучения на протяжении всей жизни, включая профессиональное развитие и самообразование.

Эти направления помогают выпускникам не только найти свое место в информационном обществе, но и активно участвовать в его развитии.¹⁰⁹

Зайцева В. П. Подготовка и использование мультимедийных презентаций в учебном процессе вуза// Вестник Чувашского государственного педагогического университета им. И. Я. Яковлева. – 2021. – № 4(60). – С. 84–89.

Постоянное обновление знаний и навыков в соответствии с последними достижениями в своей области.

Использование различных ресурсов для обучения, включая онлайн-курсы, вебинары и профессиональные тренинги.

Однако, на наш взгляд, важное значение имеет методический опыт и стиль преподавателя, который для решения учебных задач целесообразно подбирает средства администрирования и управления обучением, интерактивные электронные образовательные ресурсы (интегрированные в площадку или добавленные с помощью гиперссылок), средства коммуникации, инструменты для обеспечения обратной связи и контроля, инструменты для разработки образовательного контента и др.

Преподаватель создает как бы свою авторскую «виртуальную образовательную площадку» на платформе, конструирует и развивает ее, строит различные образовательные траектории для достижения образовательных целей и обеспечивает активное взаимодействие всех участников образовательного процесса в контексте системно-деятельностного подхода.

В виртуальных образовательных площадках и созданных в их рамках виртуальных образовательных сообществах достигать образовательных результатов позволяют различные активные методы и технологии обучения, направленные на проблемно-ориентированное, личностно ориентированное и интерактивное обучение.

В качестве примера организации взаимодействия на специально созданной виртуальной образовательной площадке, задействующего поисково-исследовательский и игровой потенциал, приведем интерактивную технологию веб-квест на основе использования веб-ресурсов сети Интернет.

Особенностью веб-квестов является то, что часть информации или вся информация, представленная на сайте для самостоятельной или групповой работы учащихся, находится на различных веб-сайтах. Благодаря действующим гиперссылкам участники квеста этого не ощущают, работая в едином информационном пространстве, для которого не является существенным фактором точное местонахождение той или иной порции учебной информации. Учащемуся дается задание собрать материалы в Интернете по той или иной теме, решить поставленную проблемную задачу, используя эти материалы. Ссылки на часть источников даются учителем, а часть они могут найти сами, пользуясь обычными поисковыми системами. По завершении квеста участники либо представляют собственные веб-страницы по данной теме, либо какие-то другие творческие работы в электронной, печатной или устной форме.

Зайцева В. П. Реализация интерактивного метода в обучении с использованием информационных технологий// Актуальные вопросы образования и науки : сб. науч. тр. по материалам Междунар. науч.-практ. конф. : в 11 ч. Ч. 7. – Тамбов, 2022. – С. 63–64.

Это отличный подход к обучению, который способствует развитию исследовательских навыков и самостоятельности учащихся. Вот несколько советов, которые могут помочь учащимся в выполнении такого задания:

Определение цели исследования: Четко определите, что именно нужно исследовать и какие вопросы требуется решить.

Анализ источников: Оценить предоставленные преподавателям источники и определить, какие дополнительные источники могут быть полезны.

Поиск информации: Используйте различные поисковые системы и базы данных для поиска необходимых материалов.

Критический анализ: Научитесь отличать надежные источники от ненадежных, проверяйте информацию на предмет актуальности и достоверности.¹¹⁰

Организация информации: Систематизировать собранные данные, выделяя ключевые пункты и идеи для решения проблемной задачи.

Создание проекта: Разработать структуру веб-страницы или другой творческой работы, определить, как лучше всего представить информацию.

Редактирование и корректировка: Перед финальной подачей проекта убедиться, что все элементы грамотно оформлены и нет ошибок.

Обратная связь:

Эти выводы подчеркивают важность интерактивных технологий и методов в подготовке квалифицированных специалистов в области образования. Они помогают будущим преподавателям адаптироваться к быстро меняющимся требованиям образовательной среды и формируют необходимые навыки для успешной профессиональной деятельности.

В заключение следует подчеркнуть, что активное внедрение интерактивных технологий в образовательный процесс позволяет обеспечить переход к качественно новому уровню педагогической деятельности, значительно увеличивая ее дидактические, информационные, методические и технологические возможности, что в целом способствует повышению профессионального мастерства преподавателей.

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ПЕДАГОГИЧЕСКИЕ УСЛОВИЯ ФОРМИРОВАНИЯ ПРОФЕССИОНАЛЬНЫХ КОМПЕТЕНЦИЙ ПРЕПОДАВАТЕЛЕЙ СРЕДНЕГО ПРОФЕССИОНАЛЬНОГО ОБРАЗОВАНИЯ

Аннотация. Профессиональная компетентность учителя является фундаментальным аспектом в системе непрерывного профессионального образования. Эффективное обучение требует от преподавателя не только глубоких знаний предмета, но и умения применять различные методические подходы, обладать коммуникативными навыками и психологической подготовкой. Важность непрерывного обучения и саморазвития не следует недооценивать, поскольку они позволяют учителю быть в курсе последних тенденций в образовании и удовлетворять меняющиеся потребности учащихся. В этой заметке рассматриваются основные компетенции, которые учитель должен развивать, чтобы обеспечить высокое качество образовательного процесса.

В современном мире, где образование играет решающую роль в социально-экономическом развитии страны, профессиональные компетенции педагога становятся особенно важными. Педагог с высоким уровнем профессионализма способен не только передавать знания, но и воспитывать у учащихся такие качества, как ответственность, критическое мышление и гражданская активность.

Ключевые слова: профессиональная компетентность; личность педагога; педагогические умения; квалификационная характеристика.

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PEDAGOGICAL CONDITIONS FOR THE FORMATION OF PROFESSIONAL COMPETENCIES OF TEACHERS OF SECONDARY VOCATIONAL EDUCATION

Annotation. The professional competence of a teacher is a fundamental aspect in the system of continuing professional education. Effective teaching requires from the teacher not only deep knowledge of the subject, but also the ability to apply various methodological approaches, possess communication skills and psychological training. The importance of continuous learning and self-development should not be underestimated, as they allow the teacher to keep abreast of the latest trends in education and meet the changing needs of students. This note discusses the core competencies that a teacher must develop in order to ensure a high quality educational process.¹¹¹

Keywords: professional competence; personality of the teacher; pedagogical skills; qualification characteristics.

В современных социокультурных условиях реализации системы образования, роль личности педагога является ключевой. Вопрос, об основных профессиональных компетенциях педагога является существенным в развитии системы среднего профессионального образования. Это обусловлено тем, что только педагог, обладающий высоким уровнем профессионализма, может сформировать гражданина, способного своим трудом и личностными качествами вывести страну на новый уровень развития.

Предмет исследования – профессиональная компетентность педагога в системе среднего профессионального образования. Объект исследования – комплексный анализ профессиональных компетентностей педагога в системе среднего профессионального образования. Цель исследования, опираясь на определение основных педагогических компетенций, выделить основные пути формирования профессиональной компетенции педагога в

Введенский В.Н. Моделирование профессиональной компетенции педагога//Педагогика. -2020. – №10 – С. 51–54. Дружилов С.А. Профессиональная компетентность и профессионализм педагога: психологический подход// Сибирь. Философия. Образование. –Научно-публицистический альманах: СО РАО, ИПК, г. Новокузнецк. – 2020 (выпуск 8). – С. 26-44.

системе среднего профессионального образования. В своем исследовании мы опирались на труды: В.Н. Введенского [1], С.А. Дружилова [2], Г.М. Коджаспировой [3], А.К. Марковой [5].

Профессиональная компетентность педагога, его личностные качества, педагогические умения и квалификационная характеристика тесно связаны и взаимодействуют, обеспечивая эффективность образовательного процесса. Вот краткое описание каждого из этих аспектов:

Профессиональная компетентность: Это сочетание знаний, умений и навыков, которые позволяют педагогу успешно выполнять свои профессиональные обязанности. Включает в себя глубокое понимание предмета, методики преподавания и оценки.

Личность педагога: Личные качества педагога, такие как эмпатия, терпимость, открытость и честность, играют важную роль в формировании доверительных отношений со студентами и создании благоприятной обучающей среды.

Педагогические умения: Это способность педагога применять различные методы и техники обучения для адаптации к разным образовательным потребностям студентов, включая использование технологий и инновационных подходов.

Квалификационная характеристика: Описывает официальные требования к уровню образования, опыту работы и профессиональным навыкам, которые необходимы для занятия определённой должности или выполнения определённых образовательных задач.

Задача системы среднего профессионального образования заключается в подготовке квалифицированных специалистов, которые могут эффективно работать в различных отраслях экономики. Она направлена на развитие профессиональных навыков и компетенций, необходимых для успешной трудовой деятельности. Ключевые аспекты этой системы включают:

Практическую ориентацию обучения: Обеспечение студентам возможности приобретать навыки, непосредственно применимые в их будущей профессиональной деятельности.

Теоретическую подготовку: Предоставление знаний, которые формируют основу для понимания специализированных процессов и методов.

Развитие личностных качеств: Формирование таких качеств, как ответственность, инициативность и коммуникабельность, которые важны в любой профессии.¹¹²

Адаптация к рынку труда: Подготовка специалистов, способных быстро адаптироваться к изменениям в экономике и технологиях.¹¹³

Непрерывное образование: Создание основы для постоянного обучения и профессионального развития в течение всей карьеры.

Профессиональная компетентность педагога – это совокупность знаний, умений, навыков и личностных качеств, которые позволяют ему эффективно осуществлять образовательный процесс. Важные аспекты профессиональной компетентности включают:

Педагогические знания: Глубокое понимание предмета обучения и методик его преподавания.

Коммуникативные навыки: Способность устанавливать контакт с учащимися, родителями и коллегами.

Методическая подготовка: Умение планировать учебный процесс, разрабатывать и применять различные образовательные технологии и методы.

Психологическая грамотность: Знание особенностей развития и поведения учащихся, способность к эмпатии и пониманию их потребностей.

Личностные качества: Такие качества, как ответственность, честность, терпимость и уважение к учащимся, играют ключевую роль в создании благоприятной обучающей среды.

Эти компетенции позволяют педагогу не только передавать знания, но и формировать у учащихся способность к критическому мышлению, самостоятельному поиску информации и непрерывному образованию.

Педагогическая профессия является одновременно преобразующей и управляющей. Для того, чтобы управлять процессом развития личности, нужно быть компетентным. Понятие профессиональной компетенции педагога выражает единство его теоретической и практической готовности целостной структуре личности и характеризует его профессионализм. [2, с.30].

Для формирования профессиональной компетентности у педагогов нашего лица, педагогический коллектив работает над реализацией единой методической цели: «Развитие профессиональных компетенций участников образовательного процесса как условие повышения качества образования при реализации ГОС СПО».

Поставленная цель реализуется посредством коллективных, групповых и индивидуальных средств внедрения в учебновоспитательный процесс. Таких как: педагогические советы, методические советы, заседания цикловых комиссий, декады цикловых комиссий, школа

Кучугурова Н.Д. Формирование профессиональной компетенции будущего специалиста//Проблемы и перспективы педагогического образования в 21 веке.– М.,2020. – С. 364–368.

Маркова А.К. Психология профессионализма. – Мю: Международный гуманитарный фонд «Знание», 2020. – 308с

педагогического мастерства, открытые уроки, курсы повышения квалификации.

В систему среднего профессионального образования и в частности в наш

лицей приходят работать молодые специалисты не имеющие педагогического опыта.

Это может быть вызовом как для самих специалистов, так и для образовательного учреждения. Для молодых специалистов важно пройти дополнительное обучение и наставничество, чтобы развить необходимые педагогические навыки и методы. Образовательные учреждения могут поддержать их, предоставляя ресурсы для профессионального развития и создавая систему менторства с опытными педагогами.

Также важно создать среду, которая способствует обмену знаниями и опытом между молодыми и опытными специалистами.

Действительно, профессиональное становление молодых педагогов в современных условиях может представлять собой значительный вызов. Изменения в образовательной системе, новые технологии, повышенные требования к качеству обучения и необходимость постоянного самообразования — все это увеличивает сложность процесса адаптации для начинающих педагогов.

Важные факторы, влияющие на профессиональное становление молодого педагога:

Технологические изменения: Современные педагоги должны быть готовы интегрировать цифровые технологии в учебный процесс.

Социально-экономические изменения: Экономические и социальные условия влияют на образовательную среду и требуют от педагогов гибкости и адаптивности.

Психологическая готовность: Молодым специалистам необходимо развивать устойчивость к стрессу и способность справляться с эмоциональными нагрузками.

Профессиональное сообщество: Важность наставничества и поддержки со стороны более опытных коллег не может быть недооценена.

Эти факторы требуют от молодых педагогов не только профессиональных знаний, но и личностного роста, развития коммуникативных навыков и способности к самообучению. Образовательные учреждения и общество в целом должны предоставлять поддержку и ресурсы для облегчения этого переходного периода. Если у вас есть дополнительные вопросы или нужна помощь в разработке стратегий для поддержки молодых педагогов, я готов предложить свои услуги.

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УЛУЧШЕНИЕ НАВЫКОВ ЦИФРОВОЙ ГРАМОТНОСТИ У ПРЕПОДАВАТЕЛЕЙ ПРОФЕССИОНАЛЬНЫХ ОБРАЗОВАТЕЛЬНЫХ ОРГАНИЗАЦИЙ В РАМКАХ РЕАЛИЗАЦИИ ФЕДЕРАЛЬНОГО ПРОЕКТА "ПРОФЕССИОНАЛИТЕТ"

Аннотация. В статье рассматриваются основные подходы к совершенствованию цифровых компетенций педагогических работников в рамках реализации Федерального проекта «Профессионалитет». Рассмотрены результаты исследования уровня владения цифровыми компетенциями среди педагогических работников профессиональных образовательных организаций.

Изучена предложенная концепция среднего профессионального образования в рамках проекта «Профессионалитет», ее основные преимущества и план обучения педагогических работников согласно предложенной модели. Представлена модель обучения цифровым компетенциям педагогических работников профессиональных образовательных организаций в рамках экспериментального проекта «Профессионалитет».

Ключевые слова: педагогические работники, профессиональные образовательные организации, цифровые компетенции, профессионалитет, подготовка квалифицированных кадров, среднее профессиональное образование.

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**IMPROVEMENT OF DIGITAL LITERACY SKILLS AMONG
TEACHERS OF PROFESSIONAL EDUCATIONAL ORGANIZATIONS
WITHIN THE FRAMEWORK OF THE FEDERAL PROJECT
"PROFESSIONALISM"**

Annotation. The article discusses the main approaches to improving the digital competencies of teaching staff within the framework of the implementation of the Federal project "Professionalism". The results of a study of the level of digital competence among teaching staff of professional educational organizations are considered. The proposed concept of secondary vocational education within the framework of the Profession a Tet project, its main advantages and the training plan for teaching staff according to the proposed model are studied. A model of teaching digital competencies to teaching staff of professional educational organizations within the framework of the experimental project "Professionalism" is presented.¹¹⁴

Keywords: education, information and communication technologies, pedagogical competence, digital competence.

В современных социокультурных условиях реализации системы образования, роль личности педагога является ключевой. Вопрос, об основных профессиональных компетенциях педагога является существенным в развитии системы среднего профессионального образования. Это обусловлено тем, что только педагог, обладающий высоким уровнем профессионализма, может сформировать гражданина,

Осипова, О.П., Шклярова, О.А. Ресурс самоменеджмента в повышении профессиональной жизнеспособности и развитии управленческой культуры педагогических работников// Проб лемы современного образования. 2020. № 5. С. 202–213.

Печеркина, А.А. Развитие профессиональной компетентности педагога: теория и практика. Екатеринбург: УГПУ, 2019. 235 с.

способного своим трудом и личностными качествами вывести страну на новый уровень развития.

Предмет исследования – профессиональная компетентность педагога в системе среднего профессионального образования.

Объект исследования – комплексный анализ профессиональных компетентностей педагога в системе среднего профессионального образования.

Цель исследования, опираясь на определение основных педагогических компетенций, выделить основные пути формирования профессиональной компетенции педагога в системе среднего профессионального образования.

В своем исследовании мы опирались на труды: Осипова, О.П.[1], Шклярова, О.А. [2], Печеркина, А.А. [3], Табатадзе, Л.М [5], Муравьева Н.В. [10],

Константинова, Д.С., Кудяева, М.М. [15], Осипова, О.П. [22].

Среднее профессиональное образование играет важную роль в обеспечении доступа к качественному образованию и подготовке специалистов, которые могут внести значительный вклад в экономику и общество. Оно способствует не только приобретению профессиональных навыков, но и развитию общих знаний и культурного уровня, что важно для формирования гармонично развитой личности.

Профессиональная ценность:

Подготовка специалистов среднего звена, востребованных на рынке труда.

Развитие практических навыков, необходимых для конкретной профессии.

Общеобразовательная ценность:

Повышение образовательного уровня, что способствует личностному росту.

Расширение культурного кругозора, что важно для социальной адаптации и интеграции.

Это образование также способствует непрерывному обучению и развитию, что является ключевым фактором в быстро меняющемся мире.

Опираясь на определение основных педагогических компетенций, можно выделить следующие основные пути формирования профессиональной компетенции педагога:

Обучение и профессиональное развитие: Регулярное повышение квалификации и профессиональное обучение педагогов для обновления знаний и умений.

Эти пути помогут педагогам не только улучшить свои профессиональные навыки, но и способствовать развитию образовательной системы в целом.

Действительно, профессиональная компетентность педагога — это комплексное явление, которое включает в себя не только глубокие теоретические знания, но и умение применять их на практике в различных образовательных контекстах. Это сочетание знаний, умений, опыта и личностных качеств, которые позволяют педагогу эффективно решать профессиональные задачи.

Ключевые аспекты профессиональной компетентности педагога:

Теоретические знания: Понимание педагогических теорий, методик и подходов.¹¹⁵

Практические навыки: Способность применять теоретические знания в реальных образовательных ситуациях.

Рефлексивные способности: Оценка и анализ собственной практики для постоянного профессионального роста.

Коммуникативные навыки: Взаимодействие с учащимися, коллегами и родителями.

Инновационность: Разработка и внедрение новых методов и технологий в образовательный процесс.

Адаптивность: Гибкость в подходах и методах в ответ на изменения в образовательной среде.

Компетентность педагога действительно может быть измерена через различные методы оценки, такие как наблюдение, самооценка, а также через формальные процедуры аттестации и сертификации. Целенаправленное формирование этих компетенций требует системного подхода к профессиональному развитию, включая обучение, менторство и практический опыт.

Профессиональная компетентность педагога оценивается по степени развития и сформированности профессионально-педагогических умений, которые включают в себя:

Планирование образовательного процесса: Способность разрабатывать учебные планы и программы.

Методическая работа: Умение выбирать и применять различные методы и приёмы обучения.

Оценочная деятельность: Способность объективно оценивать знания и умения учащихся.

Коммуникативные умения: Владение навыками эффективного общения и установления контакта с учащимися.

Использование ИКТ: Умение интегрировать информационно-коммуникационные технологии в учебный процесс.

Табатадзе, Л.М. Менеджмент образования в условиях информатизации. М.: МПГУ, 2021. С. 242–278. Министерство просвещения. Проект профессионалитет. URL: <https://edu.gov.ru/press/4237/proekt-professionalitet-pomozhet-vnedrit-novye-programmy-zapustit-obrazovatelno-proizvodstvennye-klastery-i-vossozdat-gossistemu-podgotovki-pedkadrov-dlya-spo/> (дата обращения: 27.03.2022).

Инновационность: Способность к внедрению новшеств и улучшению образовательной деятельности.

Эти умения не только помогают педагогу в повседневной работе, но и способствуют развитию профессиональных качеств и личностного роста. Оценка профессиональной компетентности может проводиться через различные формы, включая самооценку, взаимооценку, аттестацию и сертификацию.

В системе среднего профессионального образования существует множество методов, направленных на помощь молодым специалистам, которые не имеют педагогического образования. Вот несколько примеров таких методов:

Методические семинары и чтения: Организация семинаров и чтений, где опытные педагоги делятся своими знаниями и методиками преподавания.

Менторство и наставничество: Привлечение опытных учителей для работы в качестве менторов и наставников для новых преподавателей.

Практические занятия: Проведение мастер-классов и практических занятий, чтобы молодые специалисты могли наблюдать и участвовать в реальном учебном процессе.

Обратная связь и оценка: Регулярное предоставление конструктивной обратной связи молодым специалистам, а также оценка их прогресса.

Самообразование: Поощрение самостоятельного изучения педагогической литературы и последних исследований в области образования.¹¹⁶

Эти методы помогают молодым специалистам развивать необходимые навыки и знания для эффективного преподавания и восполнения пробелов в педагогическом образовании.

Резюмируя выше изложенное, отметим, что профессиональное становление молодого педагога сегодня протекает гораздо труднее, чем несколько лет назад. Это связано с тем, что изменились требования общества к педагогу.

Для решения проблемы улучшения навыков цифровой грамотности у преподавателей профессиональных образовательных организаций в рамках федерального проекта "Профессионалитет" можно предложить следующие шаги:

Разработка стандартизированных программ обучения: Создание единых курсов повышения квалификации, которые будут ориентированы на приобретение актуальных знаний и навыков в области ИКТ.

Институт развития профессионального образования. О реализации Федерального проекта «Профессионалитет». URL: https://firpo.ru/wp-content/uploads/2021/09/Вопрос_2_МуравьеваН.В._Профессионалитет-1.pptx (дата обращения: 27.03.2022).

Министерство просвещения. О стратегии развития системы среднего профессионального образования

Поддержка через онлайн-платформы: Внедрение онлайн-платформ для дистанционного обучения и взаимодействия, что позволит преподавателям обмениваться опытом и получать доступ к ресурсам в любое время.

Мониторинг и оценка прогресса: Введение системы отслеживания успеваемости и прогресса преподавателей в процессе обучения, чтобы обеспечить их постоянное развитие.

Финансовая поддержка и стимулирование: Предоставление грантов и стипендий для мотивации преподавателей к участию в программах повышения квалификации.

Создание сообщества практиков: Организация форумов, семинаров и воркшопов, где преподаватели могут делиться лучшими практиками и инновационными методами обучения.¹¹⁷Техническая поддержка: Обеспечение преподавателей необходимым оборудованием и программным обеспечением для эффективного использования цифровых технологий в образовательном процессе.

Эти меры помогут создать благоприятную среду для непрерывного профессионального и личностного роста преподавателей, а также повысят качество образования и подготовки специалистов, соответствующих требованиям современного рынка труда.

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УРОВЕНЬ ЦИФРОВОЙ ГРАМОТНОСТИ И КОМПЕТЕНТНОСТИ ПЕДАГОГА В СРЕДНЕМ ПРОФЕССИОНАЛЬНОМ ОБРАЗОВАНИИ

Аннотация. Уровень цифровой грамотности и компетентности педагога является одним из ключевых факторов в среднем профессиональном образовании. Это связано с тем, что цифровые технологии активно внедряются во все сферы жизни, включая образование. Педагоги, обладающие высоким уровнем цифровой грамотности, способны не только эффективно использовать цифровые инструменты для обучения, но и подготавливать студентов к жизни и работе в современном информационном обществе.

Действительно, процесс формирования компетенций педагогов в контексте всеобщей информатизации и последующей цифровизации общества является долгосрочной тенденцией. Это направление развития образования подчеркивает необходимость постоянного обновления знаний и умений учителей для того, чтобы они могли эффективно использовать современные технологии в образовательном процессе и готовить студентов к жизни в условиях цифровой экономики.

Ключевые слова: образование, информационно-коммуникационные технологии, педагогическая компетентность, цифровая компетентно.

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THE LEVEL OF DIGITAL LITERACY AND TEACHER COMPETENCE IN SECONDARY VOCATIONAL EDUCATION

Annotation. The level of digital literacy and teacher competence is one of the key factors in secondary vocational education. This is due to the fact that digital technologies are being actively introduced into all spheres of life, including education. Teachers with a high level of digital literacy are able not only to effectively use digital learning tools, but also to prepare students for life and work in the modern information society.

Keywords: education, information and communication technologies, pedagogical competence, digital competence.

Процесс формирования компетенций педагогов в контексте информатизации и цифровизации общества действительно начался много лет назад. Этот процесс включает в себя не только освоение новых технологий, но и переосмысление роли преподавателя в образовательной системе.¹¹⁸

Важные моменты в этом процессе:

Постоянное обучение: Преподавателя должны быть готовы к непрерывному обучению и самосовершенствованию, чтобы идти в ногу с технологическим прогрессом.

Методическая подготовка: Педагогам необходимо развивать методические навыки для интеграции ИКТ в образовательный процесс.

Инновационные подходы: Применение инновационных подходов и образовательных технологий для повышения качества и доступности образования.

Сотрудничество и обмен опытом: Важность сотрудничества и обмена опытом между учителями для обогащения педагогической практики.

Эти аспекты способствуют формированию у преподавателей необходимых компетенций для работы в современном образовательном пространстве, где цифровые технологии играют ключевую роль.

По мнению авторов [1] под педагогической цифровой компетентностью

понимают способность последовательно применять установки, навыки и отношения, а также технологии, теорию обучения, предмет, контекст и обучение, а также отношения между ними. Эта компетенция может развиваться по мере того, как педагог становится более опытным.

Jorgen From. Pedagogical Digital Competence-Between Values / Knowledge and Skills// Higher Education Studies. 2017. – Vol. 7, №. 2. –URL: <http://www.ccsenet.org/journal/index.php/hes/article/view/67799>.

В Российской Федерации вместо цифровой компетентности используют

термин информационно-коммуникационная компетентность, под которой понимают готовность и способность самостоятельно использовать современные информационно-коммуникационные технологии в педагогической деятельности

для решения широкого круга образовательных задач [2].

На сегодняшний день образование, предоставляемое с использованием

цифровых образовательных ресурсов, например MOOC (Massive open online

course) широко обсуждается в большинстве стран мира.¹¹⁹

Этот процесс включает в себя не только освоение новых технологий, но и переосмысление роли преподавателя в образовательной системе.

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В российской модели образования цифровая компетентность педагогов действительно считается многоаспектной и включает в себя несколько ключевых компонентов. Три основных компонента, могут быть описаны следующим образом:

Базовые навыки ИКТ: Это фундаментальные технические навыки, которые позволяют преподавателям использовать информационные и коммуникационные технологии для решения повседневных задач, таких как обработка текстов, создание презентаций, использование электронной почты и интернета для поиска информации.

Гончарова, Н. Ю. Информационно-коммуникационная компетентность педагога как интегративный показатель профессионализма в современных условиях / Н. Ю. Гончарова, А. И. Тимошенко // Сибирский педагогический журнал. – 2020. – № 3. – URL: <https://cyberleninka.ru/article/n/informatsionnokommunikatsionnaya-kompetentnost-pedagoga-kak-integrativnyy-pokazatel-professionalizma-v-sovremennyh-usloviyah>.

Педагогические навыки ИКТ: Эти навыки включают в себя способность интегрировать ИКТ в учебный процесс, разрабатывать и реализовывать учебные программы и материалы с использованием цифровых инструментов, а также проводить оценку и самооценку с помощью ИКТ.

Навыки развития цифрового контента: Педагоги должны уметь создавать, редактировать и распространять цифровой образовательный контент, что включает в себя знание основ графического дизайна, видеопродакшена, программирования и других смежных областей.

Эти компоненты взаимосвязаны и вместе формируют комплексную цифровую компетентность, которая необходима современному учителю для эффективной работы в условиях цифровизации образования.

Таким образом, основной характеристикой педагогической цифровой компетентностью является способность развивать / совершенствовать педагогическую работу с помощью цифровой технологии в профессиональном контексте, прежде всего в веб-курсе / онлайн-обучении. в более широком смысле, однако,

педагогическая цифровая компетентность включает в себя все виды педагогической работы в профессиональном контексте, где используются цифровые технологии. К тому же, можно сказать, что она осуществляет свое развитие на трех структурных уровнях:

- микроуровне (уровень взаимодействия), который включает в себя педагогическое взаимодействие со студентами;
- мезоуровне (уровень курса), включающий разработку и внедрение курсов, а также инфраструктуру образования (например, интеграция ресурсов, таких как библиотека или учебное пособие);¹²⁰
- макроуровне (организационный уровень), который ориентирован на управление учебным процессом и развитие организации.

Таким образом, стратегическое педагогическое лидерство является центральным компонентом педагогической цифровой компетентности на всех трех уровнях.

Педагогическая цифровая компетентность включает в себя как практические знания, так и концептуальные знания, а также в более эпистемологическом отношении.

педагогическая цифровая компетентность действительно охватывает широкий спектр знаний и навыков. Она включает в себя:

Практические знания: Это навыки использования цифровых инструментов и технологий для обучения, такие как умение работать с образовательными платформами, программное обеспечение для создания контента, и инструменты для онлайн-коммуникации.

Картукова, А. А. Цифровая образовательная среда как фактор профессионального развития педагога / А. А. Картукова // Цифровая образовательная среда: новые компетенции педагога : сборник материалов участников конференции. Санкт-Петербург : Международные образовательные проекты, 2020. – С. 8–11.

Концептуальные знания: Это понимание того, как цифровые технологии влияют на образовательный процесс, включая методы обучения, оценку, и управление классом.

Эпистемологическое понимание: Это глубокое осмысление того, как знания создаются и распространяются в цифровую эпоху, а также рефлексия о том, как технологии изменяют саму природу знания и обучения.

Эти аспекты вместе формируют комплексный подход к цифровой компетентности, который необходим современным преподавателям для эффективной работы в быстро меняющемся образовательном ландшафте.

Педагог, обладающий цифровой компетентностью и активно применяющий её в учебной деятельности,¹²¹

действительно может добиться значительного прогресса в следующих аспектах:

Улучшение практических знаний в сфере ИКТ:

Регулярное использование цифровых инструментов и ресурсов способствует повышению уровня технических навыков и понимания того, как эффективно интегрировать технологии в образовательный процесс.

Профессиональная поддержка обучающихся: Цифровая компетентность позволяет учителю лучше понимать потребности студентов и предоставлять им индивидуализированную поддержку, используя разнообразные цифровые средства.

Создание новых курсов: Способность к разработке и адаптации учебных программ и материалов под конкретные цели и задачи образования, с учетом последних тенденций и инноваций в области ИКТ.

Анализ и объяснение образовательных процессов: Глубокое понимание того, как и почему определенные методы и подходы работают или не работают в конкретном образовательном контексте, что позволяет адаптировать и оптимизировать учебный процесс.

Эти навыки и знания способствуют не только личному профессиональному развитию преподавателя, но и повышению качества образования в целом.

Подводя итог можно сделать вывод о том, что основной проблемой в настоящее время является отсутствие у педагогов навыков цифровой работы.

Для решения этой задачи на наш взгляд необходимо выработать основные направления по улучшению практических навыков в сфере ИКТ. Таким образом, обладание педагогической цифровой компетентности позволит преподавателям найти баланс между существующими педагогическими ценностями, собственными знаниями и приобретенными ИКТ навыками.

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ПРЕДУПРЕЖДЕНИЕ ПОСЛЕДСТВИЙ ЭРОЗИОННЫХ ПРОЦЕССОВ ПОЧВ НА ОРОШАЕМЫХ ЗЕМЛЯХ КАШКАДАРЬИНСКОЙ ОБЛАСТИ

Аннотация. В статье рассмотрены виды эрозии почв на орошаемых территориях Кашкадарьинской области и некоторые проблемы, возникающие в результате эрозионных процессов. Описаны меры по поддержанию плодородия почв орошаемых земель региона и предотвращению условий, вызывающих эрозию, вторичное засоление и последствия эрозии почв.

Ключевые слова: опустынивание, деградация, дегумизация, дефляция, гравитация, вторичное засоление, фильтрационные воды, эрозия.

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PREVENTION OF THE CONSEQUENCES OF SOIL EROSION PROCESSES IN IRRIGATED AREAS OF KASHKADARYA REGION

Abstract. The article examines the types of soil erosion in the irrigated areas of Kashkadarya region and some problems arising as a result of erosion processes. Measures to maintain soil fertility of irrigated areas in the region and to prevent conditions that cause erosion, secondary salinity, and the consequences of soil erosion have been described.

Key words: desertification, degradation, dehumization, deflation, gravity, secondary salinization, seepage waters, erosion.

Введение. Известно, что земельная площадь любой страны считается лидером среди ее национальных ресурсов по значимости национального богатства и значимости. В целях рационального использования земельных ресурсов нашим государством реализуются меры политического, правового, организационного, экономического и социального значения.

Земля отличается от других резервов тем, что она является природным ресурсом и основным средством производства в сельском хозяйстве. Ведь не секрет, что земельные ресурсы обеспечивают население страны продовольствием, а промышленность – сырьем. Научный анализ этих факторов важен для повышения возможности эффективного использования сельскохозяйственных систем региона. В частности, большое значение имеют работы по географо-экологической оценке орошаемого земледелия в сельском хозяйстве Кашкадарьинской области. Поэтому исследование процесса эрозии, происходящего на орошаемых землях Кашкадарьинской области в магистерской диссертации, свидетельствует об актуальности темы. Кашкадарьинская область – один из регионов с очень сложной эколого-мелиорационной обстановкой. В качестве цели поставлена задача углубленного исследования современного состояния орошаемых земель региона на научной основе.

Основная часть. История устойчивого сельского хозяйства в нашей республике состоит из истории водосбережения, защиты почв от эрозии и предотвращения наводнений. Фермеры защищают свои земли от песка, камней и грязи, окружая землю ветками и камнями. Территории Кашкадарьинской области относятся к числу регионов, орошаемых с древнейших времен и развивающегося орошаемого земледелия. Площадь орошаемых земель в регионе расширилась за счет строительства множества водных сооружений в течение длительных исторических периодов.

В последние годы увеличение площади орошаемых земель в регионе привело к увеличению площади земель, требующих улучшения. Наиболее негативное влияние на сельское хозяйство в орошаемых земледельческих зонах Кашкадарьинской области оказывают природные географические процессы, такие как водная эрозия, ветровая эрозия, гравитационные процессы, паводковые явления, заиление, заболачивание, засоление и илистообразование. В начале XXI века одной из наиболее серьезных экологических и социально-экономических проблем, стоящих перед всем человечеством, является проблема опустынивания. Опустынивание – процесс комплексной деградации природной среды в засушливых засушливых регионах, включающий засоление почв, заболачивание, водную или ветровую эрозию, дегумизацию почв (т.е. уменьшение содержания гумуса), подземных и поверхностных в результате загрязнения вод и других процессов. Понятно, что биологическая продуктивность экосистем – географических ландшафтов резко снижается и условия жизни населения ухудшаются.

Ирригационное земледелие — земледелие в засушливой зоне с помощью ирригационных систем. Высокая урожайность сельскохозяйственных культур в засушливых и жарких климатических условиях напрямую связана с искусственным орошением. В таких условиях только орошение является важнейшим и необходимым методом повышения

продуктивности земельных ресурсов и необходимым условием ведения сельского хозяйства. В результате орошаемое земледелие вызывает ряд негативных экологических последствий и приводит к опустыниванию. По информации, в результате антропогенной деятельности ежегодно 5-7 миллионов гектаров плодородных земель в мире приходят в негодность. По мнению Л.Алибекова (2013), это в основном ирригационная (ирригационная) эрозия, накопление почвенного агроорошения культурного слоя, вторичное засоление почвы и почв, загрязнение грунтов и почв (переувлажнение), поверхностных и подземных вод проявляется загрязнением, обмеление рек, проседание местности [16; 168 с.]. По данным ООН, из-за влияния этих факторов каждый год теряется 3 млн га земли. Из-за ветровой и водной эрозии ежегодно теряется 26 миллиардов тонн почвы.

Эрозия является одним из наиболее мощных факторов ухудшения почвы и потери ее плодородия. В результате смыывания водой или сдувания ветром верхней плодородной части земной поверхности происходит пересадка верхнего основного плодородного слоя почвы, ростков и трав. Смыв мягкого слоя почвы называется водной эрозией. Оросительный и поверхностный стоки также очень вредны для органического земледелия. В результате эрозии питательных веществ, вымываемых в течение года, в 60 раз больше, чем удобрений, вносимых в землю каждый год. Роль климата в развитии водной эрозии очень велика. Эрозионный характер дождевой воды заключается в ее выпадении

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ПРЕОДОЛЕНИЕ МОРФОЛОГИЧЕСКОГО АГРАММАТИЗМА У ДОШКОЛЬНИКОВ С ОБЩИМ НЕДОРАЗВИТИЕМ РЕЧИ

Аннотация. В статье приводятся этапы исследования и коррекции морфологического аграмматизма у дошкольников с общим недоразвитием речи. Рассматриваются направления и технологии логопедической работы. Отмечается положительная динамика в формировании грамматического строя речи у дошкольников с ОНР по подобранным методикам.

Ключевые слова: речь, онтогенез, общее недоразвитие речи, грамматический строй речи, аграмматизм.

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OVERCOMING MORPHOLOGICAL AGRAMMATISM IN PRESCHOOLERS WITH GENERAL SPEECH UNDERDEVELOPMENT

Abstract. The article describes the stages of research and correction of morphological agrammatism in preschoolers with general speech underdevelopment. The directions and technologies of speech therapy work are considered. There is a positive dynamic in the formation of the grammatical structure of speech in preschoolers with ONR according to selected methods.

Keywords: speech, ontogenesis, general underdevelopment of speech, grammatical structure of speech, agrammatism.

Количество детей с речевыми нарушениями активно растет, что подчеркивает актуальность своевременной логопедической работы. Самым распространенным в настоящее время является общее недоразвитие речи (ОНР), которое проявляется в неполноценном формировании звуковой и смысловой сторон речи при сохранном слухе и интеллекте [5, с. 53].

Одним из нарушенных компонентов речи при ОНР выступает грамматический строй языка. У детей это проявляется в неправильном использовании склонений, спряжений личных местоимений, согласовании существительных с числительными, использовании фраз без изменения формы слова, а также в неправильном порядке слов в предложении. Все эти нарушения входят в определение аграмматизма [7, с. 217]. В логопедии выделяют два типа этого речевого нарушения: синтаксический и морфологический. Синтаксический связан с непониманием грамматических конструкций. Морфологический аграмматизм характеризуется использованием неправильных форм слова, основная причина заключается в трудностях выделения морфемы и соотнесения ее значения с звуковым образом [4, с. 43].

Таким образом, морфологический аграмматизм у детей с ОНР – это использование неверных форм слова при его изменении по числам, родам, падежам, связанное с неумением выделять морфемы и соотносить ее с звуковым значением.

Многие ученые, специалисты в области лингвистики, психологии и педагогики занимались исследованием грамматического строя речи у детей. Логопеды и дефектологи Жукова Н.С., Лалаева Р.И., Мастюкова Е.М., Серебрякова Н.В., Филичева Т.Б., Шаховская С.Н. предложили свои методы обследования и коррекции аграмматизма при общем недоразвитии речи.

Ученые подчеркивали, что неправильное употребление грамматических конструкций серьезно влияет на обучение: затрудняет понимание текстов и инструкций, вызывает проблемы со способностью свободно выражать мысли. Это может вызвать чувство неуверенности в лингвистических навыках и отразиться на самооценке и мотивации ребенка.

Важно обеспечить коррекцию для детей с нарушениями грамматического строя речи, чтобы помочь им успешно учиться и развиваться. Это может включать индивидуализированные подходы к обучению, логопедическую поддержку и адаптацию учебного материала.

Цель исследования – разработка и реализация направлений логопедической работы по преодолению морфологического аграмматизма у дошкольников с общим недоразвитием речи.

На первом этапе были разработаны критерии и показатели для изучения сформированности грамматического строя речи. На втором – осуществлено исследование уровня сформированности грамматического строя речи. На третьем этапе проведена логопедическая работа по преодолению морфологического аграмматизма у дошкольников с ОНР.

Разработанные критерии включали в себя следующие показатели: 1) согласование: существительного с прилагательным, существительного с глаголом, существительного с притяжательным местоимением, существительного с числительными; 2) предложно-падежное управление: именительный падеж единственного числа, родительный падеж единственного числа, именительный падеж множественного числа, родительный падеж множественного числа. Оценка показателей проводилась по 4-х балльной системе: 4 балла – правильное выполнение всех заданий; 3 балла – 1-2 ошибки с самостоятельным исправлением; 2 балла – незначительные ошибки с исправлением при помощи экспериментатора; 1 балл – большое количество ошибок; 0 баллов – не справился с заданием или не приступил к выполнению.

Исследование проводилось на базе Муниципального автономного дошкольного образовательного учреждения детский сад № 90 города Тюмени. В эксперименте приняли участие 6 детей в возрасте 5-ти лет с речевым заключением: ОНР II-III уровня у ребенка с дизартрией. Перед началом работы был изучен анамнез детей.

Методики исследования: Лалаева Р.И., Чиркина Г.В. «Исследование грамматического строя речи и его компонентов», Ефименкова Л.Н. «Формирование речи у дошкольников», Стребелева Е.А. «Методика обследования грамматического строя речи».

В результате проведенного исследования у одного ребенка был выявлен уровень сформированности грамматического строя речи ниже среднего: он не справился с заданиями на согласование существительных с разными частями речи, но правильно выполнил задания на исследование предложно-падежного управления.

У двоих испытуемых был определен средний уровень сформированности: задание на согласование существительного с глаголом выполнялось с незначительными ошибками, в остальных заданиях демонстрировались ошибки, которые дети не стремились исправить.

Трое детей имеют уровень выше среднего: в большинстве случаев справлялись с заданиями, допускали единичные ошибки, принимали помощь взрослого.

Логопедическая работа по преодолению морфологического аграмматизма у дошкольников с ОНР была составлена на основе «Методики развития речи и обучения родному языку дошкольников» Алексеевой М. М., Яшиной В. И. и реализована в следующих направлениях:

1) Развитие навыка согласования существительного с прилагательным. Используемые игры: «Распредели по цвету», «Что это за предмет?».

2) Развитие навыка согласования существительного с глаголом. Применяемые игры: «Что произошло?», «Кто что умеет делать?».

3) Развитие навыка согласования существительного с притяжательным местоимением. Используемые игры: «Это чье?».

4) Развитие навыка согласования существительного с числительными. Предлагаемые игры: «Лупа», «Веселые числа».

5) Развитие навыка согласования существительного с притяжательным местоимением. Используемые игры: «Чего нет?».

В результате проведенной логопедической работы у большинства детей была получена положительная динамика в развитии всех показателей грамматического строя речи.

У четверых детей удалось сформировать навык согласования существительного с прилагательным, двое из которых используют его в свободной речи. Например, до коррекции – «красный кресло», «белый полотенце», «голубой ведро». После логопедической работы: «красное кресло», «белое полотенце», «голубое ведро».

Навык согласования существительного с глаголом был улучшен до высокого уровня у четверых детей. До коррекции: «девочка упал», «дерево упал», «машина покати́лся», после: «девочка упала», «дерево упало», «машина покати́лась».

Два ребенка овладели навыком согласования существительных и притяжательных местоимений и могут использовать их в своей речи. До коррекции: «мое помидор», «мой мыло», «моя арбуз», «мои тетрадь», после: «мой помидор», «моё мыло», «мой арбуз», «мои тетради».

При повторном исследовании умения согласовывать существительное с числительным у троих испытуемых прослеживается положительная динамика. До коррекции: «два куклы», «два кукла», «пять кукла», «пять кубика», «две дерева», «пять куклы», после: «две куклы», «пять кукол», «пять кубиков», «два дерева», «пят кукол».

Усвоение предложно-падежного управления у двоих детей показало положительный результат. До коррекции: «карандашек», «домы», «книгов», «стулов», после: «домов», «книг», «карандашей», «стульев».

Таким образом, качественно изменились такие компоненты, как согласование существительного с разными частями речи и предложно-падежное управление, а логопедическая работа в целом положительно повлияла на уровень развития грамматического строя речи детей с ОНР.

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АНАЛИЗ МНОГОЛЕТНИХ ИЗМЕНЕНИЙ ВОДНОГО РЕЖИМА РЕКИ АМУДАРЬИ ВО ВРЕМЕНИ

Аннотация. В статье рассматривается анализ многолетних гидрологического и гидрохимического состояния изменений водного режима реки Амударья за многолетний период.

Ключевые слова. Река Амударья, гидрохимия, ПДК, минерализация, водный режим, гидрология

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ANALYSIS OF LONG-TERM CHANGES IN THE WATER REGIME OF THE AMU DARYA RIVER OVER TIME

Annotation. The article discusses the analysis of the long-term hydrological and hydrochemical state of changes in the water regime of the Amudarya River over a long period.

Key words: Amudarya river, hydrochemistry, MPC, mineralization, water regime, hydrology.

Бассейн р. Амударья — самой многоводной реки Центральной Азии — охватывает несколько десятков меньших по размеру речных бассейнов, расположенных на территории Таджикистана, Узбекистана и Туркменистана [1-3].

Дельта Амударья целиком входит в территорию Республики Каракалпакстан.

Амударья протекает по территории Узбекистана в пределах своего среднего и нижнего течения. Образуется Амударья слиянием рек Пяндж и Вахш. Длина реки 1437 км, площадь водосбора 22700 км². Ниже слияния Пянджа и Вахша Амударья принимает левобережный приток Кундуздарья, формирующий свои воды на территории Афганистана и правых притоков Кафирниган и Сурхандарья. Следующий правый приток р. Шерабад сбрасывает в Амударью свои воды в ничтожно малом количестве. Реки

Заравшан и Кашкадарья, являющиеся гидрографическими притоками Амударьи, своих вод до нее не доносят вследствие разбора их стока на орошение. Ниже впадения р. Шерабад Амударья не только не получает поверхностного питания, а, наоборот, разбирается на орошение, теряет воду на испарение и инфильтрацию, постепенно уменьшая свой сток, заканчивается сухим руслом в пределах Южного Приаралья.

С учетом геоморфологических и географических особенностей бассейн р. Амударьи делится на три участка - верхнее течение (выше Келифа, граница между Туркменистаном и Узбекистаном), среднее течение (между Туямуюном и Келифом), нижнее течение (ниже Туямуюна). Общая орошаемая площадь в бассейне находится в пределах 4,0-4,5 млн.га.

В верхнем течении реки орошаются земли Таджикистана, Узбекистана (Сурхандарьинская область) и Кыргызстана (небольшой орошаемый массив на юге республики). Орошаемые массивы расположены в долинах, основных составляющих Амударьи и ее притоков: Пяндж, Вахш, Кафирниган, Сурхан-дарья и Шерабад.

В среднем течении наиболее крупные массивы современного орошения сосредоточены на каналах большой протяженности. К таким каналам относятся Каракумский, Каршинский магистральный канал (КМК) с каскадом из 6 насосных станций и Амубухарский канал. Оросительные системы на этом участке реки получают воду на десять каналов с бесплотинным водозабором.

В низовьях р. Амударьи по обоим берегам реки построены крупные системы каналов: Ташсака, Пахта-арна, Клычниязбай, Ургенч-Дарьялык арна, Кипчакбозсу, Хан-яб (Совет-яб), Джумайская, Кызкеткен, Суэнли.

Системы каналов Ташсака, Клычниязбай, Кипчакбозсу относятся к межгосударственным каналам.

Анализ многолетних изменений водного режима Амударьи во времени и по длине реки показывает, что по мере продвижения вниз по течению водоносность реки уменьшается. Так, например, динамика речного стока у створа Саманбай по отдельным десятилетиям выглядит следующим образом (в км³): в 1931-1960 гг.—47,4; в 1961-1970 гг.— 35,8; в 1971-1980 гг. —17,1; в 1981-1990 гг.— 5,37 и в 1991-2021 гг.— 6,62 км³.

Сотрудниками Центра гидрометеорологической службы при Кабинете Министров РУз («Узгидромет») в 2013-2021 гг. химический состав воды р.Амударьи определялся только на трех створах: 1) г.Термез, 2) теснина Туямуюн, ниже плотины и 3) г.Нукус (в черте к.Саманбай). Загрязнение речной воды тяжелыми металлами следующее: содержание мышьяка изменяется от 0,000 до 0,250 мкг/л (ПДК=0,05 мг/л); хрома шестивалентного от 0,040 до 1,19 мкг/л (ПДК=0,001 мкг/л); меди от 0,846 до 2,432 мкг/л (ПДК=0,001 мкг/л); фтора от 0,181 до 0,36 мг/л (ПДК=0,75 мг/л), железа трехвалентного от 0,002 до 0,017 мг/л (ПДК=0,5 мг/л); цинка от 2,80 до 11,68 мкг/л (ПДК=0,01 мг/л).

Среднегодовая концентрация аммонийного азота изменялась от 0,006 до 0,063 мг/л (ПДК=0,39 мг/л), нитратного азота от 0,204 до 1,31 мг/л (ПДК=9,1 мг/л), нитритного азота от 0,001 до 0,008 мг/л (ПДК=0,02 мг/л).

Загрязнение реки органическими веществами (по ХПК) колебалось от 14,30 до 35,32 мг О /л, а по БПК от 0,794 до 1,334 мг О/л (ПДК=3,0 мг О/л).

Присутствие изомеров ГХЦГ изменялось от 0,000 до 0,018 мкг/л (ПДК=0,001 мкг/л). Содержание нефтепродуктов изменялось от 0,01 до 0,123 мг/л (ПДК=0,05 мг/л), синтетических поверхностно активных веществ (СПАВ) от 0,000 до 0,01 мг/л (ПДК=0,1 мг/л); фенолов от 0,000 до 0,001 мг/л (ПДК=0,001 мг/л).

Минерализация воды в верхнем течении равна 0,47-0,58 г/л, к течению Туямуюн повышается до 0,69-0,86 г/л, а у г. Нукуса превышает 1,0 г/л.

Таким образом, в нижнем течении вода р. Амударьи не только имеет повышенную минерализацию с увеличением содержания хлоридного, сульфатного ионов, магния и натрия, но и загрязнена хромом, медью, цинком, изомерами ГХЦГ, нефтепродуктами.

Как уже было отмечено, вода для орошения сельскохозяйственных культур забирается магистральными каналами. При этом южные районы: Турткульский, Берунийский и Элликалинский обслуживает магистральный канал Пахтаарна, общая орошаемая площадь 98,9 тыс. га, фактический водозабор на границе районов в 2021 г. составил 1298,76 млн.м³.

Магистральный канал Суенли обслуживает группу левобережных районов: Ходжейлийский, Шуманайский, Канлы-кульский, Кунградский и Муйнакский с общей орошаемой площадью 152,2 тыс. га; фактический водозабор в 2003 г. составил 2136,55 млн.м³.

Магистральные оросительные каналы «Кызкеткен» и «Бозатау» обслуживают северные правобережные районы: Нукусский, Кегейлийский, Чимбайский, Тахтакупырский и Бозатауский, орошаемая площадь которых составляет 207,9 тыс. га, водозабор в 2021 г. составил 3661,27 млн.м³.

Амударьинский район расположен на левом берегу р. Амударьи, забор воды на орошение осуществляется из межреспубликанских магистральных оросительных каналов Клычбай, Мангитарна, Кипчакбозсу, орошаемая площадь равна 39,6 тыс.га, водозабор в 2021 г. составил 610,16 млн.м³.

В целом по республике водозабор на границах районов в 2021 г. составил 8111,74 млн. м³, в 2016 г.— 7023,99 млн. м³ и в 2017 г. — 6209,22 млн. м³. Несмотря на лимитированное водопользование, в Республики Каракалпакстан в маловодные годы наблюдается значительный дефицит оросительной воды, поэтому специалисты вынуждены использовать на орошение определенный объем коллекторно-дренажных вод. Например, в 2002 г. было использовано на орошение 21,2 млн. м³.

Поэтому требуется тщательное изучение гидрологических и гидрохимических характеристик коллекторно-дренажных вод Республики Каракалпакстан и выявление различных закономерностей в их режиме за прошедшие годы работы как для магистральных коллекторов, так и для крупных межхозяйственных коллекторов.

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РАЗВИТИЕ ЧЕЛОВЕЧЕСКОГО КАПИТАЛА В УЗБЕКИСТАНЕ И ЕГО ОТРАЖЕНИЕ В МЕЖДУНАРОДНЫХ ИНДЕКСАХ

Аннотация. В статье даётся сравнение состоянию развития человеческого капитала в Узбекистане и его проявлению в международных индексах показателей стран мира.

Ключевые слова: человеческий капитал, индекс знаний, рейтинг, здоровье населения, образование, индекс экономики знаний, индекс инноваций, индекс человеческого развития, индекс счастья.

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DEVELOPMENT OF HUMAN CAPITAL IN UZBEKISTAN AND ITS REFLECTION IN INTERNATIONAL INDICES

Abstract. The article compares the state of human capital development in Uzbekistan and its representation in international indices with indicators of countries around the world.

Key words: human capital, knowledge index, rating, population health, education, knowledge economy index, innovation index, human development index, happiness index.

Введение.

В «Стратегии развития нового Узбекистана на 2022-2026 годы» в нашей стране, после анализа сложных процессов мирового уровня и результатов развития нашей страны, в последующие годы, исходя из принципа «Для Человеческих ценностей», мы будем и дальше повышать благосостояние нашего народа, трансформировать отрасли экономики и стремительно развивать предпринимательство, бккло подчеркнуто, что важно проводить исследования, направленные на безусловное обеспечение прав и интересов человека, формирование активного гражданского общества. [1]

Установление научной проблемы.

Теоретические аспекты исследования развития человеческого капитала представлены учёными Дж. Бен-Поретом, А. Маршаллом, Л. Туро, Сакая Т., Дэйзардом У., Дж. Бейкером и Т.Шульцем.

Российскими учёными Корогодинкиным И.Т., Шевченко Д.А., Сергеевой А.О., Черкашиным М.Д., Редько Л.Л., Солодухой П.В., Грузковым И.В., Грузковым В.Н., Ткаченко А.В., Титовым В.А., Капелюшниковым Р.И., Реморенко И.И., Рожковым и другими, которые проводили научно-исследовательские работы по данной теме.

Среди учёных нашей республики можно назвать академика К.Х.Абдурахмонова, Р.А.Убайдуллаева, А.Улмасова, А.Вахобова, Г.К.Абдурахманова, С.А.Базарова и других, занимающихся широким спектром научно-исследовательской работы.

Зарождение теории развития человеческого капитала началось с экономического учения представителей классической школы политической экономии. У. Петти был одним из первых основателей классической школы политической экономии в Англии и ввёл новую экономическую категорию — «живые человеческие силы» [2].

Представитель неоклассической школы экономической науки И. Фишер также включил человека в определение капитала. По его мнению, навыки и механика не являются отдельным капиталом, отличным от людей, а сами квалифицированные механики должны быть отнесены к капиталу [3].

Т. Шульц, основоположник теории современного развития человеческого капитала, говорит, что человеческим капиталом мы называем ценные навыки, приобретенные человеком, которые можно улучшать, укреплять и развивать за счет соответствующих инвестиций [4].

По мнению академика К.Х. Абдурахманова, «Значение человеческого капитала ограничивается природными ресурсами, материальными благами и средствами» [5].

Методология исследования.

В статье используются диалектический, системный, интегральный и синергетический подходы, экономическая, логическая, научная абстракция, анализ и синтез, индукция и дедукция, сравнение, обобщение, группировка и табличные методы.

Основные анализы и результаты.

Развитие человеческого капитала как процесс – это восстановление и развитие человеческого капитала с целью повышения уровня качества, способствующего росту производительности труда. Результатом развития человеческого капитала является накопление его качественных характеристик. Государство также обогащает свой национальный человеческий капитал в результате расходов на повышение качества системы образования и здравоохранения, что является основным фактором устойчивого роста экономики страны и повышения ее конкурентоспособности на мировом рынке [6].

М.А. Гилтман и В.В. Пит отмечают: «В настоящее время принято описывать человеческий капитал с точки зрения трех основных компонентов: благосостояния, здоровья и продолжительности жизни,

образования и культурного уровня[7]. Эти составные компоненты являются структурными элементами человеческого потенциала.

На наш взгляд, для исследования развития человеческого капитала необходимо применить принцип «процесс-результат» для определения показателей, описывающих развитие человеческого капитала как процесс и как результат. Здоровье является одним из элементов человеческого капитала, и его состояние во многом зависит от его улучшения. Обычно в научной экономической литературе здоровье изучается с точки зрения отсутствия или наличия заболеваний. Плохое здоровье снижает производительность: физически слабые и больные работники не могут в полной мере реализовать свой человеческий капитал, поэтому организации инвестируют в здоровье своих сотрудников[8].

В 2022 году объем медицинских услуг в Республике Узбекистан составил 1,8% от общего объема оказанных рыночных услуг. По сравнению с 2021 годом темп роста составил 111,5%. Для сравнения: в 2018 году объем этих услуг составил 2 220,0 млрд. рублей. сум или 1,5% от общего объема оказанных рыночных услуг[9]. В результате инвестиций, направленных в сферу здравоохранения и социального обеспечения, Республика Узбекистан имеет стабильные средние показатели среди стран СНГ по количеству человек на одного врача и количеству человек на койку. Одним из главных факторов этого является относительно высокий прирост населения в нашей республике по сравнению со странами СНГ. Сегодня на одного врача приходится 369 человек в Узбекистане, 457 человек в Таджикистане, 197 человек в России, 213 человек в Узбекистане.

Боле ста лет в макроэкономической оценке уровня жизни населения, был показатель валового внутреннего продукта на душу населения. Однако сегодня, в условиях нарастания глобализационных процессов в мире и перехода к цифровой экономике, этот показатель не может в полной мере выразить возложенную на него задачу. На мировую арену вышли новые международные индексы, отражающие уровень развития человеческого капитала и улучшение его качественных показателей: глобальный индекс человеческого развития, глобальные индексы конкурентоспособности и инноваций, глобальный индекс экономических знаний и др.

В связи с этим Президентом Республики Узбекистан «Об улучшении позиций Республики Узбекистан в международных рейтингах и индексах и внедрении нового механизма системной работы с ними в государственных органах и организациях»[9], бкл принят Указ № ПФ-6003 от 2 июня 2020 года, в котором говорилось о необходимом проведении системного анализа уровня социально-экономического и политико-правового развития страны, добиться того, чтобы коренные изменения, реализуемые в различных сферах, служили целям улучшения положения страны на международном уровне. Разработаны рейтинги и индексы, являющиеся приоритетными для Республики Узбекистан, и для устранения проблем, препятствующих

эффективности работы в этом направлении. Потому что сегодня мировые эксперты и инвесторы уделяют этим индексам большое внимание при оценке уровня жизни населения страны и развития в ней человеческого капитала, уровня улучшения его качественных показателей.

На основе данных Всемирной организации здравоохранения (ВОЗ), ООН (ООН) и Всемирного банка представлен рейтинг стран мира по состоянию здоровья их населения. Для исследования были разработаны следующие показатели: уровень здоровья, индекс здоровья и индекс риска для здоровья. То есть, как следствие, показатели, характеризующие воспроизводство человеческого капитала. Соответственно, Узбекистан занял 55-е место среди 188 стран мирового рейтинга. Согласно рейтингу стран мира по уровню здоровья 2022 года, самой «здоровой» страной мира является Сингапур с максимальным баллом. Республика Узбекистан занимает первое место среди стран СНГ и Центральной Азии. Среди стран СНГ следующее место после Узбекистана занимает Туркменистан (60 место). Остальные члены СНГ расположились следующим образом: Азербайджан (75), Молдова (80), Казахстан (85), Армения (86), Таджикистан (99), Кыргызстан (113), Украина (118), Россия (119) и Беларусь (120).

На наш взгляд, это свидетельствует о том, что система здравоохранения Узбекистана, обеспечивающая развитие человеческого капитала, занимает высокое место среди стран СНГ. «С точки зрения человеческого капитала здравоохранение является сферой, которая непосредственно участвует в формировании национального богатства. Поскольку система здравоохранения направлена на восстановление здоровья людей, экономический смысл деятельности этой сферы для государства заключается в восстановлении человеческого капитала страны и повышении его стоимости.

Затраты на здравоохранение являются основным индикатором социального развития и отражают внимание государства и общества к здоровью граждан. Таким образом, реальные затраты в социальном секторе здравоохранения, способствующем развитию человеческого капитала, значительно ниже, чем в наиболее развитых странах. Например, по этому показателю лидируют США (17,1%), Германия (11,2%), Франция (11,3%), в странах СНГ: Россия 5,3%, Белоруссия (5,9%), Киргизстан с 6,2%, Казахстан с 3,1%, а Узбекистан – 6,4%.

Стабильное и полное финансирование системы здравоохранения является залогом эффективного формирования, сохранения и развития человеческого капитала. Доступность медицинской помощи может помочь снизить заболеваемость, травмы, инвалидность, увеличить продолжительность жизни и помочь людям быть более продуктивными в своей работе.

Одним из основных факторов при изучении состояния здоровья населения является индекс смертности и ее причины. Узбекистан отличается самым низким общим уровнем смертности среди стран СНГ. Например, общий уровень смертности в Узбекистане в 2,5-3,0 раза ниже, чем в России и Украине, и в 1,5 раза ниже, чем в Казахстане. на 1,0 промилле меньше, чем в Киргизстане. По сравнению с Таджикистаном это на 0,8 промилле больше.

Образование помогает повышать уровень человеческих знаний, развивать размер и качество человеческого капитала. Рост человеческого капитала и качественное улучшение всех его элементов, реализует расширенное воспроизводство человеческого капитала. Качество высококвалифицированных специалистов влияет на экономический рост. Поэтому одним из приоритетных направлений устойчивого развития в стратегии национальной безопасности государства является «экономический рост, который достигается, прежде всего, за счет развития национально-инновационной системы и инвестиций в человеческий капитал. Образование создает возможность для самореализации»,., расширяет мировоззрение людей, их материальное благополучие и здоровье «Большинство настоящих новаторов имеют высшее профессиональное образование. Важным условием подготовки кадров для инновационной экономики является постоянное повышение квалификации работающего населения [11].

В целях оценки уровня и качества образования в странах, Всемирный банк разработал индекс экономики знаний, основанный на оценке способности стран создавать, распространять и усваивать знания в рамках специальной программы знаний. Индекс экономики знаний (ИЭЗ) основан в среднем на четырех индексах: индексе экономического и институционального режима, индексе образования, индексе инноваций и индексе информационных технологий и коммуникаций.

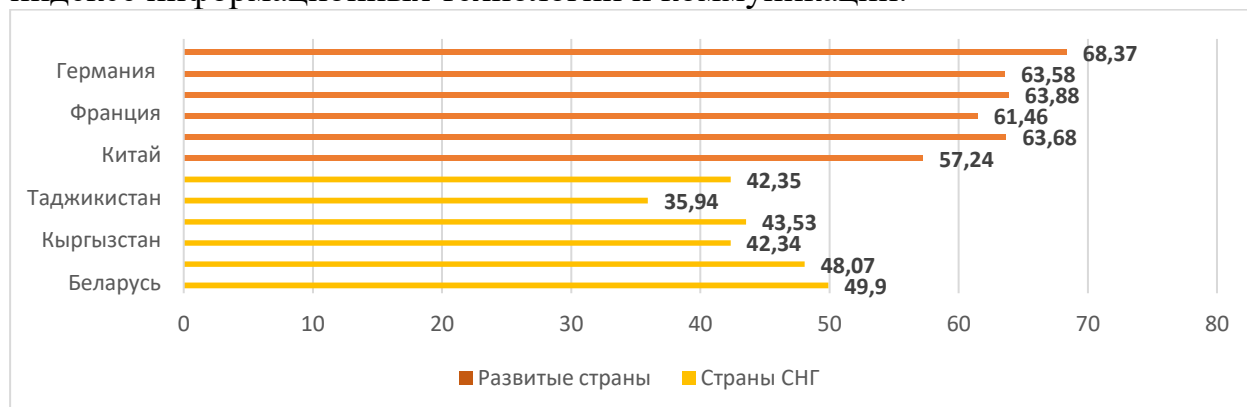


Рисунок 1. Глобальной индекс экономики знаний в странах мира (2022 г.) [12].

Экономика знаний — это высшая стадия развития постиндустриальной экономики, в которой человеческий капитал и знания являются основными факторами производства. Этот термин был введен в 1962 г. Ф. Махлупом. Знания, нематериальные активы и интеллектуальный капитал составляют основу экономики и характеризуются значительным превосходством стоимости нематериальных активов над материальными активами в составе национального богатства. Таким образом, суть экономики знаний состоит в том, что главная роль в ней принадлежит человеку, а не технике, поскольку она создает генерацию новых знаний, что, в свою очередь, дает возможность внедрять инновации в производство.

Согласно Глобальному индексу экономики знаний, США находятся на первом месте в мире, Швейцария — на втором, а Швеция — на третьем. Сегодня Узбекистан занимает 86 место в мировом рейтинге. Российская Федерация 53 места, Казахстан 78 мест, Киргизстан 87 мест, Таджикистан 106 место. Сегодня для дальнейшего повышения своего рейтинга Республике Узбекистан необходимо работать над вопросами отставания показателей в НИКОР: стимулировать научные исследования, публиковать статьи ученых в престижных журналах, прилагать все усилия для увеличения цитируемости, повышения интереса, бизнес-сектор должен быть вовлечен в научные разработки, обеспечивая предприятия высококвалифицированными специалистами[13]. Наши исследования показывают, что необходимо еще больше усилить действия, связанные с человеческим капиталом в стране, обратить внимание на решение проблем, связанных с подготовкой высококвалифицированных специалистов, сосредоточиться на конкретных науках, отразить НИКОР в практических результатах.

Стратегия инновационного развития Узбекистана на 2022-2026 годы принята в целях ускорения инновационного развития в Республике Узбекистан, широкого внедрения инноваций и технологий во всех отраслях экономики, развития человеческого капитала, развития науки и инноваций. Основная цель – войти в число 50 крупнейших стран мира в рейтинге Global Innovation Index к 2026 году. В этом году в этом индексе Швейцария занимает 1 место, Корея – 6, Китай – 11, Россия – 47, Беларусь – 77, Армения – 80, Казахстан – 83, Азербайджан – 93, Киргизстан – 94, Таджикистан – 104. Эти индексы представляют собой совокупность показателей, характеризующих воспроизводство человеческого капитала.

По итогам рейтинга Глобального инновационного индекса за 2022 год Узбекистан занял 82 место среди 132 стран, поднявшись на четыре позиции по сравнению с прошлым годом. В 2015 году Узбекистан занял 122 место среди 141 стран. В рейтинге этого года Узбекистан занял 10-е место среди стран с низким средним доходом, 3-е место среди стран Центральной и Южной Азии после Ирана и Индии. Среди стран Центральной и Южной

Азии Узбекистан занимает лидирующие позиции по таким показателям, как институты, человеческий капитал и научные исследования, инфраструктура, уровень развития внутреннего рынка.

Еще одним показателем, оценивающим состояние улучшения качественных показателей человеческого капитала, является Индекс человеческого развития (ИЧР). В «Концепции социально-экономического комплексного развития Республики Узбекистан до 2030 года» прогнозируется повышение рейтинга Индекса человеческого развития в стране с 105-го места на 40-е место.

Таблица- 1

Глобальный инновационный индекс в странах мира (2022 г.) [14].

Место в мире	Страны мира	Рейтинг
1	Швейцария	67.6
2	США	63.5
4	Великобритания	62.4
8	Германия	58.8
11	Франция	56.0
51	Россия	33.3
80	Белорусия	26.8
81	Казахстан	26.7
82	Узбекистан	26.2
106	Киргизия	20.2
111	Таджикистан	18.3

Следует отметить, что новая стратегия развития Узбекистана определяет задачи, которые могут оказать положительное влияние на Индекс человеческого развития. Это увеличение среднедушевого дохода на душу населения в 1,6 раза (цель 21 Стратегии развития), повышение уровня охвата дошкольным образованием до 80% (цель 38), высшим образованием - до 50% (цель 46), улучшение качества медицинских услуг относится к (цели 55-64). Реализация этих целей в стратегии развития позволит увеличить Индекс человеческого развития с 0,726 до 0,820 и перейти из категории «Страны с высоким человеческим развитием» в категорию «Страны с очень высоким человеческим развитием».

Человек рожден, чтобы жить в поисках счастья. С философской точки зрения, по мнению Фароби, человек может достичь абсолютного счастья только посредством интеллекта. Одним из качественных и количественных показателей, выражающих уровень развития человеческого капитала в стране, является рейтинг счастья населения страны (World Happiness Report). World Happiness Report — международный исследовательский проект, который измеряет индекс счастья людей в странах по всему миру. "Валовой внутренний продукт на душу населения, здравоохранение, социальная защищенность, чувство свободы в принятии основных

жизненных решений, щедрость и отсутствие коррупции - все это играет важную роль в оценке жизни граждан разных стран.

По мнению многих ученых, сравнение стран по разным параметрам следует проводить на основе показателя счастья, а не национального дохода. Поэтому при измерении уровня счастья необходимо систематическое измерение того, как люди себя чувствуют в исследуемый период. Согласно рейтингу World Happiness Report 2022 Узбекистан занял 53-е место среди 165 стран с 6063 рейтинговыми баллами. В 2013 году Узбекистан достиг максимума в 6,063 балла при минимуме в 5,62 балла к 2022 году.

Узбекистан сохраняет высокие показатели среди стран СНГ. В частности, Казахстан занял 50 место, Таджикистан – 71 место, Россия – 73 место, Киргизстан – 74 место и Туркменистан – 95 место. Финляндия третий год подряд лидирует по этому индексу с показателем 7,80. Ее считают самой счастливой страной в мире. Дания (7,64), Швейцария (7,56), Исландия (7,5),

В заключение мы определили показатели, которые описывают развитие человеческого капитала как процесс и как результат. Согласно ему, Республика Узбекистан занимает 53-е место в международном глобальном индексе здравоохранения, 59-е место в национальном индексе расходов на здравоохранение, 86-е место в глобальном индексе экономики знаний, 82-е место в глобальном индексе инноваций, 100-е место в индексе человеческого развития и 53-е место в World Baht Report. Поэтому государство должно адекватно финансировать систему здравоохранения и образования. Только человек, ведущий образованный и здоровый образ жизни, имеет возможность постоянно развивать свой капитал. Все вместе развитие физических, умственных и духовных способностей обогащает человеческий капитал новым содержанием, делает его более качественным и эффективным.

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**ЎЗБЕКИСТОН ТЎҚИМАЧИЛИК САНОАТИНИНГ
РИВОЖЛАНИШИДАГИ ИҚТИСОДИЙ ВА ИЖТИМОЙ-
МАДАНИЙ ОМИЛЛАР**

Резюме. Мақолада Ўзбекистон Республикасида тўқимачилик саноати ривожланишининг тарихи ва истиқболлари тўғрисида мулоҳазалар юритилган.

Калит сўзлар: Ўзбекистон тўқимачилиги, тўқимачилик анъаналари, тўқимачилик саноати, тарихий тенденция, модернизация, импорт ва экспорт.

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**ECONOMIC AND SOCIO-CULTURAL FACTORS OF DEVELOPMENT
OF THE TEXTILE INDUSTRY OF UZBEKISTAN**

Summary. The article discusses the history and prospects for the development of the textile industry of the Republic of Uzbekistan.

Key words: textiles of Uzbekistan, textile traditions, textile industry, historical trend, modernization, import and export.

Кириш. Ҳозирда енгил саноат маҳсулотларига ички ва ташқи бозорда талабнинг ошиб бориши, ишлаб чиқаришда қўл меҳнатининг аҳамияти аҳолининг кўп қисмини, биринчи навбатда, аёлларни иш билан таъминлаш имконини бериб, соҳанинг ижтимоий йўналишдаги аҳамиятини оширади. Демак, мамлакатимизда тўқимачилик ва тикув-трикотаж тармоғининг барқарор ва жадал ривожлангани аҳоли бандлигини таъминлашда, асосийси, қишлоқ жойларда ушбу муаммони ҳал этишда қўл келмоқда. Бунга хом ашё базамизнинг мавжудлиги, қўшни мамлакатларда тўқимачилик маҳсулотларига бўлган талабнинг юқорилиги, қўшимча капитал талаб қилмайдиган тўқувчилик ускуналарининг етарли эканлиги кўп жиҳатдан ёрдам бермоқда. Бу омилларнинг мавжудлиги, айниқса, аёллар учун қўшимча ишчи ўринлари яратиш бўйича энг муҳим вазифани ҳал этиш имконини беради.

Тадқиқот усуллари. Тарихий таҳлил: мустақиллик давридан то ҳозирги кунгача Ўзбекистонда тўқимачилик саноатининг ривожланишини ўрганиш, социологик усуллар: тўқимачилик саноати вакиллари, иқтисодчилар ва жамоат арбоблари билан сўровлар ва суҳбатлар, иқтисодий

таҳлил: тўқимачилик маҳсулотларини ишлаб чиқариш, экспорт ва импорт қилиш, шунингдек корхоналарнинг молиявий кўрсаткичлари тўғрисидаги маълумотларни таҳлил қилиш, қиёсий таҳлил: Ўзбекистонда тўқимачилик саноатининг ривожланишини бошқа мамлакатлар ва минтақалар билан таққослаш ва бошқалар.

Муҳокама ва мулоҳазалар. Ўзбекистонда кудратли тўқимачилик саноати ривожланган бўлиб, у республиканинг минтақавий тўқимачилик ишлаб чиқариш маркази сифатида ривожланишининг асосий омилига айланди. Хусусан, сўнгги йилларда мамлакатимиз тўқимачилик саноатида туб миқдор ва сифат ўзгаришлари юз берди. Шу вақт мобайнида маҳсулот ишлаб чиқариш ҳажми 5,1 бараварга ошди. 2016-2021 йилларда тикув-трикотаж маҳсулотлари экспорти 6,2, пайпоқ маҳсулотлари экспорти эса 15 433 фоизга ўсди. Умумий экспортда тўқимачилик саноатининг улуши 17,7 фоизга етди. Экспорт қилинаётган маҳсулотларнинг турлари эса 450 дан ошди [1]. Тўқимачилик маҳсулотлари экспорт географияси 57 дан ортиқ мамлакатларни қамраб олмоқда. Доимий бозорларимиз ҳисобланган МДҲ давлатлари қаторида Кувайт, Венгрия, Словакия ва Греция каби давлатларга ҳам илк бора тўқимачилик маҳсулотлари экспорти амалга оширилди. Тўқимачилик маҳсулотлари экспорт қилинадиган потенциал импортёрлар қаторига Россия Федерацияси (\$394,5 млн. – 39,2 %), Хитой (\$187,6 млн. – 18,6 %), Қирғизистон (\$139,1 млн. – 13,8 %) ва Туркия (\$123,5 млн. – 12,3 %) кабиларни келтириш мумкин [2]. Ўзбекистонда тўқимачилик саноатининг ривожланишида ҳам иқтисодий, ҳам ижтимоий-маданий омиллар муҳим рол ўйнайди. Қуйида улардан баъзиларини кўриб чиқамиз:

Иқтисодий омиллар: Табиий ресурсларнинг мавжудлиги: Ўзбекистон табиий шароити ва иқлими туфайли дунёдаги енг йирик пахта ишлаб чиқарувчилардан бири ҳисобланади. Ушбу ресурс тўқимачилик саноатини ривожлантириш учун асос бўлиб хизмат қилади. Меҳнат мавжудлиги: Ўзбекистон меҳнат ресурслари етарли таъминоти бор, қайси малакали ва арзон ишчилар фойдаланиш билан тўқимачилик корхоналари беради. Инвестициялар ва молиялаштириш: хорижий инвестицияларни жалб қилиш ва молиялаштиришдан фойдаланиш Ўзбекистонда тўқимачилик саноатини ривожлантириш ва модернизация қилишга ёрдам беради.

Ижтимоий-маданий омиллар: Анъанавий ҳунармандчилик: Ўзбекистон нақш, каштачилик ва қўлда ясалган тўқимачилик каби узок йиллик тўқимачилик анъаналари билан машҳур. Бу маҳорат авлоддан-авлодга ўтиб, унинг сақланиши ва ривожланиши мамлакат тўқимачилик саноатини рағбатлантиради. Тўқимачилик маданияти: пахта тўқимачилик ўзбек маданиятининг муҳим қисмидир, каштачилик ва икат каби тўқимачилик таниқли санъат асарлари ҳисобланади. Бу Ўзбекистон тўқимачилик маҳсулотларини ривожлантириш ва жаҳон бозорига чиқаришга хизмат қилмоқда. Меҳнат анъаналари: ўзбек маданияти ноёб меҳнат анъаналарини, шу жумладан оилавий корхоналарни ва ишлаб

чиқаришни ташкил етишнинг кооператив шакллари тақдим этади. Бу тўқимачилик саноатида кичик ва ўрта бизнесни ривожлантиришга ёрдам беради. Ижтимоий таъсир: тўқимачилик саноатининг ривожланиши иш ўринларини яратишга ва маҳаллий жамоаларнинг иқтисодий ривожланишига ёрдам беради. Бу ижтимоий аҳамиятга эга, чунки у ишсизликка қарши курашиш ва маҳаллий аҳолининг турмуш даражасини яхшилашга ёрдам беради.

Иқтисодий ва ижтимоий-маданий омилларнинг ўзаро таъсири Ўзбекистон тўқимачилик саноатини ривожлантиришда муҳим рол ўйнайди, барқарор иқтисодий ўсишга ва мамлакат анъаналари ва маданиятини сақлашга ёрдам беради.

Ўзбекистонда амалга оширилаётган иқтисодий ислохотлар тўқимачилик саноатига сезиларли таъсир кўрсатди. Шу ўринда, асосий иқтисодий ислохотлар ва уларнинг ушбу соҳага таъсирига тўхталиб ўтамиз. Хусусийлаштириш ва диверсификация: тўқимачилик корхоналарини хусусийлаштириш жараёни уларни янада мослашувчан ва самарали бўлишига имкон берди. Кўпгина компаниялар стратегик қарорлар қабул қила бошладилар, маҳсулот турларини диверсификация қилдилар ва бозорга янги турдаги маҳсулотларни киритдилар. Бу тўқимачилик саноатининг ривожланишига ҳисса қўшди ва унинг рақобатбардошлигини оширди. Хорижий инвестициялар ва технологиялар: хорижий инвестицияларни жалб қилиш Ўзбекистонда тўқимачилик саноатини ривожлантиришнинг муҳим омилларидан бирига айланди. Хорижий инвесторлар нафақат капитал қўшибгина қолмай, балки тўқимачилик маҳсулотларининг самарадорлиги ва сифатини оширадиган янги ишлаб чиқариш технологияларини жорий етишмоқда. Вертикал интеграцияни ривожлантириш: Ўзбекистон тўқимачилик саноатида вертикал интеграцияни фаол ривожлантирмоқда. Корхоналар нафақат ишлаб чиқариш, балки пахта териш, йигириш, мато ва тайёр маҳсулотлар ишлаб чиқариш билан ҳам шуғуллана бошладилар. Бу уларга ишлаб чиқаришнинг барча босқичларини назорат қилиш имконини беради ва самарадорлик ва рақобатбардошликни оширади. Инфратузилмани ривожлантириш: Ўзбекистон ҳукуматининг саъй-ҳаракатлари билан тўқимачилик саноати билан боғлиқ инфратузилма ривожланмоқда ва такомиллаштирилмоқда. Логистика марказлари, замонавий омборлар ва transport инфратузилмасининг ривожланиши тўқимачилик маҳсулотларини ишлаб чиқариш ва экспорт қилиш шароитларини сезиларли даражада яхшилайдди. Ишбилармонлик муҳитини яхшилаш: Ўзбекистон ҳукумати мамлакатда ишбилармонлик муҳитини яхшилаш чораларини кўрмоқда. Маъмурий тартиб-қоидаларни соддалаштириш, солиқ юкини камайтириш ва коррупцияга қарши кураш тўқимачилик саноатини ривожлантириш ва инвестицияларни жалб қилиш учун қулай шарт-шароитларни яратмоқда.

Ушбу иқтисодий ислохотлар Ўзбекистон тўқимачилик саноатини ривожлантириш, тўқимачилик маҳсулотлари ишлаб чиқариш ва экспортини кўпайтириш, маҳсулот сифати ва компанияларнинг рақобатбардошлигини оширишга хизмат қилди. Шунингдек, улар ушбу соҳада кичик ва ўрта бизнесни ривожлантириш учун янги имкониятлар яратиб, янги иш ўринлари яратилишига ҳисса қўшдилар.

Ўзбекистон тўқимачилик саноатини ривожлантиришда ташқи савдо фаолияти муҳим ўрин тутди. Ўзбекистон ташқи савдо ва тўқимачилик маҳсулотлари ўртасидаги муносабатларнинг асосий жиҳатлари қуйидагилар:

Биринчидан, тўқимачилик экспорти: Ўзбекистон тўқимачилик маҳсулотлари, жумладан, пахта матолари, ип-калава, каштачилик ва тайёр тўқимачилик маҳсулотларининг йирик экспортчиси ҳисобланади. Ўзбекистон тўқимачилик маҳсулотларининг асосий импортчилари Европа, МДХ, АҚШ ва Хитой мамлакатлари ҳисобланади.

Иккинчидан, экспортнинг катта ҳажми: тўқимачилик маҳсулотлари экспорти Ўзбекистон иқтисодиётига сезиларли таъсир кўрсатади ва экспорт даромадининг катта қисмини ташкил этади. Ушбу саноат мамлакат учун валюта тушумининг асосий манбаларидан биридир.

Учинчидан, рақобатбардошлик: ўзбек тўқимачилик маҳсулотлари рақобатбардош нарх ва юқори сифатга ега, бу еса уларни халқаро харидорлар учун жозибадор қилади. Ўзбекистон янги мижозларни жалб қилиш мақсадида халқаро кўرғазма ва ярмаркаларда иштирок етиб, экспорт имкониятларини ҳам фаол ривожлантирмоқда.

Тўртинчидан, савдо бозорларини диверсификация қилиш: Ўзбекистон жаҳон тўқимачилик бозоридаги иштирокини кенгайтириш ва савдо бозорларини диверсификация қилишга интилоқда. Мамлакат янада барқарор ва хилма-хил экспорт оқимларини яратиш мақсадида янги шериклар, айниқса Осиё, Европа ва бошқа минтақалар билан алоқаларни фаол ривожлантирмоқда.

Бешинчидан, тўқимачилик материаллари ва ускуналари импорти: Ўзбекистон ўз саноатини ривожлантириш учун тўқимачилик материаллари, хом ашё ва ускуналарни ҳам import қилади. Ўзбекистон компаниялари ўз маҳсулотларининг сифатли ва хилма-хиллигини таъминлаш учун хорижий етказиб берувчилар билан фаол ҳамкорлик қилмоқда. Ташқи савдо фаолияти Ўзбекистон тўқимачилик саноатини ривожлантириш, экспорт имкониятларини таъминлаш, инвестиция ва технологияларни жалб қилиш, шунингдек, дунёдаги шериклар билан ишбилармонлик алоқаларида муҳим рол ўйнайди. Бу соҳани ривожлантириш, янги иш ўринлари яратиш ва мамлакат даромадларининг ошишига хизмат қилмоқда.

Ўзбекистонда тўқимачилик саноатини ривожлантиришда ижтимоий-маданий жиҳатлар ҳам муҳим ўрин тутди. Шу ўринда, анъанавий ҳунармандчилик ва ҳунармандчилик: Ўзбекистон азалдан тўқимачилик

анъаналари ва авлоддан-авлодга ўтиб келаётган хунармандчилиги билан машхур. Тўқимачилик усталари тўқимачиликда чиройли нақш ва дизайнлар яратиш учун ноёб каштадўзлик, йигирув ва тўқув техникасидан фойдаланадилар. Миллий услуб ва дизайн: Ўзбекистон тўқимачилик саноати миллий услуб ва дизайнни фаол ривожлантирмоқда. Ноёб нақшлар, кашталар ва анъанавий нақшлардан фойдаланиш ўзбек тўқимачилигини жаҳон бозорида таниқли ва талабга ега қилади. Навбатдагиси, аёлларнинг роли: аёллар Ўзбекистонда тўқимачилик саноатига сезиларли таъсир кўрсатади. Кўп аёллар анъанавий хунармандчиликнинг бир қисми сифатида каштадўзлик, йигирув ва тўқув билан шуғулланадилар. Улар ноёб тўқимачилик техникаси ва дизайнларини сақлаш ва ривожлантиришда муҳим рол ўйнайди. Кейингиси, кичик ва ўрта бизнеснинг иштироки: кичик ва ўрта бизнес Ўзбекистон тўқимачилик саноатида кенг намоёйиш етилади. Тўқимачилик маҳсулотларини ишлаб чиқариш билан кўплаб оилавий корхоналар ва кооперативлар шуғулланади. Бу кичик бизнесни ривожлантириш ва иш ўринларини яратишга ёрдам беради. Шунингдек, ижтимоий аҳамияти: тўқимачилик саноатининг ривожланиши маҳаллий аҳолининг иқтисодий ривожланиши ва турмуш даражасини яхшилашга ёрдам беради. Бу, айниқса, пахта етиштириш муҳим даромад манбаи бўлган қишлоқ жойларда бандлик ва тадбиркорлик имкониятларини тақдим этади. Сўнгиси эса, маданий меросни сақлаш: тўқимачилик саноатининг ривожланиши ўзбек маданияти ва меросини сақлаш ва тарғиб қилишга ёрдам беради. Каштачилик, икат ва бошқа ноёб тўқимачилик анъаналари каби тўқимачилик маҳсулотлари ғурур объектига айланади ва миллий ва маданий мероснинг бир қисми сифатида тарғиб қилинади.

Хулоса. Ўзбекистон тўқимачилик саноатини ривожлантиришда, миллий маданиятни сақлаш, иш ўринлари яратиш ва ижтимоий тараққиётга ҳисса қўшишда ижтимоий-маданий жиҳатлар муҳим ўрин тутди. Улар Ўзбекистон тўқимачилик маҳсулотларининг жаҳон бозорида ўзига хослиги ва рақобатбардошлигини мустаҳкамлаб, ушбу соҳанинг узоқ тарихини давом еттиришга ҳисса қўшмоқда.

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РЕАЛИЗАЦИЯ СТРАТЕГИИ ТЕХНОЛОГИЧЕСКОГО РАЗВИТИЯ В МЕЖДУНАРОДНЫХ КОМПАНИЯХ: КЛЮЧЕВЫЕ АСПЕКТЫ

Аннотация. В статье раскрыто понимание реализации стратегии технологического развития и приведены примеры зарубежных компаний.

Ключевые слова: стратегия, внедрение, нейросети, интеграция.

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IMPLEMENTATION OF THE TECHNOLOGICAL DEVELOPMENT STRATEGY IN INTERNATIONAL COMPANIES: KEY ASPECTS

Abstract. The article reveals the understanding of the implementation of the strategy of technological development and provides examples of foreign companies.

Keywords: strategy, implementation, neural networks, integration.

21 век не зря называется веком новых технологий. Если раньше технологии развивались не так быстро, то теперь каждый день учёные изобретают все больше и больше. И бизнесу необходимо подстраиваться под современные правила, чтобы всегда стоять впереди других. Для этого все больше компаний отходят от консервативного мышления и внедряют новые технологии в свой бизнес: дроны, нейросети и другие нововведения, улучшающие как качество работы всего предприятия, так и отдельных его сегментов.



Объем мирового рынка ИИ 2016-2025 (млрд \$)

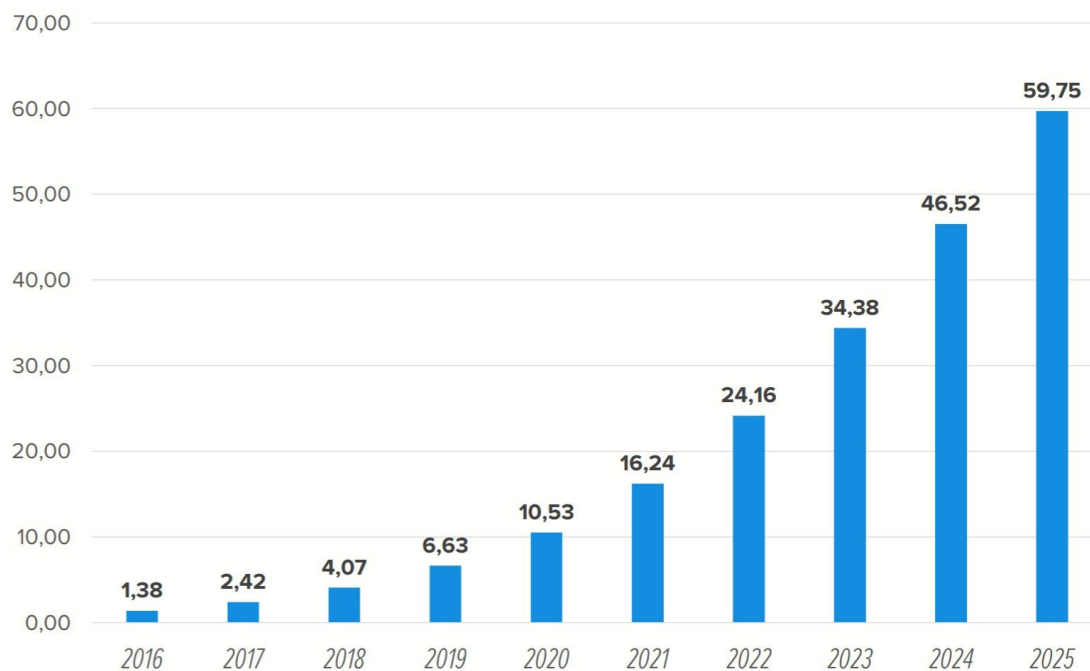


Рис 1 – рост популярности ИИ на примере объема мирового рынка по годам

К примеру, современные заводы стали внедрять в свои процессы специальные системы, отслеживающие поломки механизмов и оборудования. Работы с помощью искусственного разума могут быстро определить, в каком месте произошла поломка или утечка газов, и направить определенному сотруднику сообщение о происшествии. Таким образом на предприятии снижен риск возникновения опасной ситуаций не только для бизнеса и денег, но и для людей, работающих в нем.

Однако реализация стратегии технологического развития как в международных компаниях, так и в отечественных, имеет не только преимущества, но и недостатки.

Преимущества технологического развития

- Более точная организация процессов работы
- Практически моментальное реагирование на любые ситуации
- Улучшение качества работы, соответственно, продукта (практически во всех случаях)
- Снижение рисков
- Снижение потребности нанимать новые лица

- Повышение заработка бизнеса

Недостатки технического развития

- Сокращение некоторых сотрудников
- Возможные трудности внедрения технологических процессов
- Длительная перестройка многих бизнес-процессов

Чтобы реализовать стратегию технологического развития, международные компании применяют несколько ключевых действий.

- Определение бизнес-целей

Это ключевой этап в развитии, который требует глубокого понимания текущего положения компании на рынке, её возможностей и потребностей. Для достижения целей бизнесу необходимо разработать чёткий план действий. В него также входит несколько шагов:

Это анализ состояния технологий, используемых в бизнесе – это требуется для того, чтобы определить, сколько всего нужно совершить изменений, определить размер стоимости, создать поверхностный план действий закупки и внедрения.

Это выбор новых технологий, которые требуется закупить для бизнеса. Их изучение, презентация для сотрудников.

Это подробное изучение и разработка поэтапного и пошагового плана внедрения для каждого из членов команд.

Это анализ дальнейших действий, оценка эффективности, постановка остаточных целей и задач.

Далее по ключевым действиям для реализации стратегии технологического развития:

- Разработка механизмов мониторинга и контроля за процессом внедрения

- Процесс внедрения
- Обучающие презентации, уроки и лекции для персонала
- Корректировка планов в зависимости от успеха внедрения технологий

Приведём пример несколько международных компаний, которые уже совершили внедрение новых технологий в свой бизнес.

General Electrics – внедрили 3D-печать в изготовление деталей для авиационного двигателя.

DHL – используют дополнительную виртуальную реальность.

Ingersoll – дистанционно мониторит все системы.

CEMEX – использует инновационную системы умной нейросети, которая помогает клиентам.

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ВЫЗОВЫ И ВОЗМОЖНОСТИ ФОРМУЛИРОВАНИЯ СТРАТЕГИИ ТЕХНОЛОГИЧЕСКОГО РАЗВИТИЯ МЕЖДУНАРОДНЫХ КОМПАНИЙ

Аннотация. В статье рассказывается про вызовы и возможности формулирования стратегии технологического развития, приводятся виды факторов развития бизнеса, раскрывается три принципа развития стратегии на примерах зарубежных компаний.

Ключевые слова: стратегия, цифровизация, коллективизм.

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CHALLENGES AND OPPORTUNITIES OF FORMULATING A STRATEGY FOR TECHNOLOGICAL DEVELOPMENT OF INTERNATIONAL COMPANIES

Abstract. The article describes the challenges and opportunities of formulating a strategy for technological development, provides types of business development factors, reveals three principles of strategy development using examples of foreign companies.

Keywords: strategy, digitalization, collectivism.

Международный бизнес повседневно сталкивается с различными вызовами и проблемами. Это могут быть такие проблемы, как обмен валюты, политические и экономические преграды, культурные различия клиентов в многонациональных странах (к примеру, Индия) и другие.

В момент формирования стратегии технологического бизнеса международные компании задействуют все возможные варианты развития событий. К примеру, в многонациональной стране при ведении бизнеса руководство учитывает преобладание в культурных обычаях такого понятия как коллективизма.

Коллективизм – принцип, при котором общественное мнение и благополучие ставится выше всего.

Американский теоретик менеджмента П. Комер различил несколько видов факторов, которые помогают бизнесу определить возможности

возникновения успеха на международном уровне. Эти факторы помогают бизнесу и в обычных условиях, и в условиях внедрения технологий.

- Факторы выталкивания

Происходят при невозможности развития бизнеса в связи с низким уровнем показателей цены.

- Факторы втягивания

Возникают при существовании лучших условий для бизнеса за рубежом.

Эти факторы применяют как международные компании при развитии и выходе на другой рынок, так и отечественные, выходя на международный рынок.

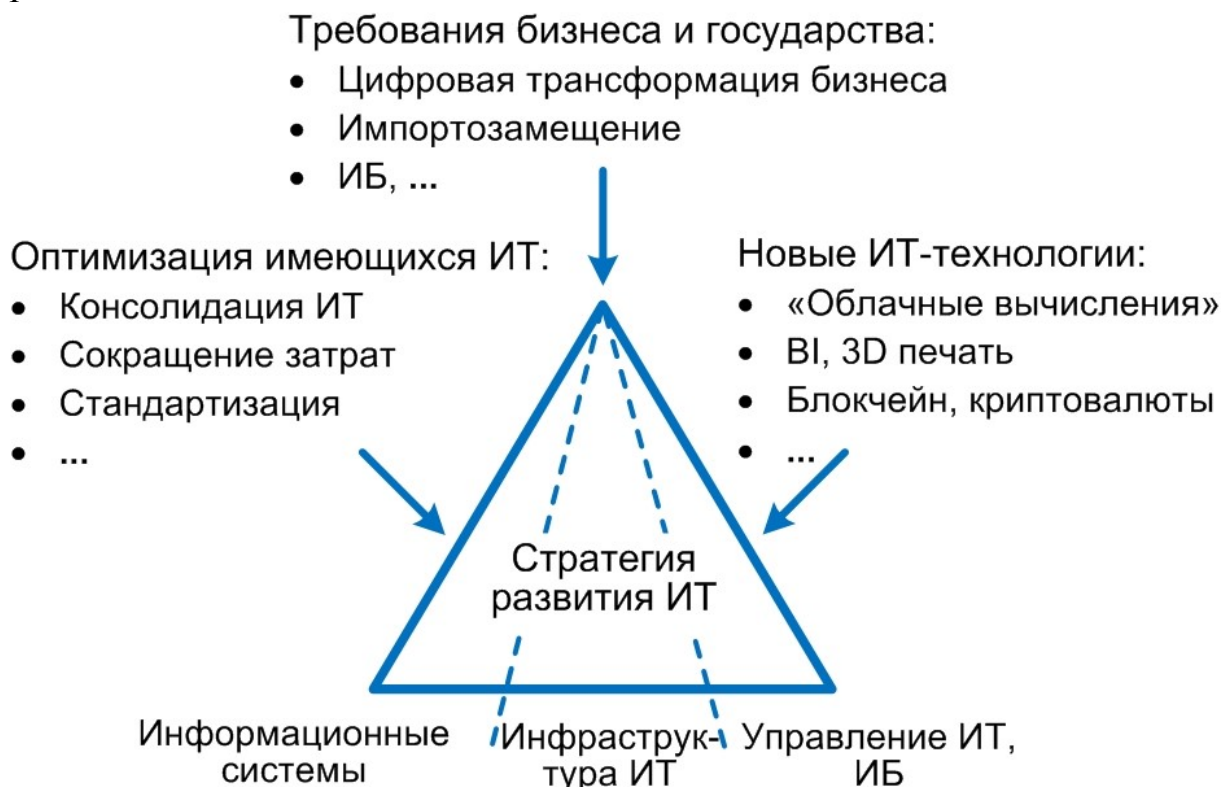


Рис. 1 – пример стратегического плана реализации стратегии развития ИТ в международных компаниях

Существует три принципа стратегии внедрения цифровизации в развитии международных компаний.

Анализ целей стратегии

Здесь может применяться цифровое преобразование. К примеру, фирма ProcterGamble поставила в 2012 году цель стать самой цифровой компанией в мире. Однако к ситуации экономического кризиса компания не была готова, потому что руководство не смогло чётко оценить все возможности на цифрах и графиках. Бизнесу не хватило технологий.

Заинтересованность руководства

Мотивация в развитии технологичного производства – важный фактор. К примеру, Эрик Шмидт, председатель совета директоров Google был настолько замотивирован в формулировании стратегии технологичного развития компании, что пошагово со сроками расписал каждое действие. Казалось бы, что такой масштабной и известной компании можно совершить прорыв даже без чёткого плана. Но при этом компания все равно всегда придерживается чёткой стратегии, которая выводит её на высший уровень.

Корпоративная культура

В 2012 году компания Adobe поставила цель перейти от классической модели программного обеспечения к бизнес-модели обслуживания на базе платной подписки для пользователей. Для достижения этого у сотрудников был специально разработана программа «Опыт-а-тон». С помощью нее они ставили себя на место пользователей. Получается, что первыми пользователями платной подписки Adobe были сотрудники компании, которые обеспечили для клиентов профессиональную обратную связь через свой опыт. Таким образом компания быстрее совершила цифровую трансформацию.

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ПОНИМАНИЕ И СУЩНОСТИ СТРАТЕГИИ ОРГАНИЗАЦИОННОГО РАЗВИТИЯ

Аннотация. В статье раскрыто понимание стратегии организационного развития, описываются сущности стратегии, поясняется термин стратегии, приведены типы стратегического развития.

Ключевые слова: стратегия, диверсификация, интеграция.

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UNDERSTANDING AND ESSENCE OF ORGANIZATIONAL DEVELOPMENT STRATEGY

Abstract. The article reveals the understanding of the strategy of organizational development, describes the essence, explains the term strategy, and provides types of strategic development.

Keywords: strategy, diversification, integration.

Организационное развитие – это общая деятельность организации компании, направленная на улучшение эффективности работы команды, здоровья каждого из членов команды, культуры предприятия и развития современных технологий, используемых предприятием в бизнесе.

Здесь организация понимается под группой управляющих и их сотрудников, общее дело которых направлено на развитие какого-либо бизнеса.

Помимо вышеперечисленных задач организационная система также предусматривает:

- создание стратегии
- реализацию стратегии
- поддержание здоровой конкуренции между членами команды
- обеспечение жизнедеятельности бизнеса и сотрудников в целом.

Организационное развитие необходимо не только лидерам, но и персоналу. Поэтому организационное развитие предусматривает интересы и цели персонала. Кроме этого оно затрагивает технологические процессы производства: как, где и в каких условиях реализуется бизнес, с помощью

каких технологий. Например, если бизнес – это пекарня, то здесь под технологиями понимаются пекарская печь, духовка, миксер и другие предметы техники и быта. Для развития бизнеса требуется их постоянно обновлять, а сотрудникам повышать качество условий работы.

Стратегия – это интеграция модели заранее расписанных действий, направленных для достижения каких-либо целей бизнеса. Это может быть как краткосрочный план, так и долгосрочный.



Рис. 1 – функции стратегии мероприятия

Стратегия для организационного развития бизнеса обычно развивается на несколько месяцев вперед и может частично или полностью меняться в зависимости от внешних и внутренних обстоятельств. К примеру, Covid-19 – это внешнее обстоятельство, под которое пришлось подстраиваться 80-90% бизнесов по всему миру. Многие предприятия и компании вынуждены были сменить стратегию и перейти на удаленный способ работы и взаимодействия с клиентами.

В бизнесе в целом может быть реализовано четыре типа стратегии организационного развития:

- Концентрированный тип

Это стратегия усиления позиций компании на рынке, выход на первые места, развитие продукта.

- Интегрированный тип
Обратная вертикальная интеграция.
- Диверсификационный рост

Стратегия горизонтальной диверсификации.

- Стратегия сокращения

Сокращение расходов и ликвидация

Существует свод специальных правил, созданный для стратегического организационного развития бизнеса. Их можно уместить в четыре группы:

1. Правила, применяемые при пристальном и детальном изучении состояния бизнеса в данном времени или в перспективе.

- Ориентир – качественная сторона оценки.
- Количественное содержание – задание.

2. Правила, по которым складываются отношения бизнеса с внешним миром. Такие правила определяют целевую аудиторию бизнеса, продукты, маркетинговые стратегии и так далее.

3. Правила, устанавливающие отношения между сотрудниками и руководством.

4. Правила, по которым устанавливается и отлаживается внутренний процесс работы фирмы.

К примеру, работа сотрудников может быть направлена больше на результат, а может расписываться поминутно в специальных системах типа системы Trello.

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**РОЛИ ИННОВАЦИЙ В ФОРМИРОВАНИИ СТРАТЕГИЙ
ТЕХНОЛОГИЧЕСКОГО РАЗВИТИЯ МЕЖДУНАРОДНЫХ
КОМПАНИЙ**

Аннотация. В статье рассказывается о видах инноваций, которые отвечают за технологическое развитие международных компаний.

Ключевые слова: стратегия, цифровизация, псевдоинновации.

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**THE ROLE OF INNOVATION IN SHAPING THE STRATEGIES OF
TECHNOLOGICAL DEVELOPMENT OF INTERNATIONAL
COMPANIES**

Abstract. The article describes the types of innovations that are responsible for the technological development of international companies.

Keywords: strategy, digitalization, pseudo innovation.

Роль инноваций в формировании стратегии технологического развития международных компаний несомненно важна. Было бы странно разрабатывать стратегию для внедрения технологий в бизнес без применения этих самых технологий.

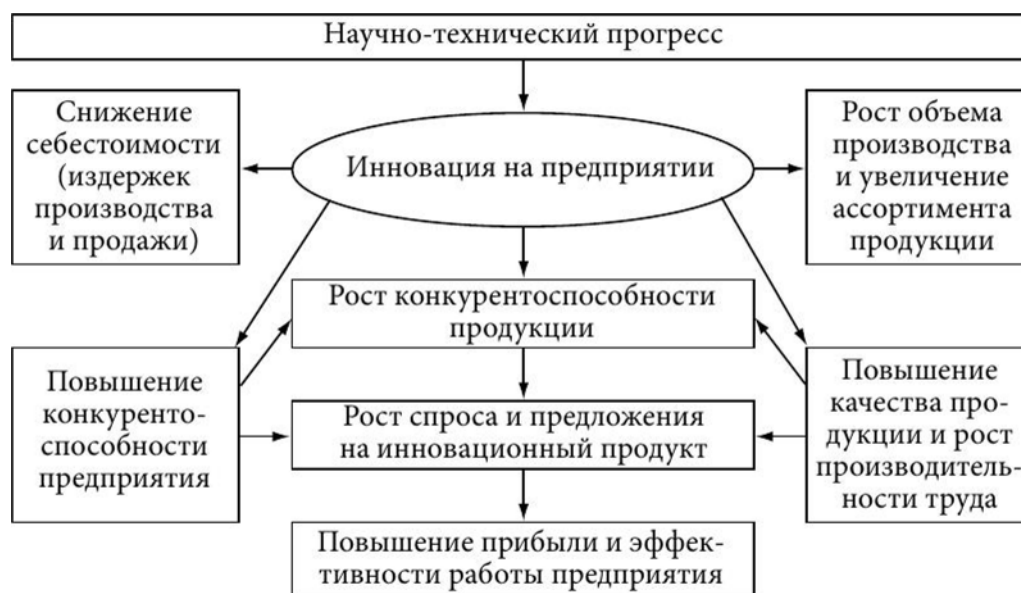


Рис. 1 – инновации как важнейший фактор научно-технического прогресса

Сначала разберём, какие существуют виды инноваций.

- **Базисные**

Используются для стратегического развития крупных технологичных устройств (заводские станки, главные компьютерные устройства и так далее).

- **Улучшающие**

Внедряют мелкие и средние технологии на производство.

- **Псевдо инновации**

Частично улучшают уже устаревшие технологии на производстве.

Для бизнеса важно выбрать правильную стратегию и, соответственно, правильные инновации для внедрения технологий.

Что вообще представляет собой понятие инновации? Это конечный результат научно-технического достижения.

Инновации разделяются на несколько видов:

- **Процессные**

Используются в качестве новых методов.

- **Продуктовые**

Применяются в создании новых продуктов.

Стратегия технологического развития международных компаний должна быть гибкой и адаптивной. Инновации позволяют компаниям быстро реагировать на изменения на рынке и в потребностях потребителей. Они помогают создавать устойчивые механизмы для адаптации к новым условиям и технологиям.

К примеру, компания по производству медицинских станков собралась провести общую цифровизацию производственного процесса.

Для достижения этого они предпримут некоторые шаги, каждый из которых предполагает собой использование какой-либо инновации.

- Разработка плана

Здесь в качестве инноваций пойдут системы записи, таблицы, графики и помощь нейросетей в анализе рынка конкурентов и текущего состояния бизнеса.

- Внедрение новых технологий

Здесь в качестве инноваций будут использованы все доступные показательные материалы: видео-уроки, презентации, аудиолекции и прочее.

- Отслеживание успеха внедрения технологий по отношению к работникам предприятия

Для этого международные компании все чаще используют системы, встроенные в компьютер, которые отслеживают рабочий процесс сотрудника, его успехи, KPI и другие показатели.

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**ПЕРВОЕ IPO И SPO В УЗБЕКИСТАНЕ – КАК ИНСТРУМЕНТ
ПРИВЛЕЧЕНИЯ КАПИТАЛА И СОКРАЩЕНИЯ
ГОСУДАРСТВЕННОЙ ДОЛИ**

Аннотация. В истории независимого Узбекистана АО «Кварц» впервые внедрило практику IPO, а АО «Кокандский механический завод» впервые внедрило практику SPO. В статье проанализирована реальная ситуация с финансированием акционерных обществ посредством IPO и продажей акций посредством SPO на примере АО «Кварц» и АО «Кокандский механический завод». Перечислены достижения и возникшие проблемы. В результате исследования, проведенного в статье, были сформулированы выводы и высказаны предложения.

Ключевые слова: IPO, SPO, акционерное общество, корпорация, акционерное финансирование, эмиссия акций, акционерный капитал, ликвидность фондового рынка, котировка акций, частные инвесторы, доли государства.

**THE FIRST IPO AND SPO IN UZBEKISTAN - AS A TOOL FOR
ATTRACTING CAPITAL AND REDUCING THE STATE SHARE**

Annotation. In the history of independent Uzbekistan, Quartz JSC introduced the IPO practice for the first time, and Kokand Mechanical Plant JSC introduced the SPO practice for the first time. The article analyzes the real situation with the financing of joint stock companies through IPO and the sale of shares through SPO using the example of Quartz JSC and Kokand Mechanical Plant JSC. Achievements and problems encountered are listed. As a result of the research carried out in the article, conclusions were formulated and suggestions were made.

Key words: IPO, SPO, joint stock company, corporation, equity financing, issue of shares, share capital, stock market liquidity, stock quote, private investors, state shares.

Введение

Акционерные общества используют финансирование IPO, если хотят или нуждаются в дополнительном крупном финансировании за счет новых акционеров. Как правило, корпорации выпускают акции для широкой публики, чтобы привлечь в бизнес дополнительный новый капитал. В этом случае источником финансирования служат средства широкой публики акционеров. Практика финансирования акционерных обществ посредством первичного публичного размещения акций получает все большее распространение во всем мире. Этот метод финансирования сокращенно называется IPO. Понятие IPO представляет собой аббревиатуру английских слов «Initial Public Offering».

В этом случае дополнительные акции выпускаются повторно для привлечения дополнительных средств в корпорацию. Согласно определению, данному в законодательстве нашей республики: «первичное публичное размещение акций (IPO) – это размещение акционерным обществом (инициатором IPO) акций на фондовой бирже неограниченному кругу инвесторов». [1].

Также существует практика продажи акций на основе SPO (вторичного публичного размещения). «Вторичное публичное размещение акций (SPO) — продажа акций акционером (инициатором SPO) неограниченному числу инвесторов на фондовой бирже» [1]. SPO, в отличие от IPO, не влияет на размер уставного капитала акционерного общества. Однако осуществление такой продажи обеспечивает свободное обращение акций компании на рынке капитала, публичность компании, а в случае продажи государственной доли вклад частных инвесторов увеличится за счет уменьшения этой доли.

В мировом масштабе широко исследуется механизм финансирования акционерных обществ посредством корпоративных ценных бумаг, в частности акций. Среди них множество академических исследований, посвященных привлечению капитала для корпораций посредством выпуска акций, особенно крупномасштабных инвестиций посредством IPO. Однако аспекты, направленные на привлечение крупных инвестиций в корпорации через IPO, рассчитанные на основе механизмов долевого финансирования и снижение доли государства, не нашли своего научного решения. Кроме того, местными экономистами проведено недостаточно исследований по поводу продажи акций через SPO.

Анализ литературы по теме

IPO рассматривается многими экономистами как современный механизм финансирования акционерных обществ. Некоторые экономисты также подчеркивают негативные аспекты IPO.

Например, по мнению местного экономиста И.Л. Бутикова, проводившего углубленное исследование развития фондового рынка: «Выпуск акций и проведение рекламной кампании повышает узнаваемость компании не только среди профессиональных инвесторов, но и среди большинства населения. Для большинства компаний реализация проектов IPO направлена не только на привлечение финансовых ресурсов, но и в первую очередь на цель публичности. Это, в свою очередь, поможет в дальнейшем привлечь гораздо большие финансовые ресурсы» [2].

По мнению С.Э.Эльмирзаева, местного экономиста, проводящего исследования по развитию корпоративных финансов: «Размещение акций в порядке открытой подписки позволяет привлечь большой объем капитала, хотя и требует сравнительно больших затрат и много времени» [3].

Зарубежные экономисты Н.Р.Дилеша и А.Л.Пьер провели исследования на тему «Влияние макроэкономических факторов на IPO» [4].

По мнению А.А. Абгаряна, проводившего исследование развития рынка акционерного капитала в России в современных условиях, «IPO повышает прозрачность компании для инвесторов и инвестиционную привлекательность. Кроме того, появится возможность использовать источник долгосрочного финансирования, повысится ликвидность ценных бумаг, размещаемых на фондовом рынке, и будет сформирован альтернативный источник финансирования» [5].

По мнению Л.А. Борлаковой, зарубежного экономиста, проводившего исследование влияния IPO на конкурентоспособность российских компаний: «Однако проведение IPO до того, как оно будет готово, или неправильное решение руководства приведет к провалу IPO. Даже «зрелые» компании, готовые к IPO, должны учитывать циклическое развитие экономики. IPO во время рецессий и депрессий, как правило, терпят неудачу. В верхней фазе экономического цикла IPO эффективно проводятся. Малому и среднему бизнесу не рекомендуется проводить IPO. Это объясняется, во-первых, их организационно-правовой формой, во-вторых, высокими трансакционными издержками» [6].

Также «Первичное публичное размещение акций на международных фондовых рынках осуществляется на основе определенного уровня конкуренции. Потому что IPO обеспечивает компании дополнительные инвестиции и повышает инвестиционную привлекательность и международную репутацию фирмы. Все это дает возможность эффективно достигать целей бизнеса, решать социальные проблемы, выполнять свои обязательства перед государством. С другой стороны, сам выход на международные фондовые рынки служит фактором дальнейшего развития компании» [6].

Мы считаем, что благодаря IPO более широкая группа инвесторов получит доступ к актуальной информации о корпорации, что приведет к увеличению источников финансирования корпорации и снижению стоимости заемного капитала. Одним из преимуществ IPO является то, что оно предоставляет корпорации большой объем акционерного капитала, а также покрывает государственные выпуски и административные расходы. Также с уменьшением доли государства посредством SPO создается и возможность привлечения в акционерное общество частных инвесторов [7].

Анализ и результаты

В целях обеспечения реализации указа Президента Республики Узбекистан от 17 января 2017 года «О мерах по ускорению реализации объектов государственной собственности для хозяйственных целей и дальнейшему упрощению ее процедур» в целях внедрения и привлечения широкого сегмента населения на фондовый рынок, принято соответствующее постановление Кабинета Министров Республики Узбекистан от 10.05.2017 года №268 «Об организации публичного размещения акций на Фондовой бирже». Данным решением также определен перечень акционерных обществ, акции которых будут размещены для первичного (IPO) и вторичного (SPO) публичного размещения (см. Таблицу 1).

Таблица 1

Перечень акционерных обществ, акции которых реализуются путем первичного (IPO) и вторичного (SPO) публичных предложений акций*[1].

№	Наименование акционерного общества	Инициатор публичного предложения акций	Организатор публичного предложения акций	Форма реализации
1.	АО «Кварц»	АО «Кварц»	Национальный банк ВЭД	IPO
3.	АО «Кулон механика заводи»	АК «Узнефтегазмаш»	Национальный банк ВЭД	SPO

*10 процентов от уставного капитала

Согласно вышеуказанному решению, одной из компаний, акции которой планируется разместить посредством IPO, является АО "Кварц". АО «Кварц» основано в 1975 году, расположено в Ферганской области, основным видом деятельности является производство стекольной продукции (стеклотара, строительные и автомобильные окна, огнеупорный кирпич). АО «Кварц» обеспечивает 60% потребности потребительского рынка республики в строительном стекле, 95% в стеклянной банке и 50% в стеклянной бутылке.

В таблице 2 представлено характеристики и финансовые результаты IPO акций АО «Кварц».

Таблица 2

Особенности и финансовые результаты IPO акций АО «Кварц»
[8].

№	Особенности	Показатели
	Дата начала подписки	05.12.2017 г.
	Дата окончания подписки	03.04.2018 г.
	Вид валюты	UZS
	Предоплата	100%
	Количество акций, выпущенных для продажи, шт.	4 574 934
	Доля акций, выпущенных для продажи к общему количеству акций АО	10%
	Количество приобретенных акций, шт.	2 475 269
	Из них, доля проданных акций	54,1%
	Прибыль от продажи акций, тыс. сум	7 523 818
	Общие расходы на проведение IPO, тыс. сум	278 904
	Прибыль от продажи, тыс. сум	7 244 914

Из данных таблицы 2 видно, что с 5 декабря 2017 года АО «Кварц» предложило свои акции в РФБ «Ташкент» посредством IPO. Количество акций, выпущенных на продажу, составляет 4 574 934 штуки, установлено, что одно лицо может купить максимум 0,05% от общего количества выпущенных акций, или 2 287 акций. Подписки принимались в диапазоне от 3000 сумов до 9100 сумов за одну акцию. Дата окончания подписки на акции – 3 апреля 2018 года, при этом требуется 100-процентная предоплата акций на момент размещения заказа. Продажа акций осуществлялась по ценам, предложенным в заявке покупателя, с приоритетом наибольшей предложенной цены.

Поскольку данное IPO проводилось впервые в нашей стране, оно имело ряд уникальных особенностей. Если заявки на покупку акций принимались в течение 4 месяцев (с 5 декабря 2017 г. по 3 апреля 2018 г.), то только 14% акций, выставленных на продажу, были приняты за 3,5 месяца. За последние 2 недели поступило еще 40% заказов. То есть количество заявок на покупку акций выросло в основном за последние 2 недели. Аукционные продажи были проведены 4 апреля 2018 года. В результате более 7 млрд. сумов привлечено. Однако выставленные на

продажу акции были размещены не полностью, а было размещено 54 процента.

Согласно Закону Республики Узбекистан от 6 мая 2014 года «О защите акционерных обществ и прав акционеров №ЗРУ-370» размещение данного количества акций считается завершенным. Потому что в статье 33 этого закона «В случае размещения акций и иных эмиссионных ценных бумаг на фондовом рынке и организованном внебиржевом рынке их выпуск считается состоявшимся, если объем размещения будет признано не менее тридцати процентов общего количества акций и иных эмиссионных ценных бумаг данного выпуска».

Номинальная цена акций АО «Кварц» составляет 1715 сумов. По данным РФБ «Ташкент», после IPO цена акций этого акционерного общества стабильно выросла на 123% с апреля 2018 года по конец декабря 2018 года.

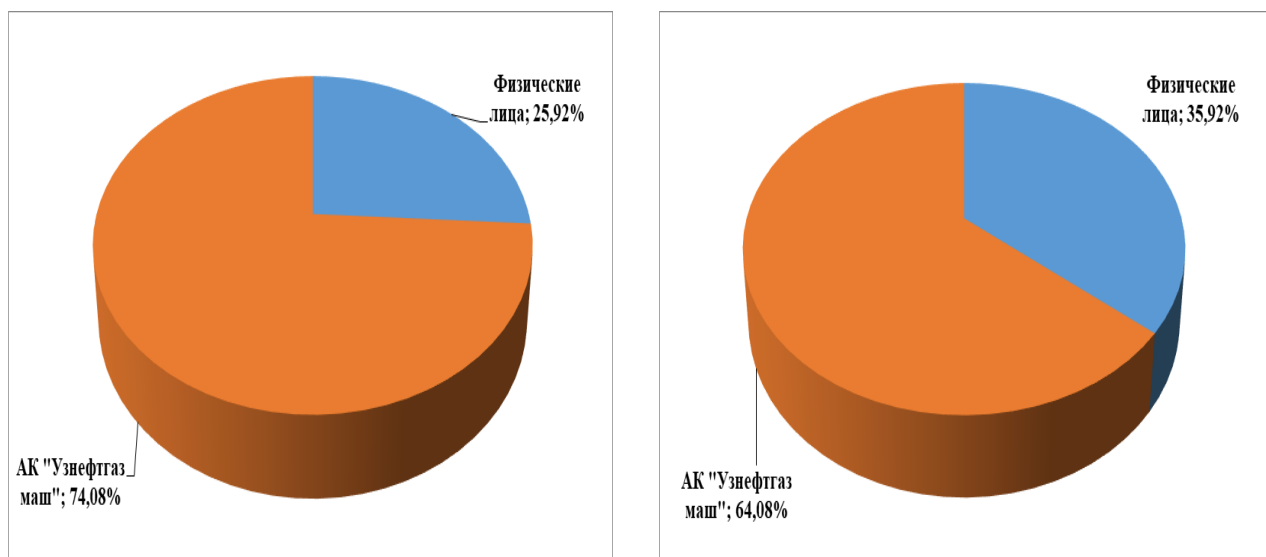
Из анализа можно сделать вывод, что АО «Кварц» первым в нашей республике разместило свои акции в форме IPO. В результате общество получило дополнительно 7523,81 млн. сумов оборотного капитала, появилось 3305 новых акционеров за счет сокращения доли государства. Также размещение акций АО «Кварц» посредством IPO послужило важным фактором активизации торгов на вторичном фондовом рынке и увеличения количества сделок. Этот процесс, в свою очередь, привел к увеличению ликвидности фондового рынка.

В целом первый шаг на этот рынок был сделан с размещением акций АО "Кварц" методом IPO, и его положительный результат поддержит решение использовать этот опыт при приватизации других акционерных обществ. Мы также надеемся, что данная ситуация послужит трамплином для интеграции фондового рынка нашей страны в рынок иностранных инвестиций.

Одним из предприятий, акции которого будут проданы в рамках SPO указанным решением, является АО "Кокандский механический завод" (АО "КМЗ"). АО «КМЗ» основано в 1933 году и является одним из предприятий нефтегазовой отрасли. Завод в основном производит различные виды металлоконструкций, нестандартное оборудование, сосуды под давлением для нефтегазовой и других отраслей промышленности.

Успешно завершилась продажа акций АО «КМЗ» на основе SPO, которое проводилось впервые в нашей стране. В ходе SPO 2,23 млн. штук акций была выставлена на продажу. Акции предлагались широкой публике в ценовом диапазоне от 1000 до 4000 сумов. Заявки от участников процесса продажи акций принимались до 24 декабря 2018 года.

На рисунке 1 показано изменение состава акционеров акций АО «КМЗ» до и после SPO.



А

Б

Рисунок 1. Структура акционеров АО «Кокандский механический завод» до SPO (А) и после SPO (Б) [9].

Из данных рисунка 1 видно, что до проведения SPO 74,08% акций АО «КМЗ» принадлежало АО «Узнефтгазмаш», а 25,92% — физическим лицам. В свою очередь АО «Узнефтегазмаш» принадлежит национальной холдинговой компании «Узбекнефтегаз». Основной целью продажи акций АО «КМЗ» через SPO было уменьшение доли государственного или хозяйственного управления, а также увеличение доли частных инвесторов среди акционеров.

Поставленная цель была достигнута, и состав акционеров АО «КМЗ» изменился после проведения SPO. То есть в результате вторичного SPO акций АО «КМЗ» было продано 10 процентов акций, принадлежавших АО «Узнефтгазмаш». В результате доля АО «Узнефтгазмаш» снизилась до 64,08%, а доля физических лиц, наоборот, увеличилась до 35,92%.

Согласно информации, размещенной на официальном сайте РФБ "Ташкент", поступило 2 843 заявки на покупку в общей сложности 2 821 065 акций АО "КМЗ" методом SPO. Эти цифры, в свою очередь, свидетельствуют о том, что спрос на выставленные к продаже акции составил более 126 процентов и что продажа ценных бумаг новым способом прошла успешно [11].

В целях защиты прав инвесторов «Положением об осуществлении первичного (IPO) и вторичного (SPO) предложения акций на Фондовой бирже» предусмотрено, что средства инвесторов по неудовлетворенным заявкам или их часть подлежат возврату инвесторам в течение 15 дней с даты регистрации сделок [11].

Выводы и предложения

В результате исследования, проведенного в статье, нами были сделаны следующие выводы:

- считается возможным не только привлечь крупные инвестиции в корпорации посредством IPO, но и сократить долю государства;

- SPO, в отличие от IPO, не влияет на размер уставного капитала акционерного общества, осуществление такой продажи обеспечивает свободное обращение акций компании на рынке капитала, публичность компании, увеличение вклада частных инвесторов за счет сокращения доли государства;

- вторичное публичное размещение акций (SPO) также служит подготовке компаний к IPO;

- первый шаг на этот рынок был сделан с первым размещением акций АО "Кварц" методом IPO и первой продажей акций АО "КМЗ" в форме SPO, хотя и были допущены некоторые недостатки. процесс завершился успешно;

- если мы скажем, что первое IPO прошло успешно, проблем не было — мы ошибемся. Основная проблема в этом плане заключается в том, что акции, выпущенные для IPO, размещены не полностью. То есть было размещено всего 54% акций;

- одна из причин, по которой акции АО "Кварц", которые должны были разместиться в форме IPO, не были размещены в полном объеме, заключается в том, что "Road Show" не был проведен на уровне спроса. То есть население не было вовремя информировано об этом IPO, не были использованы маркетинговые методы, чтобы заинтересовать его покупкой акций;

- другими причинами неполного размещения акций АО "Кварц", которые должны быть размещены в форме IPO, являются отсутствие доверия населения к ценным бумагам и ограничение общего количества приобретаемых акций на одного акционера не более 0,05. % от объема выпуска.

Также в результате проведенных в статье исследований и сделанных на их основе выводов мы делаем следующие предложения:

- по нашему мнению, необходимо ослабить ограничение, согласно которому общая сумма покупки акций одним акционером не должна превышать 0,05% от объема выпуска. То есть общая сумма покупки акций одним акционером при последующих IPO и SPO должна быть установлена на уровне 1% от объема эмиссии. Рассмотрение этого предложения будет способствовать полному размещению последующих IPO акций;

- руководство этих акционерных обществ должно принять все меры для того, чтобы котировки акций не упали на бирже, в частности, они

должны регулярно использовать современные методы корпоративного управления;

- резко повысить финансовую грамотность населения, особенно уровень грамотности на фондовом рынке, для этого необходимо принимать специальные программы, давать регулярные интересные передачи по телевидению;

- в качестве приоритетного направления финансирования АО с долей органов государственного или хозяйственного управления (пакетов акций) в уставном капитале, в результате размещения доли органов государственного или хозяйственного управления (пакетов акций) путем проведения первичного публичного предложения (IPO), позволит эффективно организовать финансирование АО посредством акций, а также, получить дополнительные средства для АО и привлечь частных инвесторов;

- в результате продажи государственного пакета акций в АО с долей органов государственного или хозяйственного управления (пакет акций) в уставном капитале, путем проведения вторичного публичного предложения SPO, предоставит возможность уменьшить долю государственной собственности в экономике и развить финансовый рынок страны.

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АНТИКРИЗИСНОЕ УПРАВЛЕНИЕ КОМПАНИЕЙ В СОВРЕМЕННЫХ УСЛОВИЯХ

Аннотация. В современной нестабильной и сложной экономической среде эффективное антикризисное управление имеет первостепенное значение для выживания и успеха организации. В этой статье рассматривается концепция антикризисного управления, подчеркивается ее стратегический характер как проактивного ответа на потенциальные угрозы. В отличие от обычных планов реагирования на кризис, антикризисная стратегия включает в себя комплексные внутренние возможности и превентивные меры, призванные обезопасить организацию от неблагоприятных изменений. В статье рассматриваются этапы разработки антикризисной стратегии, используемые инструменты, а также важнейшая роль постоянного мониторинга и критической оценки. Далее рассматриваются причины финансовых кризисов в организациях и методологии, используемые для диагностики кризисов. Через эту аналитическую призму статья подчеркивает важность готовности и устойчивости в современной деловой практике.

Ключевые слова: антикризисное управление, экономическая нестабильность, инструменты антикризисного управления, стратегия.

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ANTI-CRISIS MANAGEMENT OF THE COMPANY IN MODERN CONDITIONS

Abstract. In today's unstable and complex economic environment, effective crisis management is paramount to the survival and success of an organisation. This article examines the concept of crisis management, emphasising its strategic nature as a proactive response to potential threats. Unlike conventional crisis response plans, crisis strategy includes comprehensive internal capabilities and preventive measures designed to safeguard the organisation from adverse change. This article discusses the stages of crisis strategy development, the tools used, and the critical role of continuous monitoring and critical evaluation. It then examines the causes of financial crises in organisations and the

methodologies used to diagnose crises. Through this analytical lens, the article emphasises the importance of preparedness and resilience in modern business practices.

Keywords: crisis management, economic instability, crisis management tools, strategy.

В эпоху стремительных экономических колебаний, геополитической неопределенности и непредвиденных стихийных бедствий организации сталкиваются с беспрецедентным количеством проблем, которые могут угрожать их стабильности и росту. Поэтому антикризисное управление превратилось из реактивной необходимости в стратегический императив. Концепция антикризисного управления отражает этот сдвиг, фокусируясь на разработке стратегий, которые не только устраняют кризисы по мере их возникновения, но и предвидят и смягчают потенциальные риски до того, как они материализуются.

Антикризисная стратегия - это не просто набор действий, предпринимаемых в ответ на чрезвычайную ситуацию; это целостный подход, объединяющий внутренние возможности организации с систематической системой раннего обнаружения и предотвращения. Такая стратегическая модель позволяет компаниям оставаться гибкими и устойчивыми, способными адаптироваться к неблагоприятным изменениям на рынке и в окружающей среде. По мере того как глобальная экономика становится все более взаимосвязанной и сложной, способность эффективно управлять кризисами отличает успешные организации от тех, которые терпят поражение под давлением.

В данной статье рассматриваются тонкости антикризисного управления в современном бизнесе. В начале статьи определяются этапы разработки надежной антикризисной стратегии, подробно описывается, как организации определяют ключевые факторы ценности, устанавливают контрольные показатели эффективности и разрабатывают меры на случай непредвиденных обстоятельств. Затем обсуждение переходит к используемым инструментам и методологиям, таким как непрерывный мониторинг, критическая оценка и прогнозирование. Кроме того, в статье рассматриваются общие причины финансовых кризисов в организациях и методы диагностики, используемые для упреждающего устранения этих уязвимостей.

Концепция антикризисного управления в организациях, особенно в контексте современной экономики, представляет собой важнейшую и динамичную область исследований, направленных на решение проблем, с которыми сталкиваются компании во время разрушительных событий. Антикризисное управление - это механизм стратегического реагирования, направленный на противодействие и смягчение последствий неблагоприятных изменений. В отличие от программы, ориентированной

исключительно на немедленное преодоление кризиса, антикризисная стратегия включает в себя более широкий, проактивный подход, объединяющий внутренние возможности и упреждающие действия для защиты от потенциальных угроз.

В современном экономическом ландшафте организации строят свои антикризисные стратегии на основе детального поэтапного подхода. На начальном этапе определяются ключевые факторы ценности организации, которые служат ориентирами для оценки развития и эффективности. К таким факторам можно отнести финансовое состояние, долю рынка, эффективность работы и удовлетворенность клиентов. Установление количественных ориентиров позволяет организации оценить нормальные операционные диапазоны и выявить ранние признаки неблагополучия.

После определения ключевых факторов ценности организации устанавливают интервалы для этих показателей, определяя допустимые диапазоны отклонений, которые не вызывают немедленного беспокойства. Этот этап очень важен, поскольку он определяет пороговые значения, за пределами которых вмешательство становится необходимым. Установив эти параметры, компании могут постоянно контролировать свое состояние и оперативно реагировать при возникновении отклонений.

На последующем этапе разрабатываются комплексные меры, направленные на восстановление равновесия при выходе ключевых параметров за установленные интервалы. Эти меры многогранны и включают в себя финансовые корректировки, операционные изменения и стратегические повороты. Например, если финансовые показатели сигнализируют о проблемах, компания может перераспределить ресурсы, сократить несущественные расходы или обратиться за дополнительным вливанием капитала. В сценариях, когда восстановление представляется невозможным, организации также должны иметь запасные планы добровольной ликвидации или перевода капитала в другие жизнеспособные бизнес-предприятия, обеспечивающие минимальные потери и непрерывность деятельности в той или иной форме.

Стратегии антикризисного управления обычно разрабатываются зрелыми компаниями, обладающими достаточными ресурсами для проведения обширных аналитических исследований. Такая зрелость обеспечивает финансовый и интеллектуальный капитал, необходимый для проведения тщательной оценки и разработки надежных планов реагирования. Сложность таких стратегий заключается в их способности учитывать огромное количество потенциальных сценариев, включая колебания рынка, геополитическую напряженность, стихийные бедствия и изменения в законодательстве.

Стандартные инструменты, используемые при разработке антикризисных стратегий, включают постоянный мониторинг производственных, экономических и финансовых показателей. Такой сбор

данных в режиме реального времени позволяет своевременно выявлять проблемы до их обострения. Кроме того, организации проводят критическую оценку своих продуктов, процессов и организационных систем, обеспечивая оптимизацию каждого аспекта бизнеса и его устойчивость к возможным сбоям.

Прогнозирование изменений во внешней и внутренней среде - еще один важный инструмент. С помощью прогнозной аналитики и сценарного планирования компании могут предвидеть изменения на рынке или во внутренней динамике и подготовиться к ним соответствующим образом. Превентивные меры, такие как создание запаса прочности и снижение рисков, также являются неотъемлемыми компонентами. Они могут включать диверсификацию цепочек поставок, поддержание финансовых резервов или инвестиции в гибкие технологии, способные адаптироваться к меняющимся условиям.

Предотвращение, планирование, обучение, реагирование и восстановление - вот основные этапы эффективного антикризисного управления. Предотвращение подразумевает выявление потенциальных рисков и принятие мер по их предотвращению. Планирование предполагает разработку подробных стратегий реагирования на различные кризисные сценарии. Обучение гарантирует, что все члены организации понимают свои роли и обязанности во время кризиса, что позволяет скоординировать и эффективно отреагировать. Фаза реагирования - это реализация запланированных действий во время кризиса, в то время как восстановление направлено на восстановление нормальной жизни и извлечение уроков из произошедшего события для повышения устойчивости в будущем.

Финансовые кризисы в организациях могут быть вызваны различными факторами, включая изменения внешней среды, изменение рыночной конъюнктуры, давление конкурентов, неправомерные действия руководства и изменения государственной политики. Для устранения этих угроз организации используют антикризисную диагностику - набор методов, направленных на выявление слабых мест в управлении и глубинных причин финансовой нестабильности. В процессе диагностики оценивается эффективность деятельности организации и выявляются отклонения от ожидаемых параметров работы.

Процесс диагностики включает в себя мониторинг внешней и внутренней среды, анализ сигналов об изменениях на конкурентном рынке, аудит финансовых потоков и оценку текущего состояния организации. Для проведения комплексного анализа используются такие инструменты, как статистический анализ, моделирование, прогнозирование, экспериментальные исследования и маркетинговые исследования. Эти инструменты дают количественную и качественную информацию, позволяющую организациям понять свои уязвимые места и разработать эффективные стратегии по их снижению.

В заключение следует отметить, что антикризисное управление в современных условиях - это сложный, проактивный подход, который позволяет организациям эффективно справляться с кризисами и смягчать их последствия. Используя сочетание непрерывного мониторинга, критической оценки, прогнозирования и превентивных мер, компании могут ориентироваться в сложностях современной изменчивой бизнес-среды. Такой стратегический подход гарантирует, что организации останутся устойчивыми, способными не только пережить кризисы, но и стать сильнее и адаптивнее.

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СТРАТЕГИИ АНТИКРИЗИСНОГО УПРАВЛЕНИЯ: ОЦЕНКА МИРОВОГО ОПЫТА

Аннотация. Оценка передового мирового опыта в области антикризисного управления подчеркивает важность проактивного стратегического подхода, учитывающего специфику каждого предприятия. Понимание различных стратегий и правовых рамок, используемых в разных странах, дает ценные уроки организациям, стремящимся повысить свою устойчивость к кризисам. Постоянное изучение и адаптация этих практик необходимы для того, чтобы ориентироваться в сложностях современной бизнес-среды и обеспечивать устойчивый выход из кризисов.

Ключевые слова: антикризисное управление, мировой опыт, стратегия управления

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CRISIS MANAGEMENT STRATEGIES: ASSESSMENT OF WORLD EXPERIENCE

Abstract. An assessment of global best practices in crisis management emphasises the importance of a proactive strategic approach tailored to each enterprise. Understanding the different strategies and legal frameworks used in different countries provides valuable lessons for organisations seeking to improve their resilience to crises. Continuous learning and adaptation of these practices is necessary to navigate the complexities of today's business environment and ensure a sustainable recovery from crises.

Keywords: crisis management, global experience, management strategy.

Антикризисное управление – важнейший аспект современного управления предприятием, включающий в себя стратегии и действия, предпринимаемые для того, чтобы провести организацию через периоды серьезных потрясений. Поскольку предприятия работают во все более нестабильной среде, способность эффективно управлять кризисами приобретает первостепенное значение. В данной статье представлен

подробный анализ лучших мировых практик антикризисного управления, основанный на результатах анализа литературы по теме, в которой оцениваются стратегии антикризисного управления предприятий в разных странах.

Понимание и определение понятия "кризис" варьируется в различных культурных и деловых контекстах. На международном уровне кризис часто рассматривается как значительная угроза, требующая немедленных и решительных действий для смягчения его потенциально катастрофических последствий. Такой проактивный подход контрастирует с некоторыми традиционными взглядами, в которых кризисы рассматриваются как непреодолимые проблемы.

Международные определения кризиса подчеркивают его серьезный, угрожающий характер и необходимость срочного реагирования:

"Кризис – ситуация, достигшая чрезвычайно сложной или опасной точки".

"Кризис – исключительно опасная или сложная нестабильная ситуация".

"Кризис – нестабильная ситуация, грозящая крайне негативными последствиями".

Эти определения подчеркивают необходимость немедленного и решительного реагирования, что соответствует сути антикризисного управления, целью которого является стабилизация и выход из сложившихся неблагоприятных условий.

Понятие антикризисного управления варьируется в разных культурах и отраслях, но в целом оно включает в себя стратегии и действия, направленные на смягчение последствий неожиданных и потенциально катастрофических событий. В международных определениях подчеркивается срочность и серьезность кризисов, которые требуют немедленного и эффективного реагирования.

В разных странах кризисы воспринимаются через различные линзы, формируемые уникальной экономической, культурной и нормативной средой. Несмотря на эти различия, общие темы включают в себя важность готовности, способность быстро диагностировать и понять природу кризиса, а также внедрение эффективных стратегий управления для преодоления потрясений.

Кризисы на предприятиях могут быть вызваны многочисленными причинами, как внутренними, так и внешними. К внутренним источникам относятся стратегические ошибки, операционная неэффективность, финансовая беспомощность и провалы руководства. Внешние источники включают в себя более широкие экономические спады, политическую нестабильность, технологические изменения и стихийные бедствия. Понимание этих причин очень важно для разработки эффективных стратегий управления кризисом.

Исходя из анализа мировой литературы по теме, нами были выделены следующие типы корпоративного антикризисного управления:

1. Модель «Сделай сам» – это процесс, при котором внутренние отделы в согласовании с руководством компании разрабатывают меры реагирования на кризисные ситуации.

2. Управление поворотом - это процесс преобразования упадочной организации в прибыльную фирму путем реорганизации ее руководства, процессов и финансов. Этот процесс заметно отличается от других подходов к управлению, которые направлены на увеличение продаж, сокращение расходов или управление в условиях кризиса.

3. Аутсорсинг – данный тип корпоративного антикризисного управления предполагает привлечение кризисного менеджера из другой организации, который разрабатывает стратегию выхода из кризиса.

4. Интеграция системы управления корпоративными рисками и кризисными ситуациями (система управления непрерывностью бизнеса) – это система управления, объединяющая взаимосвязанные методы, процедуры и правила для обеспечения непрерывности критически важных бизнес-процессов в случае повреждений или чрезвычайных ситуаций и постоянно развивающаяся и совершенствующая их.

Стратегии антикризисного управления можно разделить на различные типы в зависимости от их масштаба, целей и методов реализации:

1. Антикризисное управление «Сделай сам»

Этот подход предполагает, что руководители предприятия справляются с кризисом своими силами, без помощи извне. Как правило, этот метод более распространен на малых и средних предприятиях, где руководство берет на себя роль антикризисного менеджера. Несмотря на экономическую эффективность, эта стратегия может быть ограничена отсутствием у руководителей специализированных знаний и опыта в управлении кризисом. Основным преимуществом является глубокое внутреннее знание лидерами своих организаций, которое может ускорить процесс принятия решений. Однако эффективность этого подхода во многом зависит от способности лидеров распознавать ранние признаки кризиса и их готовности к быстрым и решительным действиям.

2. Консалтинг по выходу из кризиса

Консультирование по вопросам выхода из кризиса предполагает привлечение внешних экспертов, специализирующихся на управлении и разрешении кризисных ситуаций. Эти консультанты предлагают свежий взгляд на ситуацию и могут предложить стратегические идеи, которые внутренние команды могут упустить из виду из-за своей близости к проблемам. Основная роль консультантов заключается в диагностике проблем, разработке стратегического плана и контроле за его реализацией. Такой подход позволяет использовать знания и опыт консультантов в

решении аналогичных ситуаций в других организациях, что может привести к более инновационным и эффективным решениям.

3. Программы тренировок

Программы выхода из кризиса - это комплексные антикризисные планы, которые обычно реализуются под надзором кредиторов или финансовых учреждений. Эти программы направлены на реструктуризацию предприятия с целью восстановления финансовой стабильности и операционной эффективности. Программы Workout часто предполагают пересмотр условий долга, продажу непрофильных активов и реализацию мер по сокращению расходов. Участие кредиторов обеспечивает учет интересов ключевых заинтересованных сторон, и их поддержка может иметь решающее значение для успешной реализации плана выхода из кризиса.

4. Кризисные менеджеры

Метод антикризисного управления предполагает наем специализированных менеджеров, которые являются экспертами по преодолению организационных кризисов. Эти менеджеры временно берут на себя роль лидера, используя свои навыки и опыт, чтобы провести предприятие через кризис. Эта стратегия особенно эффективна в сложных ситуациях, когда существующее руководство может не обладать необходимым опытом или быть слишком вовлеченным в кризис, чтобы действовать объективно. Антикризисные менеджеры применяют целенаправленный подход к решению проблем, обеспечивая систематическое рассмотрение всех аспектов кризиса.

5. Интегрированные системы

Комплексный системный подход объединяет антикризисное управление с общей системой корпоративного управления и управления рисками. Эта целостная стратегия предполагает создание комплексных систем, которые постоянно отслеживают риски и управляют ими, обеспечивая готовность организации к эффективному преодолению кризисов. Интегрированные системы являются проактивными и направлены на предотвращение и раннее обнаружение потенциальных кризисов с помощью надежной оценки рисков, внутреннего контроля и планирования действий в чрезвычайных ситуациях.

Эффективное корпоративное антикризисное управление включает в себя несколько ключевых компонентов, в том числе оперативную оценку, стратегическое планирование и тщательную реализацию.

На эффективность стратегий антикризисного управления существенно влияет организационная структура предприятия. Централизованные структуры часто способствуют быстрому принятию решений и единому реагированию, что крайне важно во время кризисов. Однако децентрализованные структуры обеспечивают гибкость и

позволяют более целенаправленно реагировать на конкретные проблемы, с которыми сталкиваются различные подразделения организации.

Еще одним важным элементом являются межфункциональные команды по управлению кризисом. Эти команды, состоящие из представителей различных департаментов, обеспечивают рассмотрение всех аспектов кризиса. Используя различные знания и опыт, межфункциональные команды могут разрабатывать более комплексные и эффективные планы антикризисного управления.

Первым шагом в управлении кризисом является экспресс-анализ ситуации на предприятии с определением характера и масштабов кризиса. Это включает в себя как качественную, так и количественную оценку для понимания непосредственных последствий и глубинных причин.

Разработка надежной стратегии управления кризисом имеет решающее значение. Она включает в себя:

1. Программы экстренной стабилизации: Неотложные меры по стабилизации ситуации и предотвращению дальнейшего ухудшения.

2. Долгосрочные планы восстановления: Стратегии постепенного восстановления и возвращения к нормальной деятельности, включая финансовую реструктуризацию, операционные изменения и стратегическую перестройку.

Различные организационные структуры могут влиять на эффективность стратегий антикризисного управления.

1. Централизованные и децентрализованные структуры

Централизованные структуры могут способствовать быстрому принятию решений и единым действиям, что крайне важно в условиях кризиса. Однако децентрализованные структуры могут обеспечить большую гибкость и оперативность, позволяя местным менеджерам адаптировать стратегии к конкретным условиям.

2. Межфункциональные команды по управлению кризисом

Создание межфункциональных команд, объединяющих специалистов из разных отделов, может повысить способность организации справляться со сложными кризисами. Такие команды обеспечивают учет всех аспектов кризиса, начиная с операционных нарушений и заканчивая финансовыми последствиями и общением с заинтересованными сторонами.

Изучение практики антикризисного управления в разных странах позволяет выявить различные подходы, обусловленные местной экономической, культурной и нормативной средой.

Соединенные Штаты

В Соединенных Штатах антикризисное управление часто включает в себя сочетание внутренних и внешних стратегий. В США особое внимание уделяется правовым рамкам и соблюдению нормативных требований, а законы о банкротстве, такие как глава 11, обеспечивают структурированный подход к реструктуризации корпораций. Основное внимание уделяется

реорганизации, а не ликвидации, что позволяет компаниям выйти из банкротства с жизнеспособным планом восстановления.

Великобритания

В подходе Соединенного Королевства к антикризисному управлению большое внимание уделяется защите кредиторов. Система несостоятельности в Великобритании предусматривает назначение внешних управляющих для контроля за процессом, что обеспечивает приоритет интересов кредиторов. Этот метод призван способствовать упорядоченному и эффективному разрешению финансовых проблем, минимизируя потери всех вовлеченных сторон.

Германия

В законодательстве Германии о несостоятельности соблюдается баланс интересов должников и кредиторов, направленный на эффективное урегулирование и обеспечение непрерывности бизнеса. Немецкий подход часто предполагает проведение процедур несостоятельности под контролем суда, что обеспечивает четкие рамки для реструктуризации. Основное внимание уделяется сохранению операционной стабильности при осуществлении необходимых изменений для восстановления финансового состояния.

Япония

Япония объединяет традиционную практику с современным законодательством о несостоятельности для урегулирования корпоративных кризисов. Японский подход ориентирован на быстрое и прагматичное решение проблем, часто предполагающее тесное сотрудничество между руководством и заинтересованными сторонами. Этот метод отражает культурный акцент Японии на гармонии и коллективном принятии решений, обеспечивая совместную работу всех сторон в целях восстановления.

Франция

Практика антикризисного управления во Франции предусматривает надежную защиту сотрудников, что отражает сильное трудовое законодательство страны. Французская система часто предусматривает вмешательство государства в процесс реструктуризации, что позволяет сохранить социальную стабильность. Такой подход подчеркивает важность баланса экономических и социальных соображений в антикризисном управлении.

Оценка лучших мировых практик антикризисного управления подчеркивает важность индивидуальных подходов, учитывающих уникальный контекст различных предприятий и стран. Понимая и интегрируя различные стратегии, организации могут повысить свою устойчивость и способность преодолевать кризисы. Постоянное обучение и адаптация необходимы для развития эффективного антикризисного управления, обеспечивающего долгосрочную устойчивость и успех.

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АНТИКРИЗИСНОЕ УПРАВЛЕНИЕ КАК СПОСОБ ПОВЫШЕНИЯ ЭФФЕКТИВНОСТИ КОМПАНИИ

Аннотация. В современной нестабильной экономической среде компании часто сталкиваются с риском возникновения кризисов на различных этапах своего жизненного цикла - от зарождения до роста, зрелости и упадка. Антикризисное управление (АСМ) стало важнейшим инструментом повышения эффективности организации за счет смягчения негативных последствий финансовых трудностей и обеспечения долгосрочной стабильности. В данной статье рассматриваются основные цели, задачи и этапы АКМ, подчеркивается его значение в современном управлении предприятием.

Ключевые слова: антикризисное управление, повышение эффективности, управление, кризис, диагностирование, управление предприятием

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ANTI-CRISIS MANAGEMENT AS A WAY TO IMPROVE THE COMPANY'S EFFICIENCY

Abstract. In today's unstable economic environment, companies often face the risk of crises at various stages of their life cycle, from inception to growth, maturity and decline. Anti-crisis management (ACM) has become an essential tool to improve organisational performance by mitigating the negative effects of financial distress and ensuring long-term stability. This article discusses the main goals, objectives and stages of ACM and emphasises its importance in modern enterprise management.

Key words: crisis management, efficiency improvement, management, crisis, diagnosis, enterprise management

Непредсказуемость внешних экономических условий обуславливает необходимость разработки надежных стратегий управления, позволяющих эффективно преодолевать потенциальные кризисы. Кризисы могут быть спровоцированы множеством факторов, включая колебания рынка,

давление конкурентов, внутреннюю неэффективность и более широкие экономические спады. Основная цель антикризисного управления – восстановить финансовое равновесие компании и минимизировать снижение ее рыночной стоимости в результате финансового кризиса. Эта специализированная форма финансового менеджмента направлена на предотвращение кризисов, их преодоление и минимизацию негативных последствий.

Перечислим основные цели антикризисного управления:

1. Восстановление финансовой стабильности: Основной целью АКМ является восстановление финансовой стабильности и обеспечение дальнейшего функционирования компании без существенных потерь.

2. Минимизация снижения рыночной стоимости: Эффективно управляя кризисами, АСМ стремится предотвратить существенное снижение рыночной стоимости компании.

3. Своевременная диагностика: Раннее выявление предкризисных состояний и принятие превентивных мер для предотвращения финансовых кризисов.

4. Ликвидация неплатежеспособности: Рассмотрение и решение проблем неплатежеспособности для поддержания операционной жизнеспособности компании.

5. Финансовое оздоровление: Реализация стратегий по восстановлению финансового здоровья компании.

6. Предотвращение банкротства: Разработка и реализация планов по предотвращению банкротства и ликвидации компании.

7. Смягчение последствий кризиса: Минимизация негативного влияния кризиса на деятельность и финансы компании.

Процесс антикризисного управления состоит из нескольких важнейших этапов, каждый из которых способствует достижению общей цели - разрешению и предотвращению кризиса.

1. Постоянный мониторинг

Постоянный мониторинг состояния компании необходим для раннего обнаружения симптомов кризиса. Это предполагает всесторонний надзор за всеми аспектами деятельности компании для своевременного выявления потенциальных рисков.

2. Превентивные меры

Обнаружив предкризисное финансовое состояние, компания должна разработать превентивные меры. Этот этап, часто называемый "управлением слабыми сигналами", направлен на выявление и устранение ранних признаков потенциального кризиса.

3. Идентификация кризиса

При обнаружении кризиса необходимо точно определить его параметры на основе результатов мониторинга. Это предполагает

классификацию типа и степени тяжести кризиса для определения соответствующих ответных мер.

4. Анализ причин кризиса

Понимание факторов, которые привели к финансовому кризису, имеет решающее значение. Этот шаг включает в себя оценку финансовых возможностей компании по преодолению кризиса и выработку целевых стабилизационных механизмов.

5. Разработка стабилизационных механизмов

На основе анализа кризиса определяются подходящие меры финансовой стабилизации. Они могут включать как внутренние механизмы, например, использование внутренних финансовых ресурсов, так и внешние, например, привлечение внешнего финансирования.

6. Реализация программ восстановления

Разрабатывается и реализуется комплексная программа восстановления. Эта программа может иметь форму плана действий с использованием внутренних ресурсов или инвестиционного проекта по финансовому оздоровлению с привлечением внешней поддержки.

7. Мониторинг и корректировка программы восстановления

Выполнение программы восстановления тщательно контролируется, периодически проводятся обзоры для оценки прогресса и внесения необходимых корректировок. Это гарантирует, что стратегии АСМ остаются эффективными и реагируют на изменяющиеся условия.

8. Устранение долгосрочных последствий

Наконец, компания должна реализовать меры по смягчению долгосрочных негативных последствий финансового кризиса. Это включает в себя стабилизацию финансовой структуры компании и обеспечение устойчивой работы в будущем.

Следует отметить, что грамотно выстроенная стратегия антикризисного управления играет ключевую роль в повышении эффективности компании, особенно в условиях экономической нестабильности и неопределенности. Эта стратегия включает в себя системный подход к выявлению потенциальных угроз, подготовке ответных мер, управлению кризисом в случае его наступления и реализации мер по восстановлению и стабилизации организации. Ниже мы подробно рассмотрим, как эффективная стратегия антикризисного управления может значительно повысить эффективность компании.

Ключевым компонентом грамотно выстроенной стратегии антикризисного управления является создание систем раннего предупреждения. Эти системы постоянно отслеживают внутреннюю и внешнюю среду, чтобы обнаружить ранние признаки потенциальных кризисов. Выявляя риски на ранней стадии, компания может принять превентивные меры и тем самым избежать полного воздействия кризиса. Такой проактивный подход обеспечивает эффективное распределение

ресурсов в зонах потенциального риска, минимизируя потери и повышая готовность.

Сценарное планирование предполагает создание детальных планов для различных потенциальных кризисных сценариев. Предвидя различные типы кризисов, компания может разработать индивидуальные меры реагирования для каждого сценария. Такая готовность сокращает время реакции в случае возникновения кризиса, обеспечивая более эффективное использование ресурсов и усилий. Анализ сценариев также помогает понять потенциальное влияние различных кризисов на различные аспекты бизнеса, что позволяет принимать более обоснованные решения и распределять ресурсы.

Во время кризиса важно определить приоритетность критически важных функций компании, чтобы обеспечить непрерывность ее деятельности. Хорошо разработанная стратегия антикризисного управления определяет эти критические функции и распределяет ресурсы для поддержания их работы. Такая расстановка приоритетов обеспечивает бесперебойную работу основных служб и процессов, предотвращая возникновение "узких мест" в работе и поддерживая производительность.

Эффективные стратегии антикризисного управления предполагают оптимальное использование как человеческих, так и финансовых ресурсов. Заранее определив роли и обязанности, компании могут избежать путаницы и гарантировать, что каждый знает свои задачи во время кризиса. Четкое распределение ролей приводит к более организованному и эффективному реагированию, минимизируя время простоя и поддерживая операционный поток.

Централизованная система принятия решений имеет решающее значение во время кризиса. Она обеспечивает быстрое и эффективное принятие решений на основе информации, поступающей в режиме реального времени. Централизация процесса принятия решений позволяет компаниям избежать задержек и неэффективности, которые часто возникают при децентрализованном подходе. Такая система также обеспечивает соответствие решений общей стратегии управления кризисом, что позволяет добиться более скоординированных и эффективных ответных мер.

Стратегии антикризисного управления, в которых особое внимание уделяется принятию решений на основе данных, повышают эффективность за счет опоры на точную и своевременную информацию. Собирая и анализируя соответствующие данные, компании могут принимать обоснованные решения, которые с большей вероятностью приведут к положительному результату. Такой подход сокращает количество догадок и повышает вероятность успешного разрешения кризиса.

Четкая и последовательная коммуникация внутри организации крайне важна во время кризиса. Хорошо разработанная стратегия включает в себя

протоколы внутренней коммуникации, обеспечивающие информирование всех сотрудников о кризисном состоянии, их роли и предпринимаемых действиях. Эффективная внутренняя коммуникация помогает поддерживать моральный дух сотрудников и гарантирует, что все работают над достижением общих целей, повышая общую эффективность.

Управление внешними коммуникациями не менее важно. Стратегия управления кризисом должна включать в себя планы по общению с заинтересованными сторонами, клиентами и СМИ. Прозрачная и своевременная коммуникация помогает поддерживать доверие заинтересованных сторон и предотвращает распространение дезинформации. Эффективно управляя внешним восприятием, компании могут смягчить репутационный ущерб и сохранить доверие рынка, что крайне важно для стабильности и эффективности работы.

После кризиса необходимо провести тщательный анализ ответных мер и их результатов. Такой анализ помогает выявить, что сработало хорошо, а что нет, что дает ценные сведения для совершенствования будущих стратегий управления кризисом. Извлекая уроки из каждого кризиса, компании могут постоянно совершенствовать свои механизмы готовности и реагирования, что приведет к более эффективному управлению будущими кризисами.

Регулярное обучение и моделирование являются неотъемлемой частью хорошо разработанной стратегии управления кризисными ситуациями. Эти мероприятия позволяют убедиться в том, что сотрудники знакомы с планом антикризисного управления и могут эффективно его реализовать в случае необходимости. Моделирование помогает выявить потенциальные слабые места в плане и дает возможность отработать стратегии. Постоянное обучение позволяет команде быть готовой и уверенной в себе, что ведет к повышению эффективности антикризисного управления.

Эффективное антикризисное управление помогает сохранить финансовое здоровье компании, минимизируя экономические последствия кризиса. Такие стратегии, как контроль затрат, управление ликвидностью и финансовая реструктуризация, часто являются частью плана антикризисного управления. Сохраняя финансовую стабильность, компании могут продолжать инвестировать в критически важные области и избегать таких радикальных мер, как увольнения, которые могут нанести ущерб долгосрочной эффективности.

Компании, которые эффективно справляются с кризисами, могут сохранить или даже усилить свои конкурентные преимущества. Эффективное управление кризисом сводит к минимуму перебои в работе, позволяя компании продолжать обслуживать своих клиентов и удовлетворять потребности рынка. Такая надежность повышает лояльность

клиентов и укрепляет позиции на рынке, способствуя долгосрочной эффективности и успеху.

Также правильно разработанная стратегия антикризисного управления способствует формированию культуры устойчивости в организации. Сотрудники становятся более адаптируемыми и способными справляться со стрессом, что повышает общую эффективность организации. Такая устойчивость гарантирует, что компания сможет быстро восстанавливаться после кризисов, сохраняя непрерывность и сокращая время на восстановление.

Постоянное совершенствование и адаптация стратегий антикризисного управления ведут к укреплению и повышению устойчивости операционных процессов. Регулярно пересматривая и обновляя эти процессы, компании могут гарантировать, что они останутся эффективными и действенными как в кризисных, так и в некризисных ситуациях.

Правильно разработанная стратегия антикризисного управления значительно повышает эффективность работы компании, обеспечивая проактивное выявление рисков, эффективное распределение ресурсов, совершенствование процесса принятия решений, эффективную коммуникацию, непрерывное совершенствование, финансовую стабильность и устойчивость организации. Все эти элементы в совокупности обеспечивают компании возможность преодолевать кризисы с минимальными сбоями, поддерживать непрерывность работы и становиться сильнее и конкурентоспособнее в долгосрочной перспективе. Реализация такой стратегии - это не просто реагирование на кризисы, а создание надежной основы, способствующей общей эффективности и успеху бизнеса.

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ФОРМИРОВАНИЕ СТРАТЕГИИ АНТИКРИЗИСНОГО УПРАВЛЕНИЯ: АНАЛИЗ ОПЫТА КОМПАНИИ HUAWEI

Аннотация. Huawei, одна из ведущих мировых технологических компаний, за последние несколько лет столкнулась с серьезными кризисами, особенно после 2020 года. Формирование и эволюция ее стратегии антикризисного управления представляют собой убедительный пример корпоративной устойчивости и стратегической адаптации. В данной статье подробно рассматривается процесс разработки и внедрения стратегии антикризисного управления Huawei, а также анализируется ее эффективность, которая помогла компании пережить бурные периоды.

Ключевые слова: антикризисное управление, антикризисная стратегия, менеджмент, китайские компании, Huawei, формирование стратегии

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FORMATION OF CRISIS MANAGEMENT STRATEGY: ANALYSING THE EXPERIENCE OF HUAWEI COMPANY

Abstract. Huawei, one of the world's leading technology companies, has faced serious crises in the past few years, especially after 2020. The formation and evolution of its crisis management strategy provides a compelling case of corporate resilience and strategic adaptation. This paper details the process of developing and implementing Huawei's crisis management strategy, and analyses its effectiveness in helping the company to survive turbulent periods.

Keywords: crisis management, crisis strategy, management, Chinese companies, Huawei, strategy formation.

С момента своего основания компания Huawei быстро поднялась и стала мировым лидером в области телекоммуникаций и бытовой электроники. Однако ее стремительный взлет не обошелся без трудностей. Компания столкнулась с серьезными кризисами, в первую очередь с геополитической напряженностью, торговыми ограничениями и проверкой со стороны регулирующих органов, особенно США. Эти проблемы

обострились примерно в 2020 году, когда правительство США ввело жесткие санкции, ограничив доступ Huawei к важнейшим технологиям и компонентам.

Кризисный ландшафт

Кризисы, с которыми столкнулась Huawei, были многогранны. Во-первых, геополитическая напряженность в первую очередь была связана с торговыми войнами и дипломатическими разногласиями, особенно между США и Китаем. США обвинили Huawei в шпионаже и внесли компанию в список юридических лиц, запретив американским фирмам вести с ней дела без специальной лицензии. Это существенно повлияло на цепочку поставок Huawei и ее способность закупать критически важные компоненты, в частности полупроводниковые чипы. Во-вторых, Huawei столкнулась с проблемами на мировом рынке: несколько стран исключили ее оборудование из своих сетей 5G по соображениям безопасности. Наконец, пандемия COVID-19 нарушила глобальные цепочки поставок и снизила потребительский спрос, что усугубило трудности Huawei.

Формирование стратегии антикризисного управления Huawei

В ответ на эти многогранные кризисы компания Huawei применила комплексный подход к антикризисному управлению, основанный на устоявшихся принципах управления рисками и учитывающий уникальные проблемы. Стратегию компании можно разделить на несколько основных элементов:

1. Диверсификация цепочки поставок и самообеспечение: Осознавая уязвимость, связанную с чрезмерной зависимостью от иностранных поставщиков, Huawei активизировала усилия по диверсификации цепочки поставок и повышению самостоятельности. Это включало значительные инвестиции в разработку собственных технологий и закупку компонентов у более широкого круга поставщиков. Например, Huawei увеличила инвестиции в исследования и разработки в области полупроводников, стремясь найти альтернативу чипам американского производства. Создание дочерней компании Huawei по производству полупроводников, HiSilicon, сыграло решающую роль в этой стратегии, направленной на снижение зависимости от внешних поставщиков микросхем.

2. Стратегическая устойчивость и сценарное планирование: Компания Huawei приняла стратегическую устойчивость, интегрировав сценарное планирование в антикризисное управление. Компания разработала несколько планов действий на случай непредвиденных обстоятельств для решения различных потенциальных проблем. Такой упреждающий подход позволил Huawei предвидеть и подготовиться к различным кризисным сценариям, таким как дальнейшие торговые ограничения или дополнительные исключения из рынка. Сценарное планирование также включало регулярное стресс-тестирование надежности цепочки поставок и финансового состояния при различных неблагоприятных условиях.

3. Диверсификация рынка и инновации: Чтобы смягчить последствия сокращения доступа на некоторые рынки, Huawei сосредоточилась на диверсификации своей рыночной базы и разработке новых продуктов, отвечающих требованиям различных регионов. Эта стратегия включала в себя активизацию усилий на рынках, где Huawei по-прежнему поддерживает прочные отношения, и поиск новых возможностей в странах с развивающейся экономикой. Кроме того, Huawei инвестировала значительные средства в НИОКР, чтобы создавать продукты, не основанные на ограниченных технологиях, и тем самым сохранять свои конкурентные преимущества.

4. Повышение кибербезопасности и прозрачности: Чтобы решить проблемы безопасности и восстановить доверие, Huawei значительно усилила меры кибербезопасности и прозрачности. Компания открыла центры прозрачности, где правительства и клиенты могли проверять технологии и программное обеспечение Huawei на предмет безопасности. Этот шаг был направлен на противодействие обвинениям в шпионаже и демонстрацию приверженности Huawei принципам безопасности и конфиденциальности.

5. Укрепление глобальных партнерств и коммуникаций: Компания Huawei укрепила свою коммуникационную стратегию, взаимодействуя с глобальными заинтересованными сторонами, включая правительства, промышленных партнеров и общественность. Благодаря последовательному и прозрачному общению компания Huawei стремилась снизить уровень дезинформации и сформировать представление о своей приверженности инновациям, безопасности и этичным методам ведения бизнеса. Компания также подчеркнула свой вклад в глобальный технологический прогресс, такой как развитие 5G и "умных городов", чтобы заручиться доброй волей и поддержкой.

Эффективность стратегии антикризисного управления Huawei

Эффективность стратегии антикризисного управления компании Huawei можно оценить по ее способности поддерживать операции, сохранять присутствие на рынке и продолжать внедрять инновации, несмотря на серьезное внешнее давление.

Стратегия Huawei по диверсификации цепочки поставок и повышению самодостаточности оказалась эффективной для смягчения последствий сбоя в цепочке поставок. Благодаря развитию собственных возможностей и привлечению более широкого круга поставщиков Huawei удалось сохранить непрерывность производства. Например, значительные инвестиции в HiSilicon позволили Huawei производить свои чипы Kirin, обеспечивая стабильные поставки для своих смартфонов и других устройств.

Диверсификация рынка и инновационные продуктовые стратегии Huawei помогли смягчить последствия исключения из рынка и санкций.

Компании удалось сохранить свои доходы, сосредоточившись на рынках Азии, Африки и Латинской Америки, где геополитическая напряженность была менее заметна. Кроме того, продвижение Huawei в новые продуктовые сегменты, такие как облачные сервисы и интеллектуальные устройства, открыло новые возможности для получения прибыли, компенсировав потери от ограниченных рынков.

Несмотря на значительные трудности в сфере НИОКР, связанные с ограничением доступа к некоторым технологиям, Huawei продолжала внедрять инновации. Компания сохранила позиции лидера в области технологии 5G, став первопроходцем и получив множество патентов. Инвестиции Huawei в искусственный интеллект, облачные вычисления и "зеленые" технологии еще больше укрепили ее репутацию новатора. Эти усилия позволили Huawei сохранить конкурентоспособность в мировой технологической отрасли.

Усилия компании Huawei по повышению уровня кибербезопасности и прозрачности сыграли важную роль в восстановлении доверия. Разрешив сторонние инспекции и аудиты своих технологий, компания Huawei устранила некоторые опасения по поводу безопасности, высказанные правительствами и заинтересованными сторонами в отрасли. Эта инициатива по обеспечению прозрачности в сочетании с надежными мерами кибербезопасности помогла смягчить некоторый репутационный ущерб и способствовала формированию более благоприятного восприятия компании.

Укрепление глобальных партнерских отношений и активная коммуникационная стратегия Huawei сыграли решающую роль в преодолении кризисов. Взаимодействуя с различными заинтересованными сторонами и последовательно рассказывая о своих ценностях и обязательствах, компания Huawei смогла противостоять некоторым из негативных высказываний. Такой подход не только помог сохранить существующие партнерские отношения, но и способствовал налаживанию нового сотрудничества в менее враждебной обстановке.

Извлеченные уроки и будущие последствия

Формирование и реализация стратегии управления кризисом Huawei дают ценные уроки в области корпоративной устойчивости и стратегической адаптации. Одним из ключевых выводов является важность диверсификации - не только рынков и продуктов, но и цепочек поставок и технологических возможностей. Опыт Huawei подчеркивает необходимость снижения зависимости от какого-либо одного региона или поставщика для эффективного снижения рисков.

Еще один важный урок - ценность упреждающего сценарного планирования и стратегической устойчивости. Предвидя потенциальные сбои и разрабатывая планы действий на случай непредвиденных обстоятельств, компании могут лучше ориентироваться в неопределенности

и сохранять операционную стабильность. Сценарное планирование компании Huawei позволило ей быстро и эффективно реагировать на обостряющиеся кризисы, сводя к минимуму негативные последствия.

Кроме того, упор на инновации и постоянные инвестиции в НИОКР подчеркивает необходимость для компаний развиваться и адаптироваться. В условиях быстро меняющегося технологического ландшафта опережающее развитие за счет инноваций имеет решающее значение для сохранения конкурентных преимуществ. Приверженность компании Huawei инновациям, даже в условиях кризиса, обеспечила ей постоянную актуальность и лидерство в технологической отрасли.

Наконец, нельзя переоценить важность прозрачности и коммуникации. Создание и поддержание доверия с заинтересованными сторонами - залог долгосрочного успеха. Усилия Huawei по повышению прозрачности и взаимодействию с глобальными заинтересованными сторонами помогли смягчить некоторый репутационный ущерб и сформировать более благоприятное восприятие компании.

Опыт компании Huawei в формировании и реализации стратегии антикризисного управления представляет собой комплексный пример преодоления серьезного внешнего давления. Благодаря многогранному подходу, включающему диверсификацию цепочки поставок, адаптацию к рынку, инновации, прозрачность и стратегическую коммуникацию, Huawei удалось сохранить свою деятельность, удержать присутствие на рынке и продолжить внедрение инноваций. Эффективность этих стратегий подчеркивает важность проактивного и комплексного антикризисного управления для обеспечения устойчивости и долгосрочного успеха компании. Поскольку глобальная неопределенность продолжает развиваться, уроки, извлеченные из опыта Huawei, будут бесценны для других компаний, столкнувшихся с подобными проблемами.

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УСЛОВИЯ ЗАРОЖДЕНИЯ РУССКОЙ САТИРЫ КАК НАЦИОНАЛЬНОГО ФЕНОМЕНА

Аннотация. В данной работе автор анализирует условия зарождения русской сатиры как национального феномена, как итог выявляется, что во все времена сатира была активным способом для выражения идей против несправедливости в обществе, для высмеивания пороков человека, несовершенства власти.

Ключевые слова: сатирические жанры, развитие сатиры, сатирический образ, негативные поступки.

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CONDITIONS FOR THE ORIGIN OF RUSSIAN SATIRE AS A NATIONAL PHENOMENON

Abstract. In this work, the author analyzes the conditions for the emergence of Russian satire as a national phenomenon, as a result it is revealed that at all times satire has been an active way to express ideas against injustice in society, to ridicule human vices and imperfections of power.

Key words: satirical genres, development of satire, satirical image, negative actions.

Русская сатира получила свое развитие в XVII веке: в её основе заложены народные повести, творчестве скоморохов. Например, в повестях о Шемякине и о Ерше Ершовиче звучит социальный протест несправедливости судей, взяточничества и судебной волокиты. Смеховые тексты отражают реальную жизнь людей, высвечивая «социальную несправедливость». В «Повести о Куре и Лисице» представлены аллегорические образы русской народной сказки о животных: благодаря этим образам высмеивается лицемерие и ханжество попов и монахов, их внутренняя фальшь, облеченная формальным благочестием.

В сатирических произведениях показаны самые распространенные схемы: судное дело, челобитная, лечебник, роспись приданому, послание, церковная служба. Несмотря на то, что вера и православие сатире XVII века

не подвергались, то есть, не подрывалось доверие к ним, однако сами служители церкви часто становились героями смеховых текстов. осмеивались очень часто. Автор «Службы кабаку» (по мнению многих ученых, принадлежит к низшему чину духовенства в провинции) рассматривает во главе бражнических «чинов» бельцов и монахов, которые несут в кабаки скуфьи, рясы и клобуки. Создатель повести осуждает государственную систему организации пьянства через «царев кабака», показывая нравственное падение человека. В «Калязинской челобитной» создатель отражает «образец» московского попа, которому подражают иноки провинциальной обители: «На Москве... по всем монастырем и кружалом смотр учинили, и после смотру лучших бражников сыскали – старого подьячего Сулима да с Покровки без грамоты попа Колотилу, и в Колязин монастырь для образца их наскоро послали». Стиль и тематика этого произведения также свидетельствует о принадлежности автора к низшему сословию духовенства.

Демократически настроенные сатирики брали идеи, жанры и тематику из народной сатиры. Чаще всего использовались формы деловой письменности, церковной литературы, средствами сатирического обличения были пародии, преувеличения, иносказания. Заметим, что главные герои сатиры в этот период развития ещё не имеют индивидуальности, представляют собирательный образ социальной среды в повседневной жизни. Сатира XVII века заложила основы сатирического направления, которое развивалось в XVIII – XIX веках.

В XVIII веке в литературе России появляются новые сатирические жанры: эпиграмма, послание, басня, комедия, пародийная песня, публицистика. Создателем стихотворного жанра сатиры становится А.Д. Кантемир, который, используя особенности латинского стиха, разрабатывает синтаксические конструкции, активно внедряет инверсии и переносы, вводит просторечные слова, пословицы и поговорки русского народа. Это приводит к созданию произведений, подобных «простому разговору».

Произведения сатиры А.Д. Кантемира имели два направления: философские и живописные. Достаточно точно об этом сказал В.А. Жуковский в статье «О сатире и сатирах Кантемира»: эти два направления поэт характеризовал как русские и заграничные. Русские сатиры автор статьи определил как «живописные», поскольку они содержат портретные зарисовки носителей порока. Заграничные сатиры имеют философский характер, так как в них А.Д. Кантемир рассуждает о пороке как феномене человечества.

Большой и весомый вклад в развитие отечественной сатиры был сделан А.П. Сумароковым. В своих многочисленных книгах автор изложил теоретические положения, раскрывающие назначение сатиры и ее место среди классицистических жанров. Во второй половине XVIII века ведущее

место принадлежало журнальной сатире. В популярных сатирических журналах: «Полезное увлечение», «Свободные часы», «Смесь», «Трутень» (издатель: И.С. Крылов) появлялись фельетоны.

Во второй половине 50-х годов XIX века, после смерти Николая I, русская сатира расцветает, стремится достичь рубежей, характерных для творчества Н.В. Гоголя. Предметом сатиры становятся не сословия, а пороки людей – их недостатки и поведение в обществе. В том случае, если изображались пороки представителей определенного сословия, то авторы подчеркивали, что данным отрицательным героям эпохи противопоставляются другие, лучшие. Сатирические мотивы проявлялись и в романах, и в драмах, например, в произведениях А.С. Грибоедова («Горе от ума»), Н.В. Гоголя («Ревизор» и «Мертвые души»), А.В. Сухова-Кобылина, в стихах Г.Р. Державина. Н.А. Некрасова («Размышления у парадного подъезда»).

Высокого мастерства сатирического видения мира достигли Н.В. Гоголь и М.Е. Салтыков-Щедрин. Автора знаменитых произведений «Ревизор» и «Мертвые души» по праву называют «царем русского смеха». Сам писатель был уверен в том, что смех тогда достигает своей цели, когда он рождается от любви к человеку. Свою идею он вложил в уста «первого комического героя» в «Театральном разъезде»: «Смех создан на то, чтобы смеяться над всем, что позорит истинную красоту человека». Н.В. Гоголь постоянно подчеркивал, что смех помогает воспитанию человека, поскольку смех вызывает не «кривой нос человека», а его «кривая душа». Критики того времени не воспринимали позицию слез и смеха, считая, что смешное не может быть источником страдания. Однако именно гоголевский «смех сквозь слезы» расширил границы юмора: смех рождал отвращение к порокам человечества, заставлял размышлять над реальностью жизненных ситуаций.

На развитие сатиры XIX века огромное влияние оказали журналы: «Искра» В. Курочкина и Н. Степанова, «Гудок» под редакцией Д. Минаева, «Будильнике» (при Н. Степанове). Сатирическая журналистика революционных демократов стала сильным средством борьбы против крепостничества и либерализма. В редакцию журнала «Искра» ежедневно прибывали десятки писем из различных уголков России, в которых авторы раскрывали все негативные явления, совершаемые властью, – взяточничество, казнокрадство, несправедливый суд. Все эти письма публиковались в разделе «Нам пишут», однако в 1862 году он был запрещен. Вместо него появились «Искорки»: в них читательские сигналы стали преобразовываться в шутки, афоризмы, пародии, эпиграммы, в «Сказки современной Шехерезады». В 1860 годы в журнале широко представляется тема социального неравенства, жизнь деревни – отношения помещиков к крестьянам.

Во второй половине XIX века для сатиры характерен индивидуальный образ – сатирический образ героя, отражающий негативные поступки эпохи. Этот образ проявлялся не только в одном конкретном произведении, но и отражался в творчестве других писателей. Ярким примером стал образ Молчалина из комедии А.С. Грибоедова «Горе т ума». Его отличительные качества «умеренность и аккуратность» нашли свое отражение в творчестве М.Е. Салтыкова-Щедрина. Писатель переносит этого литературного героя в свою эпоху и показывает, кем стал этот благоразумный молодой человек и чем обернулись его «добродетели». Его герой сделал успешную карьеру, поднялся до высоких чинов, однако всё ещё не смеет «своё суждение иметь». Исполнительный и аккуратный работник, идеальный обыватель, ничем не выделяющийся из массы таких же, как он, обывателей. Мнение же писателя о нём совершенно другое: «Я видел однажды Молчалина, который, возвратившись домой с обагранными бессознательным преступлением руками, преспокойно принялся этими самыми руками разрезать пирог с капустой».

Таким образом, при анализе условий зарождения русской сатиры как национального феномена нами было выявлено, что во все времена сатира была активным способом для выражения идей против несправедливости в обществе, для высмеивания пороков человека, несовершенства власти и судебной системы. Постепенно сатира становится литературным направлением эстетического характера. Яркими сатириками XIX века стали Н.В. Гоголь, А.П. Чехов; менее известными и мало изученными – Я.П. Бутков, А.И. Салов, О.М. Сомов и В.П. Мещерский. Внимание сатириков направлено на вскрытие недостатков социально-политического строя, самого общества. Благодаря комическим приемам авторы высмеивают пустоту, равнодушие, ограниченность внутреннего мира героев, воспроизводя их разговоры, реплики, через которые и раскрываются негативные явления определенных социальных слоев, групп. В русской литературе сатира является показателем сопротивления общественным порокам, свидетельством находчивости, изобретательности с целью сохранения свободы и независимости суждений об окружающей действительности.

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ГЕОГРАФИЧЕСКИЕ АСПЕКТЫ ВОЗНИКНОВЕНИЯ ГОРОДОВ СУРХАНДАРЬИНСКОЙ ОБЛАСТИ

Аннотация. В данной статье анализируются географические аспекты становления и развития городов Сурхандарьинской области, изменения в динамике численности населения городов, а также распределение городских поселений по районам Сурхандарьинской области, ведущие отрасли экономики и специализация городов.

Ключевые слова: Сурхандарьинская область, города, Термез, Денов, Кумкурган, Джаркурган, Ширабад, Шурчи, Шаргун.

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GEOGRAPHICAL ASPECTS OF THE EMERGENCE OF CITIES IN SURKHANDARYA REGION

Abstract. This article analyzes the geographical aspects of the formation and development of cities in the Surkhandarya region, changes in the dynamics of the population of cities, as well as the distribution of urban settlements among the regions of the Surkhandarya region, leading sectors of the economy and the specialization of cities.

Key words: Surkhandarya region, cities, Termez, Denov, Kumkurgan, Dzharkurgan, Shirabad, Shurchi, Shargun.

Сурхандарьинская область-область в составе Республики Узбекистан. Образован 6 марта 1941 года (с 29 июня 1925 года-Сурхандарьинский округ). 25 января 1960 года она была объединена с Кашкадарьинской областью. Реорганизован в феврале 1964 года. Он расположен на юго-востоке республики, в Сурхан-Шерабадской долине. Название региона происходит от названия реки Сурхан (персидско-таджикское: «красная»), протекающей через оазис. Граничит с Афганистаном по реке Амударья на юге, с Таджикистаном на севере, северо-востоке и востоке, с Туркменистаном на юго-западе и с Кашкадарьинской областью на северо-западе. Площадь 20,1 тыс. км². Численность населения-2821,9 тыс. человек (на 1 апреля 2023 г.). Включает 14 районов Ангор, Бандихон, Бойсун, Денов, Джаркурган, Музрабат, Алтинсай, Сариосия, Термез, Узун, Ширабад, Шурчи, Кызырик, Кумкурган), 8 городов (Бойсун, Денов, Джаркурган, Термиз, Шаргун, Ширабад, Шурчи, Кумкурган), насчитывается 114 городов, 865 сельских населенных пунктов (2022 г.). Центр-город Термез. На формирование сети городов повлияло то, что Сурхандарьинская область имеет уникальное природное, экономическое и политико-географическое положение. В области проживает 7,79% населения страны, при этом городское население составляет 5,5% городского населения республики. По данным 2018 года зафиксировано 8 городов и 114 поселков, а к 2023 году это число составит 8 городов и 112 поселков. Среди них город Термез является подчиненным городом области, а остальные 7 городов остаются в подчинении района (Денов, Байсун, Жаркурган, Кумкурган, Шурчи, Шаргун, Ширабад). Население области составляет 2806,5 тыс. человек (на 01.01.2023 г.), из них в городах проживает 1016,8 тыс. человек или 36,2 процента (в республике впереди только Хорезмская область).

Термез является крупнейшим городом в территориально-градостроительной структуре этого региона, а сведения, приведенные в исторических источниках, свидетельствуют о том, что это один из древних городов востока с историей, насчитывающей 2500 лет. Удобное географическое положение города, его расположение в стратегически важном месте, на важной ветке Великого шелкового пути, создали основу для его быстрого развития. Город очень быстро развивался в кушанский период, большим городом он стал в период Тимуридов, а после прихода русских, в 1894 году, в Тупроккургане, в 8 км, был заложен новый фундамент города. После обретения независимости особое внимание уделяется улучшению ее географического положения, экономических и социальных условий. Крупный международный аэропорт в городе, линия электропередачи Гузор-Сурхан, железная дорога Термиз-Хайратон-Мозори Шариф и Ташгузор-Бойсун-Кумкурган и ряд других крупных инвестиционных проектов еще больше повысят функцию города как южного центра в будущем усиливается.

Крупнейшие промышленные города региона-Денов, Жаркурган, Шурчи и Ширабад. Второй город региона-Денов. Он был образован как крепость в конце 14 века, между реками Сурхандарья и Сангардак. Основными градообразующими отраслями его являются переработка сельскохозяйственной продукции, в частности нефтепродукты, хлопкоочистительная, хлопкоочистительная, вино-водочная промышленность. На город приходится 5,21% населения региона (145,4 тыс. человек), 13,6% валового промышленного продукта и 28% производства потребительских товаров.

Город Жаргоргон был образован на основе обнаруженной в районе нефти, в 1928 году была построена железная дорога Карши-Термиз, а большую роль в становлении и экономическом развитии города сыграло нефтяное месторождение, открытое в 1930-е годы. В 1951 году ему был присвоен статус городского поселка, а в 1973 году – статус города районного значения. Шорчи расположен на равнине посреди Сурханского оазиса. Экономическая база-агропромышленная, это легкая и пищевая промышленность, производство мебели, развивается как центр района.

Бойсун относится к типу ресурсных городов и образовался на базе древней крепости Пойкалон на высоте 1200 м над уровнем моря. Город является старейшим поселением региона. Он начал появляться в конце V тысячелетия до нашей эры. Город Бойсун развивается как курортно-оздоровительный центр благодаря своему расположению в районе топливной промышленности и благоприятным природным условиям. Статус города он официально получил в 1975 году.

В 1941 году у реки Шаргун в городе Шаргун была открыта угольная шахта, а в 1963 году на ее базе был построен завод по производству угольных брикетов. Поселения здесь стали появляться в связи с открытием и разработкой угля. Сначала он назывался Тохчиян, а затем, с 1973 года, стал называться городом Шаргун. Города Кумкурган и Ширабад были созданы на основе освоения новых земель. Урбанизация в регионе развивается преимущественно за счет малых и средних городов, сельских районных центров, а также городов и агрогородков с агропромышленными предприятиями.

Таблица №1

**Динамика численности населения городов Сурхандарьинской области
(в тысячах человек)**

Города	Годы					Рост, раз, 1970-2023 гг.
	1970	1990	2000	2010	2022	
Термез	34,9	75,0	113,5	120,4	195,7	4
Денов	25,8	55,0	63,0	70,1	145,4	3
Бойсун	12,5	20,0	21,8	24,5	50,9	2,2

Жаркурган	11,6	20,0	20,5	20,9	22,9	1,9
Кумкурган	6,3	12,0	12,0	13,2	15,0	2,4
Шаргун	5,4	9,0	12,4	12,0	11,6	2,1
Ширабад	10,2	19,0	24,2	26,0	29,5	2,9
Шурчи	9,1	16,0	20,5	22,3	25,4	2,8

Таблица составлена на основе данных Агентства по статистике при Президенте Республики Узбекистан.

Если посмотреть на картину роста городов Сурхандарьинской области, то прирост населения в городах области в основном совпадает с годами независимости. Например, в 1970 году население Термеза составляло 34,9 тысяч человек, а в 1990 году эта цифра увеличилась в 2 раза, т.е. на 75 тысяч человек. Население Термеза увеличилось вдвое за 20 лет, с 1990 по 2000 год, то есть за 10 лет этот показатель показывает 1,5 раза. Можно сделать вывод, что после обретения независимости нашей страны население Термеза значительно увеличилось. оно выросло. Однако к 2010 году прирост населения города несколько снизился, то есть в 2000 году его было 113,5 тыс. человек, а к 2010 году этот показатель составил 120,4 тыс. человек. Из этого видно, что рост городского населения несколько замедлился, и причина этого-прямое влияние постепенного перехода от высокой рождаемости к низкой в нашей стране. Именно поэтому рост населения города замедлился. С 2010 по 2023 год население города вновь резко увеличилось-со 120 400 до 195 700 человек. За последние 13 лет стремление жителей региона в город оказало существенное влияние на рост населения города. С 1970 по 2023 год население города увеличилось с 34 900 до 195 700 человек, т.е. в 5,6 раза.

Город Денов-второй промышленный город региона. Его население составляет 79,1 тыс. человек (2017 г.). Город Денов занимает высокое место в регионе. Издавна он считался ремесленным центром и городом, расположенным на перекрестке караванного пути. Город в настоящее время очень активно развивается, в городе расположены основные промышленные предприятия региона (пищевые, легкие). В 1970 году население города составляло 25 800 человек, а к 1990 году население города составило 55 000 человек. За 20 лет население города увеличилось почти на 30 000 человек и превратилось из полусреднего города в средний город. К 2000 году население Денова составляло 63 000 человек. К 2010 году население города достигло 70 100 человек. К 2017 году общая численность населения города составляла 79,1 тыс. человек. Таким образом, население города Денов неуклонно растет с момента обретения нашей страной независимости, и мы можем рассматривать города Термез и Денов как основные города региона. Оба города пользуются большим спросом у

региональных округов. Влияние мигрантов из других районов области на население Денова также велико.

Город Бойсун является одним из известных городов региона, кроме того, город отличается от других городов региона уникальностью своих обычаев, традиций и ценностей. Этот город является одним из молодых городов региона. В 1970 году его население составляло 12,5 тысяч человек. К 1990 году в нем проживало 20 000 человек. Этот показатель, безусловно, значительно ниже, чем у городов Денов и Термез, поэтому население города увеличивается в основном за счет естественного прироста. К 2000 году население города составляло 21,8 тыс. человек, что свидетельствует о замедлении естественного прироста населения города. Не будет преувеличением сказать, что причиной этого является переход от многодетности к малодетности. Потому что после перехода от высокой рождаемости к низкому этому процессу не остался без своего влияния не только в городах Сурхандарьи, но и во всех регионах нашей Республики. Текущее население Бойсуна (2017 г.) составляет 28 000 человек.

Город Жаркурган расположен на юге области, в Жаркурганском районе. Население этого города в 1970 году составляло 11600 человек, а к 1990 году численность населения города достигла 20000 человек и присоединилась к группе малых городов к группе средних городов. К 2000 году общая численность населения города составляла 20 500 человек и увеличилась на 500 человек. После обретения нашей республикой независимости население города в основном переселилось в крупные города (Термез, Ташкент и др.), естественный прирост населения сильно замедлился. Одной из причин, по которой люди бегут из города, является безработица. С 2000 по 2010 год население города увеличилось всего на 400 человек, а к 2017 году было заметно небольшое оживление и достигло 22 900 человек. Не будет преувеличением сказать, что причина этого в том, что в нашей республике городскому развитию уделяется большое внимание.

Своими особенностями отличается и город Кумкурган, один из других замечательных городов Сурхандарьинской области. Население города в 1970 г. составляло 6,3 тыс. человек, к 1990 г. - 12,0 тыс. человек и увеличилось вдвое. К 2000 году общая численность населения города осталась на том же уровне. Поскольку стремление в эти города очень низкое, миграции в города практически нет, но высока миграция из города (в крупные города республики). Поэтому рост населения города замедлился. К 2010 году произошло некоторое оживление и население города составило 13 200 человек. К 2017 году общая численность населения города составляла 15 000 человек. Население 1970 года к 2017 году увеличилось в 2,4 раза.

Шаргун, один из ресурсных городов области, был основан в 1973 году. В 1990 году его население составляло 9000 человек. К 2000 году эта цифра составляла 12,4 человека. В 2010 году население города резко сократилось

и упало до 12 000 человек. Этот город был создан в результате Шаргунской угольной шахты. Поэтому стремление к городу Шаргун снизилось, наоборот, начался процесс переселения из города. Общая численность населения города еще больше сократилась к 2017 году и составляет 11 600 человек. Население города увеличилось вдвое.

Среди городов Сурхандарьинской области большое значение в регионе имеют города Ширабад и Шурчи. В 1990 году население Ширабада составляло 19 тысяч человек. В 2000 году население города составляло 24 200 человек, а к 2010 году - 26 000 человек. Общая численность населения города достигла 29,5 тысяч человек, а население города увеличилось в 2,9 раза по сравнению с 1970 годом. Население города Шурчи в 1970 году составляло 9,1 тысяч человек, а к 1990 году этот показатель составил 16,0 тысяч человек. К 2000 году в нем проживало 20 500 человек. Через 10 лет, то есть к 2010 году, она достигла 22,3 тыс. человек (2018). Население Шурчи достигло 25,4 тыс. человек.

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ЗАЩИТА ТУТОВОГО ДЕРЕВА ОТ ВРЕДИТЕЛЕЙ

Аннотация. Использование современных технологий в сельском хозяйстве очень важно для получения хороших результатов при орошении сельскохозяйственных культур и других процессах.

Ключевые слова: Оптимизация, сельское хозяйство, ГИС, технологии, водные ресурсы, автоматизированные системы, фермы.

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MULBERRY TREE PROTECTION FROM PESTS

Abstract. The use of modern technologies in agriculture is very important to obtain good results in crop irrigation and other processes.

Key words: Optimization, agriculture, GIS, technology, water resources, automated systems, farms.

Согласно решению Президента Республики Узбекистан о мерах по организации деятельности ассоциации «Узбекипаксаноат» от 29 марта 2017 года, ускоренное развитие кормовой базы коконов в нашей Республике, постоянное совершенствование процессов уход за тутовым шелкопрядом и выращивание коконов, производство коконов, шелка-сырца, шелковой калавы и их широкое внедрение эффективных методов глубокой переработки, производство готовых шелковых изделий, защита шелковицы от вредных организмов, что является основой кормления тутового шелкопряда, считается неотложной задачей.

Листья шелковицы считаются единственной пищей тутового шелкопряда, а ее плоды чрезвычайно ценны для здоровья человека благодаря своим сладким и питательным свойствам. Тутовое дерево – очень древнее многолетнее растение, согласно историческим источникам, оно было распространено в Китае 5000 лет назад, затем его выращивали и

употребляли в пищу в Узбекистане, а его плоды считались весьма уникальными. Шотут, шелковица Балхи, шелковица Марварид и многие другие сорта шелковицы созданы и культивируются народной селекцией на протяжении веков.

Планирование количества выкармливаемых тутовых шелкопрядов в зависимости от урожайности имеющихся тутовых деревьев в районах нашей республики называется продовольственным балансом в шелководстве.

Кормовой баланс определяют в зависимости от количества боксов тутового шелкопряда и агротехники кормления. Прежде чем определять баланс питания, необходимо правильно организовать определение урожайности листьев тутовых деревьев, для этого к этой работе необходимо привлечь опытных специалистов.

Рисунок 1. Борьба с тутовой плодовой жоркой.



Пищевая ценность листьев шелковицы.

Чем выше качество листа тутового шелкопряда, являющегося пищевой основой тутового шелкопряда, то есть чем он питательнее, тем лучше количество и качество кокона тутового шелкопряда. Увеличивая количество листьев шелковицы без улучшения качества коконов, качество коконов улучшить невозможно. Качество листьев шелковицы невозможно улучшить, не увеличивая площадь тутовых насаждений, количество одиночных рядов шелковицы, выращивание семян, рассады и рассады.

Известно, что шелководство является одной из основных областей нашего сельского хозяйства и одной из областей, вносящих значительную долю в казну нашей страны, а также в благосостояние народа. Когда мы думаем о коконе, мы думаем о тутовых деревьях (*Morus alba* L) и тутовых червях (*Bombux mori* L) как об источнике пищи.

С незапамятных времен шелковичные деревья высаживали вокруг посевных полей, обочин и обочин дорог, а также в специальных плантациях. Высокие деревья вокруг поля не только являются источником листьев для

гусениц, но и служат эффективным барьером против эрозии почвы.

Пропеллер Mulberry Диафания (*Glyphodes*) *pyloalis* Walker. Насекомое, появившееся в южных регионах Узбекистана с 1994 года. Тутовый шелкопряд широко распространен в Китае, Японии, Индии и других странах Азии, занимающихся производством шелка.

В связи с тем, что шелковиная моль является быстро движущимся и быстрорастущим насекомым, она быстро распространилась в ряде регионов нашей республики. Но из-за повреждения отросших позже листьев длина, толщина стебля и устойчивость к зимним холодам не соответствуют их стандартам. Если на каждой ветке шелковицы в среднем на 1 лист приходится 1 червячок, длину ветки 30 см можно укоротить. В целом длина новой ветки сокращается с 50-60 см до 150 см, количество листьев уменьшается на 20-50%, а ее масса - на 21-60%. Если такое состояние будет продолжаться из года в год, тутовое дерево может погибнуть. Повреждение шелковицы шелковиной молью является относительным. Шелковиная моль сильно зависит от того, в скольких поколениях дерево было поражено вредителем, а также от агротехники почвы. 2020-2020 годах нами были проведены научные исследования по изучению биоэкологии тутовой плодовой и борьбы с ней в условиях Андижанского и Избосканского районов Андижанской области.

Вред и природная польза шелковицы. В полевых наблюдениях, проведенных в 2020 и 2021 годах, в сезоне 2020 года получено 2 группы шелковицы (из 5). Одного из них удалось защитить от шелковиной моли с помощью химических средств борьбы.

Повреждение пропеллера Mulberry

Полевые наблюдения, Андижанская область. Избосканский район, 2020-2021 гг.

Индикаторы	Средняя длина ветвей шелковицы	Шорт-риши, см	Листья			
			Количество в 1 стержне, шт.	Камаши, дона	Масса 1 листа, г	Камаши, г
Поврежденная ветка (в среднем 1 червь на 1 лист)	70	30	18	5	0,8	0,2
Повреждения и стержень	105		25	-	1.1	-
Повреждать, %		33		28		27

Как видно из таблицы, средняя длина пораженного тутового дерева составляет 29,4, количество листьев в каждой пораженной ветке уменьшается на 20,2%, а масса одного листа снижается на 0,3 грамма, т.е. на 20,8%. Вышеупомянутые физические показатели. Кроме того, поздно проросшие ветви у пораженных деревьев засыхают за зиму, не выдерживая низких температур; У зараженных деревьев может наблюдаться снижение качества листьев, а также увядание сильно поврежденных деревьев в течение нескольких лет подряд. Поэтому своевременная борьба с вредителями тутовых деревьев является одной из актуальных проблем.

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ДЕМОГРАФИК ЎТИШ НАЗАРИЯСИ ТАРИХИ ҲАҚИДА МУЛОҲАЗАЛАР

Резюме. Мазкур мақолада демографик жараёнларнинг ривожланиш тарихи, демография ва шу доирада тадқиқот олиб борган олимларнинг тарихий ва замонавий ёндошувлари ҳақида фикр юритилади.

Калит сўзлар. Демографик ўтиш, демографик инқлоб, демографик танглик, “демографик совга”, ибтидоий режим, оралиқ демографик режим, замонавий режим.

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THOUGHTS ON THE HISTORY OF DEMOGRAPHIC TRANSITION THEORY

Summary. This article examines the history of the development of demographic processes, demography, as well as the historical and modern approaches of scientists who conducted research in this area.

Keywords. Demographic transition, demographic revolution, demographic crisis, “demographic gift”, primitive regime, intermediate demographic regime, modern regime.

Кириш. Демографик ўтиш ёки демографик инқилоб 18 – аср охирида бошланган ва ҳали тугалланмаган энг муҳим дунёвий ва тарихий ўзгаришдир. Унинг маъноси инсоният авлодларини янгилашининг абадий жараёни кечаётган туб ўзгаришлардадир. Инсоният тарихи бундай ўзгаришларни ҳали бошидан кечирмаган бир пайтда аҳолининг кескин ортиши янги демографик вазиятни қарор топирган. Мазкур вазият билан

боғлиқ назарий тушунчалар 20 – асрнинг биринчи ўн йилликларида бошланган.

Тадқиқот методлари. Мақолани тайёрлашда омилларни таҳлил қилиш усули (табiiй омиллар, иқтисодий омиллар, демографик омиллар, этник омиллар) тарихий қиёслаш усулиларидан фойдаланилди.

Муҳокама ва мулоҳазалар. Демографик ўтиш назариясининг ривожланиши доирасида биринчи қадамлар одатда француз демографи Адольф Ландри ва америкалик демограф Уоррен Томпсоннинг исмлари билан боғлиқ. Айнан, Ландри "демографик инқилоб" атамасини таклиф қилган.

"Демографик ўтиш" атамаси кейинроқ пайдо бўлган — бу ҳақда биринчи марта 1945 йилда америкалик демограф Френка Нотштейннинг мақоласида айтиб ўтилган. Шу билан бирга, "демографик ўтиш" атамаси сотсиолог ва демограф Кингсли Девиснинг мақоласи сарлавҳасида ҳам пайдо бўлган. Олим Нотштейн билан бир хил ғояларни ишлаб чиққан, шунингдек, "ўтиш" нинг асосий ғояси бўлган "янги демографик мувозанат"га ўтиш ғоясини аниқ шакллантирган. Бу Ландрига туюлганидек, депопулятсия хавфини туғдирадиган унумдорлик ва ўлим мувозанатининг хавfli йўқолиши эмас, балки ўлим балансининг бир туридан бошқасига ўтиши, "аввалгисига қараганда камроқ йўқотиш" демакдир. "Демографик мувозанатнинг янги тури абадий кўпайиш занжиридан катта миқдордаги энергияни, бошқа ҳаётiiй вазифаларни ҳал қилишга сарфланиши мумкин бўлган энергияни чиқарди" ва шунинг учун "инсон самарадорлигининг ажойиб ютуғи" - деган маънони англатади[1].

Бу умумий маънода демографик ўтиш назариясининг каноник тарихи, аммо уни батафсил деб ҳисоблаш қийин. Таажжубли томони шундаки, ўтиш назарийётчиларининг ҳеч бири инглиз олими Герберт Спенсернинг ғоялари билан ҳисоблашмаган. 19 – аср ўрталарида Герберт Спенсер назарий мулоҳазаларга асосланиб, "туғилиш даражаси каби" деган хулосага келди... ўлим натижасида аҳолининг пасайишини мувозанатлаш учун етарли эмасми, аҳоли ўсишда давом этади... Ўзгаришлар кўпайиш тезлиги йўқ бўлиб кетиш тезлигига тенг бўлмагунча тўхтата олмайди; бошқача қилиб айтганда, ҳар бир жуфтлик ўртача иккита болани улғайтирмагунларича, улар ҳеч қачон тўхтамайди. "Туғилиш ва ўлимнинг янги мувозанатига ўтиш" ғояси Спенсер томонидан мутлақо аниқ шакллантирилган [2].

Тахминан 100 йиллик ривожланиш давомида (Агар Адольф Ландрининг, кейинчалик унинг китобига киритилган мақоласини ҳисобга олсак) демографик ўтиш назарияси жуда кенг эътирофларга сазовор бўлган. Унинг назарияси доимий равишда барча даражадаги демографик жараёнларни тушунтириш ва прогнозлашда қўлланилган — маҳаллийдан глобалгача ва вақти-вақти билан пайдо бўладиган танқидларга қарамай, уни нотўғри, эскирган ва ўзини оқламаган ғоя деб эълон қилишга ҳаракат қилишган [3]. Бироқ унинг назарияси шубҳасиз, энг нуфузли ижтимоий

назариялардан бири бўлиб, ўша пайтда Д. Коугил ишонганидек, фақат ўртача даражада эмас, муҳим аҳамиятга эга назариялардан биридир.

Демографик ўтиш тушунчаларининг умумий элементи - учта асосий тарихий босқичга (жамиятининг иқтисодиётни ўзлаштириши, аграр ва саноат) мос келадиган демографик ривожланишни даврийлаштириш. Шу билан бирга, демографик тушунчалар дастлабки шартлари ва аҳолининг кўпайиш турларининг ижтимоий шартларини таҳлил қилиш методологияси билан фарқланади. Бу, шунингдек, демографик ўтишнинг сабаблари ва омиллари, унинг механизми, якуний натижаси ва универсаллик даражаси тўғрисида турли хил қарашларни асослайди[4].

Ўтиш жараёнида қуйидаги 4 босқич ажратилади:

Биринчи босқич умумий туғилиш даражасининг пасайишига қараганда тезроқ ўлимнинг умумий даражасининг пасайиши билан тавсифланади, бунинг натижасида табиий ўсиш суръати ошиб, тарихий максимал даражага этади.

Иккинчи босқичда ўлим даражаси пасайишда давом этади, аммо туғилиш даражаси ҳам пасайишни бошлайди, натижада ўсиш суръати секинлашади.

Учинчи босқич ўлим даражасининг маълум бир даражада ўсиши билан тавсифланади, бу аҳолининг ёш таркибидаги ўзгаришларни ҳосил қилади, натижада катта ёшдаги одамлар фоизининг ошиши ва аҳолининг қариши кузатилади, бир вақтнинг ўзида туғилиш даражаси секинлашади.

Тўртинчи ва охириги босқич туғилиш ва ўлимни бир хил даражада барқарорлаштиришни англатади – бунда умумий туғилиш ва ўлим кўрсаткичларининг қийматлари бир бирига яқинлашади. Бу шунингдек, демографик ўтиш назариясида турли хил кўпайиш турларининг хусусиятлари туғилиш ва ўлим нисбатига асосланади[5].

Демографик ўтиш назарияси дунёнинг етакчи демографлари, шунингдек йирик халқаро ташкилотлар (масалан, БМТ) томонидан тан олинган назариялардан биридир. Демографик ўтишнинг янада кенг ва батафсил таърифлари мавжуд. Кўпинча қуйидаги таърифни учратиш мумкин: "демографик ўтиш-бу юқори ўлим ва юқори туғилишдан туғилиш ҳамда ўлим кўрсаткичларининг пасайишига ўтиш демакдир". Бироқ, биз бундай таърифдан тўлиқ қониқиш ололмаймиз чунки глобал жамиятдаги сон ва сифат ўзгаришлари доимо диққат доирасида бўлолмайди.

Турли муаллифлар ўтиш босқичларининг бошқа сонини (иккитадан бешгача) ажратиш кўрсатишади ва баъзида ҳатто бир хил босқичларнинг хусусиятларида фарқ қилади. Аммо демографик ўтиш назариясининг назарийчилари ва тарафдорлари бу фарқлар концепсияга зид эмас, чунки улар "фундаментал" характерга эга эмас деб ҳисоблашади[6].

Блум ва Уилямсон демографик ўтишни юқори туғилиш ва ўлим кўрсаткичларини пастки даражага тушиши деб билишган. Ўтиш даври бошланиши билан ўлим даражаси пасайишни бошлайди, туғилиш даражаси

эса ўтиш давридан олдинги даражада қолади. Кейинчалик, ўтишнинг иккинчи босқичи бошланади ва туғилиш даражаси пасайишни бошлайди. Ниҳоят, туғилиш ҳам, ўлим ҳам яна пасаяди, тобора турғун яъни ҳаракатсиз бўлиб қолади. Ўлим ва туғилишнинг пасайиши демографик ўзгаришлар бошланган вақтдан орада қолиши аҳолининг ёш таркибидаги ўзгаришларга олиб келади. Демографик ўтиш замонавий ривожланаётган дунёда демографик ўзгаришларни шакллантиришнинг асосий механизми бўлса-да, унинг камчиликлари ҳам бор. Демографик ўтиш – ўтиш давридан кейинги даврда статсионар ўлим ва туғилиш кўрсаткичларини назарда тутлади. Соғлиқни сақлаш соҳасидаги ислохатлар одамларнинг умр кўриш давомийлигини ошириш учун хизмат қилади. Нафақат ривожланган мамлакатларда, балки кўплаб ривожланаётган мамлакатларда ҳам бир аёлга нисбатантўғри келадиган туғилиш даражаси аҳолининг янгиланиш даражасидан пастга тушган, бу **”иккинчи туғилиш инқилоби”** деб аталган. Гарчи умр кўриш давомийлигининг ошиши ва туғилишнинг пасайиши аҳоли ўсиши нуқтаи назаридан қарама-қарши тушунчалар бўлиб, бир вақтда ҳар икки ҳолатнинг содир бўлиши ғайри табиий ҳолат бўлсада ва маълум даражада бир-бирини қопласа ҳам, улар биргаликда аҳолининг ёш тақсимотини тартибга солади[7].

Демографик ўтиш тизимидаги ўзгариш, демографик энергияни йўқотиш (табиий ўсишнинг юқорилиги ва ўлим) билан боғлиқ бўлган “диссипатив” тизимдан ушбу энергияни “тежамкор” тизимга ўтиш (табиий ўсишнинг пасайиши ва ўлим) сифатида тавсифлаш мумкин. Инсоннинг ўзи биологик маънода ўзгармайди, лекин инсон популятсиясининг кўпайиш хусусиятлари туб ўзгаришларга учрайди ва улар ҳам турнинг ўзига хос хусусиятларига тегишлидир[8].

Маълумотларга кўра, Европа минтақасидаги мамлакатларнинг аксарияти демографик ўтишнинг 4-босқичига етиб келган деган хулосага келиш мумкин. Уларнинг кўпчилигида туғилиш ва ўлимнинг пасайиши, умумий умр кўриш давомийлигининг ошиши, болалар улушининг пасайиши ва меҳнатга лаёқатли ёшдаги улушнинг аста-секин пасайиши ҳамда кекса одамлар улушининг кўпайиши кузатилади.

Юқори ўлим ва туғилишнинг юқорилиги ўртасидаги узок муддатли мувозанатда бўлиши шарт бўлмаган паст ўлим ва туғилишга ўтишни назарда тутадиган демографик ўтиш назарияси, иккита шарт бажарилган тақдирда, этарли назарий асосга эга бўлади. **Биринчидан**, инсоннинг ўз ҳолатини идрок етиши ва ўзгаришлар йўналишига таъсир қилиш учун кейинги жараённинг бир қисми сифатида қабул қилинади. **Иккинчидан**, ишлаб чиқариш режимининг ўзгаришига, иқтисодий ва ижтимоий-демографик ўзгаришларнинг ўзаро таъсирига, шунингдек, аҳоли жон бошига реал даромадларнинг доимий ўсишига кўпроқ эътибор қаратилишига боғлиқ[9].

Ўртача умр кўришнинг ўсиши асосан катта ёшдагиларнинг умр кўриш ёшининг ортишига боғлиқ бўлса, меҳнатга лаёқатли аҳоли сони эмас, балки кекса одамлар, қоида тариқасида нафақахўрлар сони ортади. Пенсияларнинг ҳаётларини яхшилаш, шу жумладан тиббий ёрдамни таъминлаш учун аҳолининг ишчи қисмидан йиғиладиган пул ўтказмаларига жуда боғлиқ.

Шундай қилиб, кекса ёшдагилар ўлимнинг пасайиши туфайли умр кўриш давомийлигининг ошиши, ишлаб чиқариш ва истеъмол ўртасидаги иқтисодий мувозанатни бузиши табиий, бу эса ўз навбатида давлат сиёсати учун узоқ муддатли курашни, ислохатларни, ёшлар бандлигини ошириш каби муаммоларни келтириб чиқаради.

Дастлабки демографик ўтиш жамиятга сиёсий чора-тадбирларни талаб қилмасдан жон бошига юқори даромадлар кўринишидаги “демографик совға”ни тақдим этди, аммо янги демографик ўтиш, агар жамият умр кўриш давомийлигининг ошиши ва фаровонликнинг ошиши ўртасидаги ижобий муносабатни сақламоқчи бўлса, сиёсий жиҳатдан мураккаб қарорларни қабул қилишни талаб қилади

Шуни тан олиш керакки, собиқ “Совет Иттифоқи”да бир қатор олимлар А. Я.Кваша, А. Г. Волков, А. Г. Вишневский, Я.Н. Гузевати, Н. Б. Баркалов ва бошқалар демографик ўтиш назариясини ўрганиш доирасида ўзларининг ҳолис ғояларини илгари сурган. Масалан, А. Г. Вишневский “Демографик ўтиш—бу жамиятдаги ижтимоий-иқтисодий, демографик туб ўзгаришлар натижасида шартли “А” нуктадан “Б” нуктасига ўзгартириш”- дея таъкидлайди.

Хусусан, А. Г. Вишневский аргумент сифатида ижтимоий тизимдан автономия ва сотсиализм шароитида ҳам, капитализм даврида ҳам содир бўладиган демографик жараёнларнинг универсаллиги нуктаи назарини келтирди-бу капиталистик ва сотсиалистикани ажратиш одат бўлган давр учун жуда жасур баёнот еди.

Демография назариясига бағишланган замонавий демографик асарларда кам тилга олинган инглиз файласуфи ва сотсиологи – Г. Спенсернинг хизматлари ҳам катта бўлиб, унинг ҳиссаси ҳақида тўхтилиб ўтиш лозим. Спенсернинг қарашлари демографларнинг кўпроқ еътиборига лойиқдир – тарихий ёдгорлик сифатида эмас, балки ўз даврдан анча олдинда ва замонавий демографик назарияда ғоялар доираси сифатида муҳим ўрин егаллашга қодир.

А. Г. Вишневскийнинг “Герберт Спенсер – демографик ўтиш назариясининг унутилган отаси” мақоласидан Спенсерга мурожаат қилган ҳолда ихтибос:

"Спенсернинг туғилиш даражаси ўлим натижасида унинг пасайишини мувозанатлаш учун етарли экан, аҳоли кўпайишда давом этади... Ўзгаришлар кўпайиш тезлиги ўлим тезлигига тенг бўлмагунча тўхтамайди;

бошқача қилиб айтганда, ҳар бир жуфтлик ўртача иккита болани улғайтирмагунча, ўзгаришлар ҳеч қачон тўхтамайди»[10].

Демографик ўтиш назариясининг умумеътироф етилган асосчиларидан олдин илмий доираларда демографик жараёнларнинг "табiiй" мувозанати ҳақида фикрлар мавжуд бўлган. Мамлакатлар ёки давлатларда демографик жараёнлар ривожланишининг турли босқичлари ҳақидаги классик ва таниқли ғоя, яъни "демографик инқилоб" атамаси А. Ландрининг 1909 ва 1934 йилларда пайдо бўлган ва у "демографик режим" -деб ишлатилган. Шундай қилиб, А. Ландри уни 3 босқичга ажратади:

Биринчи босқич - "ибтидоий режим" бўлиб, унда аҳолининг ўсиши жамиятни озиқ-овқат билан таъминлаш соҳасидаги муваффақиятлар ҳамда муваффақиясизликлар билан боғлиқлигини изоҳлайди.

Иккинчи босқич - "оралиқ демографик режим" бўлиб, мазкур режим шароитида аҳолининг ўсишига иқтисодий тараққиёт таъсир кўрсатиши, ўлим тез суръатлар билан пасайиши ва туғилишнинг пасайиши ҳам сезиларли даражада бўлиши ва туғилиш кўрсаткичлари ўлимга қараганда анча паст суръатларда кечишини таъкидлайди.

Учинчи босқич - "замонавий давр". Ушбу режим туғилишнинг паст даражаси бўлиб, ўлимнинг янада пасайиши ва туғилишни оммавий назорат қилишининг кенг кўламли тенденцияси билан изоҳланади.

М.С.Бетный(1972) нинг таъкидлашича, бунда аҳолининг ўртача умр кўриши муҳим ўрин тутгани ҳолда, туғилиш шу даражада камаядики, натижада аҳолининг умумий ўлим коеффитсиенти аҳоли туғилиш коеффитсиентининг ўсишига сабаб бўлади. Умумий ҳолатда аҳоли сони камаяди. Агар кўрсатилган демографик вазиятда ўзгариш юзага келса, аҳолининг кўпайишига бошқа омиллар ўз таъсирини кўрсатади. Жумладан, 1990 йилларда кейинги Россия аҳолисининг қайта барпо бўлишида шундай ўзгариш содир бўлди.

Хулоса. Шундай қилиб, А.Ландри (1934) томонидан киритилган «демографик инқилоб» тушунчаси ҳозирги пайтда аҳоли қайта барпо бўлишининг самарали ҳаракати сифатида изоҳланади. Бу ёндашув А.Г.Вишневскийнинг 1976 ҳамда 1982 йиллардаги монографияларида кенг ёритилган бўлиб, унда аҳоли қайта барпо бўлиши 3 та асосий тарихий типга ажратилади: архетип, анъанавий ва замонавий типлар. Унга кўра, бир типдан иккинчисига ўтиш инқилобий босқич сифатида изоҳланади.

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БАРЬЕРЫ МЕХАНИЗМОВ ИМПОРТОЗАМЕЩЕНИЯ, СВЯЗАННЫЕ С ИСПОЛЬЗОВАНИЕМ ЗАРУБЕЖНЫХ ОБЪЕКТОВ ИНТЕЛЛЕКТУАЛЬНОЙ СОБСТВЕННОСТИ, И ПУТИ ИХ РЕШЕНИЯ

Аннотация. В данной статье проводится анализ барьеров в механизме импортозамещения, которые связаны с использованием импортной высокотехнологичной продукции и лицензий на зарубежные запатентованные технологии. На актуальных примерах рассмотрено и проанализировано, как Российская Федерация преодолевает такого рода барьеры, стимулирует развитие внутренних инноваций и укрепляет технологический суверенитет страны. Целью исследования является расширение понимания проблемы и обозначение возможных стратегий для преодоления правовых барьеров в контексте импортозамещения и использования зарубежных объектов интеллектуальной собственности.

Ключевые слова: экономика, интеллектуальная собственность, импортозамещение, конкурентоспособность, санкции.

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BARRIERS TO IMPORT SUBSTITUTION'S MECHANISMS RELATED TO THE USE OF FOREIGN INTELLECTUAL PROPERTY OBJECTS AND WAYS TO SOLVE THEM

Abstract. This work examines the obstacles in the process of import substitution that are associated with the utilization of imported high-technology products and licenses for foreign patent-protected technologies. Using relevant examples, I considered and analyzed how the Russian Federation surmounts such obstacles, promotes the development of indigenous innovations, and strengthens the country's technological independence. The aim of the study is to expand understanding of the problem and identify possible strategies to overcome

regulatory hurdles in the context of import substitution and the use of foreign intellectual property objects.

Keywords: economics, sanctions, intellectual property, import substitution strategy, competitiveness.

Введение

Импортозамещение является важной стратегией для многих стран, стремящихся к экономическому и технологическому суверенитету и укреплению внутреннего производства. Под термином «импортозамещение» понимается экономическая политика государства, направленная на удовлетворение потребностей его субъектов путем замены на внутреннем рынке импортных товаров (т. е. продукции, производимой вне государственных границ) на выпускаемую в данной стране продукцию [1]. Другими словами, это комплекс мероприятий для обеспечения достаточного количества собственной продукции для покрытия потребности собственных предприятий.

В условиях глобальной экономической неопределённости и стремительного изменения геополитической обстановки вопросы импортозамещения приобретают значимость для тех стран, которые стремятся развиваться независимо от влияния на них других государств. Россия, как одна из крупнейших экономик мира, активно работает над сокращением зависимости от импорта, вкладываясь в развитие собственных технологий.

Активное импортозамещение в России началось примерно в 2014 году, когда Европейский союз и другие западные страны ввели и продолжают вводить до сих пор пакеты экономических санкций. Эти санкции ограничили доступ российских компаний и банков к западным финансам и технологиям, что подтолкнуло российские власти к разработке политики импортозамещения. Санкции совпали с падением цен на нефть, что значительно снизило доходы России от экспорта и усилило экономический кризис. Это привело к девальвации рубля и сделало импортные товары более дорогими, что только увеличило спрос на отечественную продукцию. Таким образом, после первых и последующих антироссийских санкций возникла серьёзная необходимость выработки целенаправленных и комплексных государственных мер поддержки отечественного производства и в целом активного развития политики импортозамещения.

Начиная с 2022 года политическая ситуация обострилась, западные страны продолжили вводить экономические и политические ограничения против России, и по состоянию на май 2024 года действует уже тринадцать санкционных пакетов. В список запрещённого, в том числе попал запрет на импорт в России многих необходимых комплектующих, ресурсов,

оборудования, используемого в разных сферах, технологий, а также запрет на работу с российскими компаниями и организациями.

Сегодня после ухода с российского рынка многих зарубежных компаний вопросы импортозамещения и обхода барьеров, связанных с правами на интеллектуальную собственность, выходят на первый план, являясь одним из важнейших и приоритетных направлений развития национальной экономики и реализации технологического потенциала страны. Однако, несмотря на совершенствование механизмов импортозамещения, на сегодняшний день всё равно остаются барьеры, включающие в себя сложности производства, внедрения и использования инноваций без прав на объекты интеллектуальной собственности. В основном всё это является правовыми барьерами, которые значительно усложняют отечественным производителям.

Основная проблема заключается в том, что большинство высокотехнологичных решений, необходимых для успешного импортозамещения ушедших с российского рынка, уже защищены патентами, авторскими правами или торговыми марками, принадлежащими иностранным компаниям. Это создает юридические препятствия для легального использования данных технологий в национальных проектах. В условиях санкционного давления и ограниченного доступа к передовым зарубежным технологиям необходимость разработки эффективных стратегий обхода этих правовых барьеров становится как никогда актуальной.

В данной статье будут рассмотрены правовые проблемы с использованием зарубежных объектов интеллектуальной собственности и прав на них, а также актуальные примеры возможных путей их решения. Анализ сложившейся российской практики в разных отраслях позволит выявить наиболее эффективные механизмы преодоления данных барьеров, способствующие развитию отечественного производства и инноваций и поддержанию стратегии независимого развития.

Основная часть

В связи с введёнными санкциями Россия столкнулась с рядом правовых барьеров при импортозамещении, связанных с использованием зарубежных объектов интеллектуальной собственности, которые затрудняют развитие собственных инноваций. Основная проблема заключается в том, что большинство высокотехнологичных решений, которые могут помочь в развитии стратегии импортозамещения, уже зарегистрированы иностранными компаниями и защищаются. Это создает юридические препятствия для легального использования данных технологий в национальных проектах. В условиях санкционного давления и ограниченного доступа к передовым зарубежным технологиям необходимость разработки эффективных стратегий обхода этих правовых барьеров становится как никогда актуальной.

Проанализировав долю потребления отечественной продукции в периоде с 2014 по 2021 год, можно отметить высокие уровни обеспеченности в промышленности стройматериалов, транспортном машиностроении и чёрной металлургии (96%, 92% и 90% соответственно). Это свидетельствует об успешной реализации политики импортозамещения в этих отраслях. В то же время станкоинструментальная промышленность, производство строительно-дорожной и аэродромной техники, медицинская, фармацевтическая промышленность и индустрия детских товаров показывают низкие уровни обеспеченности отечественной продукцией (от 24% до 35%) [4, с. 8]. Низкий уровень обеспеченности отечественной продукцией в данных отраслях может указывать на зависимость от импорта специализированного оборудования или на отсутствие технологической базы для производства определенных видов инструментов.

Для успешной реализации политики импортозамещения важно принимать во внимание специфику каждой отрасли, её потребности и особенности. Для повышения уровня обеспеченности отечественной продукцией в проблемных отраслях необходимы дополнительные усилия со стороны правительства, бизнеса и научных учреждений. Также способствовать улучшению ситуации могут разработка новых технологий, стимулирование инноваций и поддержка отечественного производства в целом.

Самая серьёзная проблема – отсутствие доступа к инновационным технологиям, а также ограничение на импорт высокотехнологичных продуктов, без которых российские компании не смогут своевременно развивать уровень технологического развития и избегать морального и технического устаревания, а также в полной мере конкурировать на международных рынках. Некоторые зарубежные компании отказывают в продаже или предоставлении лицензий на свои технологии российским компаниям, даже если они не находятся в санкционном списке. Проблема недостатка ресурсов стимулирует национальную экономику взять курс на развитие механизмов импортозамещения, например, по направлению создания объектов, альтернативных ушедшим с рынка, хотя это зачастую требует внушительных затрат на научно-исследовательские и опытно-конструкторские разработки. На сегодняшний день это остаётся серьёзным препятствием для развития отечественной промышленности.

Многие ключевые технологии защищены патентами и другими видами свидетельств на объекты патентного права, что ограничивает возможности их использования без согласия правообладателей или создания собственных аналогов. Это касается новых изобретений, полезных моделей, промышленных образцов, ноу-хау и других объектов интеллектуальной собственности, которые необходимы для автоматизации и улучшения производственных процессов и не только. Если российская компания решит продолжить неправомерно использовать зарубежную

технологии или продукт, это может привести к нарушению законодательства в сфере интеллектуальной собственности и судебным искам со стороны правообладателя. Следствием этого отечественные компании могут столкнуться с угрозой штрафов, судебных издержек и возмещения ущерба от неправомерного использования зарегистрированных объектов интеллектуальной собственности. Использование защищённого исключительным правом программного обеспечения без соответствующих лицензий является нарушением законодательства, что также затрудняет процесс импортозамещения.

Чтобы избежать проблем с нарушением законодательства в сфере интеллектуальной собственности, российские компании должны тщательно проверять свою продукцию, средства и процессы производства на предмет наличия нарушений прав интеллектуальной собственности, а также искать альтернативные решения для импортозамещения. Подстраховаться в таких ситуациях помогут разработка, регистрация и внедрение собственных технологий, которые будут позволять создавать конкурентоспособную продукцию без нарушения чужих исключительных прав. Большое внимание, в том числе нужно уделить и самой коммерциализации интеллектуальной собственности, что в методических рекомендациях Роспатента определяется как «деятельность по внедрению результата интеллектуальной деятельности в производство, в том числе вывод на рынок охраняемого РИД и/или продукта, изделия, произведенного на его основе» [6].

В сфере микроэлектроники использование отечественных разработок и технологий, не нарушающих патентные права иностранных компаний, уже стало важной частью процесса импортозамещения. Российская компания «Baikal Electronics», несмотря на нахождение в санкционных списках, продолжает проектировать интегральные микросхемы и процессоры, а московский центр SPARC-технологий («МЦСТ») уже несколько лет разрабатывает и успешно внедряет отечественные микропроцессоры «Эльбрус», которые являются развитием одноимённой технологии советских вычислительных комплексов. Например, у последних на 2025 год запланирован выход инженерного образца новой модели «Эльбрус-32С» в рамках 7-го поколения «Эльбрусов». Холдинг «Росэлектроника», входящий в состав госкорпорации «Ростех», занимается разработкой и производством электронной компонентной базы, в том числе такой микроэлектроники, которой сейчас так не хватает в связи с отказом зарубежных компаний импортировать свою высокотехнологичную продукцию в Россию. Со стороны может показаться, что это незначительные достижения, но именно с них и начинается полноценное развитие отрасли, поскольку невозможно заниматься импортозамещением, если нет отечественных продуктов, на базе которых можно разрабатывать более высококвалифицированные или узкие продукты.

Достойные примеры российских аналогов продукции и технологий есть не только в микроэлектронике, но и в других не менее важных отраслях, например, в здравоохранении. В ответ на необходимость снижения зависимости от импортных лекарств российские фармацевтические компании разработали ряд аналогов зарубежных препаратов, производство которых не нарушает исключительных прав иностранных компаний. Такие аналоги называются дженериками и содержат то же активное вещество, что и оригинальный препарат. «Дженерики, относящиеся к воспроизведенным лекарственным средствам, продаются после истечения срока действия патента под международным непатентованным названием либо под патентованным названием, отличающимся от фирменного названия разработчика препарата» [3]. С препаратами, которые имеют биоэквивалентность, в рамках политики импортозамещения также работает и российская фармацевтическая компания «Фармстандарт», разработки которой, в том числе позволяют обеспечить внутренний рынок доступными медикаментами и снизить зависимость от импорта уже сейчас. Уже в декабре 2024 у «Фармстандарта» намечены исследования биоэквивалентности ещё одного препарата, так что можно сказать, что в настоящее время производство дженериков активно развивается. Такой подход способствует улучшению национальной научно-технической базы, стимулирует развитие фармацевтической отрасли, делая её независимой от зарубежных поставок, а также позволяет обойти сложности, связанные с лицензированием и использованием зарубежных патентов на медицинские препараты.

Одним из самых успешных примеров создания собственных продуктов на базе того, что необходимо импортозаместить, являются технические решения относительно новой компании «ЛАБ СП». Стимулом к её созданию стали уход с рынка немецкой компании «SAP SE» и острая необходимость в адаптированных под российское законодательство программах для контроля над бизнес-процессами. Продукты «ЛАБ СП» учитывают специфику российского бизнеса и предоставляют решения, которые соответствуют требованиям и нормам, постоянно обновляясь. С момента основания компании в 2022 году её выручка и чистая прибыль продолжают расти, а в патентном портфеле уже два свидетельства на программы для ЭВМ. На примере этого кейса можно сказать, что создание отечественных аналогов может быть не только стратегически важной мерой, но и коммерчески прибыльной для частных компаний и предпринимателей с учётом освободившихся позиций на внутреннем рынке.

Как было сказано ранее, одним из ключевых направлений стратегии развития национального производства, которое будет независимо от импортных товаров и услуг, сейчас являются разработка, регистрация и внедрение собственных технологий и продуктов. В связи с этим государство

предпринимает соответствующие решения на разных уровнях и ищет новые альтернативы сотрудничеству с ушедшими компаниями стран, поддержавших санкционные ограничения, и всячески оказывает поддержку научно-исследовательских и опытно-конструкторских работ, способствуя появлению отечественных аналогов, не нарушающих чужих прав на объекты интеллектуальной собственности. Меры поддержки, создающие благоприятные условия для инновационной деятельности и стимулирующие её внутри страны, предполагают, например, субсидии на проведение научно-исследовательских и опытно-конструкторских работ, льготные промышленные ипотеки, разного вида контракты, соглашения и программы. Например, можно выделить специальный инвестиционный контракт (СПИК 1.0 и СПИК 2.0), согласно которому «инвестор обязуется реализовать инвестиционный проект, государство — поддерживать стабильные условия для ведения бизнеса и предоставить меры господдержки» [5]. Оба варианта контрактов предусматривают налоговые льготы и субсидиарные меры поддержки, упрощённое получение сертификации по программе «Сделано в России», возможность ускоренной амортизации, а также другие меры поддержки. Созданные в стране фонды развития поддерживают проекты в приоритетных отраслях экономики, предоставляя финансирование на конкурсной основе, что стимулирует компании к разработке качественных и конкурентоспособных проектов. Для менее прорывных и высокотехнологичных проектов есть более простые меры поддержки, например, некоторые банки предоставляют льготные кредиты для технологических стартапов и инновационных компаний. Эти кредиты имеют, как правило, более низкий процент по сравнению с коммерческими кредитами и предлагают более длительные периоды погашения. Кроме того, государство активно разрабатывает различные программы, которые направлены на поддержку НИОКР. Это включает в себя создание научных парков, инновационных центров и технополисов, где учёные и инженеры могут работать над созданием новых высокотехнологичных продуктов и передовых технологий. В целом эти меры поддержки создают сильную основу для развития отечественных отраслей науки и промышленности. В совокупности всё это играет важную роль в создании благоприятного инвестиционного климата и обеспечении условий для развития собственных технологий в России.

В рамках поддержки национального производства своевременно обновляется законодательная база, связанная с государственной регистрацией новых объектов интеллектуальной собственности. Так, например, 29 апреля 2023 года вступил в силу новый Приказ Минэкономразвития России от 21.02.2023 № 107 «О государственной регистрации изобретений», который сделал недействительным ранее изданный приказ и стал более актуальным и отвечающим времени. Также Федеральный институт промышленной собственности (ФИПС) утвердил

приоритетный порядок рассмотрения заявок на изобретения и промышленные образцы, если их заявитель – малая технологическая компания. Такая ускоренная процедура экспертизы по существу действует уже с 1 мая 2024 года.

Правильно будет отметить, что не все лицензионные соглашения (а точнее, невозможность их заключить сегодня) затрудняют импортозамещение иностранных продуктов. Например, в сфере разработки программного обеспечения и другого авторского контента широко распространено применение свободных лицензий, таких как General Public License, Creative Commons и Free, Libre and Open-Source Software (FLOSS), которые позволяют легально использовать и модифицировать технологии и программное обеспечение. Такие исходные материалы, распространяемые на условиях открытого доступа, также предоставляют возможности для развития национальных решений. Это уже дало реальные плоды импортозамещённых продуктов в отрасли отечественного программного обеспечения. Наша компания «РусБИТех-Астра» занимается разработкой и продвижением отечественной операционной системы Astra Linux, которая позиционируется как альтернатива иностранным ОС. В условиях ограниченного доступа к зарубежным операционным системам Astra Linux стала важной частью импортозамещения в сфере информационных технологий, поскольку проект использует компоненты с открытым исходным кодом, что позволяет легально обходить санкционные ограничения, не нарушать авторские права разработчиков на программное обеспечение и создать основу для развития IT-индустрии в стране. Также немаловажно, что эта операционная система разработана и ориентирована на российские стандарты безопасности, что позволяет интегрировать её в государственные информационные системы.

Ещё одним эффективным способом легального обхода правовых барьеров при импортозамещении является заключение лицензионных соглашений, создание совместных предприятий и технологических альянсов с компаниями из дружественных стран, что способствует трансферу технологий и компетенций и доступу к некоторым необходимым продуктам. К успешным примерам международного сотрудничества можно отнести совместную российско-белорусскую разработку лёгкого многоцелевого самолёта «Освей», который призван заменить чешскую модель «L-410 Turbolet», лицензия на производство которой была утрачена в результате санкций Европейского союза. В ходе совместной разработки «Освея» российские и белорусские специалисты могут обмениваться опытом и технологиями, что способствует развитию отечественного авиастроения, международного партнёрства и снижению зависимости от импорта из недружественных стран.

Несмотря на непростую сложившуюся геополитическую обстановку в мире, российские компании не отказываются от взаимодействия с другими

странами, которые хотят продолжать деловое сотрудничество. Примером может служить сотрудничество государственной корпорации «Росатом» с консорциумом «Framatome-Siemens» (Франция и Германия, соответственно), с которым вместе работает над сооружением сразу двух новых блоков венгерской атомной электростанции «Пакш», ввод в эксплуатацию которых планируется в 2024 году. Это даёт основание говорить, что наши технологии и опыт до сих пор востребованы и являются признаны экспертными во всём мире. Такой и многие другие опыты совместной разработки способствуют трансферу технологий и позволяют российским компаниям легально использовать объекты интеллектуальной собственности, принадлежащие компаниям-партнёрам международного проекта.

За последние два года набирает обороты практика выкупа российскими предпринимателями активов тех иностранных компаний, которые ушли с рынка и не имеют планов продолжать деятельность в нашей стране. Эта мера эффективна как для продавцов, которые могут ликвидировать свои активы путём продажи замороженных предприятий, не приносящих прибыль, так и для покупателей, которые получают готовую цепочку производства, систему менеджмента и управления, логистику и узнавание потребителями. Вместе с материальными переходят и нематериальные активы, такие как бренд (если рассматривать его как совокупность товарного знака, фирменного обозначения, сайта, доменного имени, гудвилла и др.) или используемые в производстве технологии, что является значительным вкладом в импортозамещение, ведь, по сути, в замещении конкретных РИДов в организации производства и работы компании отпадает. В таком случае никаких лицензий или соглашений на легальное использование этих объектов интеллектуальной собственности уже не требуется, поскольку они передаются согласно договору (хотя так происходит и не во всех случаях).

Приведённые примеры отражают стратегический подход России к преодолению правовых барьеров в области импортозамещения. Российские компании и государственные структуры активно работают над созданием собственных независимых технологий, что позволяет снизить зависимость от зарубежных объектов интеллектуальной собственности. Это достигается за счёт инвестиций в научные исследования и разработку, а также через использование открытых технологий и лицензий, которые способствуют трансферу знаний и ускорению технологического прогресса. Кроме того, заключение стратегических партнёрств с иностранными компаниями в различных отраслях позволяет обмениваться опытом и разрабатывать совместные проекты, что укрепляет позиции российских компаний как на внутреннем, так и на международном рынках. Улучшение законодательства в сфере интеллектуальной собственности обеспечивает защиту прав инноваторов и стимулирует создание новых технологий, что важно для

поддержания конкурентоспособности страны. Развитие эффективных мер поддержки отечественных инноваций, включая гранты, льготные кредиты, налоговые льготы и прочие инвестиционные стимулы, создаёт благоприятную среду для роста высокотехнологичных отраслей. Это не только способствует технологической независимости, но и приводит к увеличению объёмов производства и экспорта российской продукции, что положительно сказывается на экономике страны в целом. Такой разносторонний по проявлению подход не только способствует технологической и экономической независимости от импортных продуктов других стран, но и стимулирует развитие отечественной промышленности и инноваций.

Механизмы импортозамещения в России активно и непрерывно совершенствуются, закрывая потребности внутреннего рынка, а также отвечая всё новым и новым вызовам мировой экономики. В долгосрочной перспективе такие меры адаптируются, чтобы обеспечить стабильность и динамичное развитие и диверсификацию экономики, в том числе в части снижения зависимости от импортной продукции. Совершенствование этих механизмов требует комплексного подхода, включающего также развитие внутреннего рынка, что позволяет отечественным компаниям расширять производство и увеличивать объёмы продаж. Всё это способствует созданию внутри страны конкурентной экономической среды, в которой российские компании могут успешно конкурировать не только друг с другом, но и с иностранными компаниями.

Таким образом, можно сказать, что импортозамещение в России не является статичным комплексом мер, а представляет собой гибкую систему, способную относительно своевременно реагировать на внешние и внутренние изменения, обеспечивая тем самым устойчивое развитие национальной экономики и повышение качества жизни населения. Это открывает новые перспективы для роста и процветания российской экономики.

Заключение

В условиях глобальной экономической нестабильности и усиления санкционного давления вопрос эффективного импортозамещения становится приоритетным для России. Как в прошлом году верно заметил президент России Владимир Владимирович Путин: «Речь не должна идти только об обратном инжиниринге и о том, где бы что-нибудь там посмотреть, а прежде всего, конечно, речь должна идти о том, чтобы заместить своими разработками». Это заявление показывает необходимость сосредоточить усилия на создании собственных разработок и подчеркивает важность стимулирования отечественных инноваций и производства и технологического суверенитета страны, что полностью отвечает выбранной стратегии развития.

Импортозамещение — это сложный и системный процесс, требующий комплексных решений не только экономического, но и правового характера. Этот процесс должен быть направлен не столько на замену импортных товаров на продукцию отечественного производства, сколько на повышение технологического уровня и эффективности национальной продукции. Одной из самых значимых проблем в этом отношении выступают правовые барьеры, связанные с невозможностью использовать зарубежные объекты интеллектуальной собственности, включая инновационные технологии и продукты. Однако, несмотря на это, на данный момент есть реальные возможности и рабочие механизмы для их решения.

В ходе исследования были рассмотрены актуальные примеры, которые показывают, как российские предприятия и компании, столкнувшиеся с такими правовыми барьерами, активно ищут пути адаптации к новым экономическим реалиям и нынешним санкционным ограничениям. Одним из ключевых направлений стала разработка собственных технологических решений, что позволяет не только обойти правовые барьеры, но и укрепить позиции на внутреннем рынке. Адаптация к санкционным ограничениям стала стимулом для ускорения технологического и инновационного развития, что в долгосрочной перспективе может привести к увеличению конкурентоспособности как отдельной компании, так и целых отраслей экономики.

При этом необходимо разрабатывать соответствующие механизмы защиты прав интеллектуальной собственности и содействие лицензированию технологий для обеспечения устойчивого развития отечественного производства. Совершенствование законодательства в части более гибкой и простой регистрации и коммерциализации объектов интеллектуальной собственности позволит устранить существующие барьеры и будет способствовать более эффективному использованию результатов интеллектуальной деятельности в интересах отечественных производителей и национальной экономики.

Создать благоприятную среду для развития инновационной деятельности можно путём стимулирования отечественных технологических проектов разными финансовыми инструментами, которые представляют собой эффективные механизмы поддержки. В их числе кредиты на льготных условиях, гранты и субсидии для конкурентоспособных и высокотехнологичных проектов, льготные промышленные ипотеки, разного вида контракты, соглашения и долгосрочные программы развития и др. Эти финансовые инструменты играют ключевую роль в создании условий для развития инновационной деятельности в России. Они направлены на поддержку технологических проектов на разных этапах: от фундаментальных и ориентированных

исследований и разработки тестового образца инновационного продукта до коммерциализации и позиционирования на рынок.

Среди других направлений импортозамещения можно упомянуть, в частности, создание результатов интеллектуальной деятельности на основе открытых лицензий и открытых инноваций, выкуп действующих предприятий для получения прав на их нематериальные активы, совместные с зарубежными странами инновационные проекты в разных сферах и многое другое. Реализация и развитие существующих мер может значительно улучшить механизм импортозамещения и способствовать более активному внедрению отечественных разработок и инноваций в производственный процесс, что, в свою очередь, укрепит экономическую безопасность страны и её независимость от иностранного импорта.

Несмотря на то, что импортозамещение является важным механизмом для независимого и эффективного развития национальной экономики, оно непосредственно связано с экономикой, наукой и социальной сферой жизни людей. При проведении стратегической политики, обеспечивающей технологический суверенитет страны, важно правильно оценивать целесообразность тех или иных принятых мер и их дальнейшее влияние на жизнь общества. Такие меры обязаны быть гибкими и адаптируемыми к изменяющимся условиям мировой экономики, а сама стратегия импортозамещения должна включать механизмы оценки эффективности принимаемых мер и их корректировки в соответствии с достигнутыми результатами.

Импортозамещение должно способствовать устойчивому экономическому росту, созданию новых рабочих мест и повышению качества жизни граждан, но вместе с тем необходимо избегать создания искусственных барьеров на внутреннем рынке, которые могут привести к повышению цен и снижению качества продукции. Основной тенденцией при внедрении политики импортозамещения становится идея, что отечественные товары и услуги должны конкурировать с импортной продукцией не только по цене, но и по качеству. Важно следить за тем, чтобы импортозамещение учитывало социальные последствия для населения. Например, переход на отечественную продукцию в отсутствие зарубежных аналогов не должен приводить к снижению качества жизни.

Подводя итог, можно сказать, что решение правовых барьеров механизмов импортозамещения, связанных с использованием зарубежных объектов интеллектуальной собственности, требует внимательного рассмотрения всех аспектов процессов и комплексного подхода, который включает в себя разные меры поддержки отечественной сферы интеллектуальной собственности. В то же самое время правильно реализованная политика импортозамещения может стать мощным стимулом для развития национальной экономики и повышения уровня благосостояния граждан. В заключение необходимо отметить, что только

через совместные усилия государства, частных компаний, независимых инвесторов и научных сообществ можно создать условия для эффективного развития национальной экономики, обеспечить конкурентоспособность отечественных производителей на мировом рынке и устойчивый экономический рост Российской Федерации.

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«Metallurgiya» kafedrası

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RANGLI VA NODIR METALLARNI RUX KEKLARI TARKIBIDAN AJRATIB OLISH

Annotatsiya. Maqolada rux minerallari va rudalarining konlari olish mumkin bo'lgan turli xil materiallar haqida ma'lumotlar keltirilgan bo'lib, rux kekiga suv bug'i ishtirokida termik ishlov berilganda ro'y berishi mumkin bo'lgan reaksiyalarning termodinamik ko'rsatkichlari o'rganilgan. Shuningdek qo'rg'oshin va qimmatbaho metallarni ajratib olish bo'yicha o'tkazilgan tadqiqot natijalari keltirilgan.

Kalit so'zlar: rux, kek, mineral, maydalash, temir, pirometallurgik, kuydirish, harorat, cho'kma, metal, temir.

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SEPARATION OF NON-FERROUS AND RARE METALS FROM ZINC CAKES

Abstract. The article provides information on various materials from which zinc minerals and ore deposits can be obtained, and thermodynamic parameters of reactions that can occur during heat treatment of zinc cake with water vapor

are studied. The results of the research on the separation of lead and precious metals are also presented.

Key words: zinc, cake, mineral, grinding, iron, pyrometallurgical, calcination, temperature, deposition, metal, iron.

Tabiatda tarkibida rux bo‘lgan 66 ta minerallar aniqlangan, biroq uning sanoat ahamiyatiga ega bo‘lgan minerallari bu sulfidli rudalarda sfalerit, oksidli rudalarda esa smitsonit va kalamindir. Rux minerallarining qisqacha tasnifi 1-jadvalda keltirilgan.

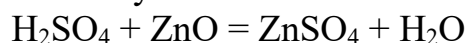
1-jadval. Rux minerallarining qisqacha tasnifi

Minerali	Formulasi	Ruxning miqdori, %	Zichligi, g/sm ³	Qattiqligi
Sfalerit	ZnS	67,1	3,5 – 4,2	3 – 4
Smitsonit	ZnCO ₃	59,5	3,5 – 3,8	2,5
Kalamin	2ZnO·SiO ₂ ·H ₂ O	53	3,4 – 3,5	4 – 5
Sinkit	ZnO	80,3	5,7	4
Villemit	2ZnO·SiO ₂	59,1	4,1	5 – 6
Franklinit	(Zn,Mn) O·Fe ₂ O ₃		5 – 5,2	6

Rux kekini gidrometallurgik qayta ishlash hozirgi paytda keng tarqalayotgan jarayondir. Bu usullardan asosan getit va yarozi jarayonlar qo‘llanilmoqda. Getit jarayoni. Ushbu jarayon hozirgi kunda Belgiyaning Balen shahridagi rux ishlab chiqarish zavodida qo‘llaniladi. Bunda dastlab rux keki qayta ishlangan elektrolit bilan 6-8 soat davomida, 95°C haroratda tanlab eritiladi. Jarayon erkin sulfat kislotasining qoldiq miqdori 50 g/l lguncha davom etiladi. Olingan qo‘rg‘oshin-kumush keki tarkibida 25 % Pb va 3-4 % Zn bo‘ladi, so‘ngra kek qo‘rg‘oshin ishlab chiqarishga yuboriladi. Pb-Ag kekining ajralib chiqishi umumiy rux kekinining 1/3 qismini tashkil etadi.

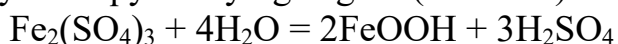
Kekni tanlab eritish natijasida hosil bo‘lgan eritmada temirning bir qismi (30 g/l) Fe₂(SO₄)₃ shaklda uchraydi. Vaqtidan oldin temir (III) gidrolizini oldini olish maqsadida temir rux sulfidi bilan tiklanadi: Fe₂(SO₄)₃ + ZnS = ZnSO₄ + 2FeSO₄ + S

Tiklanish reaksiyasi 97°C haroratda 3-4 soat davomida olib boriladi. Jarayon mahsuloti - sulfidli kek tarkibida 20% Zn va 50% S mavjud bo‘lib, u dastlabki konsentrat bilan birga kuydirishga yuboriladi. 20 g/l H₂SO₄, 20 - 30 g/l ekvivalentli temir va 1 g/l uch valentli temirga ega bo‘lgan eritma neytrallashga yuboriladi. Neytralizator sifatida rux kuyindisi qo‘llanadi:



Eritmada H₂SO₄ning miqdori 3 g/l gacha pasaytiriladi. Bunda Fe (III) cho‘kmaga o‘tadi. Neytrallashdan so‘ng quyultirilgan mahsulot tanlab eritishga qaytariladi, eritmada esa getit cho‘ktiriladi. Jarayon 90-95°C haroratda 6 soat davomida o‘tkaziladi. Bunda eritmani qo‘shimcha neytrallab, pH=1,5-2,5 gacha pasaytiriladi va Fe (II) havodagi kislorod bilan oksidlantiriladi. Temirning

oksidlanishi Cu (II) ishtirokida tezroq o'tadi. Oksidlangan temir gidrolizga uchraydi va qiyin eriydigan getit (-FeOOH) hosil qiladi:



Cho'kma deyarli yaxshi filtrlanadi. 50 % Fe va 3-4% Zn mavjud bo'lgan getit keki chiqindi (otval)ga tashaladi, eritma esa neytral tanlab eritishga yuboriladi. Getitni cho'ktirish jarayonida eritma mishyak, surma, germaniy kabi yo'ldosh elementlardan tozalanadi. Getitli cho'kma tarkibida 50% ga yaqin temir bo'ladi. Bu texnologiyaning asosiy kamchiligi jarayonning ko'p bosqichlilik va aylanma materiallarning ko'pligidir. Yarozit jarayoni hozirda Norvegiyaning Oddo shahridagi rux ishlab chiqarish zavodida qo'llaniladi. Bu yerda Zn keki 150-200 g/l H₂SO₄ eritmasida 80-90°C da 4-6 soat davomida qayta ishlanadi. Qoldiq (asosan PbSO₄, SiO₂ va temir oksidlari) oltin va kumushga boy bo'lib, eritmadan ajratib olinadi va qo'rg'oshin zavodiga yuboriladi. Eritmada rux, kadmiy, mis va boshqa sulfat kislota eriydigan moddalar bor. Eritmada H₂SO₄ ning qoldiq miqdori 40-60 g/l bo'lgani uchun uni 10 g/l gacha pasaytirish maqsadida m rux kuyindisi bilan neytrallanadi. Pulpa (bo'tana)ning qattiq fazasini eritmadan quyushtirgichda ajratib olinadi. Quyultirilgan pulpa kekni tanlab eritish bosqichiga yuboriladi. Eritma esa temirdan tozalashga yuboriladi. Temirdan tozalash 85-95°C da olib boriladi. Temirni yarozit shaklda o'tkazish ruxni zavod bo'yicha yuqori darajada (95-96 %) ajratib olishga imkon yaratadi. Qo'rg'oshin va qimmatbaho metallarning 94-97% i qo'rg'oshin - kumush kekiga o'tadi. Jarayonning kamchiliklari: eritmani qizdirish va sovitish uchun qo'shimcha jihozlar ishlatilishi, yarozitning cho'kish vaqtinng ko'pligi. Gematit jarayoni. Rux kekini Yaponiyaning "Akita zink" firmasining "Induzima" zavodi sharoitida qayta ishlash. Bu korxonada rux kekini gematit jarayonida qayta ishlash yo'lga qo'yilgan. Gematit texnologiyasida rux keklarini avtoklavda 110-180°C haroratda va 150-180 g/l konsentratsiyali sulfat kislota ishtirokida tanlab eritishga asoslangan. Tanlab eritish jarayoni sulfat kislota konsentratsiyasi 40-50 g/l bo'lgunga qadar davom etadi. Bu sharoitda esa rux, mis, noyob metallar va temir deyarli to'liq eritmaga o'tadi. Temirning katta qismi yo'qotilishi mumkin. Temir gidrolizlanib gematit holida cho'kadi. Bu usul sanoatda faqatgina ikki korxonada qo'llaniladi: Yaponiyaning "Akita zink" firmasining "Induzima" zavodida va Germaniyaning "Dattelh" zavodida. Induzima zavodida kekni qayta ishlash uchun Kanadaning "Sherrit Gordon" firmasi tomonidan ishlab chiqarilgan va "Dova mayning" firmasi tomonidan takomillashtirilgan avtoklavdan foydalaniladi. Dastlab kek qayta ishlangan elektrolit bilan repulpsiyalanadi, keyin sulfat kislota qo'shib kislota konsentratsiyasi rostlanadi va to'rt kamerali avtoklavga yuboriladi. Keklarni avtoklav usulida qayta ishlash jarayonida mis va temir eritmaga o'tadi, qo'rg'oshin esa kekda (cho'kmada) qoladi. Kek ajratib olingandan keyin eritma maxsus bakka yig'iladi. Eritmadan vakuum filtrda filtrlanib, mis keki ajratib olinadi va "Dova mayning" firmasining Kosaka zavodiga yuboriladi. Eritmadan mis keki ajratib olinganidan so'ng ohaktosh bilan neytrallanib, galliyga boy gips va oddiy gips olinadi. Olingan bu cho'kmalar

Kosaka zavodida qayta ishlanadi. Eritma 200°C gacha qizdiriladi temirni oksidlash va cho'ktirish maqsadida unga kislorod yuboriladi. Bu operatsiya titan qoplamali avtoklavlarda o'tkaziladi. 59% dan ortiq temir va 3% oltingugurt tarkibli cho'kma (temirning III oksidi) eritmadan ajratib olinadi va zavoddagi kuydirish uskunasiga yuboriladi. Rux keklarini avtoklavda tanlab eritishdan hosil bo'lgan gematitli cho'kma - kekda temir miqdori 67 % gacha bo'ladi (1-jadval). 70 g/l Zn va 60 g/l H₂SO₄ ga ega bo'lgan yakuniy eritma asosiy ishlab chiqarish -boshlang'ich rux keklarini repulpsiyalashga yuboriladi. Rux keklarini tanlab eritishdan olingan qo'rg'oshin keki qimmatbaho metallarni saralab olish uchun qayta ishlanadi. Ushbu usulda rangli metallarni ajratib olish darajasi quyidagicha: Zn 95-96 %; Cu 93-94 %; Cd 93-94 %. Gematit jarayonini yarozi va getit jarayoni bilan solishtirganda, yuqori temir tarkibli mahsulot (60 % Fe) olinadi va po'lat eritish zavodlariga yuboriladi. Jarayonning kamchiligi murakkab va yuqori qiymatli dastgoh-avtoklavning qo'llanilishidir. Rux kekini tanlab eritish uchun foydalaniladigan erituvchini tanlashda juda ko'p omillar hisobga olindi, jumladan: boshlang'ich mahsulotning kimyoviy va fizikaviy tabiati, erituvchining narxi, erituvchining dastgohga korrozion ta'siri, tanlab eritilayotgan mahsulotga nisbatan erituvchining tanlovchanlik harakati. Erituvchi sifatida sulfat kislotasining qo'llanilishi texnologik va iqtisodiy samarador hisoblanadi, shu bilan birga hosil bo'ladigan rux sulfatini rux zavodining asosiy sikliga kiritish mumkin. Hozirgi kunda "Olmaliq KMK" AJ Rux zavodida ishlab chiqarilayotgan rux keki pirometallurgiya usuli bilan vels pechida velslash jarayoni orqali qayta ishlanadi. Bu usulning kamchiliklari sifatida jarayonda katta miqdorda tannarxi yuqori bo'lgan koksning ishlatilishi, klinker bilan oltin, kumush, mis, qo'rg'oshin va boshqa metallarning yo'qolishi, uchirmalarni ushlab olishning murakkabligi, olingan mahsulot tarkibida zararli qo'shimchalar: xlor, fluor, uglerod miqdorini kamaytirish uchun qo'shimcha jarayonning qo'llanilishi, shuningdek, atrof muhitga katta miqdordagi chiqindi gazlarni chiqarib atmosferani ifloslantirishini ko'rishimiz mumkin.

Ma'lumki suv tabiatda eng yaxshi erituvchi hisoblanadi. Suvning bu xususiyatidan gidrometallurgik jarayonlarda keng foydalaniladi. Ammo suvning bug' (par) holatidagi xossalari hozirgacha o'rganilmagan. Bunday uylab qaralsa biz bug' dunyosida yashayapmiz. Yilning istalgan vaqtida havoda suv bug'i bo'ladi va u har qanday kimyoviy reaksiyalarda ishtirok etadi deb ishonch bilan aytish mumkin. So'nggi yillarda O'zbekistonda professor S.A. Abduraxmonov rahbarligida turli metallarning sulfidli minerallarini suv bug'i ishtirokida oksidlanish mexanizmi va kinetikasi bo'yicha ancha materiallar to'plandi. Jumladan, rux keklarini qayta ishlashni past haroratda (600-700 °C) suv bug'i ishtirokida termik ishlov berish usuli eksperimental tadqiqotlar va termodinamik hisoblashlar orqali asoslandi.

Rux boyitmasi qaynar qatlamli pechda kudirilib, kuyindi tarkibidagi ruxni eritmaga o'tkazish maqsadida sulfat kislotaning suvli eritmasi bilan tanlab eritiladi. Kuyindini tanlab eritish vaqtida uning tarkibidagi Cu, Cd, Fe, As kabi

metallarning ham qisman eritmaga o'tishi kuzatiladi. Ruxning eritmaga o'tish darajasi 85-90%, kekning chiqishi 20-25% bo'ladi.

Rux keki kuyindini tanlab eritishdan qolgan qattiq qoldiq bo'lib uning tarkibi quyidagicha, %: Zn-18-23; Pb-4,8-11,7; Cu-0,25-1,28; Cd-0,08-0,2; Ag-170-425g/t; Fe-23-32; Au-1-2g/t; Sum. – 4,7-10. Hozirgi kunda Olmaliq kon-metallurgiya kombinati, rux konxonasida kek tarkibida qolgan ruxni ajratib olish maqsadida 1000-1100°C haroratda 35-55% koks qo'shilib vel'slash jarayoni amalga oshirilmoqda. Bunda ruxli uchirma va tarkibida ko'pgina metallar bo'lgan klinker hosil bo'ladi. Vel'slash jarayoni kamchiliklariga qimmatbaho va tahchil bo'lgan koks sarfining yuqoriligi, jarayonning yuqori haroratda kechishi, klinkerni qayta ishlashning samarali texnologiyasi yo'qligi sababli boshqa qimmatbaho metallar (Au, Ag, Pb, Cu va boshqalar) ni ajratib olinmasligi kiradi. Yuqoridagilardan kelib chiqib rux keki tarkibidagi rangli metallar bilan birga nodir metallarni ham ajratib olishga imkon beradigan texnologiyani ishlab chiqish dolzarb muammo bo'lib hisoblanadi.

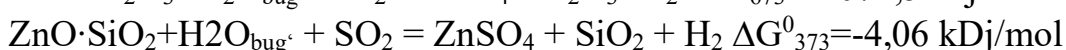
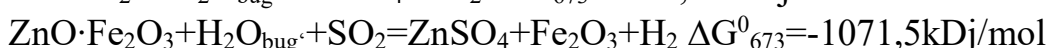
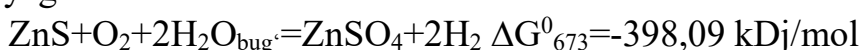
Yuqoridagilardan kelib chiqib, rux kekiga suv bug'i ishtirokida termik ishlov berilganda ro'y berishi mumkin bo'lgan reaksiyalarning termodinamik ko'rsatkichlari o'rganildi. Reaksiyalarning izobar-izotyermik potentsiallari L.P. Vladimirov usuli bo'yicha hisoblandi. Rux kekiga suv bug'i ishtirokida termik ishlov berilganda ko'pgina reaksiyalar ro'y berishi mumkinligi sababli ularni quyidagi guruhlarga bo'lish mumkin:

1. Sulfidli minerallarning (sfalerit, pirit, galenit va b.) oksidlanishi.
2. Ferrit va silikatlarining suv bug'i bilan ta'sirlashuvi.

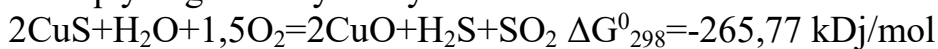
Elementar oltingugurt rux kekida erkin holatda va organik birikmalar bilan birikkan holatda uchraydi. Bundan tashqari u beqaror sulfidli birikmalarning termik parchalanishi hisobiga ham hosil bo'ladi. Aniqlandiki, elementar oltingugurtning uchish harorati 150-200°C, arsenopirit va piritning parchalanishi 450-500°C haroratda ro'y beradi. Pirit, arsenopirit va xal'kopiritning to'liq parchalanishi ~700°C haroratda ro'y beradi. Bunda gaz fazasida sulfid angidrid va boshqa uchuvchan oksidlar bo'ladi. Hosil bo'lgan oltingugurt suv bug'i bilan reaksiyaga kirishadi.



Rux sulfidi, ferriti va silikati sulfid angidridi ishtirokida suv bug'i bilan reaksiyaga kirishadi.



Mis sulfidi suv bug'i bilan termik ishlov berish jarayonida kislorod ishtirokida quyidagi reaksiya bo'yicha oksidlanadi:



Rux kekklarini turli xil gidrometallurgik usullarda qayta ishlash texnologiyalari o'rganildi. Mavjud texnologiyalarni o'zaro tahlilidan so'ng,

xulosa o'rnida shunday qilib, termodinamik hisoblashlar va olib borilgan tadqiqotlar quyidagilarni ko'rsatdi:

1. Rux keki tarkibidagi elementar oltingugurt va sulfidlarning parchalanishidan hosil bo'lgan oltingugurt suv bug'i bilan reaksiyaga kirishib oltingugurt (IV) oksidi hosil qiladi va keyinchalik oltingugurt (IV) oksidi sulfidli minerallar bilan ta'sirlashadi.

2. Termodinamik hisoblashlar shuni ko'rsatdiki rux keklariga suv bug'i ishtirokida termik ishlov berish jarayonida rux sulfidi (ZnS) rux sulfatiga ($ZnSO_4$), rux ferriti ($ZnO \cdot Fe_2O_3$) $ZnSO_4$ va Fe_2O_3 ga, rux silikati ($ZnO \cdot SiO_2$) $ZnSO_4$ va SiO_2 holatiga o'tadi.

3. Suv bug'i ishtirokida termik ishlov berish natijasida olingan kuyindini sulfat kislota eritmasi bilan tanlab eritish natijasida rangli metallar (asosan Zn, Cu) eritmaga o'tadi, so'ngra erimay qolgan kek tarkibidan nodir metallar (Au, Ag) ni gidrometallurgik usulda ajratib olish imkoniyati paydo bo'ladi.

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«Metallurgiya» kafedrası

Navoiy davlat konchilik va texnologiyalar universiteti

RANGLI VA NODIR METALLARNI RUX KEKLARI TARKIBIDAN AJRATIB OLISH

Annotatsiya. Maqolada rux minerallari va rudalarining konlari olish mumkin bo'lgan turli xil materiallar haqida ma'lumotlar keltirilgan bo'lib, rux kekiga suv bug'i ishtirokida termik ishlov berilganda ro'y berishi mumkin bo'lgan reaksiyalarning termodinamik ko'rsatkichlari o'rganilgan. Shuningdek qo'rg'oshin va qimmatbaho metallarni ajratib olish bo'yicha o'tkazilgan tadqiqot natijalari keltirilgan.

Kalit so'zlar: rux, kek, mineral, maydalash, temir, pirometallurgik, kuydirish, harorat, cho'kma, metal, temir.

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SEPARATION OF NON-FERROUS AND RARE METALS FROM ZINC CAKES

Abstract. The article provides information on various materials from which zinc minerals and ore deposits can be obtained, and thermodynamic parameters of reactions that can occur during heat treatment of zinc cake with water vapor are studied. The results of the research on the separation of lead and precious metals are also presented.

Key words: zinc, cake, mineral, grinding, iron, pyrometallurgical, calcination, temperature, deposition, metal, iron.

Tabiatda tarkibida rux boʻlgan 66 ta minerallar aniqlangan, biroq uning sanoat ahamiyatiga ega boʻlgan minerallari bu sulfidli rudalarda sfalerit, oksidli rudalarda esa smitsonit va kalamindir. Rux minerallarining qisqacha tasnifi 1-jadvalda keltirilgan.

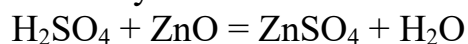
1-jadval. Rux minerallarining qisqacha tasnifi

Minerali	Formulasi	Ruxning miqdori, %	Zichligi, g/sm ³	Qattiqligi
Sfalerit	ZnS	67,1	3,5 – 4,2	3 – 4
Smitsonit	ZnCO ₃	59,5	3,5 – 3,8	2,5
Kalamin	2ZnO·SiO ₂ ·H ₂ O	53	3,4 – 3,5	4 – 5
Sinkit	ZnO	80,3	5,7	4
Villemit	2ZnO·SiO ₂	59,1	4,1	5 – 6
Franklinit	(Zn,Mn) O·Fe ₂ O ₃		5 – 5,2	6

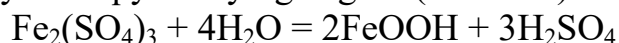
Rux kekini gidrometallurgik qayta ishlash hozirgi paytda keng tarqalayotgan jarayondir. Bu usullardan asosan getit va yarozit jarayonlar qoʻllanilmoqda. Getit jarayoni. Ushbu jarayon hozirgi kunda Belgiyaning Balen shahridagi rux ishlab chiqarish zavodida qoʻllaniladi. Bunda dastlab rux keki qayta ishlangan elektrolit bilan 6-8 soat davomida, 95°C haroratda tanlab eritiladi. Jarayon erkin sulfat kislotasining qoldiq miqdori 50 g/l lguncha davom etiladi. Olingan qoʻrgʻoshin-kumush keki tarkibida 25 % Pb va 3-4 % Zn boʻladi, soʻngra kek qoʻrgʻoshin ishlab chiqarishga yuboriladi. Pb-Ag kekining ajralib chiqishi umumiy rux kekinining 1/3 qismini tashkil etadi.

Kekni tanlab eritish natijasida hosil boʻlgan eritmada temirning bir qismi (30 g/l) Fe₂(SO₄)₃ shaklda uchraydi. Vaqtidan oldin temir (III) gidrolizini oldini olish maqsadida temir rux sulfidi bilan tiklanadi: Fe₂(SO₄)₃ + ZnS = ZnSO₄ + 2FeSO₄ + S

Tiklanish reaksiyasi 97°C haroratda 3-4 soat davomida olib boriladi. Jarayon mahsuloti - sulfidli kek tarkibida 20% Zn va 50% S mavjud boʻlib, u dastlabki konsentrat bilan birga kuydirishga yuboriladi. 20 g/l H₂SO₄, 20 - 30 g/l ekvivalentli temir va 1 g/l uch valentli temirga ega boʻlgan eritma neytrallashga yuboriladi. Neytralizator sifatida rux kuyindisi qoʻllanadi:



Eritmada H₂SO₄ning miqdori 3 g/l gacha pasaytiriladi. Bunda Fe (III) choʻkmaga oʻtadi. Neytrallashdan soʻng quyultirilgan mahsulot tanlab eritishga qaytariladi, eritmadan esa getit choʻktiriladi. Jarayon 90-95°C haroratda 6 soat davomida oʻtkaziladi. Bunda eritmani qoʻshimcha neytrallab, pH=1,5-2,5 gacha pasaytiriladi va Fe (II) havodagi kislorod bilan oksidlantiriladi. Temirning oksidlanishi Cu (II) ishtirokida tezroq oʻtadi. Oksidlangan temir gidrolizga uchraydi va qiyin eriydigan getit (-FeOOH) hosil qiladi:



Choʻkma deyarli yaxshi filtrlanadi. 50 % Fe va 3-4% Zn mavjud boʻlgan getit keki chiqindi (otval)ga tashaladi, eritma esa neytral tanlab eritishga yuboriladi. Getitni choʻktirish jarayonida eritma mishyak, surma, germaniy kabi yoʻldosh elementlardan tozalanadi. Getitli choʻkma tarkibida 50% ga yaqin temir boʻladi. Bu texnologiyaning asosiy kamchiligi jarayonning koʻp bosqichliligi va aylanma materiallarning koʻpligidir. Yarozit jarayoni hozirda Norvegiyaning Oddo shahridagi rux ishlab chiqarish zavodida qoʻllaniladi. Bu yerda Zn keki 150-200 g/l H₂SO₄ eritmasida 80-90°C da 4-6 soat davomida qayta ishlanadi. Qoldiq (asosan PbSO₄, SiO₂ va temir oksidlari) oltin va kumushga boy boʻlib, eritmadan ajratib olinadi va qoʻrgʻoshin zavodiga yuboriladi. Eritmada rux, kadmiy, mis va boshqa sulfat kislota eriydigan moddalar bor. Eritmada H₂SO₄ ning qoldiq miqdori 40-60 g/l boʻlgani uchun uni 10 g/l gacha pasaytirish maqsadida m rux kuyindisi bilan neytrallanadi. Pulpa (boʻtana)ning qattiq fazasini eritmadan quyushtirgichda ajratib olinadi. Quyultirilgan pulpa kekni tanlab eritish bosqichiga yuboriladi. Eritma esa temirdan tozalashga yuboriladi. Temirdan tozalash 85-95°C da olib boriladi. Temirni yarozit shaklda oʻtkazish ruxni zavod boʻyicha yuqori darajada (95-96 %) ajratib olishga imkon yaratadi. Qoʻrgʻoshin va qimmatbaho metallarning 94-97% i qoʻrgʻoshin - kumush kekiga oʻtadi. Jarayonning kamchiliklari: eritmani qizdirish va sovitish uchun qoʻshimcha jihozlar ishlatilishi, yarozitning choʻkish vaqtinlig koʻpligi. Gematit jarayoni. Rux kekini Yaponiyaning "Akita zink" firmasining "Induzima" zavodi sharoitida qayta ishlash. Bu korxonada rux kekini gematit jarayonida qayta ishlash yoʻlga qoʻyilgan. Gematit texnologiyasida rux keklarini avtoklavda 110-180°C haroratda va 150-180 g/l konsentratsiyali sulfat kislota ishtirokida tanlab eritishga asoslangan. Tanlab eritish jarayoni sulfat kislota konsentratsiyasi 40-50 g/l boʻlgunga qadar davom etadi. Bu sharoitda esa rux, mis, noyob metallar va temir deyarli toʻliq eritmaga oʻtadi. Temirning katta qismi yoʻqotilishi mumkin. Temir gidrolizlanib gematit holida choʻkadi. Bu usul sanoatda faqatgina ikki korxonada qoʻllaniladi: Yaponiyaning "Akita zink" firmasining "Induzima" zavodida va Germaniyaning "Dattel" zavodida. Induzima zavodida kekni qayta ishlash uchun Kanadaning "Sherrit Gordon" firmasi tomonidan ishlab chiqarilgan va "Dova mayning" firmasi tomonidan takomillashtirilgan avtoklavdan foydalaniladi. Dastlab kek qayta ishlangan elektrolit bilan repulpsiyalanadi, keyin sulfat kislota qoʻshilib kislota konsentratsiyasi rostlanadi va toʻrt kamerali avtoklavga yuboriladi. Keklarni avtoklav usulida qayta ishlash jarayonida mis va temir eritmaga oʻtadi, qoʻrgʻoshin esa kekda (choʻkmada) qoladi. Kek ajratib olingandan keyin eritma maxsus bakka yigʻiladi. Eritmadan vakuum filtrda filtrlanib, mis keki ajratib olinadi va "Dova mayning" firmasining Kosaka zavodiga yuboriladi. Eritmadan mis keki ajratib olinganidan soʻng ohaktosh bilan neytrallanib, galliyga boy gips va oddiy gips olinadi. Olingan bu choʻkmalar Kosaka zavodida qayta ishlanadi. Eritma 200°C gacha qizdiriladi temirni oksidlash va choʻktirish maqsadida unga kislorod yuboriladi. Bu operatsiya titan qoplamali avtoklavlarda oʻtkaziladi. 59% dan ortiq temir va 3% oltingugurt

tarkibli choʻkma (temirning III oksidi) eritmadan ajratib olinadi va zavoddagi kuydirish uskunasiga yuboriladi. Rux keklarini avtoklavda tanlab eritishdan hosil boʻlgan gematitli choʻkma - kekda temir miqdori 67 % gacha boʻladi (1-jadval). 70 g/l Zn va 60 g/l H₂SO₄ ga ega boʻlgan yakuniy eritma asosiy ishlab chiqarish -boshlangʻich rux keklarini repulpatsiyalashga yuboriladi. Rux keklarini tanlab eritishdan olingan qoʻrgʻoshin keki qimmatbaho metallarni saralab olish uchun qayta ishlanadi. Ushbu usulda rangli metallarni ajratib olish darajasi quyidagicha: Zn 95-96 %; Cu 93-94 %; Cd 93-94 %. Gematit jarayonini yarozi va getit jarayoni bilan solishtirganda, yuqori temir tarkibli mahsulot (60 % Fe) olinadi va poʻlat eritish zavodlariga yuboriladi. Jarayonning kamchiligi murakkab va yuqori qiymatli dastgoh-avtoklavning qoʻllanilishidir. Rux kekini tanlab eritish uchun foydalaniladigan erituvchini tanlashda juda koʻp omillar hisobga olindi, jumladan: boshlangʻich mahsulotning kimyoviy va fizikaviy tabiati, erituvchining narxi, erituvchining dastgohga korroziyon taʼsiri, tanlab eritilayotgan mahsulotga nisbatan erituvchining tanlovchanlik harakati. Erituvchi sifatida sulfat kislotasining qoʻllanilishi texnologik va iqtisodiy samarador hisoblanadi, shu bilan birga hosil boʻladigan rux sulfatini rux zavodining asosiy sikliga kiritish mumkin. Hozirgi kunda "Olmaliq KMK" AJ Rux zavodida ishlab chiqarilayotgan rux keki pirometallurgiya usuli bilan vels pechida velslash jarayoni orqali qayta ishlanadi. Bu usulning kamchiliklari sifatida jarayonda katta miqdorda tannarxi yuqori boʻlgan koksning ishlatilishi, klinker bilan oltin, kumush, mis, qoʻrgʻoshin va boshqa metallarning yoʻqolishi, uchirmalarni ushlab olishning murakkabligi, olingan mahsulot tarkibida zararli qoʻshimchalar: xlor, fluor, uglerod miqdorini kamaytirish uchun qoʻshimcha jarayonning qoʻllanilishi, shuningdek, atrof muhitga katta miqdordagi chiqindi gazlarni chiqarib atmosferani ifloslantirishini koʻrishimiz mumkin.

Maʼlumki suv tabiatda eng yaxshi erituvchi hisoblanadi. Suvning bu xususiyatidan gidrometallurgik jarayonlarda keng foydalaniladi. Ammo suvning bugʻ (par) holatidagi xossalari hozirgacha oʻrganilmagan. Bunday uylab qaralsa biz bugʻ dunyosida yashayapmiz. Yilning istalgan vaqtida havoda suv bugʻi boʻladi va u har qanday kimyoviy reaksiyalarda ishtirok etadi deb ishonch bilan aytish mumkin. Soʻnggi yillarda Oʻzbekistonda professor S.A. Abduraxmonov rahbarligida turli metallarning sulfidli minerallarini suv bugʻi ishtirokida oksidlanish mexanizmi va kinetikasi boʻyicha ancha materiallar toʻplandi. Jumladan, rux keklarini qayta ishlashni past haroratda (600-700 °C) suv bugʻi ishtirokida termik ishlov berish usuli eksperimental tadqiqotlar va termodinamik hisoblashlar orqali asoslandi.

Rux boyitmasi qaynar qatlamli pechda kudirilib, kuyindi tarkibidagi ruxni eritmaga oʻtkazish maqsadida sulfat kislotaning suvli eritmasi bilan tanlab eritiladi. Kuyindini tanlab eritish vaqtida uning tarkibidagi Cu, Cd, Fe, As kabi metallarning ham qisman eritmaga oʻtishi kuzatiladi. Ruxning eritmaga oʻtish darajasi 85-90%, kekning chiqishi 20-25% boʻladi.

Rux keki kuyindini tanlab eritishdan qolgan qattiq qoldiq bo‘lib uning tarkibi quyidagicha, %: Zn-18-23; Pb-4,8-11,7; Cu-0,25-1,28; Cd-0,08-0,2; Ag-170-425g/t; Fe-23-32; Au-1-2g/t; Sum. – 4,7-10. Hozirgi kunda Olmaliq kon-metallurgiya kombinati, rux konxonasida kek tarkibida qolgan ruxni ajratib olish maqsadida 1000-1100°C haroratda 35-55% koks qo‘shilib vel’slash jarayoni amalga oshirilmoqda. Bunda ruxli uchirma va tarkibida ko‘pgina metallar bo‘lgan klinker hosil bo‘ladi. Vel’slash jarayoni kamchiliklariga qimmatbaho va tahchil bo‘lgan koks sarfining yuqoriligi, jarayonning yuqori haroratda kechishi, klinkerni qayta ishlashning samarali texnologiyasi yo‘qligi sababli boshqa qimmatbaho metallar (Au, Ag, Pb, Cu va boshqalar) ni ajratib olinmasligi kiradi. Yuqoridagilardan kelib chiqib rux keki tarkibidagi rangli metallar bilan birga nodir metallarni ham ajratib olishga imkon beradigan texnologiyani ishlab chiqish dolzarb muammo bo‘lib hisoblanadi.

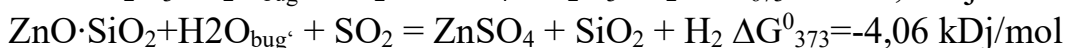
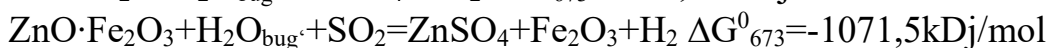
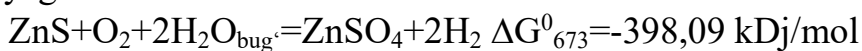
Yuqoridagilardan kelib chiqib, rux kekiga suv bug‘i ishtirokida termik ishlov berilganda ro‘y berishi mumkin bo‘lgan reaksiyalarning termodinamik ko‘rsatkichlari o‘rganildi. Reaksiyalarning izobar-izotermik potentsiallari L.P. Vladimirov usuli bo‘yicha hisoblandi. Rux kekiga suv bug‘i ishtirokida termik ishlov berilganda ko‘pgina reaksiyalar ro‘y berishi mumkinligi sababli ularni quyidagi guruhlariga bo‘lish mumkin:

1. Sulfidli minerallarning (sfalerit, pirit, galenit va b.) oksidlanishi.
2. Ferrit va silikatlarining suv bug‘i bilan ta’sirlashuvi.

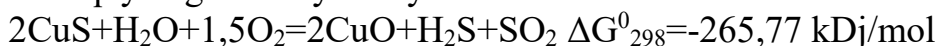
Elementar oltingugurt rux kekida erkin holatda va organik birikmalar bilan birikkan holatda uchraydi. Bundan tashqari u beqaror sulfidli birikmalarining termik parchalanishi hisobiga ham hosil bo‘ladi. Aniqlandiki, elementar oltingugurtning uchish harorati 150-200°C, arsenopirit va piritning parchalanishi 450-500°C haroratda ro‘y beradi. Pirit, arsenopirit va xal’kopiritning to‘liq parchalanishi ~700°C haroratda ro‘y beradi. Bunda gaz fazasida sulfid angidrid va boshqa uchuvchan oksidlar bo‘ladi. Hosil bo‘lgan oltingugurt suv bug‘i bilan reaksiyaga kirishadi.



Rux sulfidi, ferriti va silikati sulfid angidridi ishtirokida suv bug‘i bilan reaksiyaga kirishadi.



Mis sulfidi suv bug‘i bilan termik ishlov berish jarayonida kislorod ishtirokida quyidagi reaksiya bo‘yicha oksidlanadi:



Rux keklarini turli xil gidrometallurgik usullarda qayta ishlash texnologiyalari o‘rganildi. Mavjud texnologiyalarni o‘zaro tahlilidan so‘ng, xulosa o‘rnida shunday qilib, termodinamik hisoblashlar va olib borilgan tadqiqotlar quyidagilarni ko‘rsatdi:

1. Rux keki tarkibidagi elementar oltingugurt va sulfidlarning parchalanishidan hosil bo'lgan oltingugurt suv bug'i bilan reaksiyaga kirishib oltingugurt (IV) oksidi hosil qiladi va keyinchalik oltingugurt (IV) oksidi sulfidli minerallar bilan ta'sirlashadi.

2. Termodinamik hisoblashlar shuni ko'rsatdiki rux keklariga suv bug'i ishtirokida termik ishlov berish jarayonida rux sulfidi (ZnS) rux sulfatiga (ZnSO₄), rux ferriti (ZnO·Fe₂O₃) ZnSO₄ va Fe₂O₃ ga, rux silikati (ZnO·SiO₂) ZnSO₄ va SiO₂ holatiga o'tadi.

3. Suv bug'i ishtirokida termik ishlov berish natijasida olingan kuyindini sulfat kislota eritmasi bilan tanlab eritish natijasida rangli metallar (asosan Zn, Cu) eritmaga o'tadi, so'ngra erimay qolgan kek tarkibidan nodir metallar (Au, Ag) ni gidrometallurgik usulda ajratib olish imkoniyati paydo bo'ladi.

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TYPOLOGY OF PARADIGMATIC GROUPS IN VOCABULARY AND PHRASEOLOGY

Annotation. The article discusses lexemes and phrasemes in the field. Analyzed the main paradigmatic groups are identified - thematic group and lexical-semantic group on the example of lexical-phraseological fields "literature". It is emphasized that seminal analysis plays an important role in field research.

Key words: lexeme; phraseme; thematic group; lexical-semantic group; paradigmatic group; lexicalphraseological field; literature; term; character. Keywords: lexeme; phrase; subject group; lexico-semantic group; paradigmatic group; lexico-phraseological field; literature; term; character.

Introduction

Combining lexemes and phrasemes into paradigmatic groups – the most striking characteristic of the field, the most indicative manifestation of the systemic connections between elements operating in it. Let us consider the main paradigmatic groups in the LFP “Literature”. The most relevant concept for our research is the concept of a field, since the entire union we are considering terms is a lexical and phraseological field. Field - the largest association of language units, opposed smaller associations within it. How the field is maximal The wide-ranging LFP “Literature” is a macrofield, in which microfields are distinguished. Macropole and microfield represent elements of macrostructure and microstructure LFP “Literature”, characteristic of this horizontal structure fields. In our opinion, it would be most logical to highlight in the LFP “Literature” microfields corresponding to literature, developing in one country or another, in one language or another or associated with some religion, culture, historical period. For a number of microfields, the semes ‘country’ and ‘people’ will coincide: "Austrian Literature", "Chinese Literature"; series of microfields characterized only by the seme ‘people’: “Komi literature”, "Crimean Tatar literature"; characteristic of other microfields only seme ‘country’: “Congo Literature”, “Belgian Literature”. For the LFP “Literature”, considered in relation to Russian language, the actual semes in these microfields will be ‘Russian’ (‘related to Russian literature’) and ‘non-Russian’ (‘not related to Russian literature’). Last semester in each microfield has a specific form: ‘Belgian’, ‘Chinese’ and under. Based on religious criteria, microfields are identified “Christian literature”, “Buddhist literature”, etc. Archisema for these fields the seme ‘religion’ (‘belief’) becomes. In every microfields form their own system of thematic groups, types of time paradigms and other paradigmatic groupings terms.

At the same time, microfield terms also refer to lexical semantic groups - other largest paradigm- tic formations in the structure of physical therapy. The microfield can be divided into even smaller microfields based on some other criteria, for example, "Russian literature" includes microfields "Old Russian literature", "Modern Russian literature", etc. The terminological nature of the LFP "Literature" determines exceptional significance in its paradigmatic structure thematic groups (TG), since it is thematic association, associated with the attribution of an object or phenomenon to the field of knowledge lies based on terminological fields. In modern linguistic research, a thematic group is defined as "a collection words of the same lexico-grammatical category, highlighted based on an extralinguistic feature" [10, p. 210]. In the concept of TG the main characteristics are the extra-linguistic essence of the given paradigmatic unification (the topic is set not by linguistic, but by factors external to language), connection with reality surrounding reality (concepts) and belonging constituents to one part of speech. In the LFP "Literature", in our opinion, the following TGs are distinguished: as "Literary methods (directions)", "Types of literature", "Genres of Literature", "Creators of Literary Works", "The plot of the work", "Means of expression", "Literary techniques", "Thematic focus", etc. More details some TG will be discussed in the next chapter. Lexemes and phrasemes are combined into thematic groups based on extralinguistic factors. For example, based on the thematic specificity of a literary work can be highlight the TG "Thematic focus", which includes terms adventure literature, detective literature, science fiction, didactic literature, dystopia, fantasy, historical literature, romance novel, books about "misfits", alternative history, horror (horror novel), etc. Some thematic groups are multi-component, others may have a small number of elements. For example, to designate literature intended for readers of different ages terms children's literature, teenage literature, literature for adults; TG "Kinds of Literature" includes historically fixed the number of elements is three: epic, lyric, drama. The lexical-semantic group is the most voluminous in composition combining LFP elements. L.M. Vasiliev gives the following definition: LSG definition: "...Any semantic class of words (lexemes), combining containing at least one common lexical paradigmatic seme (or at least one common semantic factor)" [1, p. 110]. For LSG, unlike a thematic group, it is not mandatory characteristic is that all elements belong to one parts of speech. In addition, the components of LSG should not have a single hyperseme, although they naturally have common semes. In the system of terms of LFP "Literature" the most logical We imagine the selection of LSG "Literary work", "Literary criticism", "Versification", "Folklore". LSG "Literary work" includes terms, composition forming the basis of the LFP "Literature"; they can be called primary. The purpose of lexemes and phrasemes of this group is to characterize the literary work, name its basic components. Precisely literarythe work is the semantic center of the LFP "Literature", the basis and source of the gradual formation of that significant by the number of arrays of lexemes and phrasemes that make up a given LFP.

Number of components of LSG “Literary work” not very large: theme, idea, plot, hero, character, action, structure of a literary work, composition, gender, genre, method, prose, poetry, language of work, writer, poet, write etc., however, their significance for this physical therapy is very significant. Many lexemes of this LSG become semantic centers and are included in the names of thematic groups, are dominant main synonymous series. Lexemes and phrasemes of this group determine the emergence and gradual filling of members of other LSG, which we will consider below. To analyze the elements of this LSG terms are formed by LSG “Literary Studies”, highlighting in literary creativity of poetry and prose stimulates the formation LSG “Versification”, the absence of an author in folk works and the formation of an author’s layer of works in all literatures requires the appearance of LSG "Folklore". Due to the primary nature of the LSG “Literary Work” division” of the common seme of all units of a given LSG, will, it seems to us, seme ‘literature’ (or seme ‘literary work’). Lexemes and phrasemes of the LSG “Literary Studies” have a common seme ‘science’ (‘scientific’) and represent units, purpose which is the scientific understanding of literary creativity. Historically this LSG is formed later than the one described above, since presupposes a native speaker’s desire and ability to analyze literary works. The TG composition of this LSG is determined by its scientific orientation. The main TG, in our opinion, is group “Analysis of a literary work”, including terms work analysis, interpretation, literary criticism, form and content of literature, artistic detail, etc. Aspiration researcher to a deep reading of a literary work, understanding its content and form makes it necessary formation of lexemes and phrasemes of this TG. Development of literary criticism and various approaches of researchers to the analysis of literary text determine the appearance following TG: “Methods of literary criticism” (biographical method, formal method, sociological method, etc.); "Sections literary studies" (folklore, hermeneutics, poetry, source studies, comparative literature, etc.); "Schools literary studies" (phenomenological school, spiritual-historical school, etc.). The secondary nature of this LSG and the branched system terms included in it indicate a person’s desire analyze the literary process, understand the specifics literary creativity, streamline its research. Lexemes and phrasemes of the LSG “Versification” are determined the existence of prose and poetic forms in literature and are aimed at identifying phenomena related to poetic form. The specificity of the poetic form is very obvious in comparison with prose and requires its own understanding with using appropriate terms. Integral seme in seme the structure of these terms – ‘poetry’ (‘poetic’). Let's call The main TGs as part of the LSG “Versification”: TG “Poetic genres”: ballad, fable, ode, poem, sonnet, epigram, etc. TG “Poetry Studies”, in which you can observe smaller thematic groupings, subgroups: “Sections of poetry”: rhythm, phonics, stanza, metric, prosody, etc.: “Poetic sizes”: iambic, trochee, dactyl, amphibrach, anapest, disyllabic sizes, etc.; “Forms of versification”: tonic verse, accented verse, blank verse, free verse, paradise verse, etc.; "Systems versification": metric versification, tonic versification addition,

syllabic-tonic versification; "Stanzas": couplet, quatrain, quatrain, octave, Onegin stanza; "Rhymes": poor rhyme, dactylic rhyme, masculine rhyme, imprecise rhyme; "Methods of rhyming": ring rhyme, parallel rhyming, etc. The development of poetry creates conditions for replenishing these groups with new terms. The branched nature of the TGs included in the LSG "Poetry Studies" due to both the good development of theoretical issues in science versification, and the objective reason - diversity poetic forms, ways of creating poetry. Continues here there is a close connection between the LFP "Literature" and the phenomena extra-linguistic reality. Since versification differs in the literature of different countries and peoples, then this LSG presents terms with the seme, opposed to the seme 'Russian', and related to the corresponding current microfield. For example, the word *daina* means traditional Lithuanian folk song and belongs to the microfield "Lithuanian literature"; the term *dastan* denotes the epic genre in literature and folklore of the Near and Middle East and belongs to the microfields "Lezgin literature", "Persian literature", etc. In the structure of the LSG "Versification" there are also micro- groups associated with place, time and features of creation poetic works: "Ancient versification" (hexameter, pentameter, ionic, etc.), "Folk poetry" (epic verse, ditty, nursery rhyme, etc.). In addition, synonymous series and antonymous pairs, which will be discussed below. LSG "Folklore" includes lexemes and phrasemes, integral seme for which (and at the same time differential at comparing them with other terms) is the seme 'folk', opposed to the seme 'author' in linguistic units that are not included in the LSG "Folklore". Thematic groups partially coincide with LSG "Versification": "Folk genres": anecdote, epic, fairytale, proverb, etc. "Folk performers": *gusans* – 'Armenian folk singers', *agmugm* – 'creators, performers and custodians of works folk art in Azerbaijani literature', etc. "Folkloristics": wandering stories, historical-typological logical theory, etc. A number of terms are included in several LSGs mentioned above. For example, the term spoken verse can simultaneously be attributed to to LSG "Poetry", and to LSG "Folklore". Genus-species (hyper-hyponymous) group (paradigm) (RVG) is defined as "a type of lexical-semantic paradigm, in which one word (hyperonym) denotes a generic concept, and the remaining words (hyponyms) are specific concepts [2, p. 72]. RVGs are distinguished in the system of naming genres, literary methods and genera, etc. Term denoting the name of TG (genre of literature, type of literature, literary method, etc.) is a generic name, and the names of specific phenomena - species; in addition, the name TG corresponds to the arche each of the elements included in the group – 'genre of literature', 'kind literature', etc. The vastness and diversity of literary studies terminologies determine the existence in the system of physical therapy of the birth species chains – sequences of terms, median elements of which are both generic and specific names in relation to groups of linguistic units of different degree of specificity. Most often there are chains of three terms: literature – science fiction – combat science fiction, genre – novel – gothic novel, poetic meter – two-syllable size is iambic, but longer ones

can be found chains of terms: means of expression – trope – comparison – metaphor is a personifying metaphor. Each of the following links is a term of a higher level of specificity, thus revealing the desire for concretization inherent in into the system of terms of the LFP “Literature”. The more significant a term is for physical therapy, the more general it is characterized by semantics, the more hypero- hyponymic groups it will be included as a hypernym. For example, the word writer is a hypernym, firstly, for RVG, including names of writers according to literary direction to which they belong (the writer is a realist, sentimentalist, modernist, etc.), according to the genres they create (writer - novelist, essayist, pamphleteer, essayist, short story writer and etc.), according to artistic preferences (science fiction writer, satirist, humorist, fiction writer, everyday life writer, villager, etc.). In the first case, the integral seme for hyponyms is ‘literary direction’, in the second – ‘literary genre’, in the third, the main theme is more difficult to determine, but this RVG clearly stands out based on the attention of writers to certain sides of reality or one or another way of displaying given reality. Lexico-semantic options (LSV), that is, meanings polysemantic words also represent units related paradigmatic relationships. In the structure of the LFP “Literature” they occur quite often. Usually terms have two meanings. The first may be more specific, and the second more wide (as, for example, the term gradation means ‘chain anadiplosis’ and ‘any chain of members with a gradual increase significance’ [4, p. 79]). Most often, between LSVs it is established the relationship is direct - figurative. For example, the word bard meant originally a ‘folk singer-poet of the ancient Celtic tribes’, and then as a result of metaphorization - any performer of his own songs, ranging from medieval wandering poets to Soviet bards twentieth century and modern amateur singer-songwriters. Ambiguous terms are drama, dramaturgy, and many others. etc. Some terms are included in only one of their LSVs LFP "Literature". For example, the term dialogue has a common language meaning ‘verbal communication between two or more persons’ and two special (portable) related to the LFP “Literature” – ‘part of a literary text, one of its components, reproducing the verbal communication of characters’ and ‘literary genre, predominantly philosophical and journalistic, in which the author's thought is developed in the form of an interview, an argument between two or more persons’ [4, p. 97]. The word glossa also has 3 LSVs, and only the third of them is related to the LFP “Literature”. In the first meaning of the gloss ‘in ancient terminology – archaisms, dialectisms and other “rare words”’, in the second - ‘commentaries on them’ and in the third, following from the second, figurative – ‘solid form in Spanish poetry of the 14th-17th centuries’ [4, p. 78], which became widely known thanks to Cervantes' Don Quixote. In this case, there is usually an expansion of the meaning a commonly used word due to its acquisition of a special semantics: composition, beginning, denouement, conflict, climax, etc. In explanatory dictionaries of common vocabulary, special the value will be presented under some number, starting with second, in the dictionary of literary terms it will be the only one. To

include in the circle of terms lexemes related to one of them their LSV to commonly used vocabulary, in literary studies terminology uses a method of adding an explanatory word to a word component: stylistic figures, artistic time. It is one from the ways of forming terms and phraseological units. Homonyms, like LSV, have a formal, external similarity, but Unlike the meanings of a polysemantic word, there is nothing in their semantics general. It is necessary to distinguish from the meanings of a polysemantic word homonyms, which are also externally the same, but whose meanings They are completely different and have no similarities. One such example in the structure of the LFP "Literature" is a trope term in the first meaning being the name of a form of medieval liturgical poetry, in the second, more common, stylistic and expressive means, 'transformation of language units, con- resulting in the transfer of a traditional name to another subject area' [4, p. 446]. Both of these homonyms are included in structure of the LFP "Literature", although more often one can observe one a homonym in common vocabulary, another in special vocabulary: gazelle – 'animal' and gazelle – 'a type of monorhymic lyrical poems' in oriental literature [4, p. 73]. Homonyms can be incomplete: there are homoforms of the trail - literary trails the term trope and the common word trope, coinciding in the nominative plural form. If homonyms are observed between commonly used and special word, then, as a rule, there are connections between them, which are currently lost, that is, decay is occurring for homonyms of LSV words. Homonyms can refer to different terminological areas: borrowing is a linguistic term ('transition of a word from one language to another') and borrowing – literature tourism term ('one of the forms of literary connections') [4, p. 110]; octave is a musical term ('the eighth degree of the scale, as well as interval' [6, p. 451] and octave - a poetic term (a type eight lines). A synonymous series is "a series of lexical and phraseological synonyms" [7, p. 278]. One of the founders of modern terminological school D.S. Lotte considered synonymy as a phenomenon alien to terminology and declared that synonymy has no place in terminology [5, p. 15]. However, as it turned out, prohibitive (or strictly advisory) measures in relation to language, which linguists tried to apply it in the 60-70s of the last century, do not act, even if they touch such an ordered part of the language, as terminology. Moreover, today the synonymity of the characteristics recognized by researchers as an integral property of terminology each dynamically developing science: "The higher the level development of science, the more synonymous is the thinking of a specialist" [8, p. 175]. As noted by A.A. Kislyakova, "the synonymy of the terms is enough a common phenomenon" [3, p. 131]. Our observations on LFP "Literature" confirms this. Most common two-component synonymous series with borrowed and Russian elements corresponding to it, and the Russian term often is a tracing paper of a borrowed word: distich - couplet, asyndeton – non-union and so on. Such synonyms are called doublets (if there are three of them - triplets). One of the members of this synonymous series can be a phraseme: free verse poem. In two-component

synonymous series it is difficult and even it is impossible to identify dominants - the synonym is the most common by value. Doublets of different languages and times are distinguished and areal, in the LPP "Literature" are more common multilingual. Not all researchers classify doublets as synonyms, which we cannot agree with, since there is a semantic similarity with formal difference. Rather, it is a special kind synonyms. Many linguists talk about the need to get rid of from them in all terminological systems, for example, "weed out "empty" foreign language borrowings identical to the original ones terminological units" [9, p. 298]. This is also difficult agree: prohibitive measures in the field of language are ineffective, since the processes observed here, including regular the formation of doublets reflects the effect of internal laws development of a language system independent of human will.provisions. Two phenomena denying each other at the same time flow from each other. Antinomies in literature are also prose and poetry, comic and tragic, etc. Analysis of the LFP structure is based on seme analysis, since paradigmatic relationships are based on similarities and differences semantic composition of words.

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ЭФФЕКТИВНАЯ САМОСТОЯТЕЛЬНАЯ РАБОТА В МЕДИЦИНСКОЙ БИОЛОГИИ: ПОШАГОВОЕ РУКОВОДСТВО

Аннотация. В статье "Эффективная Самостоятельная Работа в Медицинской Биологии: Пошаговое Руководство" рассматриваются ключевые методы и практики, способствующие успешному самостоятельному обучению в области медицинской биологии. Описаны этапы постановки целей, планирования и использования различных ресурсов, таких как учебники, научные статьи, онлайн-курсы и видео-лекции. Особое внимание уделено практическому применению знаний, участию в профессиональных сообществах и регулярной оценке прогресса. Представленные рекомендации помогут студентам и специалистам эффективно организовать свое обучение, что способствует углублению знаний и профессиональному развитию в данной области.

Ключевые слова: самостоятельное обучение, медицинская биология, планирование, научные ресурсы, практическое применение, профессиональные сообщества, оценка прогресса, саморазвитие, навыки, методы обучения.

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EFFECTIVE INDEPENDENT WORK IN MEDICAL BIOLOGY: A STEP-BY-STEP GUIDE

Abstract. The article "Effective Self-Study in Medical Biology: A Step-by-Step Guide" discusses key methods and practices that promote successful self-study in the field of medical biology. Steps to setting goals, planning, and using various resources such as textbooks, research articles, online courses, and video lectures are described. Particular attention is paid to the practical application of knowledge, participation in professional communities and regular assessment of progress. The recommendations presented will help students and specialists effectively organize their studies, which contributes to deepening knowledge and professional development in this field.

Key words: self-study, medical biology, planning, scientific resources, practical application, professional communities, assessment of progress, self-development, skills, teaching methods.

Современная наука требует от специалистов глубоких знаний и умения постоянно обновлять свои навыки. Медицинская биология, будучи одной из самых динамично развивающихся областей, не является исключением. В условиях быстро меняющегося научного ландшафта самостоятельная работа становится ключевым элементом профессионального роста. В этой статье мы рассмотрим эффективные методы и практики, которые помогут вам организовать самостоятельную работу в медицинской биологии [1,2].

1. Постановка целей и планирование

Первым шагом к успешной самостоятельной работе является четкое определение целей. Что именно вы хотите изучить или какие навыки развить? Возможно, вас интересуют последние открытия в генетике, механизмы клеточной биологии или методы диагностики заболеваний. Сформулируйте конкретные цели и разбейте их на более мелкие задачи.

Пример:

Изучить основы генетики.

Разобраться в методах секвенирования ДНК.

Освоить навыки работы с базами данных генетической информации.

После постановки целей разработайте план действий. Определите, сколько времени вы готовы уделять обучению ежедневно или еженедельно, и создайте расписание. Регулярность и систематичность занятий играют ключевую роль в успешном освоении материала.

2. Поиск и использование ресурсов

Сегодня существует огромное количество ресурсов для самостоятельного изучения медицинской биологии. Основные источники информации включают:

Учебники и монографии: Начните с базовых учебников, чтобы получить фундаментальные знания, и переходите к более специализированной литературе по мере углубления в тему [3].

Научные статьи: Подписывайтесь на ключевые журналы в вашей области, такие как Nature, Science, Cell. Используйте базы данных, такие как PubMed, для поиска статей по интересующим вас темам.

Онлайн-курсы и лекции: Платформы, такие как Coursera, edX, Khan Academy, предлагают курсы от ведущих университетов мира. Это отличный способ получить структурированное обучение [4].

Видео-лекции и подкасты: Многие университеты и исследовательские институты выкладывают записи лекций и семинары на YouTube и других платформах.

3. Практическое применение знаний

Теория без практики малоэффективна. Поэтому важно находить возможности для применения полученных знаний:

Лабораторные работы: если у вас есть доступ к лаборатории, выполняйте эксперименты, связанные с вашими учебными целями [5].

Виртуальные лаборатории: Используйте онлайн-платформы, которые предоставляют возможность проводить виртуальные эксперименты.

Проектная работа: Создайте собственный проект, который позволит вам применить изученные методы на практике. Это может быть исследовательская работа, анализ данных или создание модели [6].

4. Обсуждение и сотрудничество

Самостоятельная работа не должна означать изоляцию. Вовлекайтесь в профессиональные сообщества, участвуйте в форумах и обсуждениях:

Научные конференции и семинары: Посещайте мероприятия, чтобы быть в курсе последних достижений и обмениваться опытом с коллегами.

Онлайн-форумы и группы: Присоединяйтесь к профессиональным сообществам в социальных сетях и на специализированных форумах [7].

Наставничество и коучинг: Найдите ментора или обратитесь за помощью к более опытным коллегам. Наставник поможет вам быстрее освоить сложные темы и даст ценные советы [8].

5. Оценка прогресса и корректировка плана

Регулярно оценивайте свой прогресс. Это можно сделать с помощью самооценочных тестов, написания отчетов по изученным темам или участия в конкурсах и олимпиадах. Анализируйте результаты и при необходимости корректируйте свой план обучения [9].

Заключение

Самостоятельная работа в медицинской биологии требует дисциплины, настойчивости и правильной организации. Следуя вышеописанным методам и практикам, вы сможете эффективно освоить новые знания и навыки, что поможет вам стать востребованным специалистом в этой динамично развивающейся области. Помните, что наука не стоит на месте, и ваш успех зависит от постоянного саморазвития и стремления к новым достижениям.

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**ЎЗБЕКИСТОНДА МЕВА-САБЗАВОТЛАР ЭКСПОРТИНИ
РИВОЖЛАНТИРИШДА ЛОГИСТИКА ХИЗМАТЛАРИНИ
ТАКОМИЛЛАШТИРИШ МАСАЛАЛАРИ**

Аннотация. Ўзбекистон аҳолисини озиқ-овқат маҳсулотлари билан узлуксиз таъминлаш ва мева-сабзавот, узумчилик маҳсулотларини жаҳон бозорига экспорт қилиш орқали иқтисодий ўсишни таъминлаш бугунги куннинг долзарб масалаларидан биридир. Ушбу мақолада мамлакатимизда мева-сабзавотчилик ва узумчиликни ривожлантиришнинг бугунги кундаги аҳамияти ва соҳада олиб борилаётган мева-сабзавотчилик кластери корхоналари фаолиятида логистик ёндашувларни такомиллаштириш хусусиятлари ва бу борада олиб борилаётган ишларнинг аҳамияти ёритилган.

Калит сўзлар: логистика ва аграр тармоқ, интеграция, мева-сабзавот, озиқ-овқат хавфсизлиги, экспорт, агрокластер, фермер, лизинг, молиявий қўллаб -қувватлаш.

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**ISSUES OF IMPROVING LOGISTICS SERVICES IN THE
DEVELOPMENT OF EXPORT OF FRUIT AND VEGETABLES IN
UZBEKISTAN**

Abstract. Providing the population of Uzbekistan with food products and ensuring economic growth through the export of fruits and vegetables to the world market is one of the pressing issues of our time. This article discusses the importance of the development of fruit and vegetable growing and viticulture in our country today, the features of improving logistics approaches in the activities of local fruit and vegetable cluster enterprises, as well as the importance of the work carried out in this issue, special attention is paid.

Key words: logistics and agricultural network, integration, fruits and vegetables, food security, export, agricultural cluster, farmers, leasing, financial support.

Дунё хамжамиятида, сўнгги йилларда тобора кучайиб бораётган иқлим ўзгариши, сув ресурсларининг танқислиги, ерларнинг мелоратив

ҳолати бузилиши каби муаммолар сабабли, Республикамизда ҳам бир қатор тармоқ ва соҳалар муаммо ва таҳдидлар гирдобиди қолмоқда. Шунингдек жаҳон иқтисодиётидаги глобаллашув ва интеграция жараёнларининг жадаллашуви бизнес субъектларининг мавжуд моддий ва молиявий ресурсларидан самарали фойдаланишни, етиштирилган ва саноат негизиди қайта ишлаб чиқарилган маҳсулотларни аниқ муддатларда, сифатли, арзон нархларда истеъмолчиларга етказиб беришда етказиб бериш занжирларини самарали бошқаришни талаб этмоқда.

Шу нуқтаи назардан Ўзбекистон Республикаси Президенти ва ҳукумати томонидан иқтисодиётни трансформациялаш жараёнида мева-сабзавотчиликни ривожлантиришга устувор йўналишлар сифатида катта эътибор қаратилмоқда. Ўзбекистон Республикаси Президентининг 2022 йил 28 январдаги ПФ-60-сонли фармони билан тасдиқланган "2022 - 2026 йилларга мўлжалланган янги Ўзбекистоннинг тараққиёт стратегияси" да қуйидагилар белгиланди:

➤ Қишлоқ хўжалигини илмий асосда интенсив ривожлантириш орқали деҳқон ва фермерлар даромадини камида 2 баравар ошириш, қишлоқ хўжалигининг йиллик ўсишини камида 5 фоизга етказиш.

➤ Туманларни аниқ маҳсулот турини етиштиришга ихтисослаштириш.

➤ Қишлоқ хўжалигида давлат томонидан қўллаб-қувватлаш кўламини кенгайтириш ва суғурталашнинг янги механизмларини амалга ошириш.

➤ Янги ва фойдаланишдан чиққан 464 минг гектар майдонни ўзлаштириш ва кластерларга очик танлов асосида ажратиш, 200 минг гектар пахта ва ғалла майдонларини қисқартириш ҳамда аҳолига очик танлов асосида узоқ муддатли ижарага бериш.

Экспортбоп маҳсулотлар етиштириш ҳамда мева-сабзавотчиликни ривожлантириш, интенсив боғлар майдонини 3 баравар ва иссиқхоналарни 2 баравар кўпайтириб, экспорт салоҳиятини яна 1 миллиард АҚШ долларига ошириш"[2] каби вазифалар белгиланди

Республикамизда 2023 йил сарҳисоби бўйича қишлоқ, ўрмон ва балиқ хўжаликлари маҳсулот (хизмат)ларининг умумий ҳажми 426,3 трлн сўмни ташкил этган бўлса, Шунингдек Андижон вилоятида эса энг кўп мева ва резаворлар (696,8 минг тонна) ва сабзавотлар етиштирилган (1 772,6 минг тонна) етиштирилган. Мева-сабзавотчилик маҳсулотларини интенсив технологиялар асосида етиштириш орқали ташқи бозорларда сотиш ҳисобига мамлакат валюта тушумининг сезиларли қисми шаклланаётганлиги ҳам соҳани тубдан ислоҳ қилиш ва жадал ривожлантиришнинг устуворлигидан далолат беради. Чунки жаҳон бозорида мева-сабзавот маҳсулотлари савдоси 205 миллиард долларни ташкил этган бир пайтда, бизнинг улушимиз бир фоизга ҳам етмаяпти. Шу боис соҳага хорижий инновацион тажрибаларни жорий этиш, ноанъанавий

экспортбоп мева-сабзабот маҳсулотлари етиштиришни кўпайтириш орқали мева-сабзабот экспортини 2023 йилда 1,75 миллион тоннага етди. Бунда Россия 37%лик улуш билан етакчилик қилмоқда. Ўтган 2023-йилда Ўзбекистон мева-сабзабот маҳсулотларини экспорт қилиш бўйича фаоллик кўрсатиб, 1,7 миллион тонна ушбу фойдали маҳсулотларни хорижга жўнатди, бу нафақат мамлакатимиз иқтисодиётига, балки халқаро савдо алоқаларини мустаҳкамлашга хизмат қилмоқда.

Ҳамкор давлатлар орасида Ўзбекистон мева-сабзаботларининг асосий экспорт бозорига айланган Россия алоҳида ажралиб туради. Россиянинг жами экспортдаги улуши таъсирчан 37% ни ташкил этди ва бу икки давлат ўртасидаги бу соҳадаги ҳамкорликнинг муҳимлигини таъкидланади.

Статистика агентлигининг ҳисоботида кўра, экспортнинг умумий ҳажми қарийб 1,2 миллиард долларга етганлиги жаҳон бозорида Ўзбекистон мева-сабзабот маҳсулотларига талаб юқори эканидан далолат беради.

Ўтган йилга нисбатан экспортнинг 1,1% га ўсиши кузатилмоқда, бу эса 18,9 минг тоннага кўпдир. Бу ижобий динамизм Ўзбекистон кишлок хўжалигининг барқарор ўсиши ва самарали экспорт стратегиясидан далолат беради.

Россиядан ташқари, ўзбек мева-сабзаботлари учун бошқа муҳим бозорлар Покистон (16,7%), Хитой (12,3%) ва Қозоғистон (10,3%) ҳисобланади. Ҳамкорларнинг бундай хилма-хиллиги Ўзбекистон экспорти географиясини кенгайтиришга хизмат қилмоқда ва мамлакатимизнинг жаҳон кишлок хўжалиги бозоридаги мавқеини узоқ муддатли мустаҳкамлаш учун қулай шарт-шароитлар яратмоқда [13].

Бугунги кунда кўплаб хорижий ҳамда маҳаллий олимлар мева-сабзабот маҳсулотларини сақлаш ҳамда уларни қайта ишлаш бўйича ўз тадқиқотларини олиб боришмоқда. Хорижий олимлардан Джеймс С.Джонсон, Дональд Ф.Вуд, Дэниел Л.Вордлоу, Поль Р.Мерфи [7] ўз тадқиқотларида мева-сабзабот маҳсулотларини қайта ишлаб, тайёр маҳсулот сифатида тайёрланганда олинадиган иқтисодий самарадорлик ҳақида маълумотлар келтирганлар.Ф.Котлер [8] “Basics of Marketing” номли ўқув қўлланмасида мева- сабзабот маҳсулотларининг сотуви бўйича маркетинг тадқиқотлари натижасини келтириб ўтган.

МДХ олимларидан В.А.Клюкач, Д.А.Логинов[10] мева-сабзабот маҳсулотларини рефрижераторларда сақлаш технологиялари бўйича қатор таклиф ва тавсиялар келтириб ўтишган, А.У. Альбеков, В.П.Редько, О.А.Митько эса уларни етказиб бериш ва логистик хизматлар бозорини шакллантириш бўйича ўз фикрларини билдириб ўтишган [11]. Ўзбек олимларидан эса Б.Т. Салимов ва М.С. Юсупов ўз илмий изланишларида Ўзбекистонда мева-сабзабот маҳсулотлари етиштириш ва экспорт қилишни давлат томонидан қўллаб-қувватлаш йўналишлари ҳақида маълумотлар бериб ўтишган[12].

Шу билан бирга ушбу соҳада айрим ўрганилмаган масалалар ҳам мавжуддир. Масалан, мамлакатимизда етиштирилган мева-сабзавот маҳсулотлари асосан экспортга йўналтирилмоқда ҳамда қайта ишлаш бўйича ишлар самарали олиб борилмоқда деб бўлмайди. Кўп ҳолларда техника ва технологияларнинг етишмаслиги ҳамда ушбу соҳада етарлича илмий изланишлар олиб борилмагани туфайли ердан етарлича унумли фойдаланиш кўрсаткичлари юқори эмас. Шу сабабдан ҳам мева – сабзавотларни сақлаш ва қайта ишлашга илмий жиҳатдан чуқурроқ эътибор бериш самарали натижага олиб келади.

Шу билан биргаликда, саноати ривожланган мамлакатлар ва илғор корхоналарнинг иш тажрибаси замонавий бизнесда логистика стратегик муҳим аҳамият касб этишидан далолат беради.

Логистика деганда бизнес ташкилоти барча ресурсларнинг оптимал сарфида корпоратив мақсадларга эришиши учун моддий оқимлари ва унга ҳамроҳлик қилувчи бошқа оқимларни (ахборот оқимлари, молиявий оқимлар, сервис) самарали бошқариш тушунилади.

Ҳозирги кунда илғор фирмаларда логистиканинг анъанавий функциялари – ташиш, захиралар, харидлар ва буюртмаларни бошқариш, юкларни омборларга жойлаштириш ва уларга қайта ишлов бериш – стратегик инновацион тизим ҳосил қилиш билан умумий ахборот-компьютер платформаси базасида интеграллашган.

Логистика – иқтисодиёт соҳалари тизимидаги моддий ва улар билан боғлиқ бўлган ахборот, молиявий ва хизмат кўрсатиш оқимларини, уларнинг пайдо бўлиш жойидан истеъмол жойигача бўлган ҳаракатини, тизим мақсадларига эришиш ва ресурсларни оптимал сарфлаш учун бошқаришдир.[8]

Ўтган асрнинг 60-йилларидан бошлаб иқтисодий ривожланган мамлакатларда логистика ғоясига қизиқиш тобора ортиб боришини куйидаги омилларни кўрсатиш мумкин:

- бозорнинг “сотувчи”дан “харидор”га ўтишида рақобатнинг пайдо бўлиши, логистика қўлланилаётган субъектларнинг рақобатбардошлиги, маҳсулот таннархининг кескин пасайтириши, маҳсулотни етказиб бериш сифати ва ишончилигини (белгиланган муддатларда, нуқсонсиз, маҳсулотлар партиясини бўлиб-бўлиб етказиш ва ҳ.к) ошириш;

- иқтисодиётда товарларнинг нархлардаги тебранишларнинг вужудга келишида логистикани қўллаш зарурлиги. Шунингдек 70-йиллардаги энергетик инқирози, бунда Энергия етказувчиларнинг нархи ошиши натижасида тадбиркорлардан ташишнинг иқтисодий усуллари излашга мажбур қилди. Ушбу масалани самарали ечиш учун, фақатгина транспорт ишларини такомиллаштириш билан натижа олиб бўлмайди. Бунинг учун тўлиқ логистика ва етказиб бериш занжирларини бошқаришда барча иштирок этувчиларнинг келишилган ҳаракатлари бўлиши зарурлиги кўрсатди.

Иқтисодиётда логистикани кўллаш имкониятини ҳозирги замонда ишлаб чиқариш, ташиш жараёнларида илмий-техник ривожланиши билан белгиланади. “Мева - сабзавотчилик” агрокластери тизимида логистиканинг асосий ғояси, ишлаб чиқаришнинг барча бўғимларида (мева-сабзавотларни етиштириш, саноат негизида қайта ишлаш, яқуний маҳсулот тайёрлаш, ҳамда истеъмолчига етказиб бериш) маҳсулотларни ташиш ва топшириш жараёнларини узлуксиз ва яхлит бўлишини таъминлашдан иборат.

Экологик, иқтисодий ва ижтимоий сиёсий муаммолар мавжуд ҳозирги шароитда, корхоналар фойдани оширишни айнан ишлаб чиқаришдан олиш етарли эмаслигини тушуниб, маҳсулотни етказиб бериш сифатини оширишга эътибор беришмоқда. Лекин, логистикани кенг кўламда жорий этиш учун моддий базанинг инфратузилмасини, мутаносиб равишда ташкилий шаклларни, тегишли хўжалик механизмларини ривожлантиришни талаб этмоқда. Бу ўз навбатида асосий эътибор хусусий муаммоларни: омбор мажмуалари, тезкор транспорт воситалари, ахборот коммуникацион тармоқлари, моддий материалларни бошқариш усулларини ривожлантириш ва ҳал қилишга қаратилди.

Хорижда логистиканинг тезкор ривожланишига таъсир кўрсатадиган асосий омиллардан бири – моддий тақсимлашда умумий ҳаражатлар концепциясининг пайдо бўлиши бўлиб, Концепциянинг асосий маъноси маҳсулотни ишлаб чиқарувчидан истеъмолчига тақсимлашдаги ҳаражатларни қайта гуруҳлаш асосида уларнинг умумий миқдорини камайтиришдан иборат.

Бозорни ривожлантиришда маҳсулот харидорларига эътибор, хусусан хизмат кўрсатиш қийматларини ошириш ва бир хил талабларга жавоб берадиган рақобатбардош маҳсулотлар миқдорининг ошишига эътибор берилмоқда. Бу эса, ўз навбатида бозор тузилмасининг кескин ривожланиш таъсири натижасида истеъмолчиларга хизмат даражасини кўтариш, талаб ва таклифларни мувофиқлаштиришни талаб этмоқда. Ишлаб чиқарилган маҳсулотлар ва буюртмалар цикллари қисқартириш мақсадида янги логистик ёндашувлар пайдо бўлмоқда ва бу ўз навбатида, маҳсулотни етказиш тузилмаларида янги ечимларни излаб топиш ва етказиш ҳаражатларини камайтиришда оптимал йўллари жорий қилишни талаб қилади. Юқори индустриал мамлакатлар иқтисодиётида илмий техник ривожланиш таъсирида муқобиллаштириш, оптимизациялаштириш, масалан транспорт турини танлаш, маҳсулотларни қабул қилиш ва омборларни жойлашишини оптималлаштириш, маршрутларни оптималлаштириш, захирага талаб ва эҳтиёжларни оптималлаштириш масалаларни ечиш зарурати вужудга келмоқда. Ишлаб чиқарилган маҳсулотлар ва буюртмалар цикллари қисқартириш мақсадида янги логистик ёндашувлар пайдо бўлиши ва бу ўз навбатида, маҳсулотни етказиш тузилмаларида янги ечимларни ахтариш ва етказиш ҳаражатларини камайтириш йўллари жорий қилишни талаб қилади.

Юқори индустриал мамлакатлар иқтисодиётида илмий техник ривожланиш турини танлаш, маҳсулотларни қабул қилиш ва омборларни жойлашишини оптималлаштириш, маршрутларни оптималлаштириш, захирага талаб ва эҳтиёжларни оптималлаштириш масалаларни ечишга мажбур бўлишди. Корхонанинг маҳсулот ишлаб чиқариш, ташиш, омборда сақлаш фаолиятларининг ҳар бирини алоҳида оптималлаштириш етарли бўлмайди, чунки бу ўзаро боғлиқ бўлган жараёнларга таъсир кўрсатади. Айниқса, шу босқичнинг бошланишида маҳсулотни омборларда жойлаштириш ва ташиш хизмати кўрсатишни мувофиқлаштириш бўйича ўтказилган тадқиқотлар ва корхоналар тажрибаси натижасида “маҳсулот тақсимланишини бошқариш” ибора ўрнига “логистика” атамаси қўлланила бошлади ва қатор ривожланган мамлакатларда интеграциялашиб, бизнеснинг охириги мақсадига кам ҳаражат билан етишда “ҳарид қилиш – қайта ишлаб чиқариш – етказиш - сотиш” тўлиқ логистик занжирига айланган. “Мева-сабзавотчилик” агрокластер тизимида етиштирилган маҳсулот логистик тизимининг аввалги занжирида чиқувчи ва кейинги занжирида кирувчи моддий оқим бўлади. Логистик тизимининг якуний моддий оқими охириги занжирининг чиқувчи оқими бўлади. Бунинг ўлчамлари логистик тизимдаги мустақил занжирларда кетма-кетликда таъсир этувчи жараёнларга боғлиқ бўлади.

Логистикада моддий оқимларни бошқариш анъанавий усулдан қуйидагилар билан фарқ қилади:

- белгиланган вақтда ва жойда зарур бўлган захиранинг мавжудлиги;
- ташқи ва ички транспортнинг бир меёрда келишиб ишлаши ишлаб чиқариш талбларига мувофиқ белгиланган вақтида етказиш кафолатини беради;
- логистиканинг етказиш занжирлари таркибидаги булакларнинг техникавий, технологик, иқтисодий ва услубий жиҳатларини яқдил тизимга бириктириб, моддий оқимлардан самарали фойдаланишини таъминлайди;
- транспорт ва омбор хўжаликларининг бир меёрда иш ҳаражатларини, ишлаб чиқариш ва тайёр маҳсулотлар захираларини камайтиради;
- истеъмолчи буюртмалари ва транспорт хизматларини бир меёрда ишлашини таъминлайди.

Логистик ёндашувда моддий ресурслар ҳаракатини бошқариш ҳозирги кунда қўлланилаётганидан фарқи шундаки, бунда бошқарув объекти сифатида оқим ёки бир бутун деб қабул қилинган кўп объектлардан иборат. Моддий оқимларни етказиш соҳасида логистик жараёнларга юклаш, тушириш, ташиш, комплектлаш (бутлаш), омборда сақлаш, тақсимлаш каби жараёнлар киради.

Логистика тизими – ўзаро муносабатда, алоқада бўлган ва оқимларни бошқаришга мўлжалланган элементлар (звенолар) йиғиндиси ҳисобланади. Логистика занжири – истеъмолчини аниқ маҳсулот билан таъминлаш учун

қатор физик ёки юридик шахслар бўлиб, логистика занжирида жўнатувчидан истеъмолчига қадар етказиладиган моддий ва инфор­мацион оқимларга моддий маҳсулотлар (уруғлик, кўчат, мева, резаворлар ва ҳ.к) ни олиш ва етказиш, маҳсулот ва хомашёларни сақлаш, маҳсулотларни, шу жумладан омбордаги қайта ишланган тайёр маҳсулотларни ҳам тақсимлаш каби жараёнларни ўз ичига олади.

“Мева-сабзавотчилик - кластер” тизимида моддий оқимлар асосан майда оқимлар, яъни маҳсулотнинг оғирлик массаси бир транспорт воситасининг юк кўтариш қобилиятидан кам бўлган ва булар ташишда бошқа майда оқимли воситалари билан биргаликда бажарилиши мумкин

Республика қишлоқ хўжалигида Агротластер тизими яқиндан бошлаб жорий қилинаётган бўлсада, тизим ўзининг ижобий томонларидан иқтисодий, тежамкор, юқори сифатли маҳсулот етиштириш нафақат фермер хўжаликлар, тизимнинг кейинги занжирларидан сақлаш, ташиш, қайта ишлаш, тайёр маҳсулот ишлаб чиқариш ва сотиш жараёнида барча иштирокчилар томонидан ишларни сифатли, белгиланган муддатларда бажарилишини тақоза этмоқда. Агротластер тизимини қўллаш мева-сабзавотчиликка ихтисослашган фермер, деҳқон, томорқа хўжаликларларнинг юқори сифатли маҳсулотлар етиштиришда улар нафақат олинган ҳосил, балки тизим занжири бўйича ҳосилдан олинган тайёр маҳсулотни сотишгача бўлган занжирни қамраб олади.

Юқоридаги таҳлилдан келиб чиқиб айтиш мумкинки, мамлакатимизда мева – сабзавот маҳсулотларини сақлаш, қайта ишлаш, экспорт қилиш ҳамда тайёр маҳсулот ҳолига келтириш учун қуйидагиларни амалга ошириш мақсадга

мувофиқ:

1. Ҳудудлар кесимида мева-сабзавотларни етиштириш ва қайта ишлаш бўйича агротластерлар ташкил этилган бўлиб, бу корхоналарда логистик тизимни йўлга қўйиш, асосан, водий ҳудудларида мавжуд қишлоқ хўжалиги ерларидан самарали фойдаланиш имконини беради.

2. Соҳада янги инновацияларни қўллаш ҳамда, Агротластер корхоналари ходимларининг салоҳиятини босқичма-босқич ошириб бориш. Агар ушбу соҳада янги инновациялар ва илмий ишланмалар жалб қилинса, янада юқори самарадорликга эришиш мумкин.

3. Ҳўл мева-сабзавот ва тайёр маҳсулот экспорт қиладиган хўжалик субъектларининг ишида юзага келадиган ташкилий муаммоларни бартараф этиш ҳамда имтиёзлар тизимини ишлаб чиқиш. Бунда, давлат ва хусусий ширкатлар шерикчилигини йўлга қўйиш ҳам давлатлараро муносабатларга, ҳам давлат ва тадбиркорлар ўртасидаги муносабатларга ижобий таъсир кўрсатади

4. Мева-сабзавот маҳсулотларини етиштириш ва бир вақтнинг ўзида қайта ишлаш билан шуғулланувчи ишлаб чиқариш мажмуалари, холдинглар ва илмий-ишлаб чиқариш бирлашмалари фаолиятида логистик

хизматларни кенгайтириш. Бу ўз ўрнида тармоқнинг жадал ривожланишини ва янги иш ўринлари яратилишини таъминлайди.

Фикримизча, юқоридаги таклиф ва тавсияларни мева-сабзавот маҳсулотларини сақлаш ҳамда қайта ишлаш тизимига жорий этиш юқори иқтисодий самарадорликка эришиш учун ёрдам беради

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СОВРЕМЕННЫЕ ПОДХОДЫ К ОБУЧЕНИЮ НА ПЛАТФОРМЕ ARDUINO

Аннотация. В данной статье рассматриваются современные подходы к обучению на платформе Arduino. Представлена методика создания и использования электронных образовательных ресурсов, включая математическое моделирование и алгоритмы управления для систем умного дома. Включены результаты тестирования и оценка эффективности предложенной методики, демонстрируя значительное улучшение практических навыков студентов. Статья подчеркивает важность интеграции интерактивных симуляций и VR/AR технологий в образовательный процесс, а также перспективы дальнейшего развития данных подходов.

Ключевые слова: электронные образовательные ресурсы, математическое моделирование, алгоритмы управления, программирование, Arduino, интерактивные симуляции, умный дом.

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MODERN APPROACHES TO LEARNING ON THE ARDUINO PLATFORM

Abstract. This article discusses modern approaches to learning on the Arduino platform. It presents a methodology for creating and using electronic educational resources, including mathematical modeling and control algorithms for smart home systems. The results of testing and evaluating the effectiveness of

the proposed methodology are included, demonstrating significant improvement in students' practical skills. The article highlights the importance of integrating interactive simulations and VR/AR technologies into the educational process, as well as the prospects for further development of these approaches.

Keywords: electronic educational resources, mathematical modeling, control algorithms, programming, Arduino, interactive simulations, smart home.

Введение

В современном образовании наблюдается растущий интерес к использованию электронных образовательных ресурсов. С развитием информационных технологий преподаватели и студенты получают новые инструменты для улучшения учебного процесса. Электронные образовательные ресурсы предоставляют уникальные возможности для интерактивного обучения, позволяя студентам активно взаимодействовать с учебным материалом, выполнять практические задания и проверять свои знания в реальном времени.

Особое внимание в этой области уделяется платформе Arduino, которая является одной из наиболее популярных для изучения основ электроники и программирования. Arduino предоставляет простоту в использовании и широкие функциональные возможности, что делает её идеальным инструментом для обучения как начинающих, так и опытных студентов. Платформа Arduino позволяет студентам создавать разнообразные проекты, от простых схем до сложных систем автоматизации, что способствует развитию их технических навыков и творческого мышления.

Однако, для эффективного освоения Arduino необходимо предоставление качественных образовательных материалов, включающих не только теорию, но и практические задания, симуляции и реальные проекты. В данной статье рассматривается методика создания и использования электронных образовательных ресурсов для обучения программированию на платформе Arduino. Методика включает анализ существующих исследований, разработку интерактивных симуляций и использование современных технологий дополненной и виртуальной реальности.

В качестве практического примера приводится проект умного дома, который включает использование Arduino, датчиков и актуаторов. Проект описывает процесс математического моделирования системы управления температурой и освещенностью, алгоритмы управления и результаты тестирования системы. Цель данной работы — показать, как современные электронные образовательные ресурсы могут быть интегрированы в учебный процесс и способствовать более глубокому пониманию предмета.

Методы

1. Выбор платформы для создания электронных ресурсов

При выборе платформы для создания электронных образовательных ресурсов были учтены следующие критерии:

Доступность: платформа должна быть доступной для студентов из разных регионов и с различными техническими возможностями.

Удобство использования: простой и интуитивно понятный интерфейс, который не требует специальных навыков для работы.

Функциональные возможности: поддержка различных типов контента (тексты, видео, интерактивные задания), возможность отслеживания прогресса студентов и интеграция с другими образовательными инструментами.

Выбор пал на несколько платформ:

Moodle: бесплатная и мощная платформа для создания курсов с богатыми функциональными возможностями.

Google Classroom: простая в использовании платформа, идеально подходящая для небольших курсов и групп.

WordPress: для создания собственного веб-сайта или блога с использованием плагинов для образовательных целей.

2. Создание структуры учебного материала

Создание структуры учебного материала является важным этапом в разработке электронных образовательных ресурсов. Структура должна обеспечивать последовательное и логичное изложение материала, способствовать эффективному усвоению знаний и навыков студентами, а также включать разнообразные форматы представления информации.

Учебный материал был структурирован таким образом, чтобы обеспечить логичное и последовательное изучение тем. Основные разделы курса включают:

Введение в Arduino: история, основные компоненты, установка программного обеспечения.

Основы программирования на Arduino: основные команды и синтаксис, примеры простых программ.

Работа с датчиками и актуаторами: подключение и использование различных датчиков (температуры, освещенности) и актуаторов (реле, моторы).

Проектирование схем: создание схем с использованием различных компонентов.

Разработка проектов: постепенное усложнение задач, создание более сложных проектов, таких как умный дом.

3. Выбор контентных форматов

Для эффективного обучения были выбраны различные форматы представления информации:

Текстовые материалы: Подробные описания теоретических концепций и пошаговые инструкции.

Видеоуроки: Визуальные объяснения, демонстрация сборки схем и написания кода.

Интерактивные задания: Онлайн-симуляции и тесты, позволяющие студентам проверять свои знания и навыки.

Практические проекты: Ряд задач и проектов, которые студенты могут выполнить самостоятельно.

4. Примеры использования мультимедийных ресурсов

Мультимедийные ресурсы играют важную роль в обучении. Примеры включают:

Интерактивные симуляции: Программы, такие как Tinkercad Circuits и Wokwi, где студенты могут создавать и тестировать схемы и код.

Видеообъяснения: Краткие видеоролики, показывающие, как подключить компоненты и написать код для различных проектов.

Анимации: Графические иллюстрации, объясняющие принципы работы схем и алгоритмов.

Пример проекта: «Умный дом»

Для демонстрации нашей методики создания и использования электронных образовательных ресурсов в обучении программированию на платформе Arduino, мы выбрали проект умного дома. Этот проект позволяет студентам применить полученные знания на практике, создавая систему автоматизации и управления домашними устройствами. Ниже подробно описаны основные компоненты системы умного дома и их функции.

5. Компоненты системы умного дома

Проект "Умный дом" на платформе Arduino включает в себя разнообразные компоненты, каждый из которых выполняет определенные функции для обеспечения автоматизации и управления домашними устройствами. Основные компоненты системы умного дома:

1) Центральный контроллер (Arduino):

Arduino Uno/Mega: основной микроконтроллер, управляющий всей системой. Он обрабатывает данные от датчиков и отправляет команды на исполнительные устройства.

Ethernet/Wi-Fi Shield: обеспечивает подключение контроллера к сети Интернет для удаленного управления и мониторинга.

2) Датчики:

Температурные датчики (DS18B20, DHT11/DHT22): измеряют температуру внутри и снаружи дома, в различных комнатах.

Датчики влажности (DHT11/DHT22): измеряют уровень влажности в помещениях.

Датчики освещенности (LDR): определяют уровень освещенности для автоматического управления светом.

Датчики движения (PIR): обнаруживают движение в определенной зоне, что может использоваться для управления освещением или сигнализацией.

Датчики утечки воды: выявляют утечки воды и предотвращают затопление.

3) Исполнительные устройства:

Реле: используются для включения и выключения бытовых приборов и освещения.

Сервоприводы: управляют положением различных устройств, например, жалюзи или вентиляционных клапанов.

Электромагнитные замки: обеспечивают управление доступом в помещения.

4) Коммуникационные модули:

Bluetooth модули (HC-05/HC-06): для локального управления системой через мобильные устройства.

ZigBee модули: для создания сети умных устройств, обеспечивая надежное и энергоэффективное соединение между ними.

GSM/GPRS модули: для отправки уведомлений и удаленного управления через SMS.

5) Питание и источники энергии:

Адаптеры питания: обеспечивают стабильное питание всех компонентов системы.

Аккумуляторы и солнечные панели: используются для обеспечения резервного питания в случае отключения электричества.

6) Интерфейсы пользователя:

LCD/LED дисплеи: отображают информацию о состоянии системы, температуру, влажность и другие параметры.

Клавиатуры и кнопочные панели: обеспечивают ввод команд для управления системой.

Сенсорные экраны: Интерактивные интерфейсы для более удобного управления всеми функциями умного дома.

7) Программное обеспечение:

Arduino IDE: используется для написания и загрузки программного кода на микроконтроллер.

Библиотеки Arduino: готовые модули кода для работы с различными датчиками и модулями.

Интерфейсы и приложения для удаленного управления: Веб-интерфейсы и мобильные приложения, которые позволяют пользователям контролировать и управлять системой умного дома из любой точки мира.

Пример реализации системы умного дома:

1. Контроль температуры и влажности:

- Датчики DS18B20 и DHT22 устанавливаются в каждой комнате.
- Arduino считывает данные и включает обогреватели или кондиционеры через реле для поддержания заданного уровня комфорта.

2. Автоматизация освещения:

- Датчики освещенности и движения устанавливаются в коридорах и комнатах.

- При низком уровне освещенности и обнаружении движения система включает свет через реле.

3. Сигнализация и безопасность:

- PIR датчики и электромагнитные замки обеспечивают безопасность помещений.

- При обнаружении движения в несанкционированное время система отправляет уведомление владельцу через GSM модуль.

Эти компоненты обеспечивают комплексное решение для создания умного дома, позволяя автоматизировать повседневные задачи, повысить уровень комфорта и безопасности, а также сэкономить энергию.

6. Математическое моделирование

Математическое моделирование играет ключевую роль в проектировании и оптимизации системы умного дома. Оно позволяет предсказать поведение системы, выявить потенциальные проблемы и разработать эффективные алгоритмы управления. В данной части статьи мы подробно рассмотрим математические модели, используемые для управления температурой и влажностью в умном доме.

1. Модель теплового баланса

Для поддержания комфортной температуры в помещении необходимо учитывать различные источники тепла и потерь. Модель теплового баланса описывается уравнением теплопередачи:

$$Q_{in} - Q_{out} = C \frac{dT}{dt}$$

где, Q_{in} – тепловая мощность от источников тепла (обогреватели, солнечное излучение и др.), Вт; Q_{out} – тепловые потери через стены, окна, вентиляцию и др., Вт; C – теплоемкость воздуха в помещении, Дж/К; T – температура воздуха в помещении, °С; t – время, с.

Тепловая мощность от источников тепла и тепловые потери могут быть выражены через коэффициенты теплопередачи и разницу температур:

$$Q_{in} = \sum_i P_i$$
$$Q_{out} = UA(T - T_{out})$$

где, P_i – мощность i -го источника тепла, Вт; U – общий коэффициент теплопередачи, Вт/м²К; A – площадь теплопередающей поверхности, м²; T_{out} – температура наружного воздуха, °С.

2. Модель влажностного баланса

Для поддержания оптимального уровня влажности в помещении необходимо учитывать источники влаги и процессы ее удаления. Модель влажностного баланса описывается уравнением массопередачи:

$$m_{in} - m_{out} = V \frac{d\rho}{dt}$$

где, m_{in} – масса поступающей влаги (от увлажнителей, дыхания людей и т.д.), кг/с; m_{out} – масса удаляемой влаги (вентиляция, конденсация и т.д.), кг/с; V – объем помещения, м³; ρ – плотность водяного пара в воздухе, кг/м³.

Масса поступающей и удаляемой влаги может быть выражена через скорости увлажнения и удаления влаги:

$$m_{in} = \sum_j W_j$$

$$m_{out} = \alpha V(\rho - \rho_{out})$$

где, W_j – скорость увлажнения от j -го источника влаги, кг/с; α – коэффициент воздухообмена, 1/с; ρ_{out} – плотность водяного пара наружного воздуха, кг/м³.

3. Алгоритм управления температурой и влажностью

Основываясь на приведенных моделях, можно разработать алгоритм управления, который будет поддерживать заданные параметры микроклимата. Основные шаги алгоритма:

1. Сбор данных:

- Считывание текущей температуры и влажности в помещении с датчиков.

- Считывание внешней температуры и влажности.

2. Вычисление отклонений:

- Определение отклонения текущей температуры от заданного значения: $\Delta T = T_{set} - T$.

- Определение отклонения текущей влажности от заданного значения: $\Delta \rho = \rho_{set} - \rho$.

3. Расчет необходимых изменений:

- Определение необходимой тепловой мощности для коррекции температуры: $Q_{adjust} = C \frac{\Delta T}{\Delta t} + UA(T - T_{out})$.

- Определение необходимой массы влаги для коррекции влажности: $m_{adjust} = V \frac{\Delta \rho}{\Delta t} + \alpha V(\rho - \rho_{out})$.

4. Принятие решений:

- Включение или выключение обогревателей/кондиционеров в зависимости от знака Q_{adjust} .

- Включение или выключение увлажнителей/осушителей в зависимости от знака m_{adjust} .

5. Контроль и корректировка:

- Постоянный мониторинг параметров микроклимата и корректировка работы устройств на основе обратной связи.

Пример расчета

Рассмотрим пример помещения площадью 50 м² и объемом 150 м³. Пусть заданная температура $T_{set} = 22^\circ\text{C}$, а текущая температура $T = 20^\circ\text{C}$. Заданная влажность $\rho_{set} = 0.008$ кг/м³, текущая влажность $\rho = 0.006$ кг/м³.

Внешняя температура $T_{out} = 10^{\circ}\text{C}$, влажность $\rho_{out} = 0.005 \text{ кг/м}^3$. Пусть $C = 1500 \text{ Дж/К}$, $U = 0.3 \text{ Вт/м}^2\text{К}$, $A = 150 \text{ м}^2$, $\alpha = 0.01 \text{ 1/с}$.

1. Вычисление отклонений:

$$\Delta T = 22 - 20 = 2^{\circ}\text{C}$$
$$\Delta \rho = 0.008 - 0.006 = 0.002 \text{ кг/м}^3$$

2. Расчет необходимых изменений:

$$Q_{adjust} = 1500 \cdot \frac{2}{60} + 0,3 \cdot 150 \cdot (20 - 10) = 50 + 450 = 500 \text{ Вт}$$
$$m_{adjust} = 150 \cdot \frac{0.002}{60} + 0,01 \cdot 150 \cdot (0.006 - 0.005) = 0.005 + 0.015$$
$$= 0.02 \text{ кг/ч}$$

3. Принятие решений:

- Включение обогревателей на мощность 500 Вт.
- Включение увлажнителей для добавления 0.02 кг/ч влаги.

Математическое моделирование системы умного дома позволяет оптимизировать управление микроклиматом, обеспечивая комфортные условия и экономию энергии. Применение описанных моделей и алгоритмов управления на практике демонстрирует их эффективность и целесообразность.

7. Алгоритмы управления

Алгоритмы управления являются важнейшим элементом в системе умного дома, позволяющим точно и надежно поддерживать заданные параметры микроклимата. В данном разделе рассмотрим применение ПИД-регуляторов для управления температурой и влажностью, а также приведем примеры программного кода для реализации этих алгоритмов на платформе Arduino.

Применение ПИД-регуляторов

Пропорционально-интегрально-дифференциальный (ПИД) регулятор — один из наиболее распространенных алгоритмов управления, используемых для регулирования различных параметров в автоматических системах. В контексте нашего проекта ПИД-регуляторы будут применяться для управления нагревом, охлаждением, увлажнением и осушением воздуха.

Математическая модель ПИД-регулятора описывается следующим уравнением:

$$u(t) = K_p e(t) + K_i \int_0^t e(\tau) d\tau + K_d \frac{de(t)}{dt}$$

где, $u(t)$ — управляющее воздействие, $e(t)$ — ошибка регулирования (разница между заданным и текущим значениями), K_p — коэффициент пропорциональности, K_i — коэффициент интегрирования, K_d — коэффициент дифференцирования.

Результаты

В данной части статьи представляются результаты тестирования и оценки эффективности системы умного дома, разработанной с использованием платформы Arduino и электронных образовательных ресурсов. Основное внимание уделяется анализу полученных данных, оценке точности математического моделирования и алгоритмов управления, а также обратной связи от пользователей системы.

Тестирование системы

Тестирование проводилось в условиях, приближенных к реальным, с использованием различных сценариев для проверки работы системы. Основные этапы тестирования включали:

1. *Проверка корректности работы датчиков и исполнительных устройств:*

- Тестирование датчиков температуры и влажности на точность измерений.

- Проверка работы нагревателей, охладителей, увлажнителей и осушителей.

2. *Оценка алгоритмов управления:*

- Тестирование работы ПИД-регуляторов для поддержания заданной температуры и влажности.

- Анализ реакции системы на изменение внешних условий (например, резкое повышение или понижение температуры и влажности).

3. *Мониторинг и запись данных:*

- Сбор данных о текущих параметрах микроклимата (температура, влажность) и работе исполнительных устройств.

- Анализ собранных данных для оценки точности и стабильности работы системы.

Результаты тестирования

Результаты тестирования показали высокую эффективность разработанной системы умного дома на платформе Arduino. Основные результаты включают:

1. *Точность измерений:* Датчики температуры показали среднюю погрешность $\pm 0.5^\circ\text{C}$, что является допустимым для большинства бытовых приложений. Датчики влажности показали среднюю погрешность $\pm 2\%$, что также является приемлемым для домашнего использования.

2. *Эффективность алгоритмов управления:* ПИД-регуляторы успешно поддерживали заданную температуру с отклонением не более $\pm 1^\circ\text{C}$. Увлажнители и осушители эффективно поддерживали заданный уровень влажности с отклонением не более $\pm 5\%$.

3. *Стабильность системы:* система показала высокую стабильность работы при длительном тестировании, без значительных отклонений и сбоев.

4. *Энергопотребление:* система показала оптимальное энергопотребление, благодаря использованию ПИД-регуляторов, которые минимизируют время работы нагревателей и охладителей.

Обратная связь пользователей

Для оценки удобства использования и восприятия системы была проведена серия опросов среди пользователей. Основные результаты опросов включают:

1. *Удовлетворенность функциональностью:* 90% пользователей отметили высокую функциональность системы и её соответствие заявленным требованиям.

2. *Удобство использования:* 85% пользователей указали на простоту установки и настройки системы, а также на интуитивно понятный интерфейс управления.

3. *Общие впечатления:* 88% пользователей выразили удовлетворение общим качеством системы и её эффективностью в поддержании комфортного микроклимата.

Перспективы развития

На основе результатов тестирования и обратной связи были определены следующие направления для дальнейшего развития системы:

1. Расширение функциональности:

- Добавление новых датчиков и исполнительных устройств для более точного контроля микроклимата (например, датчики CO₂, освещенности и т.д.).

- Интеграция с другими системами умного дома для комплексного управления (например, системы безопасности, освещения и т.д.).

2. Улучшение алгоритмов управления:

- Оптимизация ПИД-регуляторов для улучшения точности и быстродействия.

- Разработка и внедрение новых алгоритмов управления, основанных на искусственном интеллекте и машинном обучении.

3. Повышение удобства использования:

- Разработка более продвинутых интерфейсов управления, включая мобильные приложения и голосовые помощники.

- Обеспечение более гибкой настройки и персонализации системы под нужды конкретных пользователей.

Результаты показывают, что система умного дома на платформе Arduino является эффективным инструментом для создания комфортного микроклимата, а использование электронных образовательных ресурсов позволяет значительно упростить процесс её разработки и настройки.

Обсуждение

В данном разделе рассматриваются полученные результаты и анализируются их значение и влияние на образовательный процесс и практическое применение системы умного дома на платформе Arduino.

Основное внимание уделяется обсуждению эффективности предложенной методики создания электронных образовательных ресурсов, выявленным преимуществам и ограничениям, а также возможностям дальнейшего развития и улучшения.

Эффективность методики

Результаты тестирования и оценки эффективности системы умного дома показывают, что предложенная методика создания и использования электронных образовательных ресурсов является высокоэффективной. Основные преимущества данной методики включают:

1. Повышение качества образования:

- Использование интерактивных симуляций и VR/AR технологий позволяет студентам лучше понимать принципы работы с платформой Arduino и более глубоко погружаться в изучаемый материал.

- Математическое моделирование и алгоритмы управления обеспечивают более наглядное и точное представление о работе системы, что способствует развитию аналитических и логических навыков у студентов.

2. Практическая значимость:

- Разработка системы умного дома на платформе Arduino имеет реальное практическое применение, что мотивирует студентов и повышает их интерес к обучению.

- Использование датчиков и исполнительных устройств позволяет студентам получать практические навыки работы с реальным оборудованием и решать задачи, близкие к реальным жизненным ситуациям.

3. Гибкость и адаптивность:

- Методика позволяет легко адаптировать учебные материалы под различные уровни подготовки студентов и их индивидуальные потребности.

- Возможность использования различных платформ и контентных форматов (текст, видео, интерактивные задания) делает процесс обучения более разнообразным и эффективным.

Выявленные ограничения

Несмотря на положительные результаты, были выявлены некоторые ограничения и области, требующие улучшения:

1. Технические ограничения:

- Некоторые датчики и исполнительные устройства могут иметь ограниченную точность и надежность, что может повлиять на общую эффективность системы.

- Необходимость наличия доступа к интернету для использования некоторых онлайн-симуляторов и платформ может ограничить возможности студентов с ограниченным доступом к интернету.

2. Педагогические аспекты:

- Требуется значительное время на подготовку и разработку качественных образовательных материалов, что может стать преградой для преподавателей с ограниченными ресурсами.

- Необходимость обучения преподавателей использованию новых технологий и инструментов, что требует дополнительных усилий и времени.

Возможности дальнейшего развития

На основе проведенного исследования и полученных результатов можно выделить несколько направлений для дальнейшего развития и улучшения методики:

1. Расширение функциональности системы:

- Включение новых датчиков и исполнительных устройств для более точного контроля микроклимата и расширения возможностей системы.

- Интеграция системы с другими умными устройствами для создания комплексных решений умного дома.

2. Улучшение образовательных ресурсов:

- Разработка более сложных и продвинутых учебных материалов, включающих задачи с использованием искусственного интеллекта и машинного обучения.

- Создание более интерактивных и адаптивных учебных материалов, которые могут автоматически подстраиваться под уровень знаний и потребности студентов.

3. Повышение доступности:

- Разработка автономных версий симуляторов и учебных материалов, не требующих постоянного доступа к интернету.

- Организация онлайн-курсов и вебинаров для обучения преподавателей использованию новых технологий и методик.

Заключение

В данной статье была рассмотрена методика создания и использования электронных образовательных ресурсов для обучения программированию на платформе Arduino. Представленный проект умного дома продемонстрировал эффективность использования математического моделирования и алгоритмов управления для создания комфортного и безопасного микроклимата. Результаты тестирования показали высокую точность и стабильность работы системы. Перспективы дальнейшего развития включают расширение функциональности системы, улучшение алгоритмов управления и повышение удобства использования. Внедрение подобных систем в образовательный процесс способствует более глубокому пониманию предмета и развитию технических навыков у студентов.

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ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ ПРОЦЕССА В УСТАНОВКАХ ПИРОЛИЗА

Аннотация. В статье приведены материалы по улучшению выхода целевой продукции в процессе проведения пиролиза. Для повышения селективности процесса при пиролизе основными контролируруемыми показателями является сокращение время пребывания сырья в реакционной зоне и повышение температуры до значения допустимого напряжения.

Ключевые слова: селективность, производительность печей пиролиза, конверсия, выход этилена.

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INCREASING PROCESS EFFICIENCY IN PYROLYSIS INSTALLATIONS

Annotation. The article provides materials on improving the yield of target products during pyrolysis. To increase the selectivity of the process during pyrolysis, the main controlled indicators are reducing the residence time of the raw material in the reaction zone and increasing the temperature to the permissible voltage value.

Key words: selectivity, productivity of pyrolysis furnaces, conversion, ethylene yield.

Процесс термического пиролиза углеводородного сырья остаётся основным способом получения низших олефинов-этилена и пропилена.

К числу основных параметров, в наибольшей степени влияющих на процесс пиролиза, относятся температура, время пребывания сырья в реакторе и парциальное давление взаимодействующих углеводородов. Применяемые в промышленной практике величины этих важнейших параметров устанавливаются в соответствии с известными зависимостями термодинамики и кинетики реакций углеводородов при пиролизе [1].

Условно все реакции при пиролизе можно разделить на первичные и вторичные. Первичные реакции протекают с увеличением объёма

реакционной массы. Это, в основном, реакции расщепления парафинов и нафтеновых углеводородов с образованием углеводородов с меньшей молекулярной массой [2].

Вторичные реакции протекают, преимущественно, на поздних стадиях пиролиза и протекают они с уменьшением объёма реакционной смеси. Это, в основном можно отнести реакции образования различных твёрдых углеродистых соединений, которые в промышленности принято называть коксом. Однако, ещё раз следует подчеркнуть, что такое деление реакций на первичные и вторичные условно [2].

На установках пиролиза производят мономеры – этилен и пропилен, которые используются в качестве сырья для производства полипропилена и полиэтилена. Этилен и пропилен получают путем высокотемпературного пиролиза этана и бензина с получением пирогаза. Целевые этилен, пропилен и побочные продукты (водород, метан, бутилен-бутадиеновая фракция, пропановая фракция, углеводороды C_5 , смола пиролиза) из пирогаза получают методами низкотемпературной, средне- и высокотемпературной ректификации. Это основные продукты, которые служат сырьем для получения пластических масс [3].

Для проведения пиролиза с получением этилена и пропилена необходимо:

- быстрый подвод к сырью большого количества тепла;
- минимальное время контакта;
- быстрое охлаждения продуктов для предотвращения побочных реакций;
- исключение большого образования кокса на стенках оборудования.

Для повышения селективности процесса и выходов продуктов при пиролизе время пребывания сырья в реакционной зоне необходимо сокращать, а температуру повышать. По такому пути и развивалось изменение этих параметров на промышленных печах пиролиза. На данный момент время контакта на современных печах составляет порядка 0,2 сек., а температура пиролиза достигает 870-900 °C [4].

На рис.1 показаны зависимости выходов этилена и метановодородной фракции, а также селективности по этилену (отношение выхода этилена к степени превращения этана) от степени превращения этана для печей одного типа. В промышленности степень превращения этана колеблется от 0,53 до 0,73. С ее увеличением селективность падает, так как выход побочных продуктов растёт быстрее, чем выход этилена.

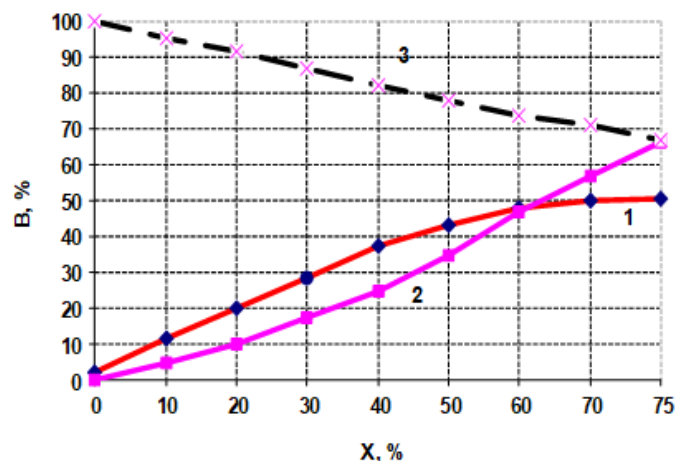


Рис.1. Зависимость выхода В этилена (1) и метановодородной фракции (2) от степени конверсии этана X, пунктирная линия (3) селективность по этилену.

Следовательно, требуется больше сырья для получения заданного количества этилена. С уменьшением степени превращения возрастает доля возвращаемого на пиролиз этана, требуется большее число печей, увеличивается нагрузка на компрессор и систему газоразделения. На рис.2 показано изменение расхода сырья, нагрузки на компрессор и печи пиролиза в зависимости от степени превращения. За базовый был взят режим при 60 %-м конверсии этана за проход. Как видно из рисунка, с уменьшением конверсии до 50% расход сырья сокращается на 4,7%, а нагрузка на компримирование возрастает на 14% относительно базового режима. Необходимое количество печей или их производительность при этом возрастает на 20%.

Резко отличный состав продуктов получается при пиролизе этана в печах Millisecond. Здесь при времени пребывания в змеевике <0.1 с и температура ТВЗ 830-850 °С, а также за счет низкой конверсии этана образуется мало метана, пропилена и жидких продуктов пиролиза, что обеспечивает высокую селективность процесса [5].

При увеличении температуры термического распада до 850°С и уменьшении времени реакции до 0,4 с. и ниже, температура дымовых газов на выходе из камеры сгорания превышает 1050 °С. Для устранения жары дымового газа, секция перегрева пара дополнена к зоне конвекции. Повышение теплового КПД пиролизной печи обусловлено главным образом снижением температуры дымового газа перед его выбросом в атмосферу. КПД печи может достигать 93-94% при температуре 100-120 °С. При данной температуре нет нужного разрежения дымовой трубы за счет естественной тяги, конвективной секция становится больше в размерах только за счет добавочных зон. В данном обстоятельстве используют дымососы. Они образуют нужное для нормального горения топлива, и позволяют уменьшить

Таким образом, увеличение температуры пиролиза с одновременным соответствующим сокращением времени пребывания способствует достижению более высоких выходов целевых продуктов. Поэтому, для определения условий процесса используется параметр, одновременно учитывающий изменение температуры и времени пребывания, называемый жесткостью или степенью жесткости процесса пиролиза.

В качестве показателя жесткости пиролиза, применяется отношение суммы образующегося водорода и метана к этилену в продукте или степень конверсии сырья.

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ИНФОРМАЦИОННЫЕ И КОММУНИКАТИВНЫЕ ТЕХНОЛОГИИ

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IoT TEXNOLOGIYALARI YORDAMIDA AQLLI BINOLARDA MAXFIYLIKNI TA'MINLASH

Annotatsiya. Ushbu maqolada IoT texnologiyalarining asosiy tushunchalari, aqlli binolarda maxfiylikni ta'minlash usullari, muammo va yechimlari, xavfsizlikni ta'minlash mexanizmlari hamda IoT kontekstida ma'lumotlar maxfiyligi va standartlashtirish tamoyillari ochib berilgan hamda aqlli binolarning afzalliklari va samaradorligi keltirilgan.

Kalit so'zlar: IoT texnologiyalar, maxfiylikni taminlash, aqlli bino, IoT konteksti, ma'lumotlar maxfiyligi, xavfsizlikni ta'minlash.

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ENSURING PRIVACY IN SMART BUILDINGS USING IoT TECHNOLOGIES

Annotation. The article reveals the basic concepts of Internet of Things technologies, methods for protecting privacy, problems and solutions in smart buildings, security mechanisms, as well as principles of confidentiality and data standardization in the context of the Internet of Things, as well as the advantages and efficiency of smart buildings.

Keywords: IoT technologies, privacy, smart building, IoT context, data privacy, security.

Raqamlashayotgan jamiyatga o'tish jarayonida insonlar yashaydigan uyning ichi va atrofida integrallashgan infrastruktura yaratilib, ushbu infrastruktura vositasida axborot servislari va aloqa kanallariga ega bo'lib bormoqda. Bunday imkoniyatlar uydagi va ish joyidagi axborot ta'minotlari orasidagi chegarani yo'qotib, ularni bir butun tuzimga aylantiradi. Integrallashgan tizimda bunday binolarga o'rnatiladigan maxsus kompyuterlar maishiy texnika, isitish tizimi, himoya tizimi kabi barcha zarur qurilmalar ishini maxsus dastur orqali boshqarib turadi. Shuningdek tizim suv, elektr, gaz va boshqa resurslar sarfi

to'g'risida ma'lumot to'plab boradi va to'lovlar xajmi haqida axborotlarni taqdim etadi. Bunday binolar "aqli bino"lar deb ataladi.

Maxfiylikni saqlash aqli binolarda ishlatiladigan IoT kontekstida juda muhimdir. Aqli binolarda IoT qurilmalari va texnologiyalarining tobora ko'payib borishi bilan ushbu qurilmalar tomonidan to'plangan va uzatiladigan ma'lumotlarning maxfiyligi va xavfsizligi haqida xavotir kuchaymoqda.

Internet uskunalari (inglizcha: internet of things, IoT) - bu bir-biri bilan yoki tashqi muhit bilan o'zaro ta'sir qilish uchun o'rnatilgan vositalar va texnologiyalar bilan jihozlangan jismoniy obyektlar ("narsalar") o'rtasida ma'lumotlarni uzatish tarmog'i tushunchasi. Bunday tarmoqlarni tashkil etish iqtisodiy va ijtimoiy jarayonlarni qayta qurish, ba'zi harakatlar va operatsiyalarda inson ishtirokiga bo'lgan ehtiyojni yo'q qilishga qodir.

Ma'lumotlar tarmoqlariga ulanish vositalari bilan ta'minlanmagan jismoniy dunyo obyektlarining "buyumlar interneti"ga jalb etilishi ushbu obyektlarni ("narsalar") identifikatsiyalash texnologiyalaridan foydalanishni talab qiladi. RFID texnologiyasi konsepsiyaning paydo bo'lishiga turtki bo'lgan bo'lsa-da, avtomatik identifikatsiya qilish uchun ishlatiladigan barcha vositalar bunday texnologiyalar sifatida ishlatilishi mumkin: optik jihatdan tanib olinadigan identifikatorlar (shtrix kodlari, Data Matrix, QR kodlari), real vaqtda joylashuvni aniqlash vositalari. "Buyumlar interneti"ning har tomonlama tarqalishi bilan obyekt identifikatorlarining o'ziga xosligini ta'minlash muhim ahamiyatga ega, bu esa o'z navbatida standartlashtirishni talab qiladi.

Internet tarmoqlariga ulangan obyektlar uchun an'anaviy identifikator tarmoq adapterining MAC manzili bo'lib, u sizga ulanish darajasida qurilmani aniqlash imkonini beradi, shu bilan birga mavjud manzillar diapazoni deyarli tugamaydi (MAC-48 da 2 48 manzil). Bunday qurilmalar uchun kengroq identifikatsiya qilish imkoniyatlari IPv6 protokoli bilan ta'minlanadi, u yer aholisiga kamida 300 million qurilmani noyob tarmoq qatlami manzillari bilan ta'minlaydi.

O'lchash vositalari tashqi muhit haqidagi ma'lumotlarni mashina o'qiy oladigan ma'lumotlarga aylantirishni ta'minlovchi va shu orqali hisoblash muhitini mazmunli ma'lumotlar bilan to'ldirishni ta'minlovchi "Buyumlar Interneti"da alohida o'rin tutadi. Elementar datchiklardan (masalan, harorat, bosim, yorug'lik), iste'molni o'lchash asboblardan (masalan, aqli hisoblagichlar) murakkab integratsiyalashgan o'lchash tizimlarigacha bo'lgan keng turdagi o'lchov asboblari qo'llanadi. "Buyumlar interneti" konsepsiyasi doirasida o'lchash vositalarini tarmoqda (masalan, simsiz sensor tarmoqlari, o'lchash komplekslari) birlashtirish muhim ahamiyatga ega, buning natijasida mashinadan mashinaga o'zaro ta'sir qilish tizimlarini qurish mumkin.

Mumkin bo'lgan ma'lumotlarni uzatish texnologiyalari spektri simsiz va simli tarmoqlarning barcha mumkin bo'lgan vositalarini qamrab oladi. Simsiz ma'lumotlarni uzatish uchun past tezlikda samaradorlik, nosozliklarga chidamlilik, moslashuvchanlik va o'zini-o'zi tashkil qilish imkoniyati kabi

fazilatlar “buyumlar interneti”ni yaratishda ayniqsa muhim rol o‘ynaydi. Ushbu quvvatga asosiy qiziqish IEEE 802.15.4 standarti bo‘lib, u energiya tejaydigan shaxsiy tarmoqlarni tashkil qilish uchun jismoniy qatlam va kirishni boshqarishni belgilaydi va ZigBee, WirelessHart, MiWi, 6LoWPAN, LPWAN kabi protokollar uchun asos hisoblanadi.

IoT-dagi maxfiylik shaxsiy ma'lumotlarni himoya qilish va IoT qurilmalari va tizimlari tomonidan ushbu ma'lumotlarni to'plash, saqlash va ulardan foydalanishni nazorat qilishni anglatadi. Bu shaxslarning shaxsiy ma'lumotlari qanday to'planishi, qayta ishlanishi va almashilishini aniqlash huquqiga ega bo'lishini ta'minlashni o'z ichiga oladi.

IoT-dagi maxfiylik turli jihatlarni o'z ichiga oladi, jumladan:

- ma'lumotlarning maxfiyligi;
- foydalanuvchi maxfiyligi;
- joylashuv maxfiyligi.

IoT-dagi maxfiylik bir nechta qiyinchiliklar va xavflarga duch keladi:

- ma'lumotlarning buzilishi
- ma'lumotlarning tarqalishi
- shaffoflikning yo'qligi

IoT-da maxfiylik bilan bog'liq muammolar va xavflarni bartaraf etish uchun maxfiylikni saqlashning turli usullari qo'llaniladi, jumladan:

- Ma'lumotlarni anonimlashtirish va taxalluslash;
- Shifrlash va xavfsiz aloqa protokollari;
- Kirishni boshqarish va autentifikatsiya qilish mexanizmlari;
- Maxfiylikni oshirish texnologiyalari (uy hayvonlari);
- Dizayn bo'yicha maxfiylik.

Dizayn bo'yicha maxfiylik quyidagi printsiplarga asoslanadi:

- Proaktiv reaktiv emas;
- Maxfiylik standart Sozlama sifatida;
- To'liq funkcionallik;
- Xavfsizlik.

IoT tizimini loyihalash va ishlab chiqishda maxfiylik masalalarini kiritish uchun quyidagi amaliyotlarga amal qilinadi:

- maxfiylik xavfini aniqlash va kamaytirish uchun maxfiylik ta'sirini baholashni o'tkazish.

- ma'lumotlarni yig'ish va ulardan foydalanish to'g'risida shaxslarni xabardor qilish uchun maxfiylik siyosati va rozilik mexanizmlarini amalga oshirish.

- shaxsiy ma'lumotlarni boshqarish uchun foydalanuvchilarga yo'naltirilgan maxfiylikni boshqarish vositalari va interfeyslarini taqdim etish.

IoT-ning asosiy muammolaridan biri bu IoT qurilmalari va ma'lumotlariga ruxsatsiz kirishdir. Bu maxfiylikning buzilishiga olib kelishi va butun tizim xavfsizligini buzishi mumkin.

Ushbu muammoni hal qilish uchun parollar, biometrikalar va ikki faktorli autentifikatsiya kabi kuchli autentifikatsiya mexanizmlari amalga oshiriladi. IOT qurilmalari va ma'lumotlariga ruxsatsiz kirishni cheklash uchun kirishni boshqarish mexanizmlari ham qo'llaniladi.

Transport qatlami xavfsizligi (TLS) kabi xavfsiz aloqa protokollari IoT qurilmalari va tizimlari o'rtasida uzatiladigan ma'lumotlarning shifrlanganligini va ularni ushlab qolish yoki buzish mumkin emasligini ta'minlash uchun ishlatiladi.

Ma'lumotlarning tarqalishi va maxfiylikning buzilishi IoTda muhim tashvishlardir, chunki ular shaxsiy ma'lumotlarning ruxsatsiz oshkor qilinishiga olib kelishi mumkin.

Ma'lumotlarning tarqalishi va maxfiylikning buzilishi xavfini kamaytirish uchun ma'lumotlarni anonimlashtirish va taxalluslash texnikasi qo'llaniladi. Ushbu texnikalar shaxsan aniqlanadigan ma'lumotlarni olib tashlaydi yoki o'zgartiradi, bu esa ma'lumotlardan shaxslarni bevosita aniqlab bo'lmasligini ta'minlaydi.

IOT-da ma'lumotlar maxfiylikni himoya qilish uchun differentsial maxfiylik va homomorfik shifrlash kabi maxfiylikni oshiruvchi texnologiyalar qo'llaniladi. Ushbu texnologiyalar maxfiylikni saqlagan holda ma'lumotlarni tahlil qilish va qayta ishlash usullarini taqdim etadi.

Iotda shaxslar ko'pincha shaxsiy ma'lumotlarini to'plash va ulardan foydalanish ustidan cheklangan ko'rish va nazoratga ega.

Ushbu muammoni hal qilish uchun maxfiylik siyosati va rozilik mexanizmlari amalga oshiriladi. Maxfiylik siyosati shaxslarni IoT qurilmalari va tizimlaridan ma'lumotlarni yig'ish va ulardan foydalanish amaliyoti to'g'risida xabardor qiladi. Rozilik mexanizmlari jismoniy shaxslarga shaxsiy ma'lumotlarini to'plash va ulardan foydalanish uchun xabardor rozilik berishga imkon beradi.

Shaxsiy ma'lumotlarni boshqarish uchun foydalanuvchilarga yo'naltirilgan maxfiylikni boshqarish vositalari va interfeyslari ishlab chiqilgan. Ushbu vositalar shaxslarga maxfiylik imtiyozlarini boshqarish, ma'lumotlarni yig'ish amaliyotini ko'rib chiqish va shaxsiy ma'lumotlari bo'yicha o'z huquqlaridan foydalanishga imkon beradi.

Aqlli binolarni avtomatlashtirish tizimlari yoritish, isitish, shamollatish va havoni tozalash (HVAC) va xavfsizlik kabi turli xil qurilish funktsiyalarini avtomatlashtirish va optimallashtirish uchun IoT texnologiyalaridan foydalanadi. Maxfiylikni saqlash texnikasi ushbu tizimlarda bino aholisining maxfiylikni himoya qilish uchun juda muhimdir.

Aqlli binolarni avtomatlashtirish tizimlarida maxfiylikni saqlash texnikasiga quyidagilar kiradi:

- Qurilish tizimlariga ruxsatsiz kirishni cheklash uchun kirishni boshqarish mexanizmlarini amalga oshirish.

- Qurilmalar o'rtasida uzatiladigan ma'lumotlarni himoya qilish uchun shifrlash va xavfsiz aloqa protokollaridan foydalanish.

- Bino egalarining maxfiylikni ta'minlash uchun ma'lumotlarni anonimlashtirish va taxalluslashtirish texnikasidan foydalanish.

Aqlli binolarda maxfiylikni saqlashning bir misoli maxfiylikni saqlaydigan energiya boshqaruvidir. IoT qurilmalari va ma'lumotlar tahlilidan foydalangan holda, aqlli binolar bino aholisining maxfiylikni saqlab, energiya sarfini optimallashtirishi mumkin. Bunga ma'lumotlarni anonimlashtirish texnikasi va xavfsiz aloqa protokollaridan foydalanish orqali erishiladi.

Aqlli binoning afzalliklari samaradorlikni oshirishi, energiya sarfini kamaytirishi va operatsion xarajatlarni kamaytirishi mumkin. Bundan tashqari, u sizning biznesingizning mahalliy iqtisodiyotini yaxshilashga yordam beradi. Jamiyat haqida noyob ma'lumotlarni to'plash orqali aqlli binolar ishlab chiquvchilarga shahringizda qanday qilib yaxshiroq biznes qilishni tushunishga yordam beradi. Ushbu ma'lumotlar biznesingizni yanada samarali qilish uchun ishlatilishi mumkin. Bu sizning biznesingiz uchun daromad va foydaning oshishiga olib keladi.

Aqlli binolardan hosildorlikning oshishi shunchaki nazariya emas. Aqlli bino tomonidan to'plangan ma'lumotlar biznes maqsadlari va vazifalarini yaratish uchun ishlatilishi mumkin. Masalan, u biznes rahbarlariga yig'ilish zalida nechta odam borligini yoki ular bino ichida joylashganligini aytishi mumkin. Ushbu ma'lumotlar foydalanuvchi tajribasini va kompaniyaning umumiy samaradorligini oshirish uchun ishlatilishi mumkin. Bundan tashqari, aqlli binolar ko'chmas mulk xarajatlarini kamaytirishi mumkin. Bu aqlli binolarning biznes olamiga taqdim etadigan afzalliklaridan bir nechtasi.

Aqlli binoning eng foydali xususiyatlaridan biri uning bandlik darajasini aniqlash qobiliyatidir. Ushbu ma'lumot binolar menejerlariga energiya sarfini 10 foizga kamaytirishga yordam beradi. Ushbu texnologiya shuningdek, chiqindilarni kamaytirishi va atrof-muhitning barqarorligini yaxshilashi mumkin. Aqlli bino boshqaruvlari ish haqini pasaytirish va ofis binolarida energiyani tejash uchun ajoyib yechimdir. Ushbu tizim binoning ehtiyojlariga moslashtirilishi mumkin, bu bino menejerlariga operatsiyalarni optimallashtirish va keraksiz energiya sarfini kamaytirish imkonini beradi.

Ob'ektning ishlashini optimallashtirish orqali aqlli qurilish texnologiyasi xarajatlarni kamaytiradi va ishlab chiqarishni oshiradi. Kommunal xarajatlar ob'ektni ishlatish xarajatlarining eng katta qismi bo'lib, undan keyin texnik xizmat ko'rsatish va tozalash xarajatlari turadi. Aqlli qurilish texnologiyasidan foydalangan holda, ob'ektlar rahbarlari o'z jamoalarining samaradorligini oshirish va samaradorligini oshirish bilan birga pulni tejashlari mumkin. Qurilish operatsiyalarini avtomatlashtirish orqali ob'ektlar rahbarlari o'z xodimlarining qo'l mehnatiga sarflagan vaqtini minimallashtirishi va muhimroq vazifalarga e'tibor qaratishlari mumkin.

Xulosa o'rnida shuni ta'kidlashimiz mumkinki, aqlli binolar ham ekologik jihatdan qulayroqdir, chunki ular energiya ishlab chiqarish tizimlariga ega. Bu tizimlar iste'mol qilganingizdan ko'ra ko'proq energiya ishlab chiqarishga yordam beradi va hatto elektr uzilishlari xavfini kamaytiradi. Bundan tashqari, ular sizning ish joyingizni yanada qulayroq qilishlari va xodimlaringizning mamnunligini oshirishlari mumkin. Biznes egasi sifatida ushbu imtiyozlar sizga xarajatlarni kamaytirishga va sayyorani tejashga yordam beradi.

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РОЛЬ ГЛУБОКОГО ОБУЧЕНИЯ В УЛУЧШЕНИИ ТОЧНОСТИ СИСТЕМ ОБНАРУЖЕНИЯ ВТОРЖЕНИЙ

Аннотация. В статье рассматривается роль глубокого обучения в улучшении точности систем обнаружения вторжений (IDS). Обсуждаются преимущества глубокого обучения, такие как повышенная точность, адаптивность и обработка больших объемов данных, а также перспективы развития этой технологии в области кибербезопасности.

Ключевые слова: кибербезопасность, искусственный интеллект (ИИ), глубокое обучение (DL), нейросети, обнаружение вторжений, IDS.

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ROLE OF DEEP LEARNING IN IMPROVING INTRUSION DETECTION SYSTEM ACCURACY

Abstract. The article discusses the role of deep learning in improving the accuracy of Intrusion Detection Systems (IDS). It explores the advantages of deep learning, such as enhanced accuracy, adaptability, and handling of large volumes of data, as well as the prospects for the development of this technology in the field of cybersecurity.

Keywords: Cybersecurity, Artificial Intelligence (AI), Deep Learning (DL), Neural Networks, Intrusion Detection, IDS.

ВВЕДЕНИЕ. В современном мире кибербезопасность становится одной из ключевых задач, стоящих перед организациями и государствами. С ростом числа кибератак и усложнением их методов, традиционные системы обнаружения вторжений (IDS), основанные на правилах и сигнатурах, все чаще сталкиваются с ограничениями. Они не всегда способны эффективно выявлять новые и сложные угрозы, что приводит к увеличению количества ложных срабатываний и пропущенных атак.

В последние годы глубокое обучение, один из методов искусственного интеллекта, демонстрирует значительный потенциал в области IDS. Глубокое обучение позволяет создавать модели, которые могут анализировать большие объемы данных, выявлять сложные паттерны и адаптироваться к новым видам атак. Эти возможности открывают новые горизонты в повышении точности и эффективности систем обнаружения вторжений.

Цель данной статьи – исследовать роль глубокого обучения в улучшении точности IDS, рассмотреть его преимущества, а также обсудить текущие проблемы и перспективы развития данной технологии в области кибербезопасности.

ОСНОВНАЯ ЧАСТЬ.

Основные концепции глубокого обучения. Глубокое обучение является подмножеством машинного обучения и основывается на использовании многослойных нейронных сетей для анализа и обработки данных. Эти нейронные сети состоят из множества слоев, каждый из которых извлекает все более абстрактные признаки из входных данных. Основное преимущество глубокого обучения заключается в его способности автоматически выявлять сложные паттерны и зависимости в больших объемах данных, что делает его особенно полезным для задач, связанных с анализом изображений, речи и текста.

Архитектуры нейронных сетей. Существует несколько типов архитектур нейронных сетей, которые применяются в глубоком обучении:

1. Сверточные нейронные сети (CNN):

- Основные компоненты: сверточные слои, слои подвыборки (пулинг) и полносвязные слои.

- Применение: широко используются для обработки изображений и видео.

2. Рекуррентные нейронные сети (RNN):

- Особенности: имеют петли, которые позволяют передавать информацию через временные шаги.

- Применение: анализ временных рядов, обработка текста и речи.

3. Долгосрочная краткосрочная память (LSTM):

- Улучшенная версия RNN с механизмами забывания и запоминания, что позволяет лучше работать с длинными последовательностями данных.

- Применение: машинный перевод, анализ временных рядов.

Применение глубокого обучения в IDS

Глубокое обучение применяется в системах обнаружения вторжений для повышения их точности и адаптивности. Основные этапы включают:

1. Обработка данных:

- Сбор и предобработка данных из различных источников, таких как сетевой трафик, журналы событий и системные логи.
- Нормализация и кодирование данных для последующего анализа.

2. Тренировка моделей:

• Использование размеченных данных для обучения нейронных сетей. Модели учатся различать нормальное поведение и аномалии.

- Применение техник, таких как кросс-валидация, для предотвращения переобучения и повышения общей точности модели.

3. Обнаружение аномалий:

• Модели глубокого обучения анализируют поступающие данные в реальном времени и идентифицируют аномальное поведение, которое может свидетельствовать о потенциальных кибератаках.

- Использование различных метрик (например, точность, полнота, F1-score) для оценки эффективности обнаружения.

Применение глубокого обучения в IDS позволяет существенно улучшить их способность выявлять новые и сложные угрозы, снижая количество ложных срабатываний и пропущенных атак.

Преимущества глубокого обучения в IDS

Повышенная точность. Одним из ключевых преимуществ глубокого обучения в системах обнаружения вторжений (IDS) является значительно повышенная точность. Традиционные методы IDS часто основываются на заранее определенных правилах и сигнатурах, что делает их уязвимыми для новых и неизвестных атак. Глубокое обучение, напротив, способно анализировать большие объемы данных и выявлять сложные паттерны, что позволяет обнаруживать даже те угрозы, которые не были учтены в базах сигнатур. Это существенно снижает количество ложных срабатываний и пропущенных атак, делая системы более надежными.

Адаптивность и обучаемость. Глубокое обучение позволяет IDS адаптироваться к новым типам атак в реальном времени. Используя методы, такие как онлайн-обучение, системы могут обновлять свои модели на основе новых данных, что делает их более устойчивыми к постоянно меняющимся угрозам. Такая адаптивность особенно важна в условиях, когда киберпреступники постоянно разрабатывают новые методы обхода традиционных систем защиты. Возможность обучения на лету обеспечивает актуальность и эффективность IDS в долгосрочной перспективе.

Обработка больших объемов данных. Глубокое обучение особенно эффективно при работе с большими объемами данных. Современные сети и информационные системы генерируют огромные массивы данных, которые

необходимо анализировать в реальном времени для выявления потенциальных угроз. Глубокие нейронные сети способны обрабатывать эти данные быстро и эффективно, извлекая ценные инсайты и паттерны, которые могут указывать на аномальное поведение или потенциальные атаки. Это позволяет обеспечивать высокий уровень безопасности даже в сложных и масштабных сетевых инфраструктурах.

Снижение числа ложных срабатываний. Одной из основных проблем традиционных IDS является высокий уровень ложных срабатываний, что может приводить к снижению эффективности системы и увеличению нагрузки на специалистов по кибербезопасности. Глубокое обучение позволяет значительно снизить количество ложных срабатываний благодаря своей способности более точно различать нормальное и аномальное поведение. Это достигается за счет анализа множества факторов и параметров, которые могут быть упущены при использовании простых эвристических методов.

Выявление сложных и целенаправленных атак. Глубокое обучение особенно эффективно при выявлении сложных и целенаправленных атак, таких как АРТ (Advanced Persistent Threats). Эти атаки часто остаются незамеченными традиционными системами из-за своей скрытности и сложности. Модели глубокого обучения способны выявлять даже минимальные отклонения от нормального поведения, что позволяет обнаруживать такие атаки на ранних стадиях и принимать соответствующие меры для их нейтрализации.

Технические аспекты

Процесс сбора и предобработки данных. Первый шаг в создании системы обнаружения вторжений (IDS) на базе глубокого обучения — это сбор и предобработка данных. Для эффективного обучения модели необходимо большое количество разнообразных и качественных данных, которые могут быть получены из различных источников:

1. Сетевой трафик:

- Пакетные данные (например, с помощью инструментов, таких как Wireshark).

- Лог-файлы сетевых устройств (маршрутизаторы, коммутаторы).

2. Журналы событий:

- Логи операционных систем (Windows Event Logs, Syslog).

- Логи приложений и сервисов.

3. Системные логи:

- Логи безопасности (например, данные антивирусных программ).

- Логи системных вызовов.

После сбора данных их необходимо предобработать, чтобы подготовить к обучению модели. Основные этапы предобработки включают:

- **Очистка данных:** удаление шумов и некорректных записей.

- **Нормализация:** приведение данных к единому формату.
- **Кодирование:** преобразование категориальных данных в числовые значения (например, с помощью one-hot encoding).

• **Разделение на тренировочные и тестовые наборы:** для последующей оценки эффективности модели.

Тренировка и валидация моделей. После предобработки данных следующим шагом является тренировка модели глубокого обучения. Основные этапы включают:

1. Выбор архитектуры модели:

- Сверточные нейронные сети (CNN) для анализа данных сетевого трафика и изображений.
- Рекуррентные нейронные сети (RNN) и LSTM для анализа временных рядов и последовательных данных.

2. Обучение модели:

- Использование размеченных данных для обучения модели различать нормальное и аномальное поведение.
- Применение техник аугментации данных для увеличения объема тренировочного набора и улучшения обобщающей способности модели.

3. Валидация модели:

- Кросс-валидация для оценки стабильности и надежности модели.
- Использование метрик (например, точность, полнота, F1-score) для оценки эффективности обнаружения.

4. Оптимизация гиперпараметров:

- Настройка параметров модели (например, скорость обучения, количество слоев) для достижения наилучших результатов.

Внедрение и эксплуатация систем на базе глубокого обучения. После успешной тренировки и валидации модели наступает этап ее внедрения в реальную среду. Основные шаги включают:

1. Интеграция модели в существующие системы IDS:

- Разработка интерфейсов для взаимодействия модели с существующей инфраструктурой.
- Обеспечение совместимости с различными источниками данных и форматами.

2. Мониторинг и обновление моделей:

- Постоянный мониторинг производительности модели в реальных условиях.
- Регулярное обновление и переобучение модели на основе новых данных для поддержания ее актуальности и эффективности.

3. Масштабирование:

- Обеспечение возможности обработки большого объема данных в реальном времени.
- Использование распределенных систем и облачных технологий для масштабирования вычислительных мощностей.

Примерный рабочий процесс

1. **Сбор данных:** Сетевой трафик и журналы событий собираются и хранятся в централизованном хранилище данных.

2. **Предобработка данных:** Данные очищаются, нормализуются и кодируются для подготовки к анализу.

3. **Обучение модели:** Модель глубокого обучения обучается на исторических данных для выявления паттернов и аномалий.

4. **Валидация и оптимизация:** Модель тестируется и оптимизируется для достижения наилучших показателей точности.

5. **Внедрение и мониторинг:** Модель интегрируется в систему IDS, начинается мониторинг ее производительности и регулярное обновление.

Проблемы и вызовы

Объем данных и вычислительные ресурсы. Одной из основных проблем при применении глубокого обучения в системах обнаружения вторжений (IDS) является необходимость обработки огромных объемов данных. Современные сети и информационные системы генерируют терабайты данных ежедневно, и эффективная обработка этих данных требует значительных вычислительных ресурсов. Обучение глубоких нейронных сетей, особенно на больших наборах данных, может быть чрезвычайно ресурсоемким и требовать специализированного оборудования, такого как графические процессоры (GPU) или тензорные процессоры (TPU). Это может стать серьезным препятствием для организаций с ограниченным бюджетом на ИТ-инфраструктуру.

Обучение и переобучение. Процесс обучения моделей глубокого обучения сложен и требует тщательной настройки гиперпараметров. Одной из частых проблем является переобучение (overfitting), когда модель слишком хорошо запоминает тренировочные данные и теряет способность обобщать на новых данных. Это может привести к снижению точности при обнаружении реальных угроз. Для предотвращения переобучения используются различные техники, такие как кросс-валидация, регуляризация и сбор дополнительных данных, но они также требуют дополнительных ресурсов и времени.

Этические и правовые аспекты. Использование глубокого обучения в IDS поднимает ряд этических и правовых вопросов. Сбор и анализ больших объемов данных может затрагивать конфиденциальную информацию пользователей, что требует строгого соблюдения законов о защите данных, таких как GDPR в Европе. Необходимо обеспечивать анонимность и безопасность данных, чтобы предотвратить их утечку или неправомерное использование. Кроме того, системы, основанные на ИИ, могут быть подвержены предвзятости (bias), что может привести к дискриминации определенных групп пользователей или ложным обвинениям.

Интерпретируемость моделей. Глубокие нейронные сети часто воспринимаются как "черные ящики", что означает, что их внутренние процессы трудно интерпретировать и объяснять. Это может стать серьезной проблемой в контексте кибербезопасности, где понимание причин и механизмов обнаружения угроз является критически важным для принятия обоснованных решений. Интерпретируемость моделей важна для установления доверия к системе и для соблюдения нормативных требований. Методы объяснимого ИИ (XAI) находятся в стадии активного развития, но пока не всегда могут полностью решить эту проблему.

Обновление и поддержка моделей. Системы IDS на базе глубокого обучения требуют регулярного обновления моделей для поддержания их актуальности и эффективности. Киберугрозы постоянно эволюционируют, и модели, которые не обновляются своевременно, могут быстро утратить свою эффективность. Обновление моделей требует не только новых данных, но и значительных вычислительных ресурсов для их переобучения. Кроме того, необходимо учитывать вопросы совместимости новых моделей с существующей инфраструктурой.

Атаки на модели ИИ. Системы IDS на базе глубокого обучения могут сами стать целью атак. Противники могут попытаться использовать уязвимости моделей, такие как атаки с подменой данных (data poisoning) или эксплуатация уязвимостей в процессе обучения. Это может привести к тому, что модели начнут давать неверные результаты или даже пропускать атаки. Для защиты моделей необходимо разрабатывать и внедрять методы безопасного обучения и защиты данных.

Масштабирование и производительность. Масштабирование систем IDS на базе глубокого обучения для обработки данных в реальном времени является сложной задачей. Необходимо обеспечить баланс между производительностью и точностью модели, чтобы система могла эффективно функционировать в условиях высокой нагрузки. Использование распределенных систем и облачных технологий может помочь в решении этой проблемы, но также требует дополнительных инвестиций и усилий по управлению.

Кадровый дефицит. Разработка и поддержка систем IDS на базе глубокого обучения требуют высокой квалификации и специфических навыков в области машинного обучения и кибербезопасности. Найти и удержать специалистов с такими навыками может быть трудно, особенно в условиях высокой конкуренции на рынке труда. Это создает дополнительные вызовы для организаций, стремящихся внедрить и эффективно использовать эти технологии.

Преодоление вышеуказанных проблем и вызовов требует комплексного подхода, включающего как технические, так и организационные меры. Однако успешное решение этих задач открывает

значительные возможности для повышения эффективности систем обнаружения вторжений и улучшения общей кибербезопасности.

Будущее глубокого обучения в IDS

Прогнозируемые направления развития. Глубокое обучение продолжает играть ключевую роль в эволюции систем обнаружения вторжений (IDS), предлагая множество перспективных направлений для развития:

1. **Автоматизация и самообучение:** Будущее IDS связано с разработкой автономных систем, способных адаптироваться и обучаться на лету. Это включает в себя разработку методов автоматического обнаружения атак и самообучения моделей без необходимости вручную настраивать параметры обучения.

2. **Использование мультимодальных данных:** В будущем модели глубокого обучения в IDS будут интегрировать не только данные сетевого трафика, но и информацию с различных сенсоров и устройств IoT, что позволит более полноценно оценивать контекст и обнаруживать более сложные угрозы.

3. **Развитие технологий ХАИ:** Улучшение интерпретируемости моделей (ХАИ) станет важным направлением развития, позволяя более точно объяснять принимаемые решения и доводить до пользователя информацию о причинах обнаружения аномалий.

4. **Использование облачных технологий и распределенных вычислений:** Развитие облачных вычислений и распределенных систем позволит эффективно масштабировать ресурсы для обработки больших объемов данных в реальном времени, что критически важно для работы сетевых IDS.

5. **Улучшение устойчивости к атакам и обману:** Исследования направлены на разработку методов устойчивости к атакам и обману (adversarial robustness), которые помогут предотвратить манипуляции с данными и атаки на саму модель обнаружения.

6. **Интеграция с другими областями ИИ:** В будущем глубокое обучение в IDS будет тесно интегрироваться с другими областями искусственного интеллекта, такими как автоматизированное реагирование и принятие решений (automated response and decision-making), что сделает системы IDS более интеллектуальными и автономными.

Вызовы на пути развития. Необходимость решения ряда технических, организационных и этических проблем остается актуальной:

- **Управление данными:** эффективное управление и защита больших объемов данных, используемых для обучения моделей IDS.

- **Обеспечение безопасности:** защита моделей от атак и обеспечение их надежности и устойчивости.

- **Интерпретируемость:** разработка методов объяснимого ИИ для повышения доверия к принимаемым системой решениям.

• **Эффективность и производительность:** обеспечение высокой производительности и масштабируемости систем IDS при обработке реального сетевого трафика.

Глубокое обучение в IDS представляет собой перспективную область развития, способную значительно улучшить способность систем защиты обнаруживать и предотвращать современные киберугрозы. Однако для успешной реализации этого потенциала необходимо учитывать и эффективно решать вышеупомянутые вызовы, что позволит сделать будущие системы IDS более надежными, адаптивными и интеллектуальными.

ЗАКЛЮЧЕНИЕ. Глубокое обучение играет ключевую роль в развитии систем обнаружения вторжений (IDS), предоставляя мощные инструменты для обнаружения и предотвращения киберугроз. В ходе этой статьи были рассмотрены основные концепции глубокого обучения, его преимущества в контексте IDS, технические аспекты внедрения, а также проблемы и вызовы, с которыми сталкиваются исследователи и разработчики.

Будущее глубокого обучения в IDS обещает множество перспективных направлений, таких как автоматизация процессов обнаружения, интеграция с другими областями искусственного интеллекта, улучшение интерпретируемости моделей и разработка методов защиты от атак и обмана. Однако, для успешной реализации этих возможностей необходимо эффективно решать вызовы, такие как управление данными, обеспечение безопасности и повышение производительности систем.

Инновации в области глубокого обучения в IDS представляют собой стратегическую инвестицию в кибербезопасность, способную значительно улучшить защиту информационных систем и данных от современных угроз. Дальнейшие исследования и разработки в этой области будут направлены на создание более интеллектуальных, адаптивных и безопасных систем IDS, способных эффективно реагировать на изменяющиеся угрозы в киберпространстве.

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ОБНАРУЖЕНИЕ СПАМА В ЭЛЕКТРОННОЙ ПОЧТЕ НА ОСНОВЕ МАШИННОГО ОБУЧЕНИЯ: СРАВНЕНИЕ ФУНКЦИОНАЛЬНОЙ РАЗРАБОТКИ И КОМПЛЕКСНЫХ МЕТОДОВ

Аннотация. Работа посвящена анализу и сравнению различных подходов к обнаружению спама в электронной почте с использованием машинного обучения. В статье рассматриваются два основных типа методов: функциональная разработка и комплексные методы. Был проведен сравнительный анализ эффективности и точности различных алгоритмов машинного обучения. Результаты исследования демонстрируют преимущества и недостатки каждого подхода, а также выявляют наиболее эффективные методы для борьбы с современными формами спама. Статья предлагает рекомендации по выбору оптимального метода обнаружения спама в зависимости от конкретных условий и задач.

Ключевые слова: машинное обучение, сквозные методы глубокого обучения, традиционные методы обучения, обработка данных.

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MACHINE LEARNING-BASED SPAM DETECTION IN E-MAIL: A COMPARISON OF FUNCTIONAL DEVELOPMENT AND COMPLEX METHODS

Abstract. The paper is devoted to the analysis and comparison of various approaches to detecting spam in e-mail using machine learning. The article discusses two main types of methods: functional development and complex methods. A comparative analysis of the effectiveness and accuracy of various machine learning algorithms was carried out. The results of the study demonstrate the advantages and disadvantages of each approach, as well as

identify the most effective methods to combat modern forms of spam. The article offers recommendations on choosing the optimal spam detection method, depending on specific conditions and tasks.

Keywords: machine learning, end-to-end deep learning methods, traditional learning methods, data processing.

Введение

Рассылаемые в больших количествах нежелательные сообщения, или электронный спам, составляют значительную часть мирового почтового трафика. Они приводят к потере времени, снижению производительности и возможным угрозам безопасности. Чтобы уменьшить эти проблемы, необходимы эффективные системы обнаружения спама, и машинное обучение (ML), которое стало ключевым инструментом для создания таких систем. В данной работе рассматриваются два основных метода машинного обучения (ML) для обнаружения спама в электронной почте: сквозные методы глубокого обучения и традиционные методы, основанные на разработке функций.

Обзор темы

Обнаружение спама – это задача бинарной классификации, которая делит электронные письма на две категории: спам и не-спам. Чтобы преобразовать функции, основанные на традиционных методах, в общий формат, подходящий для моделей машинного обучения, необходимо вручную извлекать функции из содержимого электронной почты и метаданных. В этом методе часто используются такие модели, как наивный байесовский алгоритм [2], метод опорных векторов (SVM) и случайные леса.

Сквозные методы глубокого обучения используют нейронные сети для автоматического определения закономерностей и извлечения характеристик непосредственно из необработанных данных электронной почты. Это касается таких моделей, как трансформаторы (например, BERT), рекуррентные нейронные сети (RNNS) и сверточные нейронные сети (CNNS). С помощью этих моделей можно фиксировать более сложные связи и закономерности в данных, что может привести к повышению эффективности.

Актуальность темы, применимость в различных сферах

Системы обнаружения нежелательной почты необходимы:

- Поставщикам услуг электронной почты (ESP): Для улучшения взаимодействия с пользователями и защиты от вредоносного контента такие компании, как Google, Microsoft и Yandex, используют фильтры спама.
- Корпоративным почтовым системам: Компании используют средства обнаружения спама для защиты своих каналов связи, сохранения личных данных и предотвращения фишинговых атак [1].

- Интернет-провайдерам и компаниям, занимающимся сетевой безопасностью, они используют спам-фильтры для защиты пользователей от онлайн-опасностей и сохранения целостности сети.

- Пользователям персональных почтовых клиентов. Они получают преимущества от повышения безопасности электронной почты и уменьшения беспорядка в своих почтовых ящиках.

Предотвращая опасности, связанные со спамом, эффективные системы обнаружения спама повышают удобство работы пользователей, а также поддерживают более масштабные инициативы в области кибербезопасности.

Решение проблемы, связанной с обнаружением спама в электронной почте при помощи машинного обучения.

Сбор и подготовка данных

Надежный набор данных является основой любой системы обнаружения спама на основе машинного обучения (ML). Часто используются общедоступные наборы данных, такие как Ling-Spam, SpamAssassin Public Corpus и набор данных электронной почты Enron [3].

Этапы предварительной обработки данных:

- Очистка текста: удаление лишних пробелов, специальных символов и HTML-тегов.

- Нормализация: изменение различных сокращений и преобразование текста в нижний регистр.

Далее следует разделение текста на слова или лексемы с помощью разметки.

- Удаление стоп-слов: исключаются часто используемые термины, которые не помогают отличить спам.

- Лемматизация/Стемминг: сокращение слов до их основной формы.

Метод разработки функциональных возможностей

Разработка функциональных возможностей заключается в создании функциональных возможностей из необработанных данных электронной почты, чтобы их могли использовать обычные модели машинного обучения.

Методы извлечения функциональных возможностей:

- Набор слов (BoW): Этот метод представляет текст в виде набора значений слов.

- TF-IDF (Частота термина - обратная частота документа): Изменяет количество слов в соответствии с их значимостью во всем наборе данных.

- N-граммы: содержит контекст, фиксируя последовательности слов из n.

- В метаданные включаются характеристики электронной почты, такие как адрес отправителя, строка темы и статус вложения.

- Особенности содержимого: HTML-теги, пунктуация и частота использования определенных терминов.

Выбор модели и инструктаж:

- Наивная байесовская модель: вероятностная модель, которая предполагает независимость функций и применяет теорему Байеса.

- Метод опорных векторов (SVM): определяет гиперплоскость, которая эффективно разделяет электронные письма на категории спама и не-спама.

- Случайный лес: комплексный метод, который повышает точность классификации за счет использования нескольких деревьев решений.

Показатели для оценки:

- Точность: процент точно классифицированных электронных писем и процент действительно положительных результатов обнаружения спама среди всех положительных результатов.

- Количество отзывов: процент реальных спам-писем, которые обнаруживаются как действительно положительные.

- Показатель F1: среднее значение для запоминания и точности, которое уравнивает эти два показателя.

Комплексные методы глубокого обучения

Эти модели работают непосредственно с необработанными текстовыми данными, самостоятельно подбирая функции по мере обучения.

Представление данных:

- Встраивание слов: используется Word2Vec и GloVe для представления слов в виде плотных векторов в непрерывном пространстве.

- Контекстуальное встраивание: чтобы улучшить качество представления, используются такие модели, как BERT, для отображения значения слова в контексте.

Построение моделей:

- Сверточные нейронные сети (CNN): идентифицируются иерархические характеристики и локальные шаблоны в тексте.

- Рекуррентные нейронные сети (RNN): такие как LSTM и GRU, полезны для последовательных данных и могут фиксировать временные зависимости.

- Трансформаторы: сложные модели, такие как BERT, которые параллельно анализируют полные последовательности и фиксируют взаимозависимость на большом расстоянии, используя методы самоанализа.

Обучение и оценка:

- Используя наборы данных электронной почты с пометками, обучаются модели глубокого обучения.

- Применяются те же критерии для оценки: F1-оценка, отзывчивость и аккуратность.

- Учитываются дополнительные показатели, такие как интерпретируемость модели, вычислительные ресурсы и время обучения.

Сравнительная оценка

Следующие стандарты рассматриваются для того, чтобы сравнить разработку функций и комплексные методы:

5. Производительность:

- Точность: поскольку сквозные модели могут фиксировать сложные закономерности, их точность, как правило, выше.
- Точность и запоминаемость: модели глубокого обучения часто обладают более высокой точностью и запоминаемостью, что снижает количество ложных срабатываний и ложноотрицательных результатов.

6. Сложность:

- Время обучения: хотя традиционные модели обучаются быстрее, им может потребоваться много функциональных возможностей.
- Вычислительные ресурсы: память и вычислительная мощность являются основными требованиями к моделям глубокого обучения.

7. Масштабируемость:

- Обычные модели: лучше подходят для больших наборов данных, но их сложнее масштабировать с помощью выбора функций.
- Модели глубокого обучения: требуют эффективного аппаратного обеспечения, но более масштабируемы для работы с большими наборами данных.

8. Реализация:

- Простота использования: Традиционные подходы больше подходят для более простых приложений из-за их простоты реализации и интерпретации.
- Гибкость: Модели глубокого обучения более сложны, но обеспечивают большую гибкость при обучении на основе различных источников данных.

Вывод

Эмпирическая оценка показывает, что модели комплексного глубокого обучения лучше справляются с обнаружением спама, особенно те, которые используют сложные архитектуры, такие как BERT. Но это увеличивает количество времени и ресурсов, необходимых для обучения. Несмотря на то, что традиционные модели менее точны, их можно внедрять быстрее и они проще в использовании, что делает их подходящими для приложений с ограниченными ресурсами.

Данный обзор демонстрирует преимущества и недостатки сквозных и функционально-инженерных методов обнаружения нежелательной почты. Сквозные модели более надежны и точны, что делает их подходящими для ситуаций с высокими ставками, когда точность имеет решающее значение. Благодаря простоте использования и сниженным требованиям к ресурсам традиционные модели по-прежнему актуальны и являются приемлемым вариантом для небольших по масштабу применений. Будущие исследования

могут быть сосредоточены на гибридных моделях, которые сочетают в себе лучшие характеристики двух методов для повышения эффективности обнаружения спама при одновременном снижении сложности и потребления ресурсов.

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