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BOSHLANG'ICH SINIF O'QUVCHILARIDA XXI ASR KO'NIKMALARINI RIVOJLANTIRISH VA XALQARO BAHOLASH DASTURLARINING AHAMIYATI

Annotatsiya. Ushbu maqolada boshlang'ich sinf o'quvchilarida XXI asr ko'nikmalarini shakllantirish va rivojlantirishda xalqaro tadqiqot materiallaridan foydalanishning afzalliklari, PIRLS xalqaro baholash tadqiqotining ahamiyati, mazkur materiallardan o'qish savodxonligi darolarida foydalanish natijalari keltirilgan.

Kalit so'zlar: boshlang'ich ta'lim, XXI asr ko'nikmalari, xalqaro baholash tadqiqotlari, PIRLS xalqaro baholash dasturi, o'qish savodxonligi, matnni o'qish va tushunish.

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IMPORTANCE OF 21ST CENTURY SKILLS DEVELOPMENT AND INTERNATIONAL ASSESSMENT PROGRAMS IN PRIMARY CLASS STUDENTS

Abstract. This article presents the advantages of using international research materials in the formation and development of 21st century skills in primary school students, the importance of PIRLS international assessment research, and the results of using these materials in reading literacy classes.

Key words: elementary education, 21st century skills, international assessment research, PIRLS international assessment program, reading literacy, reading comprehension.

Kirish. Bugungi shiddatli davr har bir ta'lim olayotgan shaxslardan bolalik chog'idan boshlab qunt bilan o'qish, ilm va hunar o'rganishni talab etmoqda. Ta'lim jarayoni uzluksiz bo'lib, uning shakllanishi bosqichma-bosqich amalga oshiriladigan sifatli natijalarga olib keladigan islohotlarga bog'liqdir. Haqiqatan

ham, ta'limga zamonaviy yondashuvlar ta'lim jarayonini aniq vositalar yordamida samarali tashkil qilish va qo'yilgan o'quv dasturlariga muvaffaqiyatli erishish natijalarini kafolatlaydi.

Boshlang'ich maktabda olingan ta'lim keyingi ta'lim uchun asos, poydevor bo'lib xizmat qiladi. Boshlang'ich ta'lim, boshlang'ich maktabning sifat jihatidan yangi shaxsga yo'naltirilgan rivojlanish modelini belgilaydi. Zamonaviy boshlang'ich ta'lim uchun istiqbolli, ustuvor yo'nalishlardan biri bu o'quvchilarning yetuk shaxs sifatida rivojlanishi hamda milliy qadriyatlar ruhida tarbiyalash asosidan iboratdir.

Metodologiya. XXI asr ko'nikmalari (21CS) hozirgi kunda butun dunyo bo'ylab ta'lim tizimlarida ta'lim maqsadlari sifatida mustahkam o'rnashgan, ammo ularning o'qitish va baholash amaliyotida amalda qo'llanilishi ortda qolmoqda. To'g'ri javob berishdan ko'ra, qanday qilib javob olishni birinchi o'ringa qo'yadigan ushbu o'quv maqsadlari ta'lim tizimlari oldiga yangi muammolarni qo'yimoqda va bunga yangi yechimlar izlanmoqda.

XXI asr ko'nikmalari nima? Ular XXI asrda muvaffaqiyatga erishish uchun zarur bo'lgan muhim hayotiy ko'nikmalardir. O'quvchilarda XXI asr ko'nikmalariga oid bo'lgan tanqidiy fikrlashni hosil qilishga yordam berish, ijodkorlik, muloqot o'rnata olish, o'zaro hamkorlikda ishlash qobiliyatini rivojlantirish hamda muammolarni yechish va maqsadli obyektiv yechimlarni topishdan iborat. Qachonki, o'qituvchi o'quvchining chuqur o'ylash jarayonini bosqichma-bosqich rag'batlantirib borsa yuqoridagi maqsadlarga erishish mumkin[2].

Yurtimizda ta'lim sifatini baholash markazlari tomonidan olib boriladigan ta'lim sifati bo'yicha ma'lum monitoringlarning aksariyati umumiy konseptual yondashuvlardan va xalqaro tadqiqotlar vositalarining alohida elementlaridan foydalanishi maqsadga muvofiqdir. Zero, ta'lim sifatini baholash bo'yicha xalqaro qiyosiy tadqiqotlarda O'zbekistonning ishtirok etishi mamlakatimizda ta'lim sifatini baholashning milliy tizimini yaratishda katta ahamiyatga ega.

O'zbekiston Respublikasi Vazirlar Mahkamasining "Xalq ta'limi tizimida ta'lim sifatini baholash sohasidagi xalqaro tadqiqotlarni tashkil etish chora-tadbirlari to'g'risida" 2018-yil 8-dekabrda 997-sonli qarori bilan ta'lim sifatini baholash bo'yicha xalqaro tadqiqotlarda ishtirok etish vazifalari belgilandi[1].

Dunyoning yetakchi mutaxassislari tomonidan ishlab chiqilgan pedagogik baholash texnologiyalaridan foydalanish O'zbekistonda ta'lim sifatini jahon standartlari darajasida baholashning milliy tizimini yaratish imkonini beradi.

Quyida boshlang'ich sinflarda o'qish savodxonligini baholovchi PIRLS xalqaro dasturini o'qish savodxonligi darslariga tatbiq etish usullarini ko'rib chiqamiz.

Natija va muhokama. 4-sinf o'qish va savodxonlik darslarida tadqiqot materiallaridan muntazam foydalanish natijasida olingan ma'lumotlar shuni ko'rsatadiki, 4-sinf o'quvchilarining 38 foizi nafaqat matndan ma'lumotni o'qishni, balki ushbu ma'lumotni jiddiy aqliy qayta ishlashni talab qiladigan o'ta

murakkab darajadagi savollarga javob bera oladilar. Ular 800-1000 soʻzdan iborat matnlarni bemalol oʻqiydilar, mazmunini tushunadilar va sharhlay oladilar.

PIRLS xalqaro baholash mashqlaridan savodxonlik darslarida foydalanish natijalari shuni koʻrsatadiki, boshlangʻich 4-sinf oʻquvchilarining matnlarni oʻqish, bu matnlardan shaxsiy tajriba va bilimlarini oshirish maqsadida foydalanish borasida tayyorgarligi nisbatan past.

Xalqaro testning individual topshiriqlarini bajarish bosqichi tahlil qilinganda oʻquvchilar duch kelgan baʼzi qiyinchiliklar aniqlandi. Xususan, natijalarni tahlil qilish shuni koʻrsatadiki, har qanday maʼlumotni aniqlashtirish kerak boʻlganda matnga murojaat qilish odatining shakllanmaganligi ikkita tipik muammoga olib keladi: birinchidan, oʻquvchilar matnda keltirilgan maʼlumotlarni va oʻzlarining shaxsiy tajribalari asosida egalik qiladigan maʼlumotlarni (taxminan 37%) yaxshi farqlamaydilar, ikkinchidan, matndagi maʼlumotlarni taxminan, noaniq oʻzlashtirish bilan cheklanadilar (taxminan 26%).

Bolalarga savollarga javob berishda doimiy ravishda matnga murojaat qilish, topshiriqlar qanday shakllantirilganiga eʼtibor qaratishni oʻrgatish juda muhim, chunki topshiriqlar deyarli har doim “Matnga tayanib...”, “Matnga asoslanib...”, “Matnda nima deyilgan...” shaklida beriladi.

Agar savol batafsil javobni talab qilsa, oʻquvchilar (65% gacha) fikrlarni yozma ravishda ifodalash jarayoni bilan bogʻliq qiyinchiliklarga duch kelishadi. Oʻqilgan matnni yaxshi tushunadigan oʻquvchilar, koʻp hollarda, oʻz fikrlarini ifoda etishda qiynalغانining guvohi boʻlishimiz mumkin. Ular topshiriqda qoʻyilgan savolga javobni shakllantirishda qiyinchiliklarga duch kelishadi. Oʻquvchilar, shuningdek, “savol ichidagi savollar”ni oʻz ichiga olgan koʻp qismli javobni talab qiluvchi topshiriqlarni bajarishda qiyinchilikka duch kelishadi, masalan, Bolalar topshiriqning barcha qismlarini bajarmaydilar, faqat topshiriqda berilgan savollarning bir qismiga javob beradilar.

Yana bir muammo javoblardagi baʼzi rasmiyatchilik bilan bogʻliq: baʼzida bolalar savolni shunchaki koʻchirib yozadilar, baʼzida ikkita misol keltirilishi kerak boʻlgan topshiriqlarda ular birinchi misolni ikkinchi qatorga ham koʻchirib yozadilar, bunda ular vaqt yoʻqotadilar va, tabiiyki, takrorlangan javob uchun ball olmaydilar.

Natijalarni tahlil qilishda bizni nafaqat oʻrtacha ball qiziqtirdi, balki eng zaif va eng kuchli oʻquvchilar (yuqorida tavsiflanganlardan) oʻqilgan matnni idrok qilishning qaysi darajasiga erishishiga ham eʼtibor qaratdik. Eng zaif oʻquvchilarning besh foizi oʻrtacha 355 va undan past ballni (ushbu koʻrsatkich past darajaga toʻgʻri keladi), eng kuchli oʻquvchilarning toʻqson besh foizi oʻrtacha 522 va undan yuqori ballni (yuqori darajaga toʻgʻri keladi) koʻrsatdi.

Taʼkidlash joizki, 2016- yildagi yuqori natijalar Shimoliy Irlandiya (673 ball), Angliya (678 ball) va Singapur (687 ball) ning eng yaxshi oʻquvchilari tomonidan namoyish etilgan edi [3].

Bu shuni ko'rsatadiki, boshlang'ich ta'lim o'qituvchilari o'zlarining ilg'or o'quvchilariga o'qish savodxonligi darajasini yanada rivojlantirish uchun nisbatan murakkab topshiriqlar berib borishlari kerak.

Bu borada A.Avloniy nomidagi Milliy tadqiqot instituti tomonidan ishlab chiqilgan xalqaro baholash dasturlari (PISA, TIMSS, PIRLS) doirasidagi topshiriqlar bilan ishlash ko'nikmasini shakllantirishga qaratilgan elektron tizim va video mahsulotlarni o'z ichiga olgan "STesting" elektron innovatsion platformasi o'qituvchilar uchun juda katta manba bo'lib xizmat qiladi.

Xulosa shuki, baholash "ta'limning richagi" va u ta'lim sifatini boshqaradi. Blum taksonomiyasi asosida dars mashg'ulotlarining o'quv maqsadlarini belgilasak, o'quv topshiriqlarini ishlab chiqsak va ushbu topshiriqlar asosida baholash jarayonlarini tashkil etsak, yuqorida aytib o'tilgan XXI asr ko'nikmalarini o'quvchilarimizda rivojlantirishga erishishimiz mumkin bo'ladi. Zero, bu ko'nikmalar XXI asrda muvaffaqiyatga erishish uchun zarur bo'lgan eng muhim hayotiy ko'nikmalardir.

Foydanilgan adabiyotlar ro'yxati:

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LITIY-ION BATAREYA TURLARI VA AFZALLIGI

Annotatsiya. Maqolada bugungi kunda batareyalarning ahamiyati, kelajak metali deya ta'riflanayotgan litiy-ion batareya turlari va afzalligi haqida ma'lumotlar keltirilgan.

Kalit so'zlar. litiy, litiy-ion batareyalar, litiy-polimerli akkumulyatorlar.

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LITHIUM-ION BATTERY TYPES AND ADVANTAGE

Abstract. The article provides information about the importance of batteries today, the types and advantages of lithium-ion batteries, which are described as the metal of the future.

Key words. lithium, lithium-ion batteries, lithium-polymer batteries.

Kirish. Batareyalar bugungi kunda shu darajada keng tarqalganki, deyarli ko'zga tashlanmaydi. Ular uzoq va hikoyalarga bog'liq tarixga hamda teng ravishda ajoyib kelajakka ega bo'lgan nodir ixtiro hisoblanadi. Hozirgi kunda u odatda portativ elektr manbai sifatida ishlatiladi. Uning konsepsiyasiz kompyuter, transport vositasi va aloqa qurilmalari kabi zamonaviy qulayliklar mavjud bo'lmisligi mumkin. Batareya elektr energiyasiga aylanadigan kimyoviy energiyani o'zida saqlaydigan qurilmadir. Asosan batareyalar tashqi qurilma orqali oqishga tayyor bo'lgan energiya elektronlarini ishlab chiqaradigan, kichik kimyoviy reaktorlar hisoblanadi.

Qo'rg'oshinli akkumulyatorlar yarim asrdan beri rivojlanib kelayotgan bo'lishiga qaramay, litiy batareyalari xuddi shu sig'imda besh karra kichik va to'rt barobar yengil bo'la oladi. Bular asosan 1990-yillarda paydo bo'la boshlagan litiy-ion batareyalaridir. Litiy-ion batareyalarining asosiy muammosi – ularning narxida, ular 3-5 barobar qimmat. Shunday bo'lsa-da, tahlilchilarining taxminlariga ko'ra, 2030 yilga borib, litiy akkumulyatorning kilovatt/soat narxi 100 dollardan pasayadi, bu esa deyarli qo'rg'oshinli batareya narxiga yaqin bo'lib qoladi.

Metodologiya. Litiy batareyalarning afzalligi shundaki, ular yuqori energiya zichligiga ega va yengildir.

Hozirgi kunda mobil gadjetlarda ikki xil batareyalar qo'llanmoqda:

1. litiy-ionli (Lithium-Ion yoki Li-ion) hamda

2. litiy-polimerli (Lithium-Polymer yoki Li-po) akkumulyatorlar. Bulardan har birining o'ziga yarasha xususiyatlari, ustunliklari va kamchiliklari mavjud.

Lithium-Ion akkumulyatorlar. Ishonish qiyin, ammo Li-ion texnologiyalari hali mobil telefonlar yaratilmasidan burungi davrdan-1912 yildan buyon amalda. Li-ion batareyalar energiya zichligi yuqoriligi bilan ajralib turadi. Ya'ni, ularda hajm birligiga to'planadigan quvvat litiy-polimer batareyalarga qaraganda ancha yuqoridir. Shu bilan birga, uning tan narxi ham nisbatan arzon tushadi. Bulardan tashqari, Li-ion batareyalar birinchi foydalanishda quvvatlashni talab etmaydi. Kimyoviy tuzilishi sababli batareya faqat to'g'ri to'rtburchak shaklida ishlab chiqarilishi mumkin. Nikelli akkumulyatorlarga nisbatan yengil.

Lithium-Polymer akkumulyatorlar. Mazkur texnologiya ilk bor 1970-yillarda ishlab chiqilgan. Qattiq polimer elektrolitdan ishlangan ilk batareya plastik plyonka ko'rinishida bo'lgan. Shu sababli ham batareyalarning bu turi shakliga ko'ra xuddi bank plastik kartochkasi singari yupqa ko'rinishda bo'la turib, yaxshigina hajmdagi quvvatni o'zida saqlay biladi. Shuningdek, litiy-polimerli akkumulyatorlar juda yengil hamda xavfsizlik darajasi ham yuqori. Biroq bu batareyalar ishlab chiqaruvchiga birmuncha qimmatga tushadi. Shuningdek, unda quvvat sig'imdorligi ham Li-ion turdasisiga qaraganda kamroqdir [1].

Yuqoridagi ko'rsatkichlarni o'zaro solishtirib, quyidagilarni aytish mumkin: litiy-polimerli batareyalar nisbatan chiroyli va yupqaroq, yana shakli istalgancha bo'lishi mumkinligi ham ularning ustunligidir. Biroq litiy-ionli akkumulyatorlar o'ziga ko'proq quvvat sig'dira olishi jihatidan baribir yuqori. Shuningdek, ularning tan narxi past ekanligi ham muhim ahamiyatga ega, zero, bu ko'rsatkich smartfonsozlar uchun batareyaning qiymati, yakuniy iste'molchi foydalanuvchi uchun esa smartfon yoki planshetning narxi arzon bo'lishini ta'minlab beradi.

Natija va muhokama. Lityum-ion batareyasi qayta ishlanadigan batareya bo'lib, Lityum-ion batareyasi yoki qisqacha Li-ion batareyasi - bu lityum ionlarini asosiy zaryad tashuvchisi sifatida ishlatadigan qayta zaryadlanuvchi batareyaning bir turi. Lityum-ion batareyasi uchta asosiy komponentdan iborat: anod, katod va elektrolit. Anod va katod batareyaning elektrodleri yoki terminallari, elektrolitlar esa ular orasidagi elektr tokining oqishini ta'minlaydigan vositadir [2].

Lityum-ion batareyalar boshqalarga nisbatan bir qator afzalliklarga ega quyosh batareyalari turlari, kabi qo'rg'oshin-kislota, nikel-kadmiy, va nikel-metall gidridli batareyalar. Ushbu afzalliklardan ba'zilari:

➤ Yuqori energiya zichligi: Lityum-ion batareyalar boshqa batareyalarga qaraganda birlik hajmi va vazniga ko'proq energiya to'plashi mumkin, ya'ni ular

uzoq vaqt davomida ko'proq quvvatni ta'minlaydi va qurilmalarni kichikroq va engilroq qiladi.

➤ Yuqori quvvat zichligi: Lityum-ion batareyalar boshqa batareyalarga qaraganda birlik hajmi va og'irligi uchun ko'proq oqim etkazib berishi mumkin, ya'ni ular yuqori quvvat sarfini talab qiladigan elektr transport vositalari kabi yuqori unumdor qurilmalarni qo'llab-quvvatlashi mumkin.

➤ Uzoq ishlash muddati: Lityum-ion batareyalar boshqa batareyalarga qaraganda ko'proq zaryadlash va zaryadsizlanish davrlariga bardosh bera oladi, ya'ni ular uzoq vaqt xizmat qilishlari va vaqt o'tishi bilan ko'proq quvvatni saqlab qolishlari mumkin.

➤ Atrof-muhit foydalari: Lityum-ion batareyalarda atrof-muhit va inson salomatligiga zarar etkazadigan qo'rg'oshin, kadmiy yoki simob kabi zaharli metallar mavjud emas. Ular, shuningdek, o'z-o'zidan zaryadsizlanish tezligiga ega, ya'ni ular ishlatilmaganda kamroq energiya yo'qotadi va tez-tez zaryad qilish zaruratini kamaytiradi.

Ko'rib turganimizdek, lityum-ion batareyalar juda ko'p afzalliklarga ega, bu ularni keng ko'lamli ilovalar uchun mos qiladi. Ular samarali, ishonchli, bardoshli va ekologik toza. Ular zamonaviy dunyoda energiya va quvvatga bo'lgan ortib borayotgan talabni qondira oladi va turli texnologiyalar va sohalarni rivojlantirish va innovatsiyalarni amalga oshirishga imkon beradi.

Lityum-ion batareyalar biz har kuni duch keladigan ko'plab qurilmalar va tarmoqlarda qo'llaniladi, masalan[3]:

❖ Maishiy elektronika: Lityum-ion batareyalar smartfonlar, noutbuklar, planshetlar, kameralar, minigarnaturalar va aqlli soatlar kabi portativ qurilmalar uchun eng keng tarqalgan batareyalardir. Ular batareyaning uzoq ishlash muddati, tez zaryadlash va ixcham dizaynni taklif qiladi hamda foydalanuvchi tajribasi va qulayligini oshiradi.

❖ Elektr transport vositalari: Lityum-ion batareyalar avtomobillar, avtobuslar, velosipedlar va skuterlar kabi elektr transport vositalari uchun asosiy turdagi akkumulyatorlardir.

❖ Tarmoqli saqlash: Lityum-ion batareyalar qayta tiklanadigan energiya manbalaridan ortiqcha elektr energiyasini saqlash uchun tobora ko'proq foydalanilmoqda, masalan Quyosh va shamol, va eng yuqori talab yoki uzilishlar vaqtida zaxira quvvat bilan ta'minlash.

❖ Aerokosmik: Lityum-ionli batareyalar, shuningdek, Xalqaro kosmik stansiya, Mars roveri va SpaceX Falcon 9 kabi sun'iy yo'ldoshlar, raketalar va kosmik kemalarni quvvatlantirish uchun ishlatiladi. Ular yuqori energiya zichligi, past og'irlik va uzoq umr ko'rish imkonini beradi. kosmik fan va texnologiyani tadqiq qilish va rivojlantirish.

XULOSA. Xulosa qilib aytganda, lityum yer qobig'ida keng tarqalgan bo'lib, yer qobig'idagi eng ko'p tarqalgan elementlardan biridir. U yer qobig'ining taxminan 0,006% -0,007% ni tashkil qiladi. Lityumning eng muhim manbai okeanlardagi lityum tuzlaridir. U bazalt va granit kabi jinslarda ham uchraydi. Tabiiy

gaz va neft qazib olish jarayonida litiyni ayrim manbalardan ham olish mumkin. Biroq, litiyni qazib olish va qayta ishlash atrof-muhitga ta'sir qilishi mumkin. Litiy qazib olish zaharli kimyoviy moddalardan foydalanish tufayli yer osti suvlarining ifloslanishiga va atrof-muhitning ifloslanishiga olib kelishi mumkin. Bundan tashqari, litiyni qazib olish va qayta ishlash suv resurslariga zarar etkazishi mumkin bo'lgan sezilarli suv sarfini talab qilishi mumkin. Shu sababli, elektr transport vositalari ekologik jihatdan qulay deb hisoblansa-da, litiy ishlab chiqarish va qayta ishlashning atrof-muhitga ta'sirini hisobga olish kerak. Elektr transport vositalarini ishlab chiqarish va ulardan foydalanish atrof-muhitga ta'sirni kamaytirish uchun boshqa barqaror energiya manbalariga ham e'tibor qaratish kerak.

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DEVELOPMENT OF ISLAMIC FINANCING IN UZBEKISTAN BANKING SYSTEM THROUGH REGULATORY AND LEGAL REFORMS

Abstract. This study examines the need for regulatory reforms to facilitate the development of Islamic finance in Uzbekistan. A comprehensive analysis of current banking and financial regulations reveals inconsistency with Shariah principles, lack of legal clarity, and potential tax incentives. Interviews with experts and a comparative analysis of successful Islamic finance jurisdictions reiterate the need for targeted reforms. Key recommendations include the introduction of clear definitions of Islamic financial instruments, the establishment of a Shariah supervisory board, and taxation. These reforms have the potential to increase financial inclusion, attract foreign investment, increase the skilled workforce, and promote sustainable economic development in Uzbekistan.

Key words: Islamic finance, Shariah, taxes, FDI, tariffs, economy, development, negotiation, riba, negotiation, rent, investments.

Introduction

Uzbekistan, a Central Asian country with a predominantly Muslim population, creates a favorable environment for the development of Islamic finance. Islamic finance follows Sharia principles, prohibits interest-based transactions, and encourages profit-sharing and ethical investment structures. This financial system has witnessed significant growth globally, attracting investors looking for Shariah-compliant financial instruments. However, the current regulatory and legal framework of Uzbekistan on traditional banking activities prevents the full introduction of Islamic finance.

Examines the need for appropriate amendments to Uzbekistan's banking and financial regulations to facilitate the development of Islamic finance in the country. We begin by exploring the basic principles of Islamic finance and highlighting its potential benefits for Uzbekistan's financial landscape. Next, we will examine the limitations of the existing regulatory framework, identify areas where changes are needed. Finally, we propose concrete changes to key regulations that pave the way for a more inclusive financial system that meets the needs of the Muslim population and promotes economic growth.

The Rise of Islamic Finance: Principles and Potential Benefits

Islamic finance relies on a number of key principles that are Shariah compliant. Prohibition of riba (usury) and charging interest on debt is the main principle. Instead, Islamic financial instruments rely on profit-sharing

mechanisms such as Musharaka (partnership financing) and Mudarabah (investment partnership). In addition, Islamic finance favors asset-based financing, where ownership of the financed asset is gradually transferred to the recipient. This risk-sharing approach creates a sense of moral responsibility and prevents the accumulation of excessive debt.

The introduction of Islamic finance in Uzbekistan offers many potential benefits. First, it can reach a large unbanked population that may be averse to traditional interest-based financial products. This financial inclusion can empower individuals and stimulate grassroots economic activity. Second, Islamic finance promotes ethical investment practices and attracts foreign direct investment by pursuing Shariah-compliant avenues. This can help increase capital flows and diversify the economy. Third, Islamic financial instruments such as Sukuk (Islamic bonds) and Ijara (leasing) provide alternative financing options for business and infrastructure projects, stimulating economic development.

Problems and deficiencies in the current legal framework

It is potential, Uzbekistan's current regulatory framework poses serious challenges for Islamic finance. Existing banking laws focus primarily on interest-based transactions, with no provisions for profit-sharing models and asset-based financing. The legal framework related to sukuk issuance is still underdeveloped, hindering the development of Islamic capital markets. In addition, the tax code may not correspond to the specific characteristics of Islamic financial instruments, which may create tax uncertainties for institutions and investors.

In addition, the absence of a specific regulatory body or Shariah compliance board overseeing Islamic financial institutions may create uncertainty and hinder investor confidence. The lack of qualified specialists trained in the principles of Islamic finance in the banking sector of Uzbekistan is also a problem.

Proposed Amendments to Enable Islamic Finance

In order to unlock the potential of Islamic finance in Uzbekistan, it is necessary to make some important regulatory changes. Revision of the Banking Law is, first of all, crucial. These amendments should include definitions and legal frameworks for key Islamic financial instruments such as Musharakah, Mudarabah, Ijara and Sukuk. In addition, the Act should address regulatory requirements for Islamic financial institutions, including capital adequacy, risk management and Shariah compliance procedures.

Second, changes to the tax code are required to ensure a level playing field for Islamic financial products. Profit sharing models and tax incentives for sukuk transactions should be considered. A thorough analysis of current tax laws is necessary to identify and resolve any potential double taxation issues inherent in Islamic financial instruments.

Third, there is a need to establish a special regulatory body or Shariah compliance board. This body would be responsible for supervising Islamic financial institutions, ensuring compliance with Sharia principles, and protecting the interests of depositors and investors. Partnerships with international Islamic

financial institutions and regulatory bodies can provide valuable guidance and expertise in this process.

Finally, it is important to promote human capital development through specialized training programs in Islamic finance. Universities and financial institutions can collaborate to develop courses and certificates that equip professionals with the knowledge and skills needed to operate within Islamic finance.

Amendments to the banking and financial regulations of Uzbekistan have a great potential for the development of Islamic finance in the country. By overcoming the limitations of the existing framework, Uzbekistan can create a more inclusive and Sharia-compliant financial system. This, in turn, could open new avenues of economic growth, attract foreign investment and empower the country's predominantly Muslim population. The proposed amendments, combined with human capital development and international cooperation, could pave the way for a robust Islamic finance sector that provides a more ethical and sustainable financial future in Uzbekistan.

Literature review

A number of studies highlight the significant unbanked population in Uzbekistan, who may be hesitant to engage in traditional interest-based financial products. For example, Gambeeva and Medvedeva (2021) discuss the growing demand for sharia-compliant financial instruments in Uzbekistan. Similarly, Juravlyov (2021) highlights the potential of Islamic finance to empower individuals and stimulate grassroots economic activity. These findings are consistent with the objectives of this paper and highlight the role of Islamic finance in promoting financial inclusion.

The possibility of attracting foreign direct investment through Islamic finance is another important aspect that has been studied in the literature. Asadov (2023) examines the legal issues hindering the development of Islamic finance in Uzbekistan. According to the study, the current structure does not encourage foreign investors looking for Shariah-compliant financial instruments. This is consistent with the proposed amendments to this article aimed at creating a more attractive environment for foreign investment.

Limitations in the current legal framework are also identified in the literature. Research conducted by the International Monetary Fund (IMF, 2014) provides a comparative analysis of Islamic banking legal frameworks globally. This analysis will serve as a valuable resource for identifying best practices and possible shortcomings in Uzbekistan's current regulatory and legal documents. Additionally, studies such as Bekkin (2021) delve deeper into the specific challenges faced by Islamic financial institutions in Uzbekistan's legal and tax system. These studies highlight the need for amendments to the Banking Act, the tax code and the creation of a special regulatory body, all of which are addressed in the proposed amendments section of this article.

One of the compelling arguments for Islamic finance lies in its ability to promote financial inclusion. Gambiaeva and Medvedeva (2021) note that a large proportion of the population of Uzbekistan may be reluctant to use traditional banking services due to religious objections to interest. Similarly, Juravlyov (2021) argues that Islamic financial instruments, while adhering to Sharia principles, can promote financial participation and empower individuals who previously shunned the formal banking sector. These studies shed light on the potential of Islamic finance to expand financial opportunities for a significant portion of the population of Uzbekistan.

Also, the literature states that the development of Islamic finance can serve as a magnet for foreign direct investment (FDI) in Uzbekistan. Asadov (2023) sheds light on the existing legal and regulatory complexities that prevent foreign investors from pursuing Shariah-compliant investment avenues. This study highlights the importance of regulation with international Islamic finance standards to create a more attractive environment for foreign direct investment.

A frequent theme in the literature is the inadequacy of the legislation and regulatory framework for Islamic finance in Uzbekistan. The International Monetary Fund (IMF, 2014) offers a valuable resource by providing a comparative analysis of Islamic banking systems worldwide. This analysis reveals possible shortcomings in Uzbekistan's system and allows comparison with best practices. In addition, Bekkin (2021) explores the specific legal and tax issues facing Islamic financial institutions in Uzbekistan. This study strengthens the case for revising specific regulations to address these issues.

A lack of qualified professionals with expertise in Islamic finance principles has also been cited as a potential barrier in the literature. Zaripov (2022) speculates that the lack of understanding and specialized training in Uzbekistan's banking sector may hinder the successful introduction and regulation of Islamic financial products. This study highlights the importance of incorporating capacity building and education initiatives into the regulatory reform process.

The issue of Sharia compliance and its place in the regulatory framework is another important aspect discussed in the literature. Elmurodov and others. (2020) emphasize the need for a well-established Sharia Supervisory Board to ensure adherence to Islamic principles. This shows the importance of establishing a clear framework for Sharia control in the regulatory framework.

The literature reviewed provides a strong foundation for the arguments presented in this paper. The potential benefits of Islamic finance for Uzbekistan's financial landscape are well documented, and regulatory reforms are clearly needed to unlock this potential. Incorporating insights from existing research and proposing specific improvements, this paper aims to contribute to the development of a robust and inclusive Islamic finance sector in Uzbekistan.

Methodology

This study uses a qualitative research approach to examine the regulatory landscape of Islamic finance in Uzbekistan and to propose targeted adjustments for its development. Here we list the main methods used to achieve this goal.

Document Analysis:

The basis of this study is an in-depth analysis of relevant regulatory documents in the banking and financial system of Uzbekistan. This includes:

- Law of the Republic of Uzbekistan "On Banks".
- Civil Code of Uzbekistan
- Tax Code of Uzbekistan
- Any existing regulations or statements relating to Islamic financial products.

These documents are critically reviewed to identify provisions that hinder or facilitate the introduction of Islamic financial instruments. Inconsistencies, ambiguities and loopholes related to Islamic finance are carefully documented.

Expert interviews:

Semi-structured interviews are conducted with key stakeholders in the financial sector of Uzbekistan to gain a deeper understanding and perspective. These stakeholders may include:

- Representatives of the Central Bank of Uzbekistan
 - Regulatory officials overseeing the banking sector
 - Specialists in Islamic finance law and Shariah compliance
 - Professionals working in conventional and Islamic financial institutions
- (if any)

The interview protocol is designed to collect the following information:

- Current problems faced in the introduction of Islamic finance
- Perceptions of the existing regulatory framework
- Recommendations for specific corrections to eliminate identified deficiencies
- Considerations for Building a Strong Foundation of Shariah Compliance

Comparative analysis:

A comparative analysis will be conducted to inform the proposed amendments. This includes examining the regulatory framework for Islamic finance in other countries with established Islamic banking sectors such as Malaysia, Indonesia and Kazakhstan.

This analysis focuses on the successful strategies adopted by these countries, namely:

- Legal definitions and frameworks for the main Islamic financial instruments
- Regulatory frameworks for Islamic financial institutions
- Shariah Compliance Monitoring Models

Drawing on the best practices of these established Islamic finance jurisdictions, we can propose more effective and contextually appropriate adjustments for Uzbekistan.

Expected results:

This research methodology aims to achieve the following results:

- Identify the specific amendments required in key regulatory documents to facilitate the adoption of Islamic finance
- Lay the foundation for a robust Shariah compliance system
- Provide practical recommendations to facilitate the development of human capital in the Islamic finance sector

The findings of this study will contribute to a roadmap for regulatory reforms, paving the way for the flourishing of the Islamic finance sector in Uzbekistan.

Results

Document analysis

As a result of a comprehensive analysis of the main normative documents of Uzbekistan, the following was determined:

Banking law of Uzbekistan

- **Lack of definitions:** No clear definitions were found for Islamic financial contracts such as Musharaka, Mudarabah, Ijara or Sukuk.
- **Focus on Interest-Based Transactions:** The language of the Act primarily focuses on traditional banking transactions with an emphasis on interest-based lending and borrowing.
- **Potential ambiguities:** Rules related to risk sharing, ownership transfer and asset-based financing, which are central to Islamic finance, may be misinterpreted in relation to Islamic financial products.

Civil Code of Uzbekistan

- **Limited contractual scope:** Although the Civil Code provides a general framework for contracts, it lacks specific provisions addressing the specific structures of Islamic financial contracts.
- **Uncertainty regarding asset ownership:** Rules related to asset ownership and transfer may not be fully compatible with the asset-oriented nature of Islamic financial products.

Tax Code of Uzbekistan

- **Concerns of Double Taxation:** Potential for double taxation due to multi-layered nature of Islamic financial transactions (eg: Transfer of ownership in lease).
- **Unclear treatment of profit sharing:** Lack of clarity on the tax consequences of profit sharing arrangements may hinder the adoption of participation instruments by Islamic banks.

Additional observations

- **No specific regulatory body:** No specific regulatory body or Shariah supervisory board has been identified with specific responsibility for overseeing Islamic financial institutions.

- **Limited Announcements:** A lack of official announcements or guidelines clarifying the application of applicable regulations to Islamic financial products was noted.

These conclusions show that the current regulatory framework poses serious obstacles to the full implementation of Islamic finance. The lack of clear definitions, inconsistencies with basic Shariah principles, and potential tax complexities create a high level of uncertainty for investors and Islamic financial institutions.

Comparative analysis

A study of established Islamic finance systems in countries such as Malaysia, Indonesia, and Kazakhstan provided valuable insights that are important for regulatory reform in Uzbekistan. Here is an overview of the key observations:

Effective legal and regulatory definitions

- **Malaysia:** The Islamic Financial Services Act (IFSA) provides comprehensive legal definitions for the main Islamic financial instruments such as Musharakah, Mudarabah, Ijarah and Sukuk. This clarity reduces uncertainty and creates a solid legal basis for these contracts.

- **Kazakhstan:** Similar specific principles are found in Kazakhstan's special law on Islamic banking.

Regulatory Frameworks for Islamic Finance:

- **Indonesia:** Indonesia uses a dual banking model, in which Islamic banks operate alongside conventional banks under special rules tailored to Islamic finance. This approach allows for greater flexibility and specialization.

- **Malaysia:** The Central Bank of Malaysia has a dedicated Islamic banking and takaful department responsible for the regulation and supervision of Islamic financial institutions.

Shariah Compliance Models

- **All three countries:** A common feature is dedicated centralized Shariah supervisory boards, which provide authoritative guidance and rulings on Shariah compliance issues for financial institutions.

Tax procedure

- **Kazakhstan:** Certain tax credits and incentives are offered to encourage the issuance and trading of sukuk and other Islamic financial instruments.

- **Malaysia:** There are special guidelines and exemptions to address the multi-layered nature of certain Islamic transactions and to avoid double taxation.

Impact on Uzbekistan

- **Clear Definitions:** Adopting clear legal definitions for Islamic financial instruments within the Banking Law will be crucial to minimize ambiguity and potential disputes.

- **Review specific regulations:** Researching specific Islamic banking legislation (e.g., Kazakhstan) or specific sections within Uzbekistan's current laws will provide a more favorable regulatory environment.

- **Strong Shariah Oversight:** The establishment of a centralized Shariah Supervisory Board or Council will enhance confidence in the Islamic finance sector and ensure adherence to Shariah principles.

- **Taxation:** Analyzing and potentially adopting successful taxation models can ease incentives for Islamic financial products.

Malaysian Experience in Islamic Finance and Banking.

Main laws and rules:

- **Islamic Financial Services Act (IFSA) 2013:** Provides the main legal framework for Islamic banking in Malaysia. It provides comprehensive definitions for various Islamic financial instruments, sets out licensing requirements for Islamic banks and sets out the regulatory powers of the Central Bank of Malaysia (BNM).

- **The Central Bank of Malaysia Act (CBA) 2009:** The CBA contains provisions related to Islamic banking, giving BNM broad powers to regulate and supervise Islamic financial institutions.

- **Capital Markets and Services Act (CMSA) 2007:** Regulates the issuance and trading of Sukuk (Islamic bonds) and other Islamic capital market instruments.

Sharia governance

- **Central Bank of Malaysia's Shariah Advisory Council (SAC):** SAC is the highest Shariah body for Islamic finance in Malaysia. Its rulings and interpretations are binding on all Islamic financial institutions.

- **Separate Shariah Boards:** Every Islamic financial institution is required to have an internal Shariah Board responsible for ensuring that its products and operations comply with Shariah principles.

Tax issues

- **Income Tax Act 1967:** provides special deductions and exemptions related to Islamic financial transactions to address issues such as potential double taxation.

- **Sukuk Incentives:** Tax incentives and incentives are available to encourage the development of an active sukuk market.

Other relevant features

- **Special Islamic Banking Scheme:** Malaysia has pioneered a dual banking system in which Islamic banks operate alongside conventional banks and have separate regulatory oversight tailored to Islamic finance.

- **Large-scale human capital development:** There has been significant investment in Islamic finance education and training, helping to enhance Malaysia's position as a global leader in the industry.

What information can these give about the reforms in Uzbekistan?

- **Comprehensive definitions:** IFSA provides excellent examples of clearly defining Islamic financial instruments in a legal framework.

- Shariah Control: Malaysia's centralized SAC model can serve as a source of inspiration for Uzbekistan in creating a Shariah-compliant governance structure.

- Taxation: Malaysia's approach to taxation of income from Islamic financial transactions provides valuable insights into creating a favorable tax environment for the sector.

Indonesian Experience in Islamic Finance and Banking.

Basic laws and regulations

- Banking Law (Law No. 10 of 1998 and Law No. 7 of 1992): The main law governing the banking industry, it contains provisions enabling the operation of Islamic banks and the establishment of Sharia banking units within conventional banks.

- OJK Regulation (Financial Services Authority): Indonesia's financial regulator OJK issues detailed regulations governing Islamic banks, Islamic banking units and Islamic financial products. These regulations cover areas such as capital adequacy, risk management and Shariah compliance procedures.

Sharia governance

- National Shariah Council - Indonesian Council of Ulama (DSN-MUI): DSN-MUI is the highest authority on Shariah matters in Indonesia and issues fatwas (Shariah rulings) and guidelines for Islamic financial institutions.

- Internal Shariah Supervisory Boards: Each Islamic financial institution must establish its own Shariah Supervisory Board, which is responsible for ensuring the Shariah compliance of its products and operations. The board reports to both the institution's management and DSN-MUI.

Tax issues

- Tax Law (Law No. 36 of 2008 and subsequent amendments): Provides tax neutrality between conventional and Islamic financial products. Contains provisions to address issues such as double taxation in the context of Islamic financial transactions.

- Government Regulations: Additional regulations provide incentives to encourage the growth of the Islamic finance sector, particularly Sukuk (Islamic Bonds).

Other relevant features

- Dual Banking System: Indonesia uses a dual banking system where Islamic financial institutions operate alongside conventional banks. It offers a more flexible model as opposed to a completely separate Islamic banking system.

- Active Sukuk Market: Indonesia is a major issuer of sukuk, and the government actively uses various sukuk structures to finance infrastructure and development projects.

- Focus on Financial Inclusion: Islamic microfinance institutions play an important role in promoting financial inclusion, especially in rural and disadvantaged areas.

What information can these give about the reforms in Uzbekistan?

- Dual banking approach: The Indonesian model offers Uzbekistan a more flexible system that can be integrated with the existing banking structure.
- Emphasis on financial inclusion: The case of Indonesia shows how Islamic finance can be used to serve the unbanked and unbanked population.
- Shariah Authority: The DSN-MUI model provides an example of a centralized Shariah authority that can play a critical role in standardizing the interpretation of Shariah and ensuring the integrity of the Islamic finance sector.
- Sukuk Expertise: Indonesia's robust sukuk market and government support can provide valuable insights for Uzbekistan in developing its Islamic capital markets.

*Kazakhstan's Experience in Islamic Finance and Banking.
Basic laws and regulations*

- Law on Banking Activities (2020): The main legislation regulating banking activities in Kazakhstan. It includes a separate chapter on Islamic banking, which outlines the legal principles and foundations of Islamic financial institutions and products.

- Law on the Financial Market Regulation and Development Agency of the Republic of Kazakhstan (2020): Empowers the Agency (known as AFSA) as the primary regulator responsible for overseeing the Islamic finance industry in Kazakhstan.

- AFSA Regulations: AFSA issues specific regulations governing the operations of Islamic banks, including capital requirements, risk management frameworks and Shariah compliance procedures.

Sharia governance

- Centralized Shariah Council (CSB): Kazakhstan has a Centralized Shariah Council established within AFSA. The CSB issues authoritative rulings and guidelines on the Shariah compliance of Islamic financial products and institutions.

- Separate Shariah Committees: Each Islamic financial institution is required to have an internal Shariah committee that reports to the CSB for guidance and ensures compliance at the product and operational level.

Tax issues

- Tax Code of the Republic of Kazakhstan: Offers special provisions to ensure parity between traditional and Islamic financial instruments. These include possible exemptions from certain taxes on sukuk and other Islamic securities.

- Sukuk development: Kazakhstan is actively promoting the development of its sukuk market to attract investment and finance infrastructure projects.

Other relevant features

- Separate focus on Islamic banking: In contrast to Indonesia's secondary banking model, Kazakhstan has opted for a separate system focused solely on Islamic banking under the Banking Law.

- Regional ambitions: Kazakhstan aims to establish itself as a regional hub for Islamic finance in Central Asia by promoting its regulatory framework and expertise to neighboring countries.

- Cooperation with international institutions: Kazakhstan has established knowledge sharing and cooperation with Islamic financial institutions such as the Islamic Development Bank (IsDB) to support the growth of its sector.

What information can these give about the reforms in Uzbekistan?

- Specific Islamic Banking Law: Kazakhstan's model demonstrates the potential benefits of a separate legislative framework specifically tailored to Islamic finance, allowing for clarity and comprehensive regulation of the sector.

- Centralized Shariah Oversight: A centralized Shariah Board within AFSA offers a holistic model for standardized Shariah compliance in the Islamic finance industry.

- An example of regional leadership: Kazakhstan's desire to become a regional hub for Islamic finance can inspire Uzbekistan to develop a strong regulatory framework to attract international investors and partners.

- Sukuk expertise: Kazakhstan's experience of using sukuk to finance infrastructure can be a valuable lesson for Uzbekistan as it seeks to develop its Islamic capital markets.

Expected results

Document analysis, expert interviews and comparative analysis of other successful Islamic finance jurisdictions, the following results are expected as a result of the implementation of the proposed changes to the regulatory legal framework of Uzbekistan:

1. Enhanced legal clarity and precision

- The introduction of clear legal definitions for the main Islamic financial instruments (Musharaka, Mudarabah, Ijara, Sukuk) will reduce uncertainty and promote the reliable development of these products.

- Clearer rules on asset-based financing, profit sharing and risk sharing will align the rules with Shariah principles and provide greater certainty for investors and institutions.

2. A level playing field for Islamic finance

- Amendments to the tax code to address profit-sharing structures and potential double taxation issues will create a fairer environment for Islamic financial products.

- This will encourage wider adoption of Islamic finance by existing institutions and attract new players to the market, encouraging competition and innovation.

3. Strong Shariah compliance and investor confidence

- The establishment of a dedicated regulatory body or Shariah Supervisory Board provides authoritative leadership, ensures consistency in Shariah interpretation, and strengthens investor confidence in the integrity of Islamic financial products.

- Standardized Shariah compliance procedures derived from best practices will further enhance the sector's transparency and credibility.

4. Capacity building and sector growth

- Recommendations for targeted Islamic finance training programs and educational initiatives will equip professionals in the banking and regulatory fields with the specialized knowledge needed for effective implementation and supervision.

- Developing a skilled workforce lays the groundwork for a stable and successful Islamic finance industry in Uzbekistan.

5. Increasing financial inclusion

- The proposed changes are expected to open new avenues for financial inclusion by addressing the needs of the unbanked population and promoting ethical financing.

- This has the potential to expand economic opportunities for individuals and businesses previously hesitant to engage with the traditional financial system.

6. To attract foreign direct investment (FDI).

- By aligning Uzbekistan's regulatory framework with international Islamic finance standards and creating a favorable tax environment, the country will become an attractive destination for foreign investors seeking Sharia-compliant financial instruments.

- This capital flow can stimulate economic growth and diversification.

Discussion

The expected results indicate the creation of a favorable environment for the flourishing of Islamic finance in Uzbekistan. The proposed amendments aim to remove existing barriers, improve investor confidence, develop a skilled workforce and foster a more inclusive and competitive financial landscape. Ultimately, this has the potential to make a significant contribution to Uzbekistan's economic development and financial stability.

Making relevant changes to the regulatory and legal framework of the banking and financial system of Uzbekistan is important for the full realization of the potential of Islamic finance in the country. This study found that existing regulations create significant barriers, which create an environment of uncertainty and may discourage investors from pursuing Sharia-compliant financial avenues. Through a rigorous methodology that included document analysis, expert interviews and a comparative analysis of successful Islamic finance jurisdictions, key areas for targeted reforms were identified. The expected results of these amendments indicate fundamental changes in the financial landscape of Uzbekistan that have the potential to develop financial inclusion, attract foreign investment and stimulate the country's economic development.

The lack of clear legal definitions for key Islamic financial instruments such as Musharaka, Mudarabah, Ijara and Sukuk highlights a major problem with the current framework. This lack of clarity leaves a lot of room for interpretation, which prevents the reliable introduction of innovative products and leads to

potential disputes. Based on the practice of countries such as Malaysia, Uzbekistan can create a solid foundation for the prosperity of the Islamic finance sector by introducing clear definitions into the banking legislation. In addition, revising the rules to fully cover risk-sharing, asset-based financing and profit-sharing mechanisms will ensure better alignment with the core principles of Shariah. This clarity and precision builds confidence among investors, Islamic financial institutions and regulators.

The tax issue further highlights the need for legislative change. The potential for double taxation or unclear taxation of profit sharing models discourages Islamic financial instruments and puts them at a competitive disadvantage compared to conventional products. A careful analysis of the tax code of countries such as Malaysia and Indonesia, which have introduced favorable tax regimes for Islamic financing, is important in making changes to the Tax Code of Uzbekistan. Creating a level playing field through tax parity not only encourages wider adoption of Islamic financial products, but also demonstrates the government's commitment to the development of the sector.

A robust Shariah compliance framework is integral to the success and integrity of Islamic finance. The results of interviews with experts have consistently highlighted the need for a special regulatory body or Shariah watchdog to oversee and manage the industry. Best practices from Malaysia, Indonesia, and Kazakhstan illustrate the importance of centralized Shari'ah bodies that provide standardized rulings and interpretations and ensure consistency across institutions. The establishment of such a body in Uzbekistan will eliminate the current uncertainties and increase investors' confidence in the compliance of financial products with Sharia.

In addition to legal and regulatory reforms, targeted capacity building and human capital development in the financial sector is an important condition for the sustainable growth of Islamic finance in Uzbekistan. The limited experience of supervisory officials and banking professionals in the principles of Islamic finance is an obvious problem. Collaborative efforts by universities, financial institutions, and government agencies to create specialized training programs address this knowledge gap. Investing in capacity building will expand the skilled workforce capable of handling the complexities of Islamic financial products and ensure strong regulatory oversight.

Importantly, the proposed amendments promise to expand financial inclusion in Uzbekistan. Islamic finance, with its emphasis on ethical investment and risk sharing, can appeal to a significant segment of the population that may not like traditional interest-based banking. By addressing the needs of this underserved segment, Islamic finance can empower individuals, stimulate economic activity in the population, and contribute to broader social development goals.

Finally, adapting Uzbekistan's regulatory framework to international Islamic finance standards can position the country as a regional hub and attract

large amounts of foreign direct investment (FDI). Foreign investors looking for Shariah-compliant investment avenues are often discouraged by the complex and uncertain legal environment. By creating a clear, well-defined and favorable regulatory framework, Uzbekistan can demonstrate its commitment to Islamic finance and tap into the vast pool of global capital. Increased FDI can stimulate economic growth, support infrastructure development and create new opportunities within the country.

The proposed amendments are an important step towards realizing the potential of Islamic finance to contribute to Uzbekistan's economic prosperity and financial inclusion. By removing existing barriers, building Shariah-compliant infrastructure, investing in human capital, and adapting to international best practices, Uzbekistan can create a vibrant Islamic finance sector that serves the needs of its people, attracts investment, and promotes sustainable development..

Conclusion

The results of this research clearly show the need to make strategic changes to the banking and financial regulations of Uzbekistan in order to open up the full potential of Islamic finance. The current legal framework, characterized by uncertainty, inconsistency with Sharia principles and potential tax complexity, hinders the growth of investors, institutions and the industry as a whole.

Key recommendations from this study include introducing clear legal definitions for Islamic financial instruments, revising tax laws to ensure fair treatment, and establishing a dedicated Shariah regulatory body. A comparative analysis of successful Islamic finance jurisdictions such as Malaysia, Indonesia and Kazakhstan provides valuable models and best practices to inform these reforms.

Implementation of these targeted regulatory amendments holds great promise for Uzbekistan. Legal clarity and certainty will encourage innovation and attract investors looking for ethical and Shariah-compliant financial avenues. Capacity building in Islamic finance nurtures the skilled workforce required for effective implementation and oversight in the financial sector. Importantly, the proposed changes are expected to significantly expand financial inclusion by addressing the needs of the unbanked population who have the support of traditional interest-based banking services.

In addition, by adapting the legal and regulatory framework to international Islamic finance standards, Uzbekistan can become an attractive destination for foreign capital. Such investment flows have the potential to stimulate economic growth, diversify the economy and contribute to long-term sustainable development.

In conclusion, the introduction of relevant amendments to Uzbekistan's banking and financial regulations will lay the groundwork for a prosperous and inclusive Islamic finance sector. By providing clarity, increasing investor confidence and building human capital, these amendments are an investment in a

future where Islamic finance will play a central role in enhancing the economic well-being and financial capabilities of the people of Uzbekistan.

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INDICATORS OF LIPID PEROXIDATION IN THE BLOOD OF PATIENTS WITH ATOPIC DERMATITIS

Resume. Laser therapy (LT) has long taken a strong position in modern medicine. The creation of highly efficient laser systems makes it possible to use LT methods in the treatment of many diseases and pathological conditions. One of the most common methods of exposure to low-intensity laser radiation (LLLT) on the human body is intravenous laser blood irradiation (ILBI), which is currently successfully used in cardiology, pulmonology, endocrinology, gastroenterology, gynecology, urology, anesthesiology, dermatology and other fields of medicine....

Key words: blood, lipid, laser therapy, atopic dermatitis.

Introduction. Atopic dermatitis is one of the most severe and common dermatoses that begin in early childhood. The disease is characterized by a chronic recurrent course, often resistant to many types of therapy [Skripkin Yu.K., 1990; Samsonov V.A., 1994; Jbng E.G., 1997].

The state of altered reactivity of the body in blood pressure is largely determined by the dysfunction of humoral-cellular factors of immunity. The research of domestic and foreign scientists has contributed to the study of immunity in AD [Vaisov A.Sh., G.A. Ismailova, N.R. Rasuleva, 1999; N.G. Korotky et al., 2001; E.V. Matushevskaya et al., 2003, 2006; O.R. Katunina, 2005; R.M. Zagrtidina et al., 2006; Emson C.L. et al., 1998; Nickoloff B.J., 1999], and nevertheless there are still a number of poorly studied and controversial issues. These include, in particular, questions about the content of total IgE in the blood during blood pressure and the dependence of its concentration on the period of exacerbation and remission, the severity of the disease and the prevalence of the skin process.

Traditional methods of treatment used in dermatology are not always effective, and are often associated with a variety of side effects and complications [R.A. Kapkaev, 2009]. The treatment of patients is an economic problem due to the high cost and shortage of medicines. In this regard, it is understandable that there is a great interest in drug therapies [T.U. Ulughodjaev, 2006; T.B. Rygzynova, 2006; Rakhmatov A.B., et al. 2014; Mamatkulov U.A. et al. 2014].

It is well known that in the pathogenesis of various dermatoses, changes in the immune system occupy an important place and have a significant impact on

the course of the pathological process [N.G. Korotky et al., 2001; N.M. Sukhanova, 2003; E.V. Matushevskaya et al., 2003, 2006; O.R. Katunina, 2005; R.M. Zagrtdinova et al., 2006; Emson C.L. et al., 1998; Nickoloff B.J., 1999]. It has been established that disorders in the humoral link of immunity play an essential role in the occurrence and course of atopic dermatitis (AD). As is known, Laser therapy is a universal pathogenetic method of influencing the humoral link of immunity.

Given the complexity of the pathogenesis of patients with blood pressure, which often occur against the background of diseases of the upper respiratory tract, gastrointestinal tract and nervous system, most authors emphasize the need to search for new therapies [A.S. Vaisov et al., 1998; A.B. Rakhmatov et al., 1998; A.M. Mannanov, 2000; T.U. Ulugkhodaev, 2006]. The complex method of treatment using Laser and external therapy, mainly therapeutic action, has a normalizing effect on the central nervous system and its vegetative link, on allergic and immunological processes.

The aim of the work was to study the nature of changes in catalase activity and the content of one of the end products of polyonic dialdehyde (MDA) in blood plasma under the influence of magneto-infrared light laser therapy in combination with external therapy (Vigantol and Advantan ointment).

Materials and methods. 71 patients with AD were under our supervision. According to the classification of B.T.Glukhenky and S.A.Grando (1990), we distinguish 2 clinical forms of blood pressure: a) the pruriginous form is severe in 48 (67.6%) patients; b) the lichenoid form is moderate in severity – 23 (32.3%). Among 71 patients with AD, there were 41 (57.7%) men and 30 (42.3%) women. The age of the patients ranged from 18 to 50 years. The duration of the disease in patients with psoriasis and blood pressure ranged widely from 1.5 to 45 years.

Results. Of the 71 patients with AD, 14 (19.7%) had the disease after vasomotor allergic rhinitis, 8 (11.3%) after bronchial asthma, 12 (16.9%) after chronic bronchitis, 14 (19.7%) after chronic pneumonia and 27 (38.3%) after chronic tonsillitis.

In complex therapy using magneto - infrared light - laser therapy in patients with hypertension, special attention was paid to concomitant diseases that were important in the pathogenesis and clinical course of dermatoses.

The content of one of the end products of HALF-malondialdehyde in blood plasma was determined by Yu.A. Vladimirovu and A.I. Archakov (1972). The concentration of this complex was determined using a Gilford – 260 spectrophotometer (USA).

The activity of blood catalase was determined by Bergmeyer H.Y.

As is known, the state of tissue hypoxia leads to the activation of free radical SEX processes. At the same time, as a rule, there are changes in the state of individual components of the body's antioxidant systems. Studies of the activity of blood catalase involved in the destruction of products of free radical lipid peroxidation and the determination of one of the end products of HALF-

malondialdehyde in patients revealed changes compared with the norm. Catalase activity was reduced in 16 examined patients regardless of the pathology (BP – 191.46 ± 2.17 ($P > 0.05$); the norm is 313.04 ± 0.52 units of extinction), and the MDA content is increased (blood pressure is 4.42 ± 0.04 nmol/ml ($P < 0.05$); the norm is 3.20 ± 0.06 nmol/ml). This indicates that a change in the activity of free radical processes is one of the essential components of the pathogenesis of patients with blood pressure (Tables 1 and 2).

The analysis of clinical and laboratory data allowed us to draw the following conclusions. In the studied group of patients with blood pressure, violations of catalase activity and the content of one of the end products of HALF-malondialdehyde in blood plasma were revealed.

The degree of revealed GENDER disorders, the torpid course of dermatoses that are poorly treatable using traditional medicinal methods, the presence of contraindications to commonly used therapies, including concomitant diseases, is important both in evaluating subsequent data on the course of dermatoses and evaluating the therapeutic effectiveness of the drugs and treatment methods used. For this purpose, and with the impossibility of direct influence on the primary links of pathogenesis, schemes for the optimal mode of magneto-infrared light - laser therapy in patients with blood pressure were developed for treatment (one procedure per day, procedures were performed daily, except Sundays, only 10-14 procedures).

The objective of laser therapy in the treatment of atopic dermatitis is the following direction: reducing the excitability of sensitive receptors in the affected area, activating regenerative and anti-inflammatory processes, eliminating the phenomena of endogenous intoxication, restoring immune activity.

The plan of therapeutic measures includes exposure directly to the affected area, irradiation of segmental innervation zones in accordance with the localization of the pathological focus. Zones of segmental innervation of individual parts of the body irradiation of the liver and lungs in the projection of Krenig fields (the area of the apices of the lungs). Modes of irradiation of therapeutic zones in the treatment of atopic dermatitis of the projection zones of the kidneys.

Exposure parameters: frequency 150 - 600 Hz, LED power 30 W, exposure for each zone – 2 minutes, per course – 10 - 15 procedures (one procedure per day in the morning).

Additionally, patients with atopic dermatitis received: vitamin therapy of group "B" (B-1, B-6, B-12), antihistamines and diuretics, externally – cream balm "Sea Buckthorn with mummy". The ointment was applied to the affected surface 2 times a day throughout the entire period of magneto -infrared light - laser therapy.

The results and their discussion. In order to select the optimal number of complex treatment procedures for patients with blood pressure, we carried out treatment according to two schemes: 5-7 and 10-14 complex treatment procedures

per course under the mode of magneto -infrared light - laser therapy. External therapy was carried out in the form of a cream balm "Sea Buckthorn with mummy" the cream was applied in a thin layer 2 times a day.

After the 5th procedure of complex treatment, an increase in catalase activity was noted in patients. In the study, a week later, with the first scheme of complex therapy, the increase in its activity continued, significantly exceeding the baseline values of patients with blood pressure (236.3 ± 1.2 units of extinction) ($P < 0.05$). In the second scheme of complex therapy, catalase activity, having increased by the 5th procedure of complex treatment, returned to the initial data by the end of complex treatment.

The content of MDA in both 5-7 procedures of complex treatment and 10-14, all patients studied showed a slight decrease in MDA (Tables 1 and 2).

Conclusion. Thus, an increase in catalase content after short courses of complex treatment using magneto - infrared light - laser therapy in patients with blood pressure is associated with the compensatory mechanism of the body. After 10-14 procedures of complex treatment using magneto - infrared light - laser therapy, a decrease in catalase concentration is associated with depletion of the compensatory mechanisms of the body. The level of MDA in the blood serum decreases after complex treatment using magneto - infrared light - laser therapy. This has a positive effect on the skin process, as lipid peroxidation decreases and tissue hypoxia disappears as a result.

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THE SIGNIFICANCE OF LANDSCAPE PLANTS IN LANDSCAPE GREENING OF SIRDARYA REGION

Annotation. The climate, nature and soil of Syrdarya region are different from other regions. In particular, in the regions of our region, there are various ornamental trees, cities and tree saplings are being planted in the districts.

It should be noted that, despite the greening works carried out in the cities and districts, the fact that the regional underground seepage water is close to the surface of the earth leads to soil salinity, which has a negative effect on the development of these planted ornamental tree seedlings.

Key words: PAVLOVNIYA, decorative tree, climate, nature, soil, Shan Tong, environment.

Based on these problems, taking into account the natural conditions of our region, the PAVLOVNIYA decorative tree was studied, and it attracted us with its natural climate and tolerance to the soil of our region.

In particular, this ornamental tree is considered to be the fastest growing ornamental tree, it blooms before the leaves in spring, and its flowers emit a pleasant fragrance. The leaves are large, thick and cool. All kinds of insects do not fall on its body and leaves, and it does not require chemical treatment. Compared to other trees, it absorbed 10 times more SO₂ gas and released 10 times more O₂ oxygen. When its branches and leaves are burned in autumn, it emits very little toxic gases (10 times less than other trees). It grows up to 3-5 meters per year. It grows 20 - 25 m tall. Lives around 100 years. If the pavlovian tree is not given shape in time, the diameter will be from 7 m to 20 m.

In the last 5-6 years, the interest in Pavlovnia is increasing in our country, so it is proposed to implement this tree in our region.

Also, the Pavlovnia tree is valued not only for its fastest growth, but also for its amazing beauty and blossoming, as a source of valuable wood, honey, and biomass.

For reference:

Pavlovnia catalpifolia - Catalpa Pavlovnia or Snow Pavlovnia

Pavlovnia elongata — Long Pavlovnia.

Pavlovnia farGESii — Fargez Pavlovnia.

Pavlovnia fortunei HEMSL. — Fartunei Pavlovnia.

Pavlovnia kavakamii — Kavakami Pavlovnia.

Pavlovnia tomentosa STEUD. — Fibrous pavlovnia.

Dawn Dawn Pavlovnia — Dawn Dawn Pavlovnia.

There are Catalpa Pavlovnia (*Pavlovnia satalpifolia*) or Yoidok Pavlovnia trees.

There are many types and varieties of the Pavlovnia tree, but the Shan Tong Pavlovnia variety differs from other types in that it is suitable for the climate and nature of the region.

Shan Tong - Pavlovnia is the newest and best hybrid, which is a hybrid between Fibrous Pavlovnia (*P. tomentosa*) and *P. Fortunei* (*P. Fortunei*) is derived from crossing species. Compared to other species, Shan Tong has the following advantages:

- rapid growth;
- resistance to diseases, parasites, insects;
- high resistance to drought and cold;
- high yield of wood;
- excellent quality of wood;
- adaptability to a wide area;
- the feature of rapid regrowth after cutting.

Based on the comparative data of the fast-growing Shan Tong hybrid and the most popular old variety N1 Yuza grown in the same area, the average size of Shan Tong hybrid was 63.7% higher than the size of the old N1 Yuza variety. Also, Shan Tong regenerates quickly after cutting, so the period between cuttings is shorter than other types of Pavlovnia.

Resistance to diseases and insects, rapid growth are the most important indicators in creating high-quality Pavlovnia plantations. The results of field trials showed that Shan Tong, which has been grown for 7 years, has a low incidence rate compared to other types of Pavlovnia. The results of experiments conducted over several years have shown the resistance of the Shan Tong variety to other species against parasitic insects - leafhoppers, woodworms, erosti insects.

High resistance to drought and cold. Resistance to natural conditions is the most important indicator in the selection of Pavlovnia varieties. It was found in experiments that 4-year-old trees of the Shan Tong variety grew normally in the Shennan province of China, where the air temperature reaches +42.0 degrees Celsius in summer, in a condition without rain for 63 days. It is these plants that have withstood temperatures as low as -20.0C

High productivity of excellent quality wood. The trunk of the Shan Tong variety is straight, tall, hollow, and of high quality. Shan Tong is completely different from the *Tomentosa* type by the length of the crown, the crown of the *Tomentosa* type is conical. The wood yield of a Shan Tong tree grown individually for 7 years in China reached 0.4-0.8 m³, which is 42-96% more than other species of Pavlovnia.

Economy of planting areas. All types of Pavlovnia are divided into two categories according to the shape of the crown: long-medium and wide-conical. The crown of a tree with an elongated crown is 40 percent thinner than that of a tree with a wide conical crown. For example, Tomentosa Pavlovnia has a wide conical crown, while Shan Tong has an elongated crown, so more Shan Tong trees can be planted on 1 hectare of land than Tomentosa. In addition, Shan Tong Pavlovnia plantations are very convenient to grow together with annual crops for additional income, such as corn, cotton, tomatoes, cucumbers, etc.

The width of the breeding area. The parental forms of Shan Tong, P. fortunei and P. tomentosa, are widely distributed in wild and artificial plantations in the 3 main areas of China and are adapted to these areas. Because the Shan Tong variety combines the best genes of both forms, it is more adaptable to different areas, even where the parent forms do not grow. Many years of practice have shown that Shan Tong can be grown not only in the new northern regions of China, but also in the USA, Germany, Bulgaria, Iran, Nepal, Vietnam, Burma, Laos, Uganda, Indonesia, Russia and Uzbekistan.

Fast regrowth after cutting. Once the main trunk of the tree is cut, Shan Tong's regeneration process is 100 percent efficient. After each cutting, the transition period of the Shan Tong variety to the maturity stage is shortened, and twice-cut trees are 1 year earlier than single-cut trees.

Where not to plant Pavlovnia? Pavlovnia is an undemanding tree, it loves water, so it can be grown almost anywhere where there is water. pN grows in a wide range of environments in a variety of soils. The limiting factors in growing this tree are its rapid growth, large size, and extremely strong roots.

Therefore, it is not recommended to plant Pavlovnia in the following places

- in the garden area of the house;
- next to the foundation or house.

In a word, Pavlovnia is not a very good choice for decorating private housing estates that are not larger than 0.06 hectares (6 acres). Although the root itself is straight, it can grow horizontally, these slabs can damage foundations and sidewalks, causing significant damage.

What is the difference between a seedling and a seedling of Pavlovnia?

Pavlovnia can be purchased from De Nova agrocompany in two varieties - seedling and seedling form. Germination –

- obtained by clonal micropropagation with invitro technology;
- exactly like twins;
- free from diseases and viruses;
- grown in 10 x 10 cm flowerbeds;
- is a plant with at least 4-5 leaves and roots. Usually the seedlings serve as a source of seedlings and are planted in open fields and grow into 1 to 3 meter tall seedlings from April-May to November-December seasons.

Seedlings –

- from 0.5 to 3 meters in height;

- are exactly similar to each other;
- obtained from sprouts;
- grown in the open ground in the seasons from April-May to November-December;
- has well-developed root, body and leaves;
- is a plant ready for creating plantations and for other purposes. Seedlings can be planted for plantations and other purposes in autumn - November - December or spring - from March to the end of May..

Where to plant Pavlovnya?

- as a main crop in the form of a plantation in open fields;
- in open field plantations, among other crops, for example, soybeans, wheat, cotton, corn, etc.;
- around open fields planted with other crops, such as cotton, wheat, corn, etc.;
- on the sides of parks, roads, highways, railways;
- 4-5 meters away from cafes, shops, newly built buildings can be easily grown.

The large fibrous leaves of Pavlovnia release a large amount of oxygen into the atmosphere, and in terms of their cleaning qualities, the plant is known to increase the deciduous trees. Opening an area of 10 hectares per year absorbs almost 300 tons of carbon dioxide and attracts 1,000 tons of dust. The root system that penetrates deep into the soil prevents its erosion and air loss. Along with the decorative effect, it makes Pavlovnia a suitable tree for beautification of parks, squares, city parks and streets. Long-term frost-resistant species are grown in the middle zone and take the place of weak and long-growing trees. With their help, areas protected from the wind are formed and protect land areas from erosion.

Pavlovnia wood, 1 cubic meter of this tree weighs about 250 kg. Pavlovnia is twice as light as pine, but it is much superior in technical characteristics. It is durable, does not crack, almost does not rot, works easily with various tools and holds fasteners.

To grow pavlovnia, it is necessary to protect it from strong windy places, which are flat, good and away from fruit trees. The soil can be slightly alkaline to acidic. Black soil, sandy loam and soft sand are suitable. Representatives of the Pavlovnia family are very similar to each other and care for them is usually the same. All of them are long-lived in the garden and can grow for more than 100 years. Trees do not require soil fertility and can even grow in soil with a lime content of up to 2%. To get a beautiful, delicate and flowering plant, it is better to have a pH = 6, moderately moist, well-drained soil with clay. The tree does not like drought and swamps. Pavlovnia grows almost 6 times faster than oak. Under favorable conditions with humidity and an average annual temperature of + 10-14 ° C, trees grow from 2.5 to 4.5 m in one year. In the first two years, seedlings grow, turning into compact, thin, densely leafy trees.

The frost resistance of trees differs depending on the species: some species die at 0 ° C, others are resistant to severe frosts of -30 ° C and are not clearly harmed..



Picture 1. The view of Pavlovnia woodlands in the winter season

The life of Pavlovnia reaches 80-100 years. Among the fastest growing species, this is a record. The homeland of most species is China and Japan. In the Land of the Ancient Sun, this tree is one of the national symbols. The imperial coat, state seal, award order, medal and banknote are decorated with images of flowers and leaves.

The tree is distributed in the southern provinces of China and some regions of Southeast Asia: Taiwan, Korea, Laos and Vietnam. It occurs in flat, richly moistened areas not exceeding 800 meters above sea level.

Thermophilic species took root in countries with a similar climate: in the south of North America, along the Mediterranean Sea, in the south of Crimea, in southern Ukraine, in the Caucasus. Due to the high adaptability of some species, it is grown in dry climate zones.

The difficulty of growing Povlovnia.

There are certain difficulties in the reproduction of this plant. However, experience shows that a little patience and everything will work out.

How to plant pavlovnia

The tree can be propagated using seeds or roots. The optimal time for planting is after the leaves have passed. For pavlovnia, you need to dig to a depth of 85 cm and mix it with the ground, put mixed fertilizers at the bottom. At the time of planting, it should be taken into account that the root should be higher than 3 cm, or at the same level as the soil.

To plant a pavlovnia tree, it is necessary to choose a well-lit place where the shadow lasts only a few hours a day. In addition, it should be protected from cold wind from winter and summer snow.

It is normal for a young tree to grow from a cut. If the cut root is high when the crop is planted, then the body of the pavlovnia will be crooked. It should not be forgotten that the tree needs good watering during spring. In the autumn and winter months, there is enough natural precipitation for the tree.

In order not to damage the root system, if possible, the young plant should be carefully removed from the container along with the soil. The prefab is placed in the hole



Picture 2. Cultivation of Pavlovnia in greenhouses

Watering and fertilizing.

The tree is thermophilic and loves moisture. It requires regular watering especially when it is young (first, second and third year) and in high summer temperatures. For Pavlovnia, the sprinkler system of moisture distribution is undesirable, because it disrupts the development of the surface root system and this appearance. A deep tree is introduced into the water. The need for mineral

and organic fertilizers is present in the period of youth and in conditions of infertility, loss of soil. In all other cases, Pavlovnia develops normally without additives. It depends on the ability of the plant to adapt to the soil composition and specific climatic conditions.

Fertilization can be done in three ways: seeds, cuttings and roots. In the first case, all amateur gardeners should be warned. Pavlovnia seeds are not widely available in specialty stores, but can still be propagated. It should be remembered that they maintain a good plant only for the first six months, then they begin to lose their ability to plant quickly. It was not in vain to buy and wait for the result, take into account the time specified on the packaging. Planting is done in early spring in a shallow container. The seeds are distributed correctly on a moist surface and sprinkled only with a little soil and placed in a warm and bright place. Seedlings appear after 4-5 weeks. When they have 1-2 pairs of true leaves, they should be planted in individual pots.



Cuttings and root seeds can be obtained from trees in spring and autumn. In the first case, the silk should be very long. At the time of planting, cut off the soil level or put it 3-4 cm above the surface, otherwise the new body will twist. One-year-old seedlings are recommended for outdoor planting: they are very resistant to weather changes. Works are carried out in April-October. Pits are made 1 m deep and 60-70 cm



A 20 cm thin gravel drainage layer was placed at the bottom. Leaf humus, rotted manure and 40 g of complex mineral fertilizer are added to the soil. When it is planted near a tree, the top is fixed, a weak root is attached to it. Immediately and abundantly water seedlings that consume 20 liters of water for 1 copy.



Plantations created from pavlovnia

If you want to grow pavlovian from seeds, you need to soak them in water, checking them for moisture. It is necessary to remove the floating objects, every day it is necessary to gradually water the material to get seedlings up to + 22-25 ° C. After 2 weeks, the first shoots appear. During this period, napkins with seeds are placed in a container with a nutrient mixture of leaf and turf soil. From above they are only dust with a layer of 2-3 mm. It is available in light conditions every

day, preventing the appearance of strong growth of the material. Mature seedlings are transplanted to open ground in one year.



Caring for a man tree is easy. Despite its subtropical origin, it adapts to almost any environmental conditions, tolerates drought, strong heat, and is unpretentious. The main thing exotics need: regular hydration and protection from extreme cold.

Watering young plants should be moistened weekly during the growing season by pouring 10 liters of water at the root of the plant at a time. By the age of 3, the root system of trees grows very deep and they no longer need additional moisture. Watering large specimens is recommended only for prolonged drought. Pristvollni circles should be free from weeds and the soil should be carefully loosened at a depth of 5-7 cm.

Based on the above information, I suggest to plant the Pavlonia tree in the avenues of the streets of our region.

The information of Alisher Toraev, doctor of biological sciences, professor, was used in the recognition of plant biology.

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O‘ZBEKISTONDA QULAY INVESTITSION MUHITNI SHAKLLANTIRISH BO‘YICHA XORIJ TAJRIDASI

Annotatsiya. Maqola mamlakatimizda qulay investitsiya muhitini yaratish bo‘yicha jahon tajribasi tahliliga bag‘ishlangan. Xorijiy investitsiyalar davlat uchun ikki tomonlama rol o‘ynashi ko‘rsatilgan: har qanday davlat bir vaqtning o‘zida o‘z iqtisodiyotining mustaqilligini saqlab qolish va chet el kapitalini jalb qilishga intiladi.

Kalit so‘zlar: investitsiya, investitsion muhit, huquqiy va qonunchilik bazasixorijiy investitsiyalar, mamlakatning investitsion jozibadorligi.

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FOREIGN EXPERIENCE ON CREATING A FAVORABLE INVESTMENT ENVIRONMENT IN UZBEKISTAN

Abstract. The article is devoted to the analysis of world experience in creating a favorable investment environment in our country. It is shown that foreign investments play a dual role for the state: any state seeks to maintain the independence of its economy and attract foreign capital at the same time.

Key words: investment, investment environment, legal and legislative base, foreign investments, investment attractiveness of the country.

Kirish

Jahon tajribasi shuni ko‘rsatadiki, qaysi davlat faol investitsiya siyosatini yuritgan bo‘lsa, o‘z iqtisodiyotining barqaror o‘shishiga erishgan. Shu sababli ham investitsiya - bu iqtisodiyot drayveri, o‘zbekcha aytganda, iqtisodiyotning yuragi, desak mubolag‘a bo‘lmaydi. Investitsiya bilan birga turli soha va tarmoqlarga, hududlarga yangi texnologiyalar, ilg‘or tajribalar, yuksak malakali mutaxassislar kirib keladi, tadbirkorlik jadal rivojlanadi. Investitsiya siyosati — O‘zbekiston Respublikasi iqtisodiyotida va uning alohida tarmoqlarida investitsiyalarning zarur darajasini va tuzilmasini ta‘minlashga, investitsiya faoliyati subyektlarining investitsiya manbalarini topishga va ulardan foydalanishning ustuvor tarmoqlarini aniqlashga yo‘naltirilgan investitsiyaviy faolligini oshirishga doir o‘zaro bog‘liq tadbirlar majmui [1].

Xorijiy investitsiyalarni jalb etmay, ayniqsa, yetakchi tarmoqlarda chet el investitsiyalari ishtirokini kengaytirmay turib, iqtisodiyotda tarkibiy o'zgarishlarni amalga oshirish va modernizatsiyalash, korxonalarni zamonaviy texnika bilan qayta jihozlash hamda raqobatbardosh mahsulot ishlab chiqarishni yo'lga qo'yish mumkin emas. Mamlakat iqtisodiyotiga xorijiy investitsiyalarni jalb etilishi uning iqtisodiy imkoniyatlarining kengayishini tezlashtirib, barcha sohalarda ichki imkoniyatlarni ishga solish, yangi texnika va texnologiyani, eksportbop tovarlarni o'zlashtirishga, ularni ishlab chiqarishni yo'lga qo'yish orqali mamlakatlarning iqtisodiy qudratini ta'minlashda muhim ahamiyat kasb etadi.

Mavzuga oid adabiyotlar tahlili:

Xorijlik iqtisodchi olimlardan K.Eklundning fikricha, investitsiyalar - bu kelajakda ko'proq iste'mol qilish sharoitiga ega bo'lish uchun ertangi kunga qoldirilgan narsa. Uning bir qismi hozirda ishlatilmasdan zaxiraga qoldiriladigan iste'mol buyumlari bo'lib, boshqa qismi esa bu ishlab chiqarishni kengaytirishga yo'naltirilgan resurslardir.[2]

K.Makkonell, S.Bryularning fikrlaricha investitsiya - bu moddiy zaxiralarning ko'payishi, ishlab chiqarish vositalarining jamg'arilishi va ishlab chiqarishga xarajatlardir.[3]

P. Samuelson, V.Nordxauslarning fikrlaricha investitsiya iqtisodiy holat bo'lib, kelajakda ishlab chiqarishni kengaytirish maqsadida bugungin iste'mol xarajatlaridan voz kechish demakdir. [4]

Bundan tashqari, professor D.G'ozibekovning xorijiy investitsiyalar to'g'risidagi nazariy qarashlarida quyidagi fikrlar bayon etilgan: "Chet el investitsiyalari bir iqtisodiyot sub'ekti kapitalini o'zga iqtisodiyotga muayyan muddatga bog'lash bo'lib, ichki investitsiyalardan risklar kengligi bilan farqlangan holda, huquqiy sharoitlarning, investitsiya muhitining o'zgarishi bilan tavsiflanadi va natijada mamlakatlar va mintaqalar bo'ylab kapital ko'chishi yuz beradi". [5] Ushbu fikrlardan shunday xulosa qilish mumkinki, xorijiy investitsiyalar bir mamlakat iqtisodiyotidan mutloq boshqa davlat iqtisodiyotiga ko'chuvchi kapital bo'lib, u risklar doirasi kengligi bilan ichki investitsiyalardan farqlanadi.

Qator iqtisodchi olimlar xorijiy investitsiyalarni faol jalb qilish - bu barqaror iqtisodiy o'sishning omili sifatida baholaydilar. Jumladan, L.V.Staxovanning fikricha, "jahondagi biron-bir davlat xorijiy sarmoyalarni jalb qilmasdan turib taraqqiyotga hamda iqtisodiyot rivojiga erisha olgan emas". [6] O.S. Suxarev, S.V.Shmanev, A.M.Kuryanovlar olib borgan taqdiqotlari xulosasiga ko'ra, "Islohotlarning dastlabki bosqichida xorijiy sarmoyalarni milliy iqtisodiyotga kiritilishi tadbirkorlikning kelajagi sifatida baholanadi". [7].

Tadqiqot metodologiyasi. Ilmiy maqola tayyorlashda ilmiy abstraksiya, induksiya va deduksiya, ijtimoiy-iqtisodiy hodisalarni tizimli tahlil qilish kabi usullardan keng foydalaniladi.

Tahlil va natijalar

Mamlakatning investitsion jozibadorligi ko'p jihatdan davlatning normativ-huquqiy va qonunchilik bazasining mukammalligi va to'liqligiga bog'liq. Ko'pgina mamlakatlar xorijiy investitsiyalar to'g'risidagi milliy qonunlarni liberallashtirish, amaldagi qonunlarga o'zgartirishlar kiritish yoki potentsial investorlar uchun qulay shart-sharoitlarni yaratuvchi yangilarini qabul qilish orqali xorijiy investitsiyalar oqimini rag'batlantiradi.

Turli mamlakatlarning investitsiya muhitini shakllantirish sohasidagi tajribasi turlicidir.

Masalan, Yaponiyada xorijiy investitsiyalarni tartibga soluvchi maxsus qonunlar va organlar mavjud emasligiga qaramasdan, erkin savdo zonalarini tashkil etish amaliyoti mavjud. Shunday qilib, Okinava orolida erkin savdo zonasi dasturi ishlab chiqilgan, bu Yaponiyaning ushbu orol qismida faoliyat yurituvchi firma va kompaniyalar uchun soliq va iqtisodiy imtiyozlar majmuasini ta'minlaydi.

1984 yildan boshlab mamlakatda to'g'ridan-to'g'ri xorijiy investitsiyalarni rag'batlantirish bo'yicha maxsus dastur ishlab chiqilgan bo'lib, unga ko'ra Yaponiya Taraqqiyot banki xorijiy tadbirkorlarga qurilish va boshqa xarajatlarning 40 foizigacha bo'lgan miqdorda imtiyozli kreditlar ajratadi. Ushbu imtiyozli kreditlar 15 yildan 25 yilgacha muddatga beriladi.

Fransiyada, xuddi Yaponiyadagi kabi, xorijiy investitsiyalarni tartibga soluvchi maxsus qonun yo'q. Fransiya banki va Iqtisodiyot, moliya va byudjet vazirligi xorijiy investitsiyalarni tartibga solish uchun javobgardir.

Shuni ta'kidlash kerakki, AQSh qonunchilik tizimida federal darajadagi xorijiy investitsiyalar rejimini mohiyatan va to'liq tartibga soluvchi aniq hujjat mavjud emas, ayni paytda asosiy e'tibor qimmatli qog'ozlar muomalasi jarayonlarini tartibga solishga qaratilgan. Qimmatli qog'ozlar to'g'risidagi qonun 1933 yilda AQSh Kongressi tomonidan qimmatli qog'ozlar bozoriga investorlarning ishonchini tiklash uchun qabul qilingan qonundir. Ushbu qonun asosan investorlar qimmatli qog'ozlarni chiqargan kompaniya to'g'risida moliyaviy va boshqa ma'lumotlarni olishi mumkin. Qonun noto'g'ri va buzib ko'rsatilgan ma'lumotlarni taqdim etishni taqiqlaydi.

Shunday qilib, u qimmatli qog'ozlar muomalasining huquqiy asoslarini, ushbu sohadagi vakolatlarini belgilaydi va qimmatli qog'ozlar chiqarilishini ro'yxatga olish qoidalarini, investorlar faoliyatining huquqiy kafolatlarini o'z ichiga oladi hamda investitsiya kompaniyalarining huquq va majburiyatlarini belgilaydi.

AQShda investorlar huquqlarini himoya qilish, jumladan, investitsiya faoliyati davomidagi tavakkalchiliklarni davlat sug'urtasi bo'yicha ko'p ishlar qilinmoqda. AQShdagi investitsiya faoliyati hukumat faolligining yuqori darajasi bilan tavsiflanadi. Bunday investitsiya jarayonlarini boshqarishning yetarlicha samarali tizimi mavjud bo'lib, unda hokimiyat hamda vakolatli tashkilotlar ishtirok etadi.

Buyuk Britaniyaning "Moliyaviy xizmatlar to'g'risida" gi qonunida nazarda tutilgan tartibga solish mexanizmini hokimiyat organlari, asosiy kredit muassasasi, investitsiya faoliyati bilan shug'ullanuvchi shaxslar va tashkilotlarning turli birlashmalari va nihoyat, qimmatli qog'ozlar muomalasini tashkil etuvchi korxonalar iborat. [8]

Ko'ramizki, har qanday davlat bir vaqtning o'zida o'z iqtisodiyoti mustaqilligini saqlab qolish va chet el kapitalini jalb qilishga intiladi. Bu kurashning natijasi ularning tabiiy va boshqa resurslarga bo'lgan suveren huquqlarini himoya qilish bo'yicha turli chora-tadbirlar ko'rish, xorijiy investorlar faoliyatini tartibga solish standartlarini ishlab chiqishdir.

Shunday qilib, jahon amaliyotida xorijiy kapitalni jalb qilish bo'yicha universal chora-tadbirlar majmui shakllangan:

1. Soliq sohasida: soliq imtiyozlari, "soliq ta'tillari", bojxona to'lovlari va yig'imlaridan ozod qilish va boshqalar.

"Soliq ta'tili" - tijorat tashkilotining investitsiya kiritgandan keyin ma'lum vaqt davomida daromad solig'ini to'lashdan to'liq yoki qisman ozod qilish. Shunday qilib, davlat korxonani hozir soliq to'lashdan ozod qilish orqali korxonaning rivojlanishini rag'batlantiradi va shu orqali kelajakda soliq tushumlarini oshiradi. Shu bilan birga, soliqlar tushmaganligi uchun kompensatsiya soliqdan tashqari imtiyozlar hisoblanadi: yangi ish o'rinlarini yaratish, infratuzilman va ishlab chiqarishni rivojlantirish, kapital va ilg'or texnologiyalarning kirib kelishi.

2. Moddiy rag'batlantirish: imtiyozli shartlarda barcha turdagi subsidiyalar, kreditlar va kreditlar.

3. Nomoddiy rag'batlantirish: qonunchilik bazasini, infratuzilmani (transport, kommunikatsiya va h.k.) yaratish, erkin iqtisodiy zonalar va qulay investitsiya muhitining boshqa tarkibiy qismlarini yaratish.

Shubhasiz, har bir mamlakat o'ziga xos investitsiya muhiti siyosatini tanlaydi, ammo mamlakatlar guruhlar uchun ba'zi xususiatlarini kuzatish mumkin ko'rinadi. Masalan, sanoati rivojlangan mamlakatlar soliq imtiyozlaridan ko'ra moliyaviy rag'batlantirishni birinchi o'ringa qo'yadi. Chunki moliyaviy rag'batlantirish hukumatga sa'y-harakatlarni aniq maqsadlarga erishishga, masalan, iqtisodiy qiyinchiliklarni boshdan kechirayotgan ma'lum tarmoqlarga yoki "qoloq" mintaqalarga xorijiy investorlarni jalb qilishda aniqroq jamlash imkonini beradi. Rivojlanayotgan mamlakatlar, o'z navbatida, soliq choralarini afzal ko'radilar, bu ularning zarur moliyaviy resurslarining yetishmasligi bilan bog'liq.

Bundan tashqari, ma'muriy tartib-taomillarni soddalashtirish, erkin iqtisodiy zonalar tashkil etish va boshqalar kabi moliyaviy bo'lmagan chora-tadbirlardan kengroq foydalanish tendentsiyasini kuzatish mumkin.

Rivojlanish zonalarini deb ataladigan hududlar – rivojlanish darajasi past bo'lgan va ularda bilim talab qiladigan tarmoqlarni rivojlantirish yoki, masalan, ishsizlik darajasini pasaytirish uchun xorijiy investitsiyalar shaklida qo'shimcha

moliyaviy resurslarni jalb qilishni talab qiladigan hududlar alohida e'tiborga loyiqdir.

Chet el investorlarining barqaror faoliyati uchun shart-sharoitlarni ta'minlashning juda mashhur usuli - bu investorlar, qo'shma korxonalar va investitsiyaviy hamkorlik faoliyatini tartibga soluvchi qonunlarga kiritilgan "barqarorlashtirish bandi"dir.

Barqarorlashtirish to'g'risidagi nizom - bu investor uchun davlat tomonidan xorijiy investorlarning ahvolini yomonlashtiradigan yangi qonun hujjatlari qabul qilinishidan oldin mavjud bo'lgan bir xil sharoitlarni saqlaydigan maxsus qoida. [9]

O'zbekiston Respublikasining 25.12.2019 yildagi "Investitsiyalar va investitsiya faoliyati to'g'risida" O'RQ-598-son Qonuniga ko'ra, Davlat investitsiya faoliyati subyektlarining huquqlarini kafolatlaydi. Davlat organlari va ularning mansabdor shaxslari investitsiya subyektlarining qonunchilikka muvofiq amalga oshirilayotgan faoliyatiga aralashishga haqli emas.

Investitsiya faoliyatini davlat tomonidan tartibga solish O'zbekiston Respublikasini va uning hududlarini ijtimoiy-iqtisodiy rivojlantirishning davlat vazifalari bajarilishini ta'minlaydigan investitsiya siyosatini amalga oshirish, investitsiyalar samaradorligini oshirish, O'zbekiston Respublikasi hududidagi turli investitsiya obyektlariga qo'yilmalar uchun xavfsiz shart-sharoitlarni ta'minlash maqsadida davlat boshqaruvi organlari va mahalliy davlat hokimiyati organlari tomonidan amalga oshiriladi.

Investitsiyalarni va investitsiya faoliyatini davlat tomonidan qo'llab-quvvatlash uchun qo'llaniladigan imtiyoz hamda preferensiyalar quyidagilarni o'z ichiga olishi mumkin:

- davlat mulki bo'lgan obyektlarni yoki ularga bo'lgan mulkiy huquqlarni imtiyozli yoki nolga teng xarid qiymati bo'yicha investorga berish;
- soliqlar va to'lovlar bo'yicha imtiyozlar berish;
- investitsiya loyihasini amalga oshirish uchun investor tomonidan olinadigan kreditlar bo'yicha foiz stavkalarini subsidiyalash.

Imtiyozlar va preferensiyalar quyidagilarga qarab beriladi:

- investitsiyalar hajmiga;
- investitsiya loyihasi amalga oshiriladigan joyning shart-sharoitlariga;
- kutilayotgan ijtimoiy-iqtisodiy samaraga va yangi ish o'rinlarini yaratishga;
- investitsiya loyihasini amalga oshirish sohalari va tarmoqlariga.

Chet ellik investorlarga hamda chet el investitsiyalariga adolatli va teng huquqli rejim taqdim etiladi, ularni to'liq va doimiy ravishda himoya qilish hamda ularning xavfsizligi ta'minlanadi.

O'zbekistonda 2023-yilda 11 mlrd dollarlik to'g'ridan-to'g'ri xorijiy investitsiya o'zlashtiriladi

Xulosa va takliflar

Xorijiy investitsiyalarning hajmi oshishi uchun mamlakatda qulay investitsion muhitning shakllangan bo'lishi talab qilinadi. Mamlakat iqtisodiyotida investorlar uchun qanchalik qulay ishbilarmonlik muhiti yaratilsa, xorijiy investitsiyalar oqiminig iqtisodiyotga kirib kelish hajmi oshib boradi hamda chet ellik investorlarning ham mamlakat iqtisodiyotiga sarmoya kiritishga bo'lgan qiziqishi va ishonchi ortadi. Xorijiy investitsiyalar hajmini oshirish asosida mamlakat iqtisodiyotining jadal rivojlanishiga erishish mumkin.

Mamlakatlarning iqtisodiyoti to'g'ridan-to'g'ri xorijiy investitsiyalarni jalb qilishning jozibadorligini belgilovchi omillar quyidagilardan iborat:

- bozor omillari (ichki bozor va eksport imkoniyatlari);
- boy tabiiy resurslarning mavjudligi;
- ishlab chiqarish xarajatlari omillari;
- qulay investitsiya muhiti.

Umuman olganda, ko'plab mamlakatlar, jumladan, rivojlanayotgan va o'tish davridagi iqtisodiyotga ega bo'lgan mamlakatlar milliy qonunchiligining xorijiy investorlarga kafolat beruvchi qoidalari:

- foydani erkin tasarruf etish huquqi;
- yetarli kompensatsiya olish huquqi - milliyashtirilgan xorijiy mulkning adolatli bozor qiymati;
- qonun hujjatlariga va bitimlar matnlariga barqarorlashtirish bandlarini kiritish;
- investorning huquqlarini himoya qilish vositalaridan foydalanish imkoniyati, turli iqtisodiy va boshqa nizolarni ko'rib chiqishda xolislikni ta'minlash.

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THE ROLE OF ASYMMETRY IN THE FUNCTIONAL-SEMANTIC FIELD AND MORPHOLOGICAL PARADIGMS

Abstract. In the article, morphology is formed as a branch of descriptive grammar in the traditions of linguistics and one of the richest features of the language - general order, regularity, departure from uniformity. In the functional-semantic field, asymmetry and morphological paradigms interact to shape the meaning and function of linguistic units. The asymmetrical relationships between different elements within a language system can influence how meaning is constructed and interpreted.

Key words: asymmetry, core, periphery, polysemy, linguistic units, discreteness, specificity, consistency, compatibility, polysemy, polyfunctionality, morphological absorption, diachronically, synchronically, semasiologically.

Asymmetry and morphological paradigms play crucial role in the functional-semantic field of linguistics. In linguistic analysis, asymmetry refers to the unequal distribution or relationship between linguistic elements within a system. This can manifest in various ways, such as in the hierarchical structure of language or in the asymmetrical relationships between different linguistic units.

Morphological paradigms, on the other hand, refer to the systematic arrangement of morphological forms that a particular word or lexical item can take. These paradigms help to establish patterns and relationships between different forms of a word, allowing for a more nuanced understanding of its meaning and usage.

In the functional-semantic field, asymmetry and morphological paradigms interact to shape the meaning and function of linguistic units. The asymmetrical relationships between different elements within a language system can influence how meaning is constructed and interpreted. Morphological paradigms provide a framework for organizing and categorizing linguistic forms, which in turn affects how these forms are used to convey meaning in communication.

Overall, understanding the role of asymmetry and morphological paradigms in the functional-semantic field is essential for gaining insight into how language functions at both the structural and semantic levels. In ancient Greek, the term "asymmetry" originally referred to disproportion, inconsistency, or deviation from order. When this concept was applied to natural language, specifically human language which is known for its complexity and richness, it came to signify a departure from uniformity and regularity. Asymmetry can be observed in two main scenarios where there is no chaos within the order: 1) the relationship between the central (core) and peripheral elements; 2) the gap

between expressive forms. An illustration of this can be seen in the transformation of polysemy into homonymy.

While the significance of content in the field of linguistics has not been disregarded, scholars have acknowledged that the examination of language structure levels and their respective units has predominantly emphasized the external, formal aspect. Historically, from the establishment of linguistics as a scientific discipline up to the early 20th century, researchers primarily concentrated on the outward appearance of linguistic units. The concept of discreteness (separation) identified by de Saussure as a key characteristic of the linguistic sign was also predominantly defined based on its form...

From the 30s of the last century, the members of the Prague Linguistic Circle made a critical assessment of the prevailing tradition in linguistics and stated that linguistic units have not only a formal structure, but also a substantive structure, and that the interaction between these two structural units is often asymmetrical.

Such an idea was first expressed by the Czech scientist S. Kartsevsky in 1929" S. Kartsevsky in his article "On the asymmetric dualism of the linguistic sign" writes: "The sign and the meaning do not completely cover each other. Their boundaries do not correspond at all points: if one and the same sign has several functions, one and the same meaning is the same. represented by several signs. Any sign is simultaneously a potential "homonym" and "synonym", that is, it arose from the intersection of two lines of mental events"(Знак и значение не покрывают друг друга полностью. Их границы не совпадают во всех точках: один и тот же знак имеет несколько функций, одно и то же значение выражается несколькими знаками. Всякий знак является потенциально "омонимом" и "синонимом"одновременно, т.е. он образован скрещением двух рядов мыслительных явлений").

According to S. Kartsevskiy, if signs were unchanging and performed only one task (function), language would consist of a simple collection of labels. On the other hand, in concrete situations, language signs (symbols) change to such an extent that they lose their meaning, it is difficult to imagine such a language. it is necessary to be. Due to the need to adapt to a specific situation, the sign may change in part; due to the constancy of another part, the sign is required to maintain its specific specificity, consistency and compatibility. So, although the sign is changing and developing in a certain way in a certain period (both diachronically and synchronically), it must maintain its own balance. This is not the case. The levels of language and their specific linguistic symbols are adapted to perform certain semantic functions according to their place in the system. The process is usually imperceptible to language speakers. Considering these processes, Russian-Polish scientist I.A. Baduen de Curtene, one of the founders of systematic linguistics, expressed these thoughts:, should be considered as constantly changing, at the same time, living, real units"[See: Baduen de Curtene, I.A. Zametkina polyakh sochineniy V.V. Raulova Linguistic units, including

morphemic units, while maintaining their general essence, change historically-semasiologically, linguistically, and functionally, and are subjected to the processes of redistribution and placement. The well-known linguist A. Maye came to the following conclusion based on his research on Germanic languages: "The next main task should be to study not the "achieved changes", but the "driving principles" of these changes, "progressive tendencies".

The founders of Descriptivism, F. Boas, E. Sepir, S. Newman, researched the units of morphemics with the terms of process, change, and focused on the formation of secondary forms from primary forms. Therefore, disproportion (asymmetry) is the name of an important law that naturally applies in every language, which reflects the different connection of form and content, the organic connection, the processes of change, migration, and mutual transition of form and meaning. Synchrony is the legal successor and successor of diachrony. Similarity of form (homonymy), similarity of meaning (synonymy), contradiction of meaning (antonymy), polysemy (polysemy), multitasking (polyfunctionality) also has its own explanation and reasons. Thanks to these processes and events, the language fully demonstrates the ability of a responsive (mobile) system to the needs of society. Since the last quarter of the 19th century, these processes have been described as historical-diachronic and synchronistic special laws: "morphological absorption", "pereintegration" (N.V. Krushevsky), "simplification" and "morphological re-division" (V.A. Bogoroditsky), "hyperagglutination" (V.V. Radlov), "fusion" (E. Sepir, A.N. Kononov), "asymmetric dualism" (C.O. Kartsevsky), "functional transposition" (Sh. Bally) became fundamental concepts of science with their names. Professor V.A. Bogoroditsky discussed the evolution of language content, noting that replacing genetic meanings with real meanings is a significant and beneficial cognitive process. He emphasized that if the real meaning of a word constantly gravitated towards genetic meanings in our minds, it would pose a considerable hindrance to thinking and, consequently, to cultural development.

Therefore, asymmetry, which is a fundamental principle that reflects the interconnectedness of form and content in a natural way in every language, plays a crucial role in the processes of change, transformation, interaction, and mutual influence of form and meaning. Synchrony is the lawful continuation and heir of diachrony, each synchronic stage having its own explanations and reasons for shape similarity (homonymy), meaning similarity (synonymy), meaning opposition (antonymy), multiple meanings (polysemy), and multifunctionality (polyfunctionality). Through these processes and events, language communities' needs are fully demonstrated to the present response (mobile) system capability. The famous French linguist S. Bally expressed the following idea about the characteristic feature of language: "Symbols (signs, symbols) that have been developed within their own limits have served as a very limited source in meeting the many needs of language. However, through category interaction, it reaches freedom of thought and also acquires richness and various shades." Asymmetric

dualism in language units, in this case morpheme units, results in relationships between them in terms of both form and content, leading to phenomena such as homonymy, synonymy, and polysemy, which are the products of changes and processes in the language system: "Homophony is a general phenomenon, with homonymy being its specific manifestation... The opposite of homophony is synonymy. These two phenomena represent the two sides of the general principle that any linguistic sign (symbol) has the potential to be both a homonym (polysemantic sign) and at the same time a potential synonym." Based on S.O. Karcevskiy's theory of asymmetric dualism in language signs, V. Skalicka in 1935 highlighted the specific form and content relationship of morphemes. The idea emerged that it is necessary to distinguish between morphemes on the formal side and semes on the semantic side for the smallest linguistic unit. In the history of linguistics, initially, words, word combinations, and sentence models were identified, followed by the designation of phonemes and morphemes. Consequently, language levels and their hierarchical relationships were described: "In this context, if morphemes, words, and sentences are considered as two-sided units, phonemes are explained as one-sided units. If we try to separate these sides with a line, we currently cannot clearly define them: all these units are based on the discretization from the expressive (sound) side of speech. In other words, speech is not only expressive but also has a discrete character from the semantic side."

It is clear that, according to the division of speech units into parts (units) based on expressiveness, there is a need to also allocate their content side into known parts. Professor I.K. Kuchkorov concludes the following based on analysis: "The two-sided units of language, specifically the expression plan structure (form) of a word being independent to a certain extent, its content plan structure (meaning) is also independent to the same extent. Therefore, it is necessary to include the segments of the content plan of language (meanings) in the series of basic units of language." Changes in language occur simultaneously with changes in the specific context (environment, society): "Language exists and evolves over time. The relationship between the user and interpreter operates in time, and the development (evolution) of the user and interpreter occurs over time. Thus, time serves as a constant component for both sound and meaning."

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PROSPECTS FOR THE USE OF DIGITAL TECHNOLOGIES IN ELECTRONIC COMMERCE

Abstract. In this article, a number of opportunities related to the use of big data, digital analytics and virtual reality (VR, AR) technologies in electronic commerce are shown and thoroughly analyzed. Several modern approaches to the use of various digital software tools in e-commerce are compared and contrasted. In addition, the authors of the article critically analyze the approaches implemented by several companies to increase the popularity and efficiency of e-commerce and business processes in various forms based on the use of big data and digital analytics methods, and some related issues and offer opportunities.

Key words: digitization, e-commerce, big data, digital analytics, logistics, artificial intelligence, information, VR, AR, cloud network, consulting, e-business.

INTRODUCTION

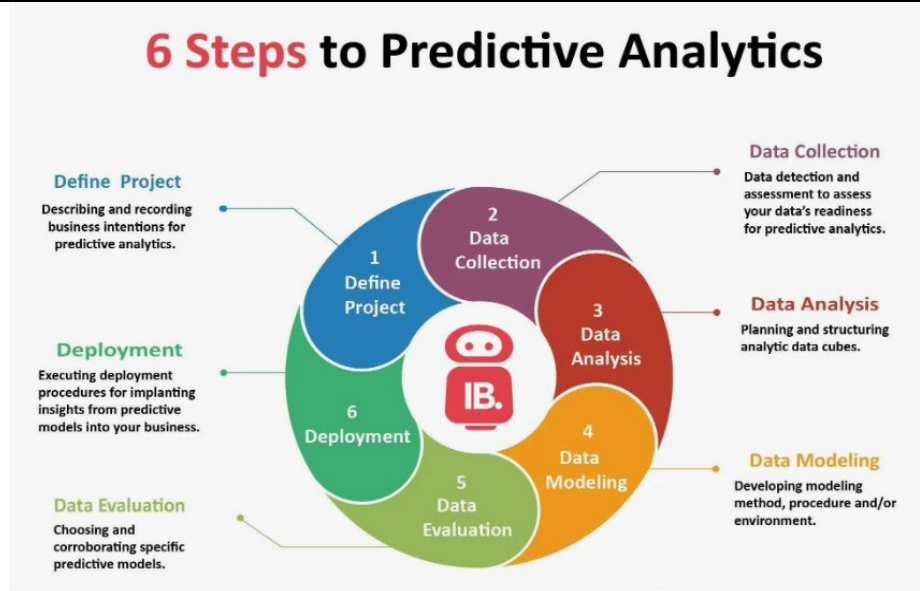
According to the opinions of experts working on digital technologies, in the coming years, 50 billion devices will be connected to the internet on a global scale, with the help of which the volume of data generated will reach 44 trillion gigabytes. Giant flows of such data, or in other words, Big Data (Big Data), are widely used in various sectors of the economy [1]. Therefore, in the near future, Big Data can be considered both a product and a driver and a national property of the digital national economy.

In the current era, the rapid development and penetration of Big Data technologies into all areas requires it to provide users with data protection, and e-business to develop self-centered practical approaches to ensuring targeted development in global competitive conditions [2]. Including, \$72 billion has been invested in BDA technology by the state and private banking sector, manufacturing enterprises and services sector, and the state government.

In the near future, we will be able to include the states of China and the United States in the largest markets that process Big Data and business analytics

storage. The results of comparison of traditional databases and **Big Data** (big data) databases that store medium-sized data are given in the table below [7]:

Display	Traditional reference bases	Big Data (big data) databases
<i>Data size</i>	<i>Gigabyte to terabyte</i>	<i>Petabyte to zettabyte</i>
<i>Storage method</i>	<i>Centralized</i>	<i>Decentralized</i>
<i>Data structure</i>	<i>Structured</i>	<i>Semi-structured and unstructured</i>
<i>Data storage and processing models</i>	<i>Vertical model</i>	<i>Horizontal model</i>
<i>Data correlation</i>	<i>Powerful</i>	<i>Powerless</i>



An analysis of **Gartner's Hype Cycle graph**, compiled for the newest technologies, can be considered as self-proof of the interrelationship of economic processes and **Big Data**. As a result of the review of the results, it can be said that **Big Data** Technology has moved from perspective and developing technologies to technologies that are actively being used and has begun to bring good benefits to the economy. So Big Data technologies are not some kind of fashion, but among the technologies without which modern business cannot compete in the market. The consulting firm **McKinsey& Company** claims that **Big Data Technology** has five main areas of use in the economy [8]:

1. Formation of information with the property of "Transparent" for many;
2. Mathematically based management decision making based on Big data;
3. Narrow segmentation of customers, taking into account personal aspirations for commercial activities;
4. Increasing the decision-making rate based on big data at the expense of complex analytics;

5. Creation and development of products and services of the future generation based on the analysis of Big data;

According to the consulting firm, **Big Data Technologies** provide opportunities for competition and the development of personal enterprises. Even later, large-scale data analysis will remain the foundation for improving production efficiency. For example, it turns out that it is possible to increase the operating profit of a firm even more than 60%, which uses large volumes of data in retail. However, for organizations currently working in one area or another of the economy, the main problem is the shortage of specialists who can analyze **Big Data**. It should also be noted that in e-commerce and economics,

Big Data technologies are not some kind of abstract trend or fashion, but realistically functioning instrumentals. Most organizations use **Big Data Technology** in client-service systems or for the purpose of increasing operational efficiency. Another clear example of **Big Data**'s use in economics is process prediction. For example, **Space know** performs the processing of many images taken from space to determine the price for oil. The algorithms used in this, depending on the change in the appearance of the shadow, determine the amount of oil in the reservoir and, based on this data, find it possible to determine the filling gorge of the largest oil reservoirs in the World [9].

The possibilities of using **Big Data** are even greater when evaluating current cases of economic processes, including e-commerce. Simple statistics, on the other hand, do not allow for less accurate information in such cases, and the assessment process is often seen in cases where the positive side has changed. **Big Data Technology** has also been found to provide significant economic benefits in modern logistics with relevance to e-commerce. According **Google** expert **Eric Scmidt**, the most fundamental area of application of Big Data technology is insurance activities.

Companies offering insurance services collect information about different people and develop personal insurance plans based on this information. In addition to the above, we will never be mistaken if we say that **Big Data** technology is an equipment capable of radically changing the process of evaluating the indicators of a number of economic processes. That is why **Big Data** technology is now having a huge impact on increasing competition in e-commerce as well as increasing production volumes.

People who have a good understanding of the field of digital analytics are a necessary specialty for any type of company. Especially after in business has switched to the internet system, such a specialty becomes much more important. We will try to consider below what skills a digital analyst needs to have in order to be an applicant in the labor market. If a company cannot run a business on-line, it uses the network as its primary communication channel with its target audience. In this, the business will need professionals who can direct marketing, analyze data and provide development advice. But at the same time, the volume of secular data is increasing at a very rapid pace. Worldwide data volumes have been

recorded to increase by around 30% each year. Just like that, companies try to find professionals who can analyze large amounts of data and extract certain conclusions in the field that take advantage of it.

DISCUSSION

It can be summed up from the above that it is required that specialists involved to e-commerce and electronic business activities should have the knowledge, skills and qualifications in **Google Analytics** and **Yandex**. In addition to metrics, should also be able to work in **Tag Manager**, should be able to use **A/B** testing equipment, it is necessary to understand the data visualization equipment – **Data Studio, Tableau, Power BI**, it is necessary to know how to use competitive analysis equipment **Similar Web, SEMrush**, - should be able to apply social media monitoring systems brand **Analytics, IQ Buzz**, it is also required to be able work in **JavaScript** programming languages, to be able to work with **Big Query**, you will need to be able to understand **SQL**.

However, at the moment it is also not enough to know these products. It is also of great importance to know which methods to use in which case and to implement it effectively. It is necessary to know how to build a system of knowledgeable digital-analytical metrics, evaluate pointers, understand the aspirations of users, be able to combine and interpret the data obtained, look at the product from the point of view of users, create hypotheses, carry out scientific research and testing, and prove its work on the basis of the data obtained. The use of **Digital analytics** methods should be known by both the internet marketer and the management.

It is necessary to create an interactive **dashboard** for the leader, allowing him to check Daily reports. It will be of great importance for the management to understand why such information is needed. It is for this reason that large, medium and small business officials come to digital analytics courses and learn to be able to analyze the processes in their companies and independently put issues in the internet marketer. Try to think about what issues should be solved based on the data targeted through analytics. If questions arise about technical issues, you can contact the Google Analytics forums or Yandex Metrical clubs. It is more complicated for you to succeed the first time, but later, as your experience increases, your success also goes up. In this regard, we can cite several tips in below:

➤ *Find a mentor who can teach this work* – it is also possible that it is an expert in the field or a group on **Facebook** where it will be possible to ask questions and verify hypotheses.

➤ *In digital analytics, regularly check the novelty of your knowledge* - because this area is developing rapidly, new trends are emerging, the equipment of systems is changing. It is also useless to study last year's webinars from books, because they are already outdated. If teachers become working professionals, it will be possible to get new information from them.

➤ *Choose for yourself some kind of stimulus* – it can be, for example, an internship abroad, a promotion of your career or work on a new project. Knowing why knowledge is needed by you also allows you to master it well.

➤ *Strive to receive education in groups* – the ability to find like-minded people in a field can help to get a full-fledged knowledge. Working in the team will be very interesting and fruitful. The group will always have one leading person - (driver), who is very interested in work and motivates others. Group participants exchange information not only with the teachers, but also with the other participants.

Offer a concrete plan on the floor, which arises from the main issues of the company's business. For example, try to understand the reasons why users leave the company site and come up with hypotheses about it and check them out. If you can find reasons for this, bring it to life quickly. Bring to the management that all this work can be done with minimal involvement of those who have developed the system. If you can explain that real benefits can be obtained from your plan, any leader will be forced to take into account your proposals. You can find one such course on the following site: tceh.com/edu/digital-analytics.

Modern digital analytics requires knowledge of programming languages, machine learning algorithms, and data science. Currently, business is in demand professionals who are able to understand the demand for analytics, systematically understand the process and express it on a digital basis and have strategic skills. That is why the transition from simple quantitative pointers (number of participants, number of clicks, and number of saccades) to more extensive computational pointers (user satisfaction, or their experience) is being observed. Business requires not only analysis, it also needs a forecast. For business, assistive analytics (prescriptive analytics), which shows the user the optimal execution path of the issue on the basis of data, has also become relevant.

CONCLUSION

The competence of market participants, including those who perform services, is growing more and more. But **Yandex**, which compares data from **CRMs** and data from web analytics to large advertisers. **Metrics** and **Google Analytics** systems lack standard reporting. There is also a great demand for systems that collect and reproduce information about the initial actions of users of the site. Another equipment that can solve such a task is the integration of **OWOX BI Smart Data** with **Big Query** in **Google Analytics**. As a result of these solutions, it became possible to take into account all visits of the user from his first visit to his intended action, as well as to collect the full information about him through the means of his unique identifier.

Another trend in this area is the increase in mobile traffic and the development of mobile analytics. **Google** introduced **Firebase Analytics** in 2016, while **Yandex** has developed **AppMetrica**, with **AppsFlyer** and similar systems also evolving. Working with mobile traffic is much more complicated than with the web, in which the necessary applications are installed from **Google Play** or

AppStore stores. Other trends in **Digital analytics** include the ever-increasing automation of data collection and the fact that digital analytics is becoming the analytics systems architect.

Therefore, in digital analytics, a self-vaguely contradictory arises: the work of digital analytics continues to automate as it goes, but the issue or problems that need to be addressed to it are still imposed by a person. Because this work cannot be done at the moment. In this regard, it is possible to recall an incident that occurred at the American communications operator **Sprint**. This company ceases to contract with customers whose cooperation seems unprofitable. One of their clients complained about the frequent interruption of feedback in the service group. Due to the lower level of communication quality, there were more interruptions on the line.

When the company analyzed the number of calls to the call-centre for this client, they were able to calculate the value of their processing and income and terminate the contract with the unprofitable client. But the employees of **Sprint** did not analyze the reason why the client addressed them, and therefore did not solve the problem of the quality of communication. After a period of time, the company, analyzing its forum, found that the business leader of this client, transferred all his corporate names to another communications operator. So it turns out that the **Sprint** company was deprived of a number of customers who were making a profit, relying on the data provided.

Being the designer and architect of the digital-analytical system in the current era, this technology must be complemented by human thinking, which fills it with other aspects of real life. As a result of these considerations, we can also highlight the following trends in the development of digital analytics:

- Transition from descriptive analytics to predictive and instructional analytics.
- When evaluating, it is necessary to take into account not only sales, but also the behavior and profile of the user.
- The most highly valued skills in this area can include systematic and strategic thinking elements.

The use of Virtual and augmented reality (**VR, AR**) technologies in electronic trading can be an excellent tool for dramatically increasing its effectiveness. Let's list below some of our tips on how to effectively use **VR** and **ARs** in e-commerce:

1. *Display products in 3D*: use VR and ARs to give customers a 360 degree view of your products. This will help them see the product from different angles and to some extent be satisfied with it before making the appropriate decision to purchase the product.

2. *Product testing implementation*: for products such as clothing, jewelry or cosmetics, allow customers to test them virtually using AR. This will help them understand the appearance of the product in a remote way, without leaving their home.

3. *Achieve improved product information*: use VR and ARs to display additional information about your products, such as product features, specifications, and customer reviews. This helps customers make informed decisions about their purchases.

4. *Perform interactive experiences*: try using VR and ARs to create interesting and interactive experiences that customers will remember. For example, you can use VR and ARs to create virtual tours of your products or display them in a unique way.

By using convincing methods and tools to promote the benefits of the virtual environment in electronic trading, you can increase the activity of your customers and significantly increase the volume of sales of your business.

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TALABALARDAKLASTERLI METODI ORQALI XAMKORLIK MADANIYATINI RIVOJLANTIRISH

Annotatsiya. Oliy ta'lim muassasalarida tahsil olayotgan mutaxassislarini kasbiy faoliyatini rivojlantirish jarayonida individual va kompetensiyaviy yondashuv asosida xamkorlik madaniyatini takomillashtirishga doir ilmiy-nazariy manbalar bayon etilgan.

Kalit so'zlar: Individual, kompetensiya, xamkorlik, madaniyat, model, loqayd, dialog, fundamental, sinergetika.

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DEVELOPMENT OF COOPERATIVE CULTURE THROUGH STUDENT CLUSTER METHOD

Abstract. Scientific and theoretical resources for improving the culture of cooperation based on an individually competent approach in the process of developing the professional activities of specialists studying in higher educational institutions are described.

Key words: Individual, competence, cooperation, culture, model, indifferent, dialogue, fundamentality, synergy.

Jahon mamlakatlarining uzluksiz rivojlanib borayotgan ta'lim tizimidagi ishtiroki kundan-kunga faollashib bormoqda. Ayniqsa, oliy ta'lim muassasalarining oldida turgan asosiy vazifalaridan biri mutaxassisligini mukammal darajada egallagan hamda shaxsiy ijtimoiy pozitsiyasini va o'rganilayotgan bilimlarga o'z munosabatini bildiradi oladigan, yangi fikrlar, g'oyalar, taklif va loyihalarni ilgari surishga qodir raqobatdosh mutaxassislarni tayyorlash masalasi dolzarb muammolardan biri hisoblanadi. Tadqiqotchi olimlarning fikricha, hamkorlik o'quv modelidan foydalanish muammolarni

birgalikda hal qilishga qaratilgan real vaziyatlarni modellashtirishni o'z ichiga oladi. Talaba bunday o'quv jarayonida faol ishtirok etib, o'zaro munosabatlarning subyektiga aylanadi. Shu bilan birga, o'quv jarayonidagi barcha ishtirokchilarning tengligi qoidasi saqlanib qoladi.

Sharq mutafakkurlaridan Abu Nasr Forobiy, Abu Rayhon Beruniy, Abu Ali ibn Sinolar ijtimoiy tuzum, davlatning gullab yashnashi uchun zarur bo'lgan muhim insonparvarlik va hamkorlik g'oyalarini ilgari surishdi hamda insonparvarlashuv bosqichlari, mezonlari va tamoyillarini ishlab chiqishdi[[2.80]

Dunyoning rivojlangan davlatlarida ta'limning xalqarolashuvi juda o'xshash shakl va yo'nalishlarda davom etmoqda, shuning uchun hamkorlik bo'yicha xorijiy tajribalarni mahalliy universitetlar tomonidan o'zlashtirilishi dunyo standartlaridagi raqobatbardosh kadrlarni etishtirib chiqarishda muhim omil bo'lib xizmat qiladi. Bundan tashqari, globallashuv jarayoni yangi sharoitlarda samarali ishlashga qodir bo'lgan professional kadrlarga bo'lgan ehtiyojni keltirib chiqarmoqda. Keng ma'noda talabalarda kasbiy faoliyatini rivojlantirish orqali kompetensiyaviy yondashuv asosida hamkorlik madaniyatini rivojlantirish, turli darajadagi ta'lim muassasalarining ilmiy-tadqiqot, o'quv va boshqaruv faoliyatiga turli xalqaro jihatlarni kiritish tushuniladi.

Oliy ta'lim tizimida talabalar jamoasi ijtimoiy-psixologik holatini va alohida talabalarning individual xususiyatlarini yaxshi bilgan professor-o'qituvchi har bir talabaning o'qishi, boshqalar bilan munosabatlari va xulq-atvorini tushunishga, ularni o'z vaqtida tuzatishga, shuningdek, talabadagi yashirin imkoniyatlarni ilg'ashga va talaba shaxsining butun borlig'icha rivojlanishiga ta'sir etishga qodir hisoblanadi.

Pedagog olimasi Z.Azimova "Shaxslararo munosabatlar pedagogik jarayon ishtirokchilarining o'zaro hamkorligi, sherikligi, birgalikdagi harakati, bir-biriga ta'siri asosiga quriladi. Boshqa bir insonni o'zaro ta'sir subyektiga, mustaqil shaxs sifatida tan olish tafakkur sarhadlarini kengaytirishga yordam beradi, borliqni muammoli idrok etishga boshlaydi. Shaxsning subyektiv pozitsiyasi borliq olam, odamlar, o'z-o'zi bilan munosabatlar tizimi orqali ifodalanishi mumkin" degan fikrni ta'kidlaydi [3. 34-b].

Ye.I.Golovaxa fikricha, individual motivlarning birlashuvi har xil samarali: «Hamkorlik faoliyatida individual maqsad va motivlarning o'zgarishi sheriklarning har birini motivatsiya sohasini "boyitishi yoki motivlar to'qnashuvi tufayli hamkorlikdagi faoliyatni parchalanishiga olib keladi" [5.30; 32-b].

Bizning fikrimizcha, bugungi kunda jamoa va shaxsiy kontekstda hamkorlik muammosini konseptual jihatdan yangicha yondashuv asosida tushunish kerak, chunki hamkorlik tamoyillariga yo'naltirish zamonaviy insonning turli darajadagi munosabatlar jarayonida tomonlararo ta'sir qilishning muhim xususiyatiga aylanib bormoqda. Shu munosabat bilan biz hamkorlikni madaniyat tushunchasi sifatida, munosabatlarning turli darajalarida inson xatti-harakatining xarakterini belgilaydigan madaniy qadriyat konstantasi sifatida qaraymiz.

Ilmiy pedagogik, psixologik manbalarda berilishicha, kompetensiya, kompetentlilik o'ta murakkab, ko'p qismli, ko'pgina fanlar uchun mushtarak bo'lgan tushunchalardir. Shu boisdan uning talqinlari ham hajman, ham tarkibiga ko'ra, ham ma'no, mantiq mundarijasi jihatidan turli-tuman. Atamaning mohiyati shuningdek, "samaradorlik", "moslashuvchanlik", "yutuqlilik", "muvaffaqiyatlilik", "tushunuvchanlik", "natijalilik", "uquvlilik", "xocca", xususiyat", sifat", "miqdor" kabi tushunchalar asosida ham tavsiflanmokka.

Agar hamkorlik jarayonida ushbu ijodiy qobiliyatni amalga oshirish uchun sharoit yaratilsa, o'zaro ta'sir natijasi yangilik va o'ziga xoslik fazilatlar bilan ajralib turadigan favqulodda ijodiy g'oyalar sintezi bo'lgan mahsulot bo'ladi. O'z navbatida, sifat jihatidan yangi qiymatni yaratish birgalikdagi faoliyatning ahamiyatini oshiradi, shuning uchun u haqiqiy o'zaro munosabatlar madaniyati, ya'ni hamkorlik madaniyati mavjudligi haqida gapirishga imkon beradi. Shunday qilib, nazariy tahlil jarayonida biz hamkorlik madaniyatini ko'rsatuvchi qo'shma ish(birgalikdagi faoliyat)ning tarkibiy qismlarini (xususiyatlarini) asosladi, masalan: ishonch, jamoa, hamkorlikdagi tartibsizlik (tuzilmaviy fikr almashish), konstruktiv qarama-qarshilik, sifat jihatidan munosabatlarni yaratish, yangi va ijtimoiy ahamiyatga ega qiymat.

Savol nazariyasini o'rganish ishonch va umumiylik hamkorlik subyektlari o'rtasidagi o'zaro qo'llab-quvvatlovchi aloqalar sifatini belgilaydi, shu bilan birga hamkorlikdagi tartibsizliklar va konstruktiv qarama-qarshiliklar elementlari bilan o'zaro ta'sirni boyitish sifat jihatidan paydo bo'lishiga olib keladi, degan fikrni shakllantirishga yordam berdi. yangi va ijtimoiy ahamiyatga ega qiymat, shu bilan birga uning ishtirokchilari tomonidan o'zaro ta'sirning madaniy doimiyligini tushunishga yordam beradi.

Bizning tushunchamizga ko'ra, talabalar hamkorligi madaniyatini shakllantirish oliy ta'lim muassasasining o'quv amaliyotida klasterli o'zaro hamkorlikni amalga oshirish orqali mumkin bo'ladi.

Shu bilan birga, oliy ta'lim tizimida talabalari va bo'lajak mutaxassislar o'rtasida hamkorlik madaniyatini shakllantirish biz uchun ayniqsa dolzarb bo'lib tuyuladi, chunki zamonaviy professional hamjamiyat o'ziga xos madaniy manbadir. Hozirgi ijtimoiy-madaniy vaziyatda yosh mutaxassislar jamiyatning dolzarb qadriyatlar yo'nalishlarining yangi madaniy sintezini ta'minlashga chaqiriladi, bunda hal qiluvchi rol hamkorlik madaniyatiga tegishli bo'lishi kerak.

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NATIONAL-CULTURES SPESIFICS IN PHRASEOLOGISMS OF ENGLISH AND UZBEK LANGUAGES

Annotation: this study investigates the phraseological units in English and Uzbek languages. How the translation of phraseological units influences to the life of translators and interpreters. The paper offers a comparative analysis of phraseological units through the national cultural specifics of two cultures. The findings are valuable for linguistics, cultural researches and anyone who is interested in translation and culture.

Key words: phraseological units, proverbs and sayings, linguacultural features, extra-linguistic factors, geographical names, historical-cultural terms, colors, national costumes, fauna and flora.

Introduction. The modern world is rapidly entering the era of globalization, which not only affects the economic environment, but also manifests itself violently in the way of life of every person. This creates active contacts with speakers of other cultures and other languages in everyday life and professional life. Well, now, even a very good knowledge of the language does not arouse suspicion in anyone that it does not lead to like-minded people without understanding the culture of speakers of that language, to understanding one another.

In order to achieve success in intercultural communication, in order to get your partner to understand his thoughts well, you will have to lead a connection, or a conversation, not based on your culture, but on his culture. The most fundamental mistake in communicating with representatives of other peoples is that, based on its culture, it consists in not only understanding or not understanding the characters of representatives of other cultures. Therefore, the main goal of studying the culture and lifestyle of other peoples is to understand and recognize the worldview and culture of representatives of other peoples, and, this helps to create a communicative connection. In the people, the National worldview is formed on the basis of historical and cultural factors, and at the last moment economic factors are also taking their toll. By the national-cultural worldview, we can cite phraseologisms as an example, since phraseologisms also denote national-cultural characteristics and serve to establish intercultural dialogue. Currently, there is a growing interest in phraseologisms. A.V. Kunin

studied phraseologisms in English from all sides and gave such a definition to phraseologisms. "A phrase whose meaning does not come from the content of the words contained in the same phrase is called an idiomatic phrase". From this comes the conclusion that if we take separately the meaning of the words contained in one phrase, another meaning comes out. A similar definition of a phraseological phrase is given by Sh.Rahmatullaev also cited the following. "Phraseological unity arises on the basis of the inherent opposition and unity of the plan of content with the plan of expression". All in all the phraseological units of two languages is different from any point, because the culture of two countries cannot be the same.

From these given definitions, let's analyze using an example. For example: the English proverb "*It is the last straw that breaks the camels back*" translated into Uzbek word by word in the following way "*bu oxirgi bugdoy qaysiki tuyaning orqasini sindiradi*" but it is wrong translation. The English word "*straw*" translated into Uzbek as "*bugdoy*" - "*wheat*". So, it follows that when translating a word by word, a completely different meaning came from it, which cannot reveal the meaning of the proverb, the correct translation into Uzbek as "*the cup of patience is full*" - "*sabr kosasi tuldi*", "*sabr toqati toq buldi*". This phraseological unit in English and Uzbek does not fit on the structural, stylistic and lexical side but fits on the semantic side. On the lexical and structural side, the number of words in an English language is high, but in an Uzbek language it is made up of three words. When translating phraseologisms in English and Uzbek, a great skill is required from the translator.

G'.Salomov said that, in the broadest sense, when translating phraseologisms from one language to another, in any case, their figurative base of support is precisely the options that correspond to turn to the know, which can lead to the fact that a phenomenon of spiritual shift occurs to a change in meaning. In our opinion, what is required of us when we translate is to look for an alternative to phraseologism that is as accurate as possible in the translation process, closer to the original meaning. We will consider the difficulties encountered in translating phraseologisms in English into Uzbek languages.

Even if we define commonality in life experiences, the figurative thinking of the people turns out to be inherently independent and unrepeatable, and they can be transformed into phraseologisms, seeing a level of comparison that is sometimes surprised by other people's representatives, and we can consider phraseologisms as something that all reflect each people's own. In my opinion, phraseologisms are the sum of figurative and wise, beautifully expressed expressions of thoughts derived from the experiences that each people have accumulated during their lives. It turns out that phraseology is a wonderful phenomenon, because phraseologimz are something that is characteristic of all languages of the world. Nevertheless, in each language it has its own forms of expression, forms. We can explain this phenomenon by the fact that extralinguistic factors influence the structure of phraseologisms. Extra-linguistic

factors are understood as the sum of factors that will be of great importance in the development and formation of social, economic, cultural, and other extra-linguistic conditions, conditions of functional and internal structural development of language, phraseological expressions, causing them to indicate their national character. Both in English and in Uzbek, most phraseologisms express the lifestyle, traditions, customs of the people directly or indirectly their national characteristics. Extra-linguistic factors have a great influence on the translation of English phraseologisms into Uzbek. From extra-linguistic factors, we will select and analyze phraseologisms in English and Uzbek that have a national-cultural feature. Because the cultures and customs, traditions of different peoples are different, their phraseologisms also have their own national character.

Research results. National-cultural peculiarities of phraseologisms, national customs of peoples and national worldviews are reflected by Geographical Names, historical-cultural terms, colors, national costumes, plant and animal names.

Geographical names: to carry coals to Newcastle, to carry owls to Athens –daryo buyida Kuduk Kazima (uzb); Rome was not built in a day – Musilmonchilik-astakhilik (uzb); Build castle in Spain–suvga suyanmok (uzb); sayaga karab bui ulchamok (uzb); from Dan to Beerseba – ashrikdan mashrikgacha (uzb); shaharning u boshidan bu boshigacha (uzb); do in Rome as the Romans do – Kozonga yakin yursang, korasi yukadi (uzb); when Ethiopian changes his skin –tuyaning dumi erga tekkanda) (uzb);

Historical and culture of terms: the Lower Empire – Sharqiy Rim Imperiyasi (uzb); Little Englander – Ingliz imperiya siyosatining dushmani; The war of Roses – atirgullar urushi (XV asrda Lankasterlar and Yorklar dinastiyalari o'rtasidagi urush) [Lankasterlar gerbida Kizil atirgul, Yorklar gerbida oq atirgul bulgan]; The Black Prince – Qora shahzoda [Edward III o'gli (1330-1376), qora shlyapa kiyib yurgan]; The Heart of Mid-Lothian – Edinburg zindoni, Mid-Laganning yuragi. (1817 yilda buzib tashlangan Edinburg zindoni laqabi); The Black Death – Kora o'lim. (1348-1349 yillarda Evropada vabo epidemiyasi bo'lgan);

Colours: as black as sin – ichiga chiroq yoqsa yorishmaydi; prove that black is white and white is black- Qorani oq demoq; as white as a sheet (death) - dokadek oqarib ketmoq; there is a black sheep in every flock - El-ugrisiz bulmas, toqay burisiz;

Plant names (flora): he who would eat the nut must first crack the shell – mashaqqatsiz baxt kelmas, mehnatsiz taxt kelmas; put not your hand between the bark and the tree-er-xotin urishar, nodon urtaga tushar; as red as a cherry – olmaday qizil; pigeon's milk –ankoning urugi (topilishi qiyin bo'lgan narsa); little strokes fell Great Oaks – kichkina demang bizni, kutarib uramiz sizni; a tree is known by its Fruit – daraxtiga kura mevasi; the apple of one's Eye – kuzining oqu qorasi; dead sea apple (fruit) –usti yaltiroq, ichi qaltiroq; the rotten apple injures its neighbors – bitta tirraqi buzoq, butun podani bulgatar; as sweat as a nut-

asaldekshirin; he is as limp as a rag - behidek sargayib, ipakdek ingichka tortib qolibdi;

Animal names(fauna): that's a horse of another color – bu boshqa gap edi; tread on a worm and it will turn – baqani bossang ham “vaq” etadi; as strong as a horse – filday baquvvat; don't make a mountain of a molehill – pashadan fil yasamok; old cat –qari tulki; like a cat on hot breaks – oyogi kuygan tovukday pitirlaydi; cat and dog life – It mushuk bulib yashash; a dog in the Manger – birovga bersam, essiz oshim, uyda tursa, sasir oshim; it is ill to wake sleeping dogs – yopik kozon epiklygichi kolaversin; do not spur a willing Horse – yahshi otga – bir kamchi, yomon otga – ming kamchi; he who would catch the fish must not mind getting wet – jon kuydirmasang, jonna kaida, tokka chickmasang, dulona kayida; curses like chickens come home to roast – birovga chog kazima, uzing unga uzin tusharsan; when pigs fly – tuyaning dumi yerga tekkanda; as light as a feather –kushdek engil; honey is sweet, but the bee stings – ari zahrini chekmagan, bol qadrini bilmas; every bird likes its own nest best-baka botkogin kumsar, balik kulini;

National dresses: to fit like a glove – uzukka kuz kuygandek; give someone a back-cap – sir bermok, sirni ochmok; Sunday best – Bayram kastyumi; gipsy hay – keng poholli shlyapa; to throw up one's cap – duppisini osmonga otmoq; it is not the gay coat that makes the gentleman – husniga bokma, akliga bok; don't tell tales out of school – bosh yorilsa – duppy ostida, kul sinsa – yeng ichida.

We have divided phraseologisms in English and Uzbek languages into phraseological expressions that are most used according to their national-cultural peculiarities. The most commonly used in English and Uzbek are the phraseological units in which the names of the fauna and flora are represented, as well as the phraseological units in which the colors are represented.

Let's analyze the translation of phraseologisms of a national-cultural specifics in English and Uzbek languages.

For example, *When pigs fly - Tuyani dumi erga tekkanda*

if we translate the English phraseologism *When pigs fly* into Uzbek word by word, it looks like this “*Kachon chuchkalar uchishsa*”, but the correct translation of this phrase is translated as “*Tuyani dumi erga tekkanda*”- (when a camel's tail touches the ground- meaning it will never happen). Such a translation is called an descriptive translation. Analyzing the translation of these phraseological units, one can see that they are structurally and stylistically incompatible. English is characterized by a low number of words, while Uzbek is characterized by a large number of words and suffixes.

For example: *Tread on a warm and it will turn- Baqani bossang ham "vaq" etadi*

If we translate the phrase “*Tread on a warm and it will turn*” into Uzbek word by word, we translate the “*Chuvalchangni bossang u buraladi*” (worm as it turns), but the correct translation will be “*Baqani bossang ham "vaq" etadi*, (even

if you press the Frog it will sounds). Therefore, in order to correctly translate an English phrase, it will also be necessary to know the animal kingdom, which takes into account the geographical environment of that people, because, in the English animal world, the expression pig is used a lot, and in Uzbek the expression camel is used a lot.

Another example, *as red as a cherry - as red as an apple*

In English language *as red as a cherry* it means – *Extremely flushed and red in the face, as from embarrassment, anger, or physical strain but it translated into Uzbek language as red as an apple (flushed and red in the face, as from embarrassment)* as you see only one component “cherry” and “olma” changes the meaning.

For example: *as strong as a horse - as strong as an elephant*

In English culture the symbol of strength fell on the *horse*, but in Uzbek culture the symbol of strength fell on the *elephant, bull*.

Images in different languages may not fit this can be explained in this way, proverbs and sayings and idioms of each people, indicating the way of life, culture, nature, customs of that people's geographical environment. All this creates difficulties in translating phraseological units.

For example: *Rome was not built in a day – musulmonchilik astachilik*

The English proverb “*Rome was not built in a day*” translated into Uzbek as “*musulmonchilik astachilik (Muslim people do everything with slow and thinking about problems long time)*”. This type of translation called analogic translation, because there is an equivalent in Uzbek language.

For example: *to throw up one's cap – Xursandlikdan duppisini osmonga itmoq.*

The English proverb “*to throw up one's cap* translated into Uzbek as *Xursandlikdan duppisini osmonga itmoq*. This type of translation called analogic translation, because there is an equivalent in Uzbek language. You can see two cultures through the proverbs, because we cannot change the word “duppi” into English word “cap”, the Uzbek people don't understand the meaning.

According to V.S.Vinogradov, proverbs of the same type do not have completely corresponding sides in another language; there are synonymic variants in the same. The material being, which is the same for all mankind, embodies the concepts that are also in lexical units, determining the linguistic correspondence. If we believe that the task of translation is to show the information developed in this – another language in its entirety through one language, then the proverbs show variability, which is called adequate translation.

So, when teaching phraseologisms to translate, we need to take into account extra-linguistic factors. In the process of translation, we are required to study not only the wealth of the language, but also the National-cultural sides of the same people and teach how to translate correctly. The influence of extra-linguistic factors is great in teaching the translation of phraseologisms in English. As noted at the beginning of the translation, the translator cannot correctly translate the

lifestyle, traditions, and customs of that nation (English speakers) without knowing the national-cultural characteristics. To do this, it is necessary to study all the information about that nationality.

The translation of phraseological units, especially the translation of figurative expressive combinations, presents many difficulties. This is explained by the fact that many of them include beautiful, emotion-rich expressions, phraseological units that have a clear oratory style and often represent a national character. When translating stagnant compounds, it is necessary to take into account the features of the context. A characteristic feature of phraseological compounds in English is the fact that phraseological units in English have pluralistic and stylistic features, which cause difficulties in their translation.

According to translators, phraseological units are divided into two groups: phraseological units, phraseological units that have an equivalent in the language being translated, and those that do not have an equivalent.

Divided into fully and partially corresponding equivalents. Fully compatible equivalents, which are equivalents such that, in terms of meaning with phraseologisms in English, the lexical composition, figurativeness, stylistic orientation and grammatical structure of words are fully consistent. There is not much compatibility in this aspect. This group is based on phraseological expressions, historical factors and geographical factor, which have an international character.

Partial matching equivalents, which are equivalents such that phraseologisms in English are meaningful, but there are lexical, grammatical, or lexical-grammatical differences. Therefore, the partial matching equivalent corresponds to the full equivalent by the adequacy. But, it should be noted that despite the fact that there is a complete and partial correspondence, phraseological expressions have to be translated precisely, literally. For example, in phraseologisms, the image that is hidden is difficult or impossible to understand the texture, replacing them with another image is difficult to understand the meaning of the context, their figurative properties are lost.

Many English-language phraseological units do not have their equivalent in Uzbek. It is mainly phraseological units in which National features of the Uzbek language are hidden. In the translation of such phraseological phrases, methods of calque and descriptive translation were used. The calque method tries to convey to Uzbek-speaking readers the main image of the phraseologism of the English language, in which such a figurative expression cannot be revealed when using other words.

In addition to the calque method, a descriptive translation is also used, which is such a translation that it will be necessary to translate phraseological units in simple words. It is considered convenient in the translation of phraseological units, which are mainly terminological in nature. Such a translation method is used when making the meaning complete and clear. When translating phraseological units at all times, the first thing to do is to choose a correct way of

translation according to the context. F. Azizova said that the influence of the diversity of the flora on English culture is reflected in the English language. The investigations helps us to understand the culture of two countries through their fauna and flora, dresses, history and colours.

In conclusion, the translation of phraseologisms a great challenge, there are no ready-made rules or recipes for translating phraseologisms. Therefore, phraseologisms should be thoroughly analyzed and translation techniques should also be developed. At present, scientific research aimed at studying phraseologisms in Uzbekistan and elsewhere is not complete. At present, dictionaries in different types are being recorded for translators and recommended to the reader this will make the work of translators much easier.

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THE CONCEPTS OF EDUCATION AND INNOVATION AND THEIR IMPORTANCE

Abstract. In this article, the concepts of education and innovation are emphasized and covered in detail. The article also discusses the relationship between education and innovation and how innovation can be achieved through education.

Key words: education, nature of education, quality education, innovation, innovation in education, improvement, invention, novelty.

“All that we lack at birth, all that we need when we come to man’s estate, is the gift of education. This education comes to us from nature, from men, or from things. The inner growth of our organs and faculties is the education of nature, the use we learn to make of this growth is the education of men, what we gain by our experience of our surroundings is the education of things. Thus we are each taught by three masters.” (Jean Jacques Rousseau, in Emile)

Introduction. You’ll probably get a range of answers when you ask people what they mean by education. While many elementary-aged students may argue that learning is beneficial, secondary-aged youngsters frequently believe that school is necessary to obtain employment. Adults hold varying opinions, frequently stemming from their personal encounters with the educational system. Because it is frequently associated with the concepts of schooling, learning, and training, the term “education” is therefore difficult to define.

Defining education. Education has a significant impact on human life and is strongly linked to civilization and progress. Philosophy thus has a significant influence on education, which is a vital component of everyday activities. Several philosophical disciplines, such as social and economic philosophy, have a significant impact on the several facets of education, including planning, policies, procedures, and implementation from both a theoretical and practical standpoint. The word education comes from the Latin *educare*, which means “bring up”. This term is linked to *educere*, which means “bring out”, “bring forth what is within”, “bring out potential,” and *educere*, which means “to lead”. Education, according to Webster, is the act of instructing or teaching. “To develop the knowledge, skill, or character of...” is another definition of education. Thus, from aforesaid

definitions, we may assume that the purpose of education is to develop the knowledge, skill and character of students

Definitions of Education The Western philosophers have defined the education as under:

1. Socrates: "Education means the bringing out of the ideas of universal validity which are latent in the mind of every man".

2. Plato: "Education is the capacity to feel pleasure and pain at the right moment. It develops in the body and in the soul of the pupil all the beauty and all the perfection which he is capable of".

3. Aristotle: "Education is the creation of a sound mind in a sound body. It develops man's faculty, especially his mind so that he may be able to enjoy the contemplation of supreme truth, goodness and beauty of which perfect happiness essentially consists".

4. Rousseau: "Education of man commences at his birth; before he can speak, before he can understand he is already instructed. Experience is the forerunner of the perfect".

5. Herbert Spencer: "Education is complete living".

The notion of education has taxed the minds of philosophers since the times of Plato and Socrates. Despite the multitude of definitions put forward, Matheson and Wells (1999) have argued that we are still no nearer reaching one that is wholly satisfactory. Gregory (2002) has suggested education is concerned with equipping minds to make sense of the physical, social and cultural world, while Peters (1966) has proposed that when we use the term "education" it brings with it the implication that there is an "intention to transmit", in a "morally acceptable" way, something considered worthwhile; such beguiling simplicities having found expression in more recent political rhetoric (Gove, 2011).

Education. Education is the process of imparting knowledge to every person, preparing him for life in all aspects, acquiring skills and qualifications. Education means acquiring knowledge and information and using it in practice on a large scale. Education plays an important role in the development of a person as a person and can also have a great impact on a person's development, thinking and lifestyle. The level of development of a person is a concept that is closely related to the system of education and the teaching process. Education gives the concept of teaching in this social environment, and it can be used and effective not only in educational institutions, but also in all other areas. In a word, education is the main core of every society and new changes, innovations and development of society can be achieved with the help of education. Education does not require age and level, skills and practical skills.

Papadopoulous (1998) acknowledged the many possible interpretations of the term "education", arguing that it can be regarded as an all-embracing term, serving a number of different purposes in ways that recognise both product and process. He has suggested that education is variously seen as promoting:

- economic prosperity;

- employment;
- scientific and technological progress;
- cultural vitality in a society increasingly dominated by leisure activities;
- social progress and equality;
- democratic principles;
- individual success

Nature of Education:

As the meaning of education, so its nature which is very complex. The natures of education are:

- Education is life-long process: Education is life long process because every stage of life of an individual is important from educational point.

- Education is a systematic process: It refers to transact its activities through a systematic institution and regulation.

- Education is the development of individual and the society: It is called a force for social development, which brings improvement in every aspect of the society.

- Education is modification of behavior: Human behavior is modified and improved through educational process.

- Education is a training: Human senses, mind, behavior, activities; skills are trained in a constructive and socially desirable way.

- Education is instruction and direction: It directs and instructs an individual to fulfill his desires and needs for exaltation of his whole personality.

- Education is life: Life without education is meaningless and like the life of a beast. Every aspect and incident needs education for its sound development.

- Education is a continuous reconstruction of our experiences: As per the definition of John Dewey, education reconstructs and remodels our experiences towards socially desirable way.

- Education is a power and treasure in the human being through which he is entitled as the supreme master on the earth.

Therefore, the role of education is countless for a perfect society and man. It is necessary for every society and nation to bring holistic happiness and prosperity to its individuals.

Children have a right to an education, a quality education. Quality education includes:

- Learners who are healthy, well-nourished and ready to participate and learn, and supported in learning by their families and communities;

- Environments that are healthy, safe, protective and gender-sensitive, and provide adequate resources and facilities;

- Content that is reflected in relevant curricula and materials for the acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life, and knowledge in such areas as gender, health, nutrition, HIV/AIDS prevention and peace.

- Processes through which trained teachers use child-centred teaching approaches in well-managed classrooms and schools and skilful assessment to facilitate learning and reduce disparities.

- Outcomes that encompass knowledge, skills and attitudes, and are linked to national goals for education and positive participation in society

Results that are related to national objectives for education and constructive social engagement and that comprise information, abilities, and attitudes

I. Quality Learners

Schools collaborate with the students that enroll in them. The type of learners that children can be is significantly influenced by the quality of their life prior to starting formal education. A quality learner is influenced by a variety of factors, such as home support, early childhood experiences, and health.

II. Quality Learning Environments

Learning can occur anywhere, but the positive learning outcomes generally sought by educational systems happen in quality learning environments. Learning environments are made up of physical, psychosocial and service delivery elements.

III. Quality Content

Quality content refers to the intended and taught curriculum of schools. National goals for education, and outcome statements that translate those goals into measurable objectives, should provide the starting point for the development and implementation of curriculum (UNICEF, 2000). Challenges in reaching large numbers of children with quality content. Numeracy, Peace education, Life skills, Literacy.

IV. Quality Processes

Until recently, much discussion of educational quality centred on system inputs, such as infrastructure and pupil-teacher ratios, and on curricular content. In recent years, however, more attention has been paid to educational processes — how teachers and administrators use inputs to frame meaningful learning experiences for students. Their work represents a key factor in ensuring quality school processes.

V. Quality Outcomes

The environment, content and processes that learners encounter in school lead to diverse results, some intended and others unintended. Quality learner outcomes are intentional, expected effects of the educational system. They include what children know and can do, as well as the attitudes and expectations they have for themselves and their societies.

Defining innovation

The discussion on the definition of innovation sometimes mixed with the concept of the invention, change, and reformation in education. Some scholars also define innovation in education as a process, and some even explain it according to innovation theories in business development. These various

definitions of innovation in education are very confusing when we try to discuss innovation in education.

Definitions of innovation can be found in (Rowe & Boise, 1974), (Dewar & Dutton, 1986), (Rogers, 1983), (Utterback, 1994), (Afuah, 1998), (Fischer, 2001), (Garcia & Calantone, 2002), (McDermott & O'Connor, 2002), (Pedersen & Dalum, 2004), (Frascati Manual, 2004) as well.

“Innovation consists of the generation of a new idea and its implementation into a new product, process or service, leading to the dynamic growth of the national economy and the increase of employment as well as to a creation of pure profit for the innovative business enterprise. Innovation is never a one-time phenomenon, but a long and cumulative process of a great number of organizational decision-making processes, ranging from the phase of generation of a new idea to its implementation phase. New idea refers to the perception of a new customer need or a new way to produce. It is generated in the cumulative process of information-gathering, coupled with an ever-challenging entrepreneurial vision. Through the implementation process the new idea is developed and commercialized into a new marketable product or a new process with attendant cost reduction and increased productivity” (Urabe, 1988).

Innovation in Education

The main characteristics of innovation are to bring new changes to the old one. Sometimes changes are good for the organization or group of people, but sometimes it had the other negative impacts on the system.

Some of the educational scholars define the type of innovation based on innovation theories. Smith (2009) stated that there are two types of innovation in education that are disruptive and sustaining. Disruptive innovations are the innovations that out from the box; it is a different practice to serve a group of people.

The methodology of research is based on theoretical analysis of literature sources related to the innovation and classification of innovations. It was explored the definitions of innovation by many authors, created the models of innovation definition and model of classification of innovation as well. For the assessment of innovation a number of literature sources have been analysed. The model “Innovation path for efficiency of innovation to benefits” was suggested to identify the main aim of innovation.

In general, the concept of “innovation” – a rather complex and multifaceted, his study of the subject of many studies, but, despite this, the generally accepted definition of innovation in science does not exist. There are three main approaches to the consideration of the term. This classification is presented in the below. (Fig.1)

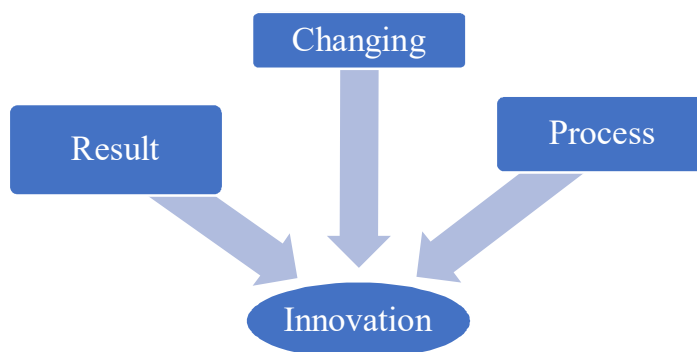


Figure 1. Approaches to the definition of innovation

Innovation interprets as “improved”, “innovation”, to some extent, even the "invention". However, for use in scientific, legislative practice should clearly grasp the difference between these words. (Fig. 2) Explains the difference between these definitions and presented below.

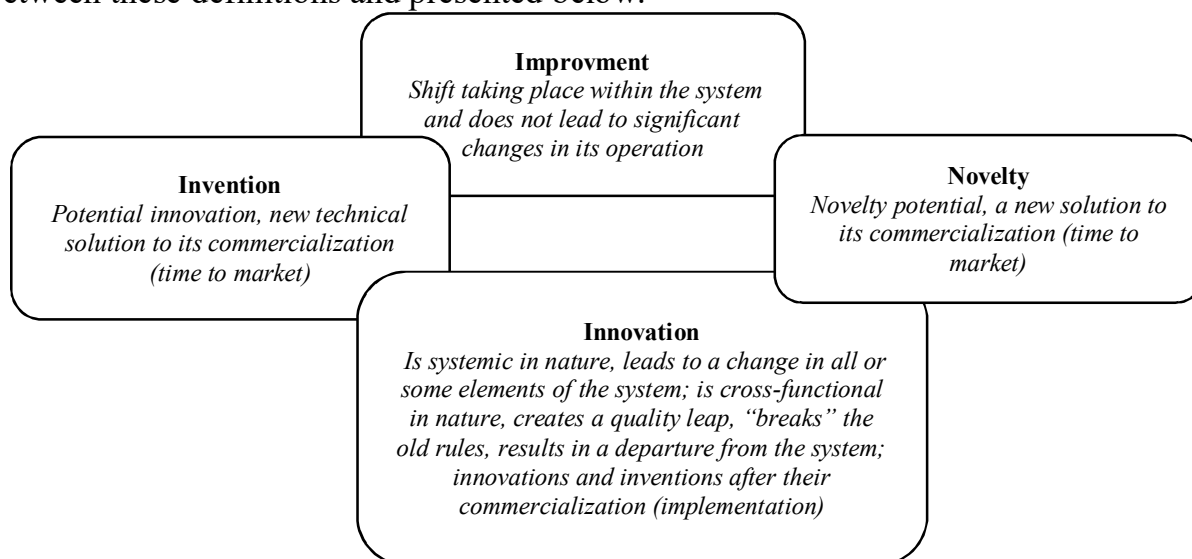


Figure 2. The concepts of “improvement”, “novelty”, “invention”, “innovation”

According to Twiss, innovation - a process that combines science, technology, economics and management, as it is to achieve novelty and extends from the emergence of the idea to its commercialization in the form of production, exchange, consumption. (Twiss, 1989).

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ICHKI YONUV DVIKATELLARIDA ISHLATILGAN GAZLAR TARKIBINING TAHLILI YORDAMIDA DIAGNOSTIKALASH

Annotatsiya. Mazkur maqola ichki yonuv dvigatellaridagi buzilish va nosozliklarni aniqlash va diagnostika qilishning ichki yonuv dvigatellarida ishlatilgan gazlar tarkibining tahlili usuliga bag'ishlangan.

Dunyoda avtomobillar sonining keskin oshib borishi ichki yonuv dvigatellarini yanada takomillashtirish bo'yicha olimlar oldiga juda katta vazifalarni qo'ymoqda. Bugungi kunda asosiy vazifalardan biri dvigatel quvvatidan to'la foydalanish, ekologik jihatdan zararsiz bo'lgan ichki yonuv dvigatelinini loyihalash, hamda yonilg'i sarfini kamaytirishdan iboratdir.

Kalit so'zlar: avtomobil, dvigatel, buzilish, nosozlik, to'la massa, burovchi moment, quvvat, karter moyi, diagnostika, tashqi tezlik xarakteristikasi, tirsakli val, aylanishlar chastotasi, dvigatel quvvatidan foydalanish.

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DIAGNOSTIC WITH THE ANALYSIS OF THE COMPOSITION OF GASES USED IN INTERNAL COMBUSTION ENGINES

Annotation. This article is devoted to a method for analyzing the composition of gases used in internal combustion engines to detect and diagnose breakdowns and failures of internal combustion engines.

The sharp increase in the number of cars in the world poses huge challenges for scientists to further improve internal combustion engines. Today, one of the main tasks is the full use of engine power, the creation of an environmentally friendly internal combustion engine, and a reduction in fuel consumption.

Keywords: car, engine, breakdown, failure, gross weight, torque, power, crankcase oil, diagnostics, external speed characteristic, crankshaft, speed, engine power use.

KIRISH

Ichki yonuv dvigatellarida ishlatilgan gazlar tarkibida taxminan 200 ta tashkil etuvchi mavjud. Ularning barqarorlik davri bir necha daqiqadan 4-5 yilgacha davom etadi. Kimyoviy tarkibi va xossalari hamda inson organizmiga ta'sir xususiyati bo'yicha ular guruhlariga birlashtirilgan.

Birinchi guruh. Ularga zaharli bo'lmagan moddalar: azot, kislorod, vodorod, suv bug'i, karbonat angidrid va atmosfera xavosining boshqa tabiiy tashkil etuvchilari kiradi.

Karbonat angidrid va suv bug'i yonilg'i yonishida xosil bo'ladi. Tabiatda CO_2 ni o'simliklar o'zlashtiradi va fotosintez jarayonida organik moddaga aylanadi. CO_2 konsentratsiyasining oshishi, uzun to'liq inli issiqlik nurlanishi yutilishida "issiqlonona effekti" deb ataladigan, er yuzasining isib ketishiga sabab bo'ladigan holat yaratishi nuqtai nazaridan xavflidir.

Ikkinchi guruh. Bu guruhga faqat bitta modda uglerod oksidi (CO) kiradi. U neftdan olingan ugluvodorodli yonilg'ilarining to'liq bo'lmagan yonish maxsuloti bo'lib rangsiz, xidsiz, xavodan engil.

Is gazi yaqqol zaharlovchi ta'sirga ega, u insonning asab va yurak-tomir tizimiga ta'sir ko'rsatadi. Is gazi atmosferada 0,3 yil saqlanadi.

Uchinchi guruh. Uning tarkibiga azot oksidlari, asosan NO -azot oksidi, NO_2 -azot diaksidi va N_2O_5 kiradi. Bu gazlar ichki yonuv dvigatellarining yonish kamerasida 2800 °S haroratda xosil bo'ladi va chiqarish taktida bir turdan boshqa turga aylanadi.

To'rtinchi guruh. Bu guruhga turli uglevodorodlar, ya'ni C_xH_y turdagi birikmalar kiradi. Ular yonilg'ini matorda yonish to'la bo'lmaganligi natijasida xosil bo'ladi.

Uglevodorodlar zaxarli va insonning yurak –tomir tizimiga yomon ta'sir ko'rsatadi. Ishlatilgan gazlarning uglevodorodli birikmalari zaxarli bo'lishi bilan bir qatorda kanserogon ta'sirga xam egadir.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

O'zbekistonda avtomobil dvigatellarining iqlim sharoitiga mos ekspluatatsion ko'rsatkichlari tahliliga qaratilgan ishlar tadqiq qilinmagan. Chet ellarda esa dvigatellarning issiq iqlim sharoitida ishlash xususiyatlarini aniqlash usullari birmuncha tahlil etilgan.

Tadqiqot mavzusini ishlab chiqish darajasi A.A.Mutalibov, S.Qodiriv, B.I.Bozorov, M.Musajanov, Q.M.Sidiqnazarov, Sh.I.Erbekov va xorijiy olimlardan V.I.Eroxov, L. Afanasev, I. Batishchev, V.M. Belyaev, L. A. Bronshteyn mualliflari tomonidan yaratilgan ilmiy tadqiqot mavzusiga katta ilmiy hissa qo'shgan. Bu mualliflarning ilmiy ishlanmalari transport vositalarining asosiy energiya manbai hisoblangan ichki yonuv dvigatellarining ekspluatatsion ko'rsatkichlarini o'rganish ularning ekologik xususiyatlarini yaxshilashga qaratilgan.

NATIJALAR

Rossiyaning Yevropa va jahon iqtisodiyotiga qo`shilib borishi, xalqaro yuk tashishlarni kengayib borishi, ularda nafaqat yuk tashuvchilar, balki shaxsiy yengil avtomobillar va avtobuslar qatnashishi ekologik xavfsizlikka, iqtisodiy va boshqa ko`rsatkichlarga qo`yiladigan talablarni jiddiy ravishda oshiradi, yurtimiz avtomobillarini sertifikatlashda ularni bosqichma bosqich Yevropa me`yorlariga yaqinlashishini ta`minlaydi.

Bu esa, texnik xizmat ko`rsatish va ta`mirlashda qat`iylashtirishda va ularga yoyishish usullarida aks etadi.

1-jadvalda nemislarning transport assotsiatsiyasi (VCD) tomonidan tuzilgan, nemislar bozorida sotiladigan avtomobillarning ekologik reytinglaridan ko`chirmalar keltirilgan.

Yevropaning zaharli moddalarga qo`yiladigan me`yorlari, gG`km, yengil avtomobillar uchun NETSD uslubi bo`yicha

1-jadval.

83-qoidaga asosan meyorlar	Benzin dvigatellari				Dizel dvigatellari		
	NO _x	C _x H _x	CO	Qattiq zarrachalar	COQNO _x	CO	Qattiq zarrachalar
YEVRO-1 (1991)	0,57	0,77	3,9	-	1,14	3,2	0,18
YEVRO-2 (1996)	0,25	0,34	2,7	-	0,9G`0,7	1,0	0,1G`0,08
YEVRO-3 (2000)	0,15	0,20	2,3	-	0,56	0,64	0,05
YEVRO-4 (2005)	0,08	0,10	1,0	-	0,30	0,05	0,025
YEVRO-5 (2010)	0,06	0,075	1,0	0,005	0,25	0,5	0,005

Baholashlar shahar ichi (ECE-R) va o`zgartirilgan shahar orti (EUDC) davralarining birikmasini ifodalovchi yangi Yevropaning harakat davrasiga (YaEXD) muvofiq berilgan. Eng yuqori reyting 10 ballga boradi. Baholashda dvigatelning quvvati va ish hajmi, eng yuqori tezligi, YaEXD bo`yicha yonilg`i harajati, CO₂ chiqarishi va tashqi shovqin darajasi hisobga olingan.

MUHOKAMA

Ishlangan gazlarni qayta kirgizish (resirkulyatsiya). Bu usulning mohiyati shundan iboratki, ishlangan gazlarning ma`lum qismi chiqarish tizimidan ajratib olinadi va yangi zaryadning bir qismini egallash uchun IYDning kiritish kanaliga yo`naltiriladi. Ajratib olinadigan gazlarning miqdori IYDning ish rejimiga qarab maxsus rostdash tuzilmalari vositasida o`zgartiriladi. Kameraga qayta kirgiziladigan ishlangan gazlarning issiqlik sig`imi katta bo`lganidan yonish haroratini pasaytiradi, bu esa azot oksidlari chiqishini anchagina kamaytiradi. Bunda yonish jarayoni yomonlashadi, natijada SO va SN miqdori birmuncha ko`payadi, dizellarda esa ishlangan gazlardagi tutun miqdori ortadi. Qator hollarda kengayish oxirida yonishning cho`zilib ketishi va haroratning ko`tarilishi oqibatida SN miqdori ham kamayadi.

Bunday iqtisodiy asoslash quyidagi ketma-ketlikda amalga oshiriladi:

1. Avtomobillarda ishlatilgan gazlar tarkibidagi zaharlovchi moddalar miqdoriga qo'yilgan xalqaro talablarni o'rganishni iqtisodiy asoslashni dastlabki ma'lumotlari tuldiriladi.

2. Avtomobillarda ishlatilgan gazlar tarkibidagi zaharlovchi moddalar miqdoriga qo'yilgan xalqaro talablarni o'rganishni iqtisodiy asoslashni asosiy fondi xamda ishlab chiqarish fondi xisoblab chiqiladi.

3. Avtomobillarda ishlatilgan gazlar tarkibidagi zaharlovchi moddalar miqdoriga qo'yilgan xalqaro talablarni o'rganishni iqtisodiy asoslashni yillik ishlab chiqarish xajmi va tayorlov narxi (maxsulot birligiga) xisoblanadi.

4 Avtomobillarda ishlatilgan gazlar tarkibidagi zaharlovchi moddalar miqdoriga qo'yilgan xalqaro talablarni o'rganishni iqtisodiy asoslashni ishlab chiqarish dasturi tuziladi. Unda olinadigan daromad tannarx, yalpi foyda, amprtizatsiya va samaralar xisoblanadi.

5 Avtomobillarda ishlatilgan gazlar tarkibidagi zaharlovchi moddalar miqdoriga qo'yilgan xalqaro talablarni o'rganishni iqtisodiy asoslashni o'zini oqlash muddati xisoblanadi.

6. Asosiy fondlardan foydalanish ko'rsatkichlari: fond qaytimi aylanma fondlarni aylanishi soni, yillik mexnat unumdorligi, rentabelliklar xisoblanadi.

XULOSA

Atrof-muhitni avtomobil transportining zararli ta'siridan himoya qilish asosan 2 xil yo'nalishda ish olib boriladi:

1- avtomobillar va uning dvigateli konstruktsiyalarini takomillashtirish.

2- ekspluatatsiyadagi avtomobillarning zararli ishlashiga qarshi kurash.

Avtomobillar va uning dvigateli konstruktsiyalarini takomillashtirish, dvigatel ish rejimini takomillashtirish, har xil yordamchi jihozlardan va yuqori sifatli yonilg'idan foydalanish, texnik xizmat va ta'mirlash ishlarini o'z vaqtida va sifatli bajarish va kam zararli, gazotrubinali, tashqi yonuvchi-Stirling dvigateli, elektromobillar, injektorli dvigatellar ishlab chiqarish bilan amalga oshiriladi.

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AVTOMOBIL DVIGATELLARINI DIAGNOSTIKALASHNING ZAMONAVIY USULLARI TAHLILI

Annotatsiya. Mazkur maqola ichki yonuv dvigatellaridagi buzilish va nosozliklarni aniqlash va diagnostika qilishning karter moyining tarkibiy tahlili usuliga bag'ishlangan.

Dunyoda avtomobillar sonining keskin oshib borishi ichki yonuv dvigatellarini yanada takomillashtirish bo'yicha olimlar oldiga juda katta vazifalarni qo'ymoqda. Bugungi kunda asosiy vazifalardan biri dvigatel quvvatidan to'la foydalanish, ekologik jihatdan zararsiz bo'lgan ichki yonuv dvigatelinini loyihalash, hamda dvigatellardagi buzilish va nosozliklarni aniqlashning samarali usullarini o'rganishdan iboratdir.

Kalit so'zlar: avtomobil, dvigatel, buzilish, nosozlik, to'la massa, burovchi moment, quvvat, karter moyi, diagnostika, tashqi tezlik xarakteristikasi, tirsakli val, aylanishlar chastotasi, dvigatel quvvatidan foydalanish.

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ANALYSIS OF MODERN METHODS OF CAR ENGINE DIAGNOSTICS

Annotation. This article is devoted to the method of structural analysis of crankcase oil for the detection and diagnosis of breakdowns and failures of internal combustion engines.

The sharp increase in the number of cars in the world poses huge challenges for scientists to further improve internal combustion engines. To date, one of the main tasks is the full use of engine power, the development of an environmentally friendly internal combustion engine, the study of effective methods for detecting breakdowns and failures in the operation of engines.

Keywords: car, engine, breakdown, failure, gross weight, torque, power, crankcase oil, diagnostics, external speed characteristic, crankshaft, speed, engine power use.

KIRISH

Hozirgi vaqtda hech bir soha yo'qki, unda avtomobil transportidan foydalanilmasa. Xususan, yo'lovchilar va yuklarni tashish hamda maxsus ishlarni bajarishda avtomobillardan foydalaniladi. Avtomobillarning birinchi avlodlari ot tortadigan aravalar shaklida ishlanib, unga oldingi g'ildiraklarni aylantirish uchun bug' dvigateli o'rnatilgan.

XIX asrning 80-yillariga kelib, Amerika, Buyuk Britaniya va boshqa Evropa davlatlarida neft qazib chiqarishning keng yo'lga qo'yilishi va neftni qayta ishlash zavodlarining barpo etilishi, benzinli va dizel yonilg'isida ishlaydigan ichki yonuv dvigatellari bilan jihozlangan avtomobillarning takomillashishiga etarli zamin tayyorlagan edi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

O'zbekistonda avtomobil dvigatellarining iqlim sharoitiga mos ekspluatatsion ko'rsatkichlari tahliliga qaratilgan ishlar tadqiq qilinmagan. Chet ellarda esa dvigatellarning issiq iqlim sharoitida ishlash xususiyatlarini aniqlash usullari birmuncha tahlil etilgan.

Avtomobillarning ish samaradorligi uning dvigatelining quvvatiga bevosita bog'liqdir. Hozirgi paytda avtomobillarda asosan porshenli ichki yonuv dvigatellari ishlatilmoqda. Bugungi kunda mutaxassislar oldida turgan asosiy vazifalardan biri dvigatelning quvvati oshirib, avtomobilning tezligi va yuk ko'tarish qobiliyatini oshirishdan iboratdir. Buning uchun dvigatelning asosiy ekspluatatsion xususiyatlarini oshirish, yonilg'i sarfi va ekspluatatsion materiallarning sarfini kamaytirish zarur.

Respublikamizda avtomobillar dvigatellari ishonchliligini oshirishga qaratilgan ilmiy tadqiqot ishlari talab darajasida emas, chunki avtomobil ishlab chiqarish mustaqillik davriga to'g'ri kelib, endi rivojlanish bosqichiga chiqmoqda. Respublikada, chet ellarda va Rosiyada bir qator olimlar bu yo'nalishda ilmiy-tadqiqot ishlari olib borishgan va olib bormoqdalar.

NATIJALAR

Dvigatelning asosiy nosozliklari. Ekspluatatsiya jarayonida detallarning tabiiy eyilishi, to'satdan ishdan chiqishi va ish qobiliyatini yo'qotishi natijasida tsilindr porshen guruhi (TsPG), krivoship shatun mexanizmi (KShM) va gaz taqsimlash mexanizmi (GTM), boshqa birikma va agregatlarda turli nosozliklar paydo bo'ladi. KShM ning asosiy nosozliklariga tsilindrlar, porshen halqalari va ariqchalari, porshen bortmasi devori va teshiklari, shatun kallagi vtulkalari, tirsakli val bo'yinlari vkladishlarining eyilishi va porshen halqalarining qurum bosib qolishi kiradi.

Asosiy buzulishlar va ishdan chiqishlarga esa porshen halqalarining sinishi, tsilindr yuzasining eyilishi, porshenning tiqilib qolishi, podshipniklarning erishi, tsilindr bloki va uning kallagida darzlar hosil bo'lishi misol bo'la oladi. KShM nosozligining alomatlariga tsilindrda kompressiyaning yo'qolishi va shovqin bilan ishlashi, gazlarning ko'p miqdorda karterga o'tib ketishi va moy quyish bo'g'izidan quyup tutun chiqishi misol bo'la oladi.

GTM ning asosiy nosozliklariga turtkich va uning vtulkalari, klapan tarelkalari va o'rindiqlari, shesternyalari, gaz taqsimlash valining tayanch bo'yinlari va mushtchalarining eyilishi, klapan va koromisla orasidagi tirqishning buzilishi kiradi. Ishdan chiqishlarga esa klapan prujinalari elastikligini yo'qotishi va sinishi, gaz taqsimlash shesternyasining sinishi, klapanlarning kuyishi va boshqalar kiradi. Gaz taqsimlash mexanizmining shovqin bilan ishlashi nosozlik alomatlaridan biri hisoblanadi.

Porshenning yuqori qismini jipslik bo'yicha diagnostikalash uning kompressiyasi, karterga o'tuvchi gazlar miqdori, moyning kamayishi, kiritish taktida havoning siyraklashuvi, tsilindrga siqilgan havo yuborilganda uning bosimi pasayishini aniqlashdan iboratdir.

Dvigatel moyi ichki yonish dvigatelining texnik holati to'g'risida noyob ma'lumot tashuvchisidir. Ko'pgina mamlakatlarda o'tkazilgan ilmiy tadqiqotlar ishlayotgan dvigatel moyini tahlil qilish natijalariga ko'ra dvigatelning ishdan chiqishining diagnostika qilishning yuqori ishonchliligini tasdiqladi.

Tashxis, ayniqsa, yuk mashinalari va yo'l-qurilish mashinalarining dizel dvigatellarida ishlatiladigan moyni tahlil qilishda samarali bo'ladi, bu erda demontaj va ta'mirlash paytida 95% hollarda taxmin qilingan nosozliklar tasdiqlanadi. Yog 'tahlili yo'li bilan dizel dvigatellarini muntazam diagnostika qilish operatsion xarajatlarni o'rtacha 25% ga kamaytirishi mumkin.

Boshqa diagnostika usullari bilan taqqoslaganda, dvigatelda ishlatilgan moyni tahlil qilish bir qator muhim afzalliklarga ega:

- avtomobillar ish vaqtini yo'qotmaydi;
- diagnostika sarf harajatlari kamayadi;
- dvigatelning nosozliklari yuzaga kelishining dastlabki bosqichida aniqlash imkoni mavjud;
- diagnostika asbob-uskunalarini asbob-uskunalarni ishlatish joylariga yetkazib berish yoki uskunani diagnostika stansiyalariga o'tkazish talab qilinmaydi;
- tahlil moyini belgilangan miqdordagi dvigatel soati tugaganidan keyin emas, balki samaradorlik haqiqiy yo'qolgan taqdirda o'zgartirishga imkon beradi;
- tahlil katta hajmdagi axborotni olish imkonini beradi;
- tahlilning murakkabligi kam.

Neft tahlili bo'yicha ishonchli ma'lumot olish uchun bir qator shartlarga rioya qilish kerak:

- dvigatelning texnik holatini kuzatishning butun davri davomida bir xil markadagi dvigatel moyida ishlashi kerak;
- moy namunalari har doim issiq dvigateldan va yangi moy qo'shilishidan oldin olinishi kerak;
- texnik hujjatlarda ko'rsatilgan moyni almashtirishdan oldin dvigatel soatlari yoki kilometrlari yozib olinishi kerak;

• ishlatilgan moyning tarkibi va xususiyatlariga ta'sir qilishi mumkin bo'lgan holatlar: boshqa markadagi moyni majburiy to'ldirish, ish sharoitlarining keskin o'zgarishi va boshqalar.

To'rt (yoki undan ko'p) namunalarni tahlil qilish ish vaqtiga qarab moyning tarkibi va ishlashidagi o'zgarishlar dinamikasini aniqlash imkonini beradi. Agar o'zgarishlar tabiiy ravishda davom etsa, dvigatel ishlashi ijobiy bo'ladi, agar bir yoki bir nechta o'zaro bog'liq ko'rsatkichlarda g'ayritabiiy o'zgarish aniqlansa, diagnostik vositaning ishlashi noto'g'ri hisoblanadi. Ko'rsatkichlarning diagnostik qiymati jadvalda keltirilgan.

Laborator tribodiagnostika usullariga infraqizil spektral va ferrografik tahlil usullari kiradi. Ular moylangan ishqalanish birliklarining nosozliklarini tashxislash imkonini beradi. Ferrografiya – dvigatelda ishlatiladigan moy namunalariidan eskirgan metall zarralarini magnit bilan ajratish usuli. Bu sizga zarrachalarning shakli, ularning sirtining holati, zarracha o'lchamlarining taqsimlanishi, alohida zarrachalarning materiallari, aralashmalar va yog'ning parchalanish mahsulotlarining mavjudligi bo'yicha eskirish turi, intensivligi va ishqalanish va moylash usullarini aniqlash imkonini beradi.

MUHOKAMA

Yog' namunalari tizimli tahlil qilish almashtirish vaqtini to'g'ri aniqlash, juda erta yoki juda kech texnik xizmat ko'rsatishning oldini olish, shuningdek, dvigatelning ishonchliligi va xavfsizligini oshirish imkonini beradi.

Dvigatel moyi diagnostikasi tobora keng tarqalgan bo'lib bormoqda, chunki ba'zi motor moylari ishlab chiqaruvchilari o'z mahsulotlarining doimiy mijozlari uchun moy tahlilini bepul taqdim etadilar.

1-jadval

Ko'rsatkich	Diagnostik belgilar
Qovushqoqlik	Kamayishi – karter moyiga yonilg'i aralashsa Oshishi – moyning ishqorlanishi, erimaydigan moddalar bilan ifloslanishi
Ishqoriy miqdori	Neytrallanish xususiyatlarining kamayishi (yuvish qo'shimchalarining uyg'unligi)
Kislota soni	Yog' tarkibidagi kislotalarning birikmasini tavsiflaydi, bu esa qismlarning korroziyasiga olib keladi
Metall tarkibi (Fe, Cu, Pb, Al, Cr, Zn)	Dvigatel qismlarining emirilishi va korroziyalanish tezligini tavsiflaydi
Tarkibidagi kremniy miqdori	Moyni abraziv zarralar bilan tashqi ifloslanishi ko'rsatadi
Yonilg'i tarkibida erimaydigan cho'kma borligi	Bu yonilg'ining to'liq yonmasligi tufayli yonilg'ining asosan qurum zarralari bilan ifloslanishi tavsiflaydi
Alanganish harorati	Moyda yonilg'i, suyuqlik yoki chiqindi gazlar mavjudligini ko'rsatadi
Infraqizil spektrogramma	Oksidlangan yog' darajasini, yohda sovutish suvi mavjudligini

Ixtisoslashgan laboratoriyalarda o'tkaziladigan tahlillardan tashqari, ular haydovchilar va avtotransport korxonalarining boshqa xodimlari tomonidan amalga oshiriladigan ekspress tahlillardan ham foydalanadilar. Ekspress tahlil qilish uchun oddiy asboblardan va reagentlarning maxsus to'plamlari sotuvga chiqariladi. Ekspress-tahlilning elementlaridan biri bu "tushish testi" deb ataladigan testdir. Filtr qog'oziga surtilgan bir tomchi yog' yog'ning disperslik xususiyatlari (ifloslantiruvchi moddalarni yuvish va olib ketish qobiliyati), uning ifloslanish va oksidlanish darajasi, unda suv borligi haqida ma'lumot beradi. Ekspress-tahlil xatolarni o'z vaqtida aniqlab, tez-tez amalga oshirilishi mumkin. Batafsil laboratoriya tahlillarining tezkor tahlil bilan kombinatsiyasi ishda eng yaxshi natijani beradi.

XULOSA

Mazkur maqolada tadqiqotning ob'ekti sifatida ichki yonuv dvigatelinin asosiy buzilish va nosozliklarini aniqlash uchun diagnostika jarayonini tashki etishning eng samarali yo'llaridan foydalanish bo'yicha tavsiyalar berilgan. Karter moyining tarkibiy tahlili yordamida avtomobil dvigatellarida sodir bo'ladigan buzilish va nosozliklarni aniqlash bir qancha afzalliklarga ega hisoblanadi.

Ma'lumki, IYoDning tsilindrlarida yonilg'ining yonishi natijasida yuqori harorat: benzinli dvigatellarda 2800 K va dizellalarda 2200 K hosil bo'ladi. Bu haroratni TsPG detallari qabul qilib oladi va shuning uchun ham ular avtomobilning qolgan barcha detallari ichida eng tez ishdan chiqadi. Shuning uchun mazkur BMI ning maqsadi- ichki yonuv dvigatellarini karter moyining tahlili asosida diagnostikalash hisoblanadi.

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O'QUVCHILARGA WEB-DASTURLASHNI O'RGATUVCHI ELEKTRON MUHIT YARATISH VA UNDAN FOYDALANISHNI RIVOJLANTIRISH

Annotatsiya. Ta'limning tobora rivojlanib borayotgan landshaftida texnologiyaning integratsiyasi o'quv jarayonining asosiy yo'nalishiga aylandi. Malakali veb-dasturchilarga talab o'sishda davom etar ekan, o'qitishning innovatsion va samarali usullariga bo'lgan ehtiyoj tobora muhim ahamiyat kasb etmoqda. Talabalarga veb-dasturlashni o'rgatishga qaratilgan elektron muhitni yaratish va ulardan foydalanish ushbu muhim ta'lim sohasiga yondashuvimizni inqilob qilish imkoniyatiga ega. Ushbu maqolada biz yoshlarimiz o'rganayotgan veb-dasturlash tizimi haqida va o'rganish muhiti haqida ma'lumot beramiz.

Kalit so'zlar: dasturlash jarayoni, yosh dasturchilar, innovatsion g'oyalar, ta'lim muhiti, malakali kadrlar.

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CREATING AN ELECTRONIC ENVIRONMENT TEACHING STUDENTS WEB PROGRAMMING AND DEVELOPING ITS USE

Abstract. In the ever-evolving landscape of education, the integration of technology has become a major focus of the learning process. As the demand for skilled web developers continues to grow, the need for innovative and effective training methods becomes increasingly important. Creating and using an electronic environment to teach students web programming has the potential to revolutionize the way we approach this important area of education. In this article, we provide information about the web programming framework and learning environment that our youth are learning.

Keywords: programming process, young programmers, innovative ideas, educational environment, qualified personnel.

Kirish: Ta'limning tobora rivojlanib borayotgan landshaftida texnologiyaning integratsiyasi o'quv jarayonining asosiy yo'nalishiga aylandi. Malakali veb-dasturchilarga talab o'sishda davom etar ekan, o'qitishning innovatsion va samarali usullariga bo'lgan ehtiyoj tobora muhim ahamiyat kasb

etmoqda. Talabalarga veb-dasturlashni o'rgatishga qaratilgan elektron muhitni yaratish va ulardan foydalanish ushbu muhim ta'lim sohasiga yondashuvimizni inqilob qilish imkoniyatiga ega. Ushbu maqolada biz yoshlarimiz o'rganayotgan veb-dasturlash tizimi haqida va o'rganish muhiti haqida ma'lumot beramiz.

Bunday elektron muhitni rivojlantirishning asosiy maqsadi talabalarga veb-dasturlash ko'nikmalarini egallashga yordam beradigan keng qamrovli va interaktiv platformani taqdim etishdir. Ushbu muhit talabalarning turli xil ta'lim uslublari va ehtiyojlarini qondirish uchun mo'ljallangan bo'lishi kerak, bu ularning veb-ishlab chiqish tushunchalarini tushunish va o'zlashtirishga yordam beradigan uzluksiz va qiziqarli tajribani taklif qiladi.

Elektron muhitning maqsadi talabalarga veb-tilda dasturlashni o'rganishda yordam berishdir. Hozirgi talabalar ushbu darsni olib boradigan boshqa talabalar kamchilikka ega, an'anaviy sinf bilan vizual o'rganishning ko'plab jihatlari yo'qolgan. Dasturlashdagi tushunchalarni tushunish qiyin bo'lishi mumkin. Vizual tasvir va misol talabaning kontseptsiyani shunchaki tushunishi va uni o'zlashtirishi o'rtasidagi farqni anglatishi mumkin. Atrof-muhit-bu veb-sahifa bo'lib, talabalar istalgan vaqtda internetga kirish imkoniyatiga ega bo'lishlari mumkin. Atrof-muhit uchun har qanday yangilanishlar har qanday yoki juda oz uzilishlar holda jadal amalga oshirilishi mumkin. Bu texnik nuqtai nazaridan katta. O'qituvchilar atrof-muhitga murojaat qilishlari va o'qitishda uning misollaridan foydalanishlari mumkin, bu o'quvchilarga vizual manbalardan to'liq foyda keltiradi. Talabalar, shuningdek, o'z tizimlarida dasturlash vazifalari ustida ishlayotganda nima qilayotganlarining misollarini ko'rish uchun atrof-muhitdan vazifa ma'lumotnomasi sifatida foydalanishlari mumkin. Bu ko'pchilik talabalar tushunmaydigan an'anaviy qog'ozga asoslangan vazifalar varaqalaridan katta ustunlikdir. Aniqroq qilib aytganda, ushbu muhit talabalarga veb-dasturlashni o'rganishda katta ustunlik berishi kerak.

Elektron muhitdan foydalanishning afzalliklari

O'quv vaqtini qisqartirish-tadqiqotlar shuni ko'rsatdiki, o'quv vaqtini elektron vositalar yordamida qisqartirish mumkin, chunki talaba o'rganish tezligini nazorat qiladi va tezda orqaga qaytish va oldingi darslarni ko'rib chiqish qobiliyatiga ega. Dasturlash muhitini qo'llab-quvvatlovchi statik veb-kontent funktsionallik va samaradorlik jihatidan darslikdan o'rganishdan ancha ustundir, ammo u hali ham interaktivlik va teskari aloqa nuqtai nazaridan cheklangan. Veb-dasturlash uchun ideal o'quv vositasi talabalar uchun moslashtirilgan o'quv yo'lini taqdim etadi, unda vosita talabaning materialni tushunishiga asta-sekin moslashadi va topshiriqlar bo'yicha maslahatlar va mulohazalar beradi. Garchi bu aqlli repetitorlik tizimlarini yaratishning juda qiyin sohasini ochsa ham.

Murakkab tushunchalarni soddalashtirish-veb-dasturlash mavhum tushunchalar bilan to'ldirilgan bo'lib, ularni oddiy so'zlar va qog'oz yordamida samarali o'rgatish qiyin bo'lishi mumkin. Animatsion grafikalar va interaktiv namoyishlardan foydalangan holda o'qituvchi ko'plab mavhum tushunchalarni samarali namoyish etishi mumkin. JavaScript o'zgaruvchilar yoki ob'ektlarning

'o'zgarishini' taqlid qilishi mumkin, u ob'ektlarni harakatga keltirishi va jonlantirilgan effektlar va o'tishlarni yaratishi mumkin. Bu murakkab tushunchalarni qog'ozda an'anaviy statik tasvirlashga nisbatan katta yaxshilanishdir.

Internet bizning dunyo bilan o'rganish va muloqot qilish usulimizni yaxshiladi. Natijada, veb-dasturlash barcha fanlar bo'yicha talabalar uchun tobora muhim mahoratga aylandi. Veb-dasturlash muhiti talabalarga texnik ko'nikmalarini rivojlantirish, ularning ijodkorligini o'rganish va global onlayn hamjamiyatga hissa qo'shish uchun platforma yaratadi.

Kengaytirilgan o'rganish va muammolarni hal qilish qobiliyatlari

Veb-dasturlash muhiti talabalarga o'rganish orqali o'rganish uchun noyob imkoniyatni taqdim etadi. Amaliy tajriba orqali talabalar murakkab tushunchalarni chuqurroq tushunishlari va muammolarni hal qilish qobiliyatlarini rivojlantirishlari mumkin. Veb-ishlab chiqishning interaktiv tabiati talabalarga turli xil yondashuvlar bilan tajriba o'tkazish, darhol fikr-mulohazalarni olish va xatolaridan saboq olish imkonini beradi. Ushbu faol o'quv jarayoni tanqidiy fikrlash, tahliliy ko'nikmalar va yangi muammolarga moslashish qobiliyatini rivojlantiradi.

Bundan tashqari, veb-dasturlash muhiti ko'pincha ko'plab o'quv manbalariga, shu jumladan o'quv qo'llanmalariga, hujjatlarga va onlayn jamoalarga kirishni ta'minlaydi. Talabalar ushbu resurslardan sinfda o'qishni to'ldirish, muayyan mavzularni chuqurroq o'rganish va boshqa o'quvchilar va mutaxassislar bilan bog'lanish uchun foydalanishlari mumkin. Ushbu hamkorlikdagi o'quv muhiti bilim almashish, tengdoshlarni qo'llab-quvvatlash va jamiyat tuyg'usini rivojlantiradi.

Yaxshilangan martaba istiqbollari va ish qobiliyati

Malakali veb-ishlab chiquvchilarga talab doimiy ravishda o'sib bormoqda, bu veb-dasturlashni mehnat bozorida juda talab qilinadigan mahoratga aylantiradi. Veb-dasturlash ko'nikmalarini rivojlantiradigan talabalar texnologiya sohasida amaliyot o'tash, boshlang'ich darajadagi lavozimlar va hatto mustaqil imkoniyatlarni ta'minlash uchun yaxshi mavqega ega. Bundan tashqari, veb-dasturlash qobiliyatlari marketing, ta'lim va sog'liqni saqlash kabi turli sohalarda tobora ko'proq qadrlanmoqda. Bu universalligi talabalar turli martaba yo'llarini yaratish va ularning umumiy ish qobiliyatini oshirish imkonini beradi.

Bundan tashqari, veb-dasturlash muhiti talabalarga potentsial ish beruvchilarga o'z mahorati va ijodkorligini namoyish etib, o'z ishlarining portfelini yaratish imkoniyatini beradi. Ularning qobiliyatlarining bu aniq dalili raqobatbardosh mehnat bozorida muhim ustunlik bo'lishi mumkin.

Ijodkorlik va innovatsiyalarni rivojlantirish

Veb-dasturlash muhiti talabalarga o'z ijodlarini ifoda etish va g'oyalarini hayotga tatbiq etish imkoniyatini beradi. Veb-ishlab chiqishning ochiq tabiati talabalarga turli xil dizayn imkoniyatlarini o'rganish, yangi texnologiyalar bilan tajriba o'tkazish va noyob va innovatsion onlayn tajribalarni yaratish imkonini

beradi. Bu egalik va muvaffaqiyat hissini uyg'otadi, talabalarni o'z chegaralarini oshirishga va salohiyatini rivojlantirishga undaydi.

Veb-dasturlash muhiti hamkorlik va jamoaviy ishlashni rag'batlantiradi. Talabalar loyihalar ustida birgalikda ishlashlari, fikr almashishlari va bir-birlarining kuchli tomonlarini o'rganishlari mumkin. Ushbu hamkorlikdagi yondashuv jamoatchilik tuyg'usini rivojlantiradi va bilim va ko'nikmalar almashinuviga yordam beradi.

Ushbu elektron muhitning negizida veb-dasturlashning asosiy tamoyillarini qamrab oluvchi puxta ishlab chiqilgan o'quv dasturi yotadi. Ushbu o'quv dasturi keng ko'lamli mavzularni qamrab olishi kerak, jumladan HTML, CSS, JavaScript, server tomonidagi texnologiyalar va veb-ramkalar. Tarkibni mantiqiy va progressiv tarzda tuzish orqali talabalar mustahkam poydevor yaratishi va asta-sekin yanada rivojlangan tushunchalarga o'tishi, silliq va izchil o'quv sayohatini ta'minlashi mumkin.

Elektron muhit talabalar tajribasini oshirish uchun turli xil interaktiv o'quv vositalari va manbalarini o'z ichiga olishi kerak. Bunga interaktiv kodlash mashqlari, video darsliklar, virtual simulyatsiyalar va real vaqtda teskari aloqa mexanizmlari kirishi mumkin. Ushbu elementlar nafaqat talabalarni jalb qiladi, balki ularga o'z bilimlarini amaliy jihatdan qo'llash imkoniyatini beradi, ularning tushunchalari va muammolarni hal qilish ko'nikmalarini mustahkamlaydi.

Bundan tashqari, elektron muhit hamkorlikdagi va qo'llab-quvvatlovchi ta'lim hamjamiyatini rivojlantirishi kerak. Bunga munozarali forumlar, tengdoshlarning fikr-mulohazalari va virtual o'quv guruhlar kabi xususiyatlar orqali erishish mumkin. Talabalarni tengdoshlari va o'qituvchilari bilan muloqot qilishga undash orqali elektron muhit do'stlik va umumiy o'rganish tuyg'usini rivojlantirishi mumkin, natijada ta'lim tajribasini yanada boyitishga va bajarishga olib keladi.

Elektron muhitning doimiy dolzarbligi va samaradorligini ta'minlash uchun doimiy baholash va takomillashtirishning mustahkam tizimini joriy etish juda muhimdir. Bu muntazam ravishda talabalar hisobotini to'plab o'z ichiga olishi mumkin, ularning taraqqiyot va ish faoliyatini monitoringi, va tushunchasi platforma davom etayotgan rivojlantirish va takomillashtirish ichiga olgan. Talabalarining rivojlanayotgan ehtiyojlari va afzalliklariga moslashib, elektron muhit moslashishi va rivojlanishi mumkin, bu uning veb-dasturlash ta'limi uchun eng zamonaviy va qimmatli manba bo'lib qolishini ta'minlaydi.

Xulosa

Xulosa qilib aytganda, talabalarga veb-dasturlashni o'rgatadigan elektron muhitni rivojlantirish ushbu muhim ta'lim sohasiga yondashuvimizni inqilob qilish uchun ulkan imkoniyatlarga ega. Keng qamrovli, interaktiv va hamkorlikda o'qitish tajribasini taqdim etish orqali ushbu muhit talabalarga veb-ishlab chiqishning dinamik dunyosida rivojlanish uchun zarur ko'nikma va bilimlarni egallashga imkon beradi. Raqamli landshaftda harakat qilishni davom ettirar ekanmiz, bunday elektron muhitni muvaffaqiyatli amalga oshirish veb-dasturlash

ta'limining kelajagini va oxir-oqibat malakali veb-ishlab chiquvchilarning keyingi avlodini shakllantirishda hal qiluvchi rol o'ynashi mumkin.

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ALISHER NAVOIY LIRIKASIDA MUSTAZOD

Annotatsiya. Navoiy mustazodni "qo'shiq" deb ataganida ham katta hikmat bor. Mustazod vazni ohangi qo'shiqning tayyor kuyidir. Mumtoz adabiyotimizdagi birorta boshqa janr mustazodchalik musiqiy ohangdor emas. Mustazod o'zinig oshiqona mazmuni bilan ham qo'shiqqa mosdir

Kalit so'zlar: Lirika, she'riyat, adabiyot, mustazod, janr, lirik qahramon, janr.

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ALISHER NAVOYI IS A PROFESSIONAL LYRICS

Annotation. There is great wisdom when Navoi called Mustazad a "song". The melody of the Mustazad weight is the finished melody of the song. No other genre in our classical literature is more musically melodious. Mustazad is suitable for the song with its romantic content

Key words: Lyric, poetry, literature, author, genre, lyrical hero, genre.

O'zbek xalqining eng yaxshi qadimgi va ajoyib she'riy shakllaridan biri mustazoddir. Adabiyotimiz tarixida mustazod yaratmagan shoir kamdan-kam uchraydi. Mustazod o'ziga xos murakkab, ammo jozibador she'riy shakldir. Shuning uchun ham u g'azal, muxammas, ruboiychalik ko'p yaratilgan emas. Mustazod yozish shoirdan juda katta tayyorgarlik va mahoratni talab etgan.

Lirik she'riyatimizning ulug' nazaryotchisi va amaliyotchisi Alisher Navoiy mustazodni bunday ta'riflagan: "Va yana bu xalq arosida bir surud bor ekandurkim, hazaji musammani axbari makfufi maqsuf vaznida anga bayt bog'lab bitib, aning misrasidan so'ngra hamul bahrning ikki rukni bila ado qilib, surud nag'amjtig'a kelturirlar ermish va ani "mustazod" derlar emish, andoqkim (mustazod):

Ey, husninga zarrotu jahon ichra tajalli,
Maf'ulu-mafoiyu-mafoiyu-faulun
Mazhar sanga ashyo
Maf'ulu-faulun
Sen lutf bila kavnu makon ichra muvalli,

Olam sanga mavlo

Ta'rif va keltirilgan misoldan ma'lum bo'ladiki, mustazodning har bir misrasiga mustazod bitilgan vaznning ikki rukniga teng keladigan yarim misraga qo'shiladi. Navoiy mustazodni "qo'shiq" deb ataganida ham katta hikmat bor. Mustazod vazni ohangi qo'shiqning tayyor kuyidir. Mumtoz adabiyotimizdagi birorta boshqa janr mustazodchalik musiqiy ohangdor emas. Mustazod o'zinig oshiqona mazmuni bilan ham qo'shiqqa mosdir.

Mustazod janri ulug' Alisher Navoiygacha va undan keyin ham rivojlanib, sayqal topib keldi. Mustazodni, ayniqsa shakl jihatidan takomillashtirishda Ogahiyning xizmati katta. Ogahiy o'z mustasodida asosiy misraga qo'shib kteladigan yarim misrani juftlashirdi.¹

Bu- mustazod janrining o'tgan to'rt asr mobaynida badiiy shakl va mazmun jihatidan ancha boyitilganligi, ulkan san'atkor Ogahiy esa shuni takomillashtirib, sifat o'zgarishiga sabab bo'lganligini ko'rsatadi. Ogahiy kashfiyoti natijasida uzun misralarni to'ldirib, xulosalab, alohida ohangdorlik kasb etib turadigan orttirma qo'shmisralar professor E.E. Bertels ta'biri bilan aytganda "o'ziga xos naqorat" darajasiga ko'tarildi.

Ogahiy mustazodi sof oshiqona ruhdagi asar bo'lib, uning boshdan-oyoq mazmuni oshiqning mashuqani vasf etishi, unga dil izhorini ifodalashga bag'ishlangan. U so'fiyona asardir, chunki und ilohiy ma'shuqa- Olloh jamoli, visoli madh etadi. Tasavvuf falsafasiga ko'ra, dunyodagi jamiki go'zallik Ollih husn-jamolining aksi sifatida yaratilgan. Shuning uchun har bir mavjudod o'zligiga, asliyatiga intiladi, unga oshiq, shaydo, intiq, intizor bo'lib un kechiradi. Shundan kelib chiqib, Ogahiy Mustazodining birinchi misrasida jahon bog'ining guli Haq diydoriga shydo, oshiqi hayron sifatida tasvirlanadi. Ikkinchi misrada qora tusli kokul-soch tolalari tavsiflanadi. Sunbul shakl jihatidan o'shanga o'xshatiladi. Parishon sunbul ishq shaydolididan mast holatda. Uning boshiga ishq savdosi tushgan. "Savdo" so'zining qora ma'nosi ham bor. Demak, sunbulning sochga rang-tus jihatidan ham monandligi tasvirga asos qilib olingan. Keyigi baytlarda ilohiy talat ta'rifi davom etadi:

Ham sarv qadding jilvasini ko'rgali qumri
Har dam chekibon oh,
Bilkull borur o'zdin
Ham gul yuzingga mahvi jalol o'lg'ali bulbul
Tun kun chekar afg'on
Timay dame aslo.

Mahubning sarvdek qomati jilvasini bir bora ko'rish uchun qumri har dam oh chekib, butunlay xushidan ketadi. Uning gulyuz jamoli shavqiga g'arq bo'lib, bulbul kechayu kunduz tinimsiz fig'on chekadi. Mustazod mazmuni lirik qahramonning izhori va iltijosi bilan boyib boradi.

To tushti firoqingg'a maning g'amzada ko'nglum

¹ <http://navoinatlib.uz8101> Navoiy, Alisher. Nazm ul-javohir. // Mukammal asarlar to'plami. 20 tomlik. – Toshkent: Fan nashriyoti, 1991.

Har lahza yonodur
Yuz dard o'ti ichra,
Endi ango tortog'ra dame sabru tahammul
Yo'q mehnati hijron,
Rahm ayla, nigoro.

Lirik qahramonning g'amdan zada bo'lgan ko'ngli ayriliq abozida har lahzada yuz dard olovlari ichra yonadi. Intiozorlik torta-torta oshiqning biror lahzachalik sabru bardoshi qolmaydi. Oshiq o'z ahvoligagina shikoyat qilmaydi, balki mashuqaning rahm-shavqatsiz va erka fe'li butun islom elini yakson etganidan faryod chekadi. Ushbu bayt mazmuni xiyla murakkab. Unda musulmonlarga qirg'in keltiruvchi kofir bir inson haqiga gap ketayotgani yo'q. Baytning ma'nosi Navoiyning: "Titrangiz, ey ahli din, islomingiz boshig'akim, G'orati din etgali nomulmonim chiqar" baytidagi mazmunga hamohangdir. Tasvirdagi ma'shuqani birgina diniy e'tiqod- Islom olamidan ko'ra ulug'vor, barcha diniy e'tiqodlarning asoschisi sifatidagi umuminsoniy ilohiy qudrat sohibi sifatida tasavvur etish mumkin. Ilohiy ma'shuqa shu darajada qudratli ekanki, bir hamla bilan Islom elini qatl etarkan. Endilikda uning qodirlik xislati yana shunday sharxlanadiki, marhamatli qarashlarning bir farovon nigohi olamni boshdan oyoq obod etadi. Lirik qahramonning larzali iltijosicha, hayhotki, uning tag'ofulli bir qiyo boqishi dunyi mulki obodonchiligi barbod etishi ham mumkin. Ya'ni yaratuvchi, obod etuvchi ham, vayronu barbot etuvchi ham o'zi. Ushbu zotda mehr-muruvvat ham, qahru qahhorlik ham mujassam: Xusningni tamosho qilibon, bahra olurlar

Ko'zim bila ko'nglum
Bir biridan afzun,
Zinhorki, emdi yozibon yuz uza kokul,
Aylab ani pinhon,
Man etma tomosho.

Ma'shuqa husnini tomosha qilib, ko'z va ko'ngli bir-biridan ortiq darajada bahramand bo'lishidan oshiq baxtiyordir. Lekin u ma'shuqa yuzi uzra hijron pardasi-kokilini yozib, visolidan mahrum etishdan havotirda. Shu boisdan, yurakzadalik bilan unga iltijo qiladi. Keyingi baytda ilohiy ma'shuq – Tangri taborak va taoloning razzoq, ya'ni rizq ulashuvchanligi hamda mannon, ya'ni ne'matbaxshlik sifatleri ulug'lanadi. Lirik qahramon ojizlik va hokisorlik izhor etib aytadi: Ey, Oллоh, men dargohindagi bandalaringni eng ojizlaridirman, hoh och hoh to'q bo'lay, mening ishim shukur qilishdan iboratdir. Ey bani basharga rizq beruvchi, ne'matbaxsh zot, har qanday holatda ham sening iltifotingga umidvorman va sen buni bilguvchisan. Tasavvuf adabiyotida dunyo go'zalliklari tangri o'z husnu jamolining tajassumi sifatida yaratgan mo'jizalar sifatida kuylanadi. Shoirning vasv etishicha, yaratuvchi ma'shuqa jamolining bog'i shu qadar tarovatliki, undan butun olam ahli gul teradi. Gulistonlar bag'ri hamda sajro etaklarining turli navlardagi gulu lolalar bilan to'liqligi shundandir. Mustazod oshiqning munojoti bilan yakunlanadi:

Hajrning g‘ami zahrini ichib Ogahiyi zor
O‘lmakka etubur
Komig‘a yetushmay,
Qilma nafase holini so‘rmoqda taallul,
Ey Isoyi davron,
Qilg‘il ani hayo.

Lirik qahramon: - Hajrning g‘ami zahrini yuta-yuta Ogahiyi zor murod maqsadiga yetolmay o‘lmakka yaqinlashib qoldi. Ey, o‘liknida tiriltirish hislatiga ega bo‘lgan isosifat zot, holimni so‘rashni bir nafas ham paysalga solmay, menga qaytadigan hayot bag‘ishla, deya najot so‘raydi. Xullas, ushbu mustazod ilohiy ishq tuyg‘ularini tarannum etuvchi go‘zal badiiy obidadir.

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CREATION OF ELECTRONIC LEARNING MATERIALS USING MICROSOFT WORD PROGRAM

Annotation. The article shows the influence of electronic educational resources on the development of educational material, forms and methods of organizing students' activities.

Key words: methodological teaching system, modern information educational environment, electronic educational resources, learning objectives, learning content, forms of learning, teaching methods, teaching aids.

Information technologies are being introduced into all spheres of our society, including education.

Educational and methodological support of the educational process consists of complementary elements, the central place among which is occupied by electronic learning tools, within which electronic educational materials can be separately distinguished.

Electronic educational resources are educational materials that are reproduced using electronic devices.

In the most general case, EER includes educational videos and sound recordings, for playback of which a household tape recorder or CD player is sufficient.

The most modern and effective electronic educational resources for education are reproduced on a computer. It is on such resources that we will focus our attention.

Sometimes, in order to highlight this subset of EER, they are called digital educational resources (DER), meaning that the computer uses digital recording/playback methods. However, audio/video compact discs (CDs) also contain recordings in digital formats, so introducing a separate term and abbreviation DOR does not provide any significant benefit. Therefore, it is better to use the general term “electronic” and the abbreviation EOR.

So, here and further we consider electronic educational resources that require a computer to play.

An electronic textbook is an independent educational electronic manual for complex purposes, which ensures the continuity and completeness of the didactic cycle of the learning process, and the student's information and search activities. The electronic textbook contains theoretical and practical materials in accordance with the curriculum, using elements of multimedia technologies.

Educational electronic publication (EEP) is an electronic publication containing systematized material on the relevant scientific and practical field of knowledge, ensuring creative and active acquisition by students of knowledge, skills and abilities in this field. OEI should be distinguished by a high level of execution and artistic design, completeness of information, quality of methodological tools, quality of technical execution, clarity, logic and consistency of presentation. OEI cannot be reduced to a paper version without losing its didactic properties.

The Microsoft Word processor is a powerful tool for creating documents of various purposes and complexity. In particular, it allows you to create certain types of electronic educational materials.

The Microsoft Office suite of applications is a set of application tools designed to automate office work. The Microsoft Office suite of applications includes a number of applications that perform a specific function and can work either separately or together.

The GUI of MS Word uses various controls grouped together using an object called the "ribbon".

The Ribbon is a strip at the top of the screen that contains all the main sets of commands, grouped by topic on separate tabs and groups. It is designed to make commands easier to access and consists of tabs associated with specific goals or objects. Each tab, in turn, consists of several groups of interconnected controls. Compared to the menus and toolbars used in previous versions of MS Word, the Ribbon holds significantly more content - buttons, collections, dialog box elements, etc.

Microsoft has created the Microsoft Office suite of applications taking into account modern technologies used in everyday life. Today, the difference between office workers working at home and in the office is disappearing. People choose for themselves where, how and what to work. Many business people need to work with information not only at home or in the office, but also when going somewhere on business or on the road. These processes require businessmen to have new capabilities to ensure information security.

There are several of these important ideas in the Office suite of applications and its accompanying software suite. One of them is the ability to process documents using lightweight versions of Word, PowerPoint, Excel and OneNote using dedicated web applications anywhere in the world. At the same time, Office features can also be used on mobile smartphone devices running on the Windows Mobile platform (environment).

Editing a MS Word document involves adjusting the size of the document and the size of its fields, correcting spelling errors in the text of the document, inserting additions, setting line spacing, changing the type of headings (heading, sub-heading) means changing according to the requirements of the printing house by installing, placing a letterhead, writing in capitals letters, formatting document text and performing similar actions.

The ability to embed objects of various types into Microsoft Word documents, as well as the ability to establish hypertext links, allows you to create fragments of multimedia resources.

The English word “multimedia” means “many ways”.

Representing learning objects in multiple ways, e.g. using graphics, photos, videos, animations and sound. Using everything that a person is able to perceive with the help of sight and hearing.

For example: a well-known multimedia player is called multimedia because it can play photographs, videos, sound recordings, and text in turn.

When we talk about multimedia ESM. This refers to the ability to simultaneously reproduce on a computer screen and in sound a certain set of objects presented in various ways.

The main formats are Word document format and RTF format, which can be converted to HTML and PDF hypertext formats if necessary. The advantages of electronic educational materials are:

- mobility;
- accessibility due to the development of computer networks;
- the ability to quickly update educational material;
- speed of adjustment; o ease of selection and arrangement;
- the ability to illustrate various processes and phenomena in dynamics;
- large volume of material;
- the ability to gradually accumulate material;
- ease of replication;
- relieving teachers of a number of labor-intensive and frequently repeated operations to present educational information;
- the ability to expand the regular textbook
- adaptation to the pace of the student’s work, facilitating the search for necessary information; the opportunity to study educational material and perform practical work at home;
- independence of the quality of stored material from the intensity of its use;
- compact in area and volume.

The new generation EER is an open educational modular multimedia system.

ESM allows you not only to independently study the description of objects, processes, phenomena, but also to work with them interactively, solve problem situations and connect the acquired knowledge from life.

Students are involved in a fascinating process of learning, where they independently obtain information, analyze it, exchange opinions, and draw conclusions.

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FORMATION OF TEXT DATA PROCESSING SKILLS

Annotation. This article discusses the formation of text data processing skills and preparation of documents in the Microsoft Word text editor in the Microsoft Office application package. In addition, the basic rules of working with text documents, setting page parameters, basic methods of document editing, additional options of MS Word are presented.

Key words: Windows, MS Word, Text, Document, Edit, Menu, Ribbon, Command, Command, Insert, Photo, Audio, Video, Resume, Email, Page, Font, Basics, Options.

With the help of MICROSOFT WORD, you can easily create everything from business cards to original newspaper layouts or book publications. Font sizes, their appearance, text color and background, framing of documents, placement of pictures and photos, formalization of texts in the form of lists and tables, creation of complex documents - all this creates ease for the user. In addition, video and audio recordings allow you to make the work more attractive and automatically correct spelling mistakes.

Word 2013 offers the following ways to create a document when it is opened: using ready-made sample templates, for example, you can create various letters, resumes and documents.



When you create a new document in MS Word, a blank workspace and a Word window interface open.

Computer programs usually use windows. A set of windows called a "panel". And the program menu ensures the operation of the commands shown in the list.

The window of WORD is similar to windows of WINDOWS and it includes all the elements used for editing and formatting texts.

The main elements of the WORD window are:

- title bar - the first bar above, which stores the name of the document. Also, this panel contains the document's menu buttons and window management buttons.

- menu bar - a list of menus that are second from the top and each has its own menu. These menus can be used for many WORD commands. These menus are launched with the right mouse button.



Overview of Word.

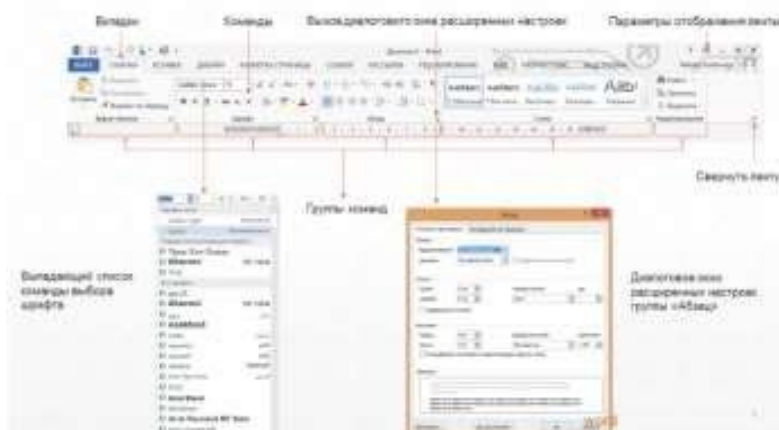
When you open MS Word, the first thing you see is the ribbon at the top of Word. The ribbon has been carefully researched and designed with user experience in mind, so commands are optimally placed. The band offers ease of use and convenience by showing all the usual activities in one place. The ribbon brings the most common commands to the front, so you don't have to search all parts of the program to find what you need, as in previous versions. This makes it easier and faster to work.

The band offers ease of use and convenience by showing all the usual activities in o Applications: At the top of the ribbon are the following main applications: File, Main, Insertion, Design, Page Layout, Links, Mailings, Reviewing, View. Each has an activity area. Everything in the app is carefully selected according to the user's actions. For example, the Files app lets you open, save, preview, and more. Glavnaya application contains all the most used things, for example, you can get commands in the Font group for changing the text font, Font Font size, Bold, Italic and more. Insert application is designed to insert various images, tables, hyperlinks, footers and page numbers. The design application is used for editing and decorating documents. Razmetka stranitsy application consists of groups that set page parameters. Ssylki is designed for creating content and posting videos. Rassylki is intended for creating and printing letters, envelopes intended for sending by e-mail (for example: barnod@mail.ru or i.bozorova667@gmail.com or jumayevanafisa023@gmail.com). Proofreading allows you to correct spelling and grammatical errors, use dictionaries and protect the document. With the Vid app, you can set page view modes and view scales. There are three parts to the tape. They are applications, groups and commands.

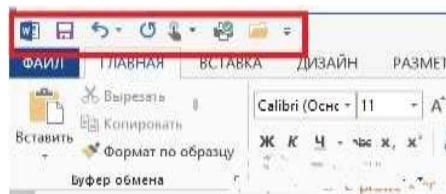
Each app has several groups that display compatible items together.

A command is a button, menu, or window where you can enter information.

Some groups have a small diagonal shaft pointing to the lower right called the dialog box opener. Select a group to see more options. They appear in a dialog box or taskbar that looks familiar from previous versions of Word.



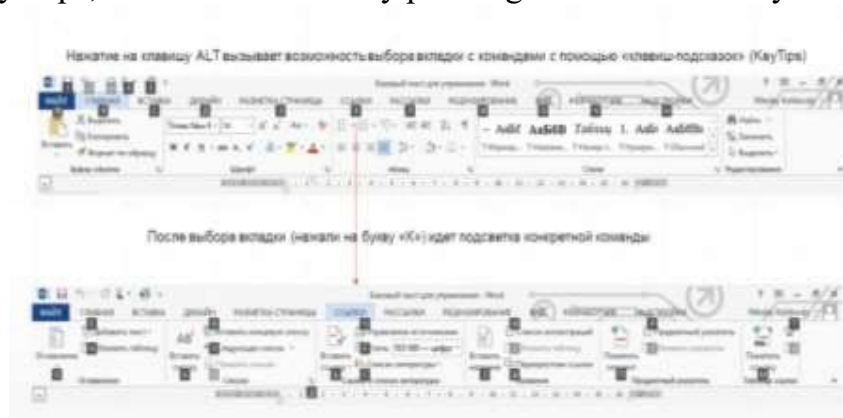
One of the more convenient aspects of creating a document is the presence of a quick access panel. It is located in the upper left corner and contains frequently used commands. To add new commands, you need to click on the triangle icon in the panel.



You can save the document by pressing the diskette button from the quick access panel. If the document is being saved for the first time, the Sochranit kak commands can also be viewed here. A list of recently opened documents appears on the right side of the menu. They are always conveniently visible, so you don't have to search around the computer for a frequently used document.



One of the elements of the Word interface is working with keyboard keys called Key-Tips, which are created by pressing ALT from the keyboard.



Movement through the document.

You can use the buttons on the vertical bar on the right side of the window to move around the document being edited:

a) press the left mouse button on the button at the bottom of the vertical path to go down;

b) press the left mouse button on the button at the top of the vertical path to move up;

c) to go to the next page of the text, on the button of the corridor, go to the previous page and for that, you need to press the buttons using the "Mouse";

g) to move to a certain part of the documents, use the "Mouse" to move the cursor to that place. In this case, the cursor must be located in the text section you are working on.

Exit from WORD is performed using Alt+F4 or the "Exit" command in the "File" menu is increased.

Basic rules of working with documents • Working with documents • Setting page parameters • Setting pages • Set document area • Set font size and type • Basic ways of editing a document Creating a document

As soon as WORD starts, a field for the document is automatically created.

You can create a new document using the "Create" command of the "File" menu, where you can put any template (field sizes). If no template is specified, the template parameters in the criteria are automatically set.

To create a new document, do one of the following:

- Creating a new document through the "Sozdat" command in the quick access panel;

- Press [CTRL]+ [N].

Save the document

When the process of working with the document is finished, it must be saved. Saving is done as follows:

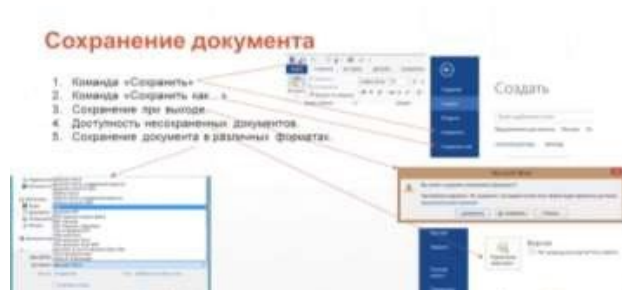
- pressing ALT+F4 or entering the File menu with the Vykход command, then clicking "OK";

- From the Quick Access panel, click the "Standard" button (small diskette), then

Enter the name of the document in the "File" line, and then click OK;

- Press CTRL+S to save quickly.

It should be noted that WORD provides information about the document being saved. When the processes are finished, the name of the saved document will appear in the title bar.



Save document window.

To save files to another disk or diskette:

- Select the "Sokhranit kak" command;
- select a disk name (disk drive);

- Write the name of the document to be saved in the "Name file" line;
- Click on "Sochranit".

Open the document

To open the document, one of the following two actions must be performed:

a) through the "Open" command ("File" menu):

- Select the "Open" command from the "File" menu;
- highlight the file you want to select with the mouse from the dialog box.

If the file is stored on another disk or folder, then use the "Folder" menu; • Click OK.

b) the above operation can also be performed using the CTRL+O keys;

c) Open the document using the "Open" button on the quick access panel possible.



Open document window.



Document preview and print window.

If you need to print in a different way, select the "Print" command from the "File" menu, and then perform the following actions:

- in order to print the page where the cursor is, the page to be printed (page range, separated block) is selected in the page range group; • Click OK.



Set page parameters

- move the cursor to the upper limit of the document;
- Select "Polya" in the "Razmetka stranitsy" application;

Set page size.

- Standard paper sizes are selected in the "Orientation" line: A4 (album paper), A3 (two album papers), A5 (half of an album paper);

- if your paper is non-standard, then the paper width and height are set from "Size";

Set font size and type

A font is a set of printed and written characters, special characters, punctuation marks and numbers written according to certain rules.

Change fonts:

- In the formatting toolbar, you will find a window with the name of the fonts;

- click on the arrow on the right side of the window;

- the required font is selected from the resulting menu (with the "mouse" tool).

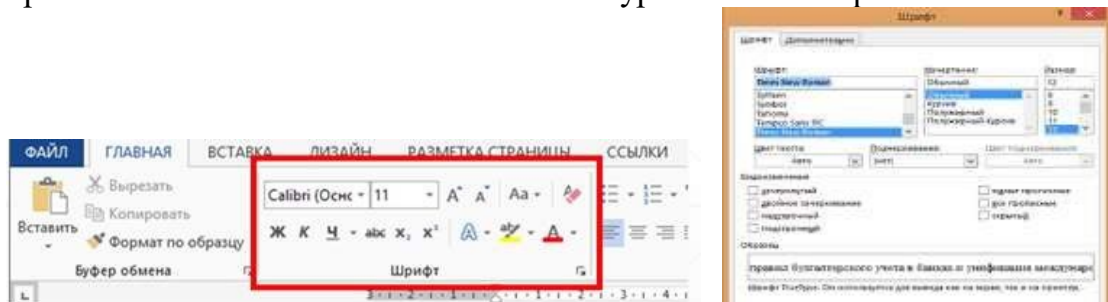
To set the font size:

- Select the font size button from the Home application and select the arrow to the right of the window (the change of font types is shown in this window);

- Font sizes are selected from the font group;

- the left mouse button is pressed on the selected font.

Font size and type can be selected from the keyboard itself, for this you need to press CTRL+D and select the desired font type and size and press ENTER.



Search box for text within a document.

Search and replace text:

- Select the "Replace" command from the "Main" menu;

- Write the word you are looking for in the "Nigthy" line;

- Write the word to be replaced in the "Zamenit" line.

To provide additional options for search and replacement, you can click the "Mouse" button on the "Bolshe" button and set the necessary parameters.

- "Zamenit" button is pressed to start the process ("Otmena" button is pressed to cancel).

- "Zamenit vse" button replaces all words.

To quickly invoke this command, press CTRL+H.

Additional features of MS Word

Commands in the "Retsenzirovaniye" menu allow you to perform the following actions:

- checking spelling errors ("Pravopisanie" command);
- set language - wrap luat to check the text ("Language" command);
- automatic correction of some types of errors ("Avtozamena" command);
- creation and printing of folders and additional records (installation of protection against unnecessary opening of folders and documents ("Install protection" command));

In addition, there are other conveniences of this word processor. For example: fields work with, sort the list ("Table" - "Sorting" menu), format the text in the form of a newspaper or book, automatically insert the contents ("Instavka" - "Oglavlenie i uzkatery" menu), comment ("Instavka" - "Primechaeie" menu) and placing subtitles ("View-Footer" menu), working with tables ("Table" menu), establishing connection of tables with other programs, etc.

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BUYRAK NEFRITI KASALLIGINI XALQ TABOBATIDA DAVOLASH USULLARI

Annotatsiya. Ushbu maqolada buyrak nefriti kasalligi, uning kelib chiqish sabablari, tibbiyotda va xalq tabobatida davolash usullari ko'rib chiqiladi.

Kalit so'zlar: buyrak nefriti, pielonefrit, interstitsial nefrit, glomerulonefrit, shuntli nefrit, buyrak toshi.

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METHODS OF TREATMENT OF KIDNEY Nephritis DISEASE IN FOLK MEDICINE

Abstract. This article examines kidney nephritis, its causes, and methods of treatment in medicine and folk medicine.

Key words: kidney nephritis, pyelonephritis, interstitial nephritis, glomerulonephritis, shunt nephritis, kidney stones.

KIRISH

Buyrak organizmni ichki muhiti doimiyligini (gomeostazni), suv-tuz almashinuvi, kislota ishqorlar holatining boshqarilishi, azot almashinuvi qoldiq mahsulotlarning chiqarilishi (ekskretsiya) jarayonlarda asosiy o'rin tutishi bilan belgilanadi. Buyrak nefriti, buyrak to'qimasining yallig'lanishi yoki immun yallig'lanish natijasida kelib chiqadigan diffuz shikastlanish tushuniladi. Kasallikda buyraklardagi deyarli barcha ko'ptokchalar shikastlanib, kanalchalar va tomirlar faoliyatining o'zgarishi bilan kechadi.

Piyelonefrit-siydik yo'llari va buyrak parenximasining nospetsifik infeksiyon kasalligi bo'lib, ko'proq buyrak interstitsial to'qimasining shikastlanishi bilan kechadi. Bu bakterial etiologiyaga ega bo'lgan buyraklarning yallig'lanishi.

Interstitsial nefrit-buyrak kanalchalari ba interstitsial to'qimalari zararlanadigan buyraklarning yallig'lanishi.

Glomerulonefrit-glomerulaning yallig'lanish kaslligi. Shuntli nefrit-buyrak ko'ptokchalarining immunitet kompleksining asorati bilan kechadigan kasallik turi.

Kasallikni davolashda meditsina va xalq tabobatida ko'plab vositalar va usullardan foydalaniladi.

ADABIYOTLAR TAHLILI VA METODLAR

Buyrak nefrit kasalligida, anjir-mevasini sutda 15-20 daqiqa qaynatib, suzib olinadi. Juda issiq holida kuniga 2-3 soatdan ichilsa, davo bo'ladi. Anor-buyrak, jigar, quloq, ko'z, jinsiy a'zolar, bo'g'imlar yallig'lanishida anor po'stlog'i damlamasi yaxshi yordam beradi. 2 choy qoshiq anor po'stlog'ini mayda tuyib, ustiga bir payola qaynoq suv quyiladi va suv bug'ida yarim qaynatiladi. Dokadan o'tkazib kuniga 2 maxal ovqatdan yarim soat oldin yarim piyoladan ichiladi [1.47-55-b].

Abu Ali ibn Sino "Mayizli damlama buyrak va qovuq xastaliklarida ichib turilsa, yaxshi shifo beradi" deb aytgan. Buning uchun yarim litrli choynakka bir choy qoshiq quruq choy va yarim stakan mayiz solinadi. Qaynoq suv quyib, o'rab qo'yiladi. Keyin shu damlamadan 1-2 piyola ovqatdan oldin ichib turish tavsiya etiladi. Ushbu damlamani bir oy davomida iste'mol qilish buyrakdagi shamollashni qaytaradi [2.408-415-b].

Buyrak kasalliklarida, Ibn Sino gulxayri (altey) o'simligining ildizi. bargi va urug'idan damlama tayyorlab, buyrak kasalliklarini davolashda ishlatgan. Damlamani tayyorlash uchun bir idishga 2 stakan qaynatilib sovutilgan suv quyiladi va 4 choy qoshiq gulxayrining maydalangan ildizidan solib, 8 soat olib qo'yiladi, keyin dokadan suzilib, kuniga 3-4 maxal yarim stakandan ichiladi [3.19-b].

Piyelonefrit kasallik o'tkir davrida qizilmiya (ildiz) 30 daqiqa davomida qaynatilgan choyni kuniga 4 maxal 150 ml foydalanish tavsiya etiladi, ovqatlanishdan oldin, 12 yosh va undan katta yoshdagilar uchun beriladi [4.14-b].

Igir o'simligidan tayyorlangan dorivorlar buyrak, jigar hamda o't pufak kasalliklarida siydik va o't xaydovchi vosita sifatida qo'llaniladi. Nok sharbati va undan tayyorlangan qaynatma siydik yo'llaridagi toshlarni haydovchi vosita sifatida ham tavsiya etiladi [5.220-272-b].

Isiriq urug'idan tayyorlanadigan qaynatmaning siydik haydovchi, terlatuvchi sifatida, oshqozon kasalliklarini, tutqanoq va uyqusizlikni davolash uchun ishlatilishida ham jon bor ekan. Bu muolajalar isiriq urug'i qaynatmasiga o'tgan moddalarning qovuq, ter bezlariga va oshqozon faoliyatiga ta'sir ko'rsatishiga asoslanadi [6.24-b].

Xalq tabobatida buyrak kasalliklarini davolashda makkajo'xori popugi, tirnoqgul, gazanda o't, arpabadiyon, qushtaron, oddiy bo'ymardon, qirqbo'g'im kabi o'simliklarning guli, urug'i, bargi, poyasi va ildizi kabi tarkibiy qismlaridan tayyorlangan damlamalar, ekstraktlar, nastoykalar hamda boshqa biologik faol oziq ovqat qo'shilmalaridan keng foydalaniladi [7.26-b].

Shuningdek xalq tabobatida buyrak-tosh kasalligini davolashda zaytun moyidan kuniga iliq holda 2 osh qoshiqdan ovqatdan yarim soat yoki bir soat oldin ichilsa, buyrakdagi toshlarni eritib chiqarishda foyda qiladi [8.286-b].

Qovun parishon xotirlik, diqqanapas, bod, belangi, sil, kamqonlik, jigar, buyrak va qovuqdagi mayda toshlar kasalliklarini davolashda tavsiya etiladi [9.521-b].

Surunkali piolonefrit va sistitda qovoqning eti kuniga 2 mahal 50 gr dan iste'mol qilinsa, siydikni yaxshi haydaydi, buyrak dardiga shifo bo'ladi. Yangi tayyorlangan qovoq sharbatidan kuniga 3 mahal yarim stakandan ichgan bemor buyrak kasalligidan xalos bo'ladi [10.77-b].

Xulosa

Tabiiy o'simliklarning xalq tabobatidagi o'rni va buyrak kasalliklarini davolashda foydalanishga bo'lgan qiziqish zamonaviy tibbiyot amaliyotida katta ahamiyatga ega.

O'simliklar, biologik faol komponentlari tufayli uzoq vaqtdan beri salomatlikni yaxshilash va turli kasalliklarning alomatlarini yengillashtirish uchun ishlatilgan. Tabiiy o'simliklar antiseptik, yallig'lanishga qarshi, diuretik va mikroblarga qarshi xususiyatlarini o'z ichiga olgan ko'plab xususiyatlarga ega bo'lib, ularni buyrak salomatligini saqlash uchun jozibali vositalarga aylantiradi. Binobarin, xalq tabobati uning o'ziga xos an'analari aholi salomatligini ta'minlash, tibbiy sanitar yordam ko'rsatish, xususan, surunkali kasalliklar profilaktikasi, ularni davolashda sifat, xavsizlik va samaradorlik borasida amalda ko'p sinovlar o'tgan.

Odamlar qadim zamonlardan tabiat ne'matlaridan foydalana boshlagandan buyon dorivor o'tlardan kasalliklarni davolashda foydalanib kelganlar.

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TA'LIMIY INFOGRAFIK XIZMATLAR HAQIDA

Annotatsiya. Ushbu maqolada ta'lim ma'lumotlarini vizualizatsiya qilish imkonini beruvchi infografika xizmatlari tasvirlangan. Funktsional imkoniyatlarni tahlil qiluvchi xizmatlarni baholash mezonlarini taklif qilinadi. Treningda infografikadan foydalanishning afzalliklarini ta'kidlangan.

Kalit so'zlar: infografika, vizualizatsiya, infografika xizmatlari.

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ABOUT EDUCATIONAL INFOGRAPHIC SERVICES

Annotation. This article describes infographic services that allow you to visualize educational data. Evaluation criteria for functional capacity analysis services are proposed. The training emphasized the benefits of using infographics.

Keywords: infographics, visualization, infographic services.

Zamonaviy dunyo yangi ma'lumotlarning ko'p oqimi bilan ajralib turadi, ularni yodlash juda katta kuch va vaqtni talab qiladi. Materialni tez assimilyatsiya qilishga va vaqtni tejashga yordam beradigan yangi vositalardan foydalanish kerak. Bunday vosita infografika bo'lishi mumkin. Qisqa vaqt ichida ularni yaratish imkonini beruvchi ko'plab infografik xizmatlar mavjud. Grafik axborot tezroq esda qoladi va matnli ma'lumotlarga qaraganda inson xotirasida uzoqroq saqlanadi. Vizual ketma-ketlik deyarli ko'p harakat qilmasdan xotirada saqlanadi, kichik matn parchasini yodlash esa ancha vaqt talab qilishi mumkin.

Jon Medina, Miya qoidalari muallifi. Siz va sizning farzandlaringiz miya haqida nimalarni bilishlari kerak" deb yozadi miya faoliyatining o'ziga xos xususiyatlari va "agar ma'lumotlar og'zaki ravishda taqdim etilsa, 72 soatdan keyin o'tkazilgan testlar shuni ko'rsatadiki, odam uning taxminan 10 foizini eslaydi. Tasvirlarda esa bu ko'rsatkich 65 foizgacha ko'tariladi" [1, b. 241].

Uzluksiz axborot oqimi sharoitida talaba o'rganishi kerak bo'lgan juda ko'p ma'lumot mavjud. Talabalarga bilim berishning yangi samarali vositalariga ehtiyoj bor. Bu talablar ortiqcha ma'lumot va uni tushunish uchun vaqt

etishmasligi sharoitida "yordamchi" bo'lgan infografika tomonidan qondiriladi [2, 95-b.].

Bizning fikrimizcha, infografikaning eng to'liq ta'rifini Vladimir Vladimirovich Laptev o'zining "Tasviriy statistika" kitobida bergan: "Infografika - bu axborot, ulanishlar, raqamli ma'lumotlar va bilimlarning grafik tasviriga asoslangan aloqa dizayni sohasi." [3, 7-bet].

Infografika - bu diqqatni jalb qilish va ma'lumotlarni aniq va tushunarli tarzda yetkazish uchun mo'ljallangan murakkab ma'lumotlarning vizual soddalashtirilgan tasviri. Infografika odamning axborot materiallarini idrok etish usulini o'zgartiradi: agar matnda grafik mavjud bo'lsa, o'quvchi avval vizual elementni tekshiradi, so'ngra matni o'qiydi. Axborot grafikasi matnga kiritilgan asosiy fikrni tushunishga yordam beradi.

Infografika matnning rasm bilan birga kelishini o'z ichiga olmaydi. Bu maxsus tashkil etilgan ma'lumotlar to'plami.

Hozirgi kunda infografika ishlatilmaydigan bironta ham soha yo'q bo'lsa kerak. Jurnalistika, statistika, reklama, tibbiyot, ta'lim, siyosat, madaniyat, sport, geografiya - bu har kuni axborot grafikasi qo'llaniladigan inson faoliyati sohalarining to'liq ro'yxati emas" [4, b. 113].

Infografika ta'limda qo'llaniladi, ular sizga ikkinchi darajali hamma narsani tashlashga va mohiyatni etkazishga imkon beradi. Infografika katta hajmdagi ma'lumotlar asosida yaratilgan bo'lib, u asosiy narsani siqilgan shaklda etkazish qobiliyatidir, bu esa infografikani darslik matni bilan birga kelgan har qanday o'quv illyustratsiyasidan ajratish imkonini beradi.

Rus tilini qo'llab-quvvatlash ingliz tilini yetarlicha yaxshi bilmaydigan foydalanuvchilar uchun muhim mezondir. Biz ko'rib chiqqan xizmatlar orasida Creatly.com va Draw.io-ni eslatib o'tmoqchiman. Creatly.com qisman ruslashtirilgan va Draw.io - interfeysning aksariyati ruslashtirilgan. Russified interfeysi ingliz tilini bilmasdan xizmatning barcha imkoniyatlaridan erkin foydalanish imkonini beradi.

Eng muhim mezon, bizning fikrimizcha, xizmatning imkoniyatlari. Infografikaning maqsadi to'g'risida qaror qabul qilib, biz qulay va funksional xizmatni tanlaymiz. Diagrammalar bilan qulay ishlash uchun Infogr.am, Cadoo.com va Slemma.com xizmatlariga e'tibor berishni tavsiya etamiz.

Infogr.am har xil turdagi diagrammalar, grafiklar, ustunlar va boshqalarni yaratish uchun keng tanlovni taqdim etadi. Bu xususiyatlarning barchasi bepul. Infogr.am-ning muhim afzalligi - bu ishni avtomatik saqlash. Xizmatning o'z galereyasi mavjud, unda siz kerakli ma'lumotlarni qaytarishingiz va tahrirlashingiz mumkin.

Cadoo.com hamkorlikda grafik tahrirlash imkonini beradi. Har qanday foydalanuvchi diagrammaga havolaga ega bo'lsa, unga tuzatishlar kiritishi mumkin. Xizmat SWOT tahlili uchun diagrammalar, aql xaritasi shablonlari, oqim diagrammalari va boshqalarni taqdim etadi.

Slemma.com boshqa ma'lumotlarni vizualizatsiya qilish vositasidir. Ushbu xizmat nafaqat diagrammalar, balki interaktiv hisobotlarni ham yaratish imkonini beradi. Xizmatning shubhasiz afzalliklari: hamkorlik qilish va sharhlash qobiliyati, pivot jadvallari, moslashtirilgan yangilanish jadvali va hisobotlarni ishtirokchilarga avtomatik ravishda taqsimlash.

Creatly.com - ta'limda muvaffaqiyatli ishlatilishi mumkin bo'lgan xizmat. O'quv mavzulariga ega piktogrammalarning katta tanlovi klassik diagrammalar va geometrik shakllardan foydalangan holda yuqori sifatli infografikani tezda yaratishga imkon beradi.

Hohli.com intuitiv xizmatga ega, bu sizga chiziqli grafiklar, gistogrammalar, doiraviy diagrammalar, ochiq klaster diagrammalari va radar diagrammalarini yaratish imkonini beradi.

Lucidchart.com - bu diagrammalarni tez va oson chizish imkonini beruvchi vizualizatsiya bilan hamkorlik qilish vositasi. Ushbu resursdan foydalanish oson va yuzlab turli shakllar, sxemalar va tasvirlar bilan ishlash imkoniyatini beradi. Olingan tasvirni (vektorli) PDF, PNG va JPG formatlariga eksport qilishingiz mumkin. Ijtimoiy tarmoqlar orqali infografikani tarqatish mumkin.

Visual.ly - bu xizmat sizga infografikani o'zingiz yaratishga yordam beradi yoki ularni yaratish uchun ushbu xizmat mutaxassislariga murojaat qiling. Ijtimoiy tarmoqlardagi statistik ma'lumotlarni tahlil qilish va ularni infografika ko'rinishida ko'rsatish mumkin. Sayt bilan tanishishni sayt faoliyatiga oid savollar tushuntiriladigan "FAQ" bo'limidan boshlagan ma'qul. Xizmatning boshqa foydalanuvchilari tomonidan yaratilgan infografikani ko'rish mumkin. Visual.ly-ga ro'yxatdan o'tganingizdan so'ng, siz sharh qoldirishingiz va o'zingizning ishingizni yuklashingiz mumkin.

Imkoniyatlari haqida gapirmoqchi bo'lgan yana bir xizmat - Spritesapp.com. Boshlang'ich sahifada ushbu xizmatning ishlash printsiptini tushunishga imkon beruvchi video mavjud. Spritesapp.com ruslashtirilgan emas, lekin bu ishga xalaqit bermaydi, hamma narsani tushunish juda oddiy. Xizmatning asosiy funksiyalaridan butunlay bepul foydalanish mumkin. Ushbu muharrir minimalizm, zarur vositalarning kichik to'plami - grafiklar, diagrammalar, rasmlar, jadvallar, xaritalar bilan ajralib turadi.

So'z buluti infografikasi bugungi kunda juda mashhur. Ko'pgina xizmatlarda bu xususiyat mavjud. Tagul.com va tagxedo.com dan foydalanishni tavsiya etamiz. Ushbu xizmatlar bulut shakllari, ranglar palitrasi, o'lchamlari va boshqalarning keng tanlovini taklif qiladi.

Intuitiv interfeysni hisobga olgan holda, men rus tilini qo'llab-quvvatlaydigan xizmatlarni - Creatly.com va Draw.io-ni ta'kidlamoqchiman. Men Venngage.com va Easel.ly-ni ham eslatib o'tmoqchiman, chunki... Ingliz tilini bilmasa ham, ularni tushunish oson.

Biz taqdim etayotgan xizmatlar juda funktsional va ta'limda muvaffaqiyatli ishlatilishi mumkin. Ta'limdagi infografika vizual fikrlashni rivojlantirishga

yordam beradi, shuningdek, katta hajmdagi ma'lumotlarni tez va samarali eslab qoladi.

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MEDICAL GEOGRAPHIC FORECAST OF THE DEATH OF THE POPULATION OF SIRDARYA REGION

Annotation. In the article, the demographic indicators of the Syrdarya region, population mortality, regional differences in mortality are detailed. Researches of anthropologists who conducted scientific research related to the death of the population, together with the forecast of the death of the population until 2030, the thanatological situation of the region are grouped. Population mortality forecasting by extrapolation method is widely used, and it is studied that it consists of simple, relative and complex extrapolation methods.

Keywords: Population, demography, population mortality, thanatogeography, prognosis, per mille, demographic process.

Although the area of Syrdarya region is relatively small in our republic, its demographic process is unique. The population density is twice as high as that of our republic. Birth and death rates are one of the main indicators of demographic processes.

Death is the complete cessation of life activity of an organism, an irreversible process. The death of a person depends on the cessation of breathing and blood circulation. Death occurs naturally as a result of aging of the body or due to disease, suddenly and prematurely. Clinical and biological death are different. In clinical death, the life activity of the organism can be restored in some cases and it can be revived; it lasts an average of 2-6 minutes, after which biological death occurs.

Division of thanatological status of the population of Syrdarya region into groups (year 2021)

Group	Name of administrative territorial unit	Average index	Number of administrative units
Low up to 0,9	Sardoba District, Mirzaabad District.	0,84	2
Medium 0,9-1,0	Aqoltin district, Boyovut district, Sayhunabad district, Gulistan district, Khavos district.	0,936	5
High Greater than 1.0	Gulistan city, Shirin city, Yangiyer city, Syrdaryo district.	1,195	4
	Syrdarya region	1,0	11

The table was compiled by the author based on the data of the Statistical Office of the Syrdarya region

Thanatology studies the causes and mechanism of death. As of 2021, we divided the population of Syrdarya region into three groups according to the biological mortality rate (Table 1).

Population mortality forecasting by extrapolation is common and includes simple, relative, and complex extrapolation methods. It is the most convenient and easy to forecast the death of the population by the simple extrapolation method, which is also divided into linear, geometric and exponential methods. The results of the conducted studies of the death rate of the population in the republic are closer to exponential indicators [1].

In 1925, British demographer M. Greenwood developed a forecast of the birth process of the population of England for the first time using the method of extrapolation. This proved that comprehensive population forecasting is of great importance in many sectors of the national economy. In the same period, in 1921, the forecast of the population growth and composition in the territory of the Former Soviet Union was conducted under the leadership of Ye. Tarasov and S. G. Strumilin. The first demographic forecasts in our country were developed in 1962-1980 under the leadership of M. Q. Karakhanov. In the following years, R.N. Ubaidullaeva, O.B. Ata-Mirzaev, A.A. Qayumov, M.R. Borieva, S.S. Zokirov, Z.N. Tojjeva, Kh.Kh. Abduramanov and others dealt with these issues. is engaged in. At the same time, N.K. Komilova [2;3] (1999; 2012; 2019; 2022; 2023), N.J. Mukhammedova (2019; 2023) with situations related to the incidence of diseases of the population, death of the population through diseases, nosogeography and nosoecology scientists are also engaged.

The extrapolation method consists of simple, complex and relative extrapolation methods as a mathematical model calculated based on historical retrospective data of the population or demographic processes. In the

implementation of this method, only the data of the recently passed period of the researched region are used as a basis. In this research work, the linear method of simple extrapolation is used, and with this method, population forecasting begins with the determination of the average absolute change of the population of a certain region during the period taken as a basis. The following formula is used for this:

$$D_{\Delta} = \left(\frac{D_b - D_l}{n} \right)$$

Here D is the average absolute change in the population mortality rate in the base period, D_l is the population mortality rate at the end of that period, D_b is the population mortality rate at the beginning of the period, and n - and this period is the number of years between D_l and D_b.

For example, in the Syrdarya region, the population death rate changed from 4.7 [4;5;6] per thousand to 4.8 [7;8;9] per thousand in 2011-2021. During this past period, the average annual change of the population death rate was equal to $D_{\Delta} = ((4.8 - 4.7) / 10) = 0.01$. However, one of the main problems encountered when forecasting demographic processes is that its indicator is constantly changing. This, in turn, can cause large errors in population forecasting. Therefore, it is advisable to use short and the latest 5-10 years' data as a basis for forecasting demographic processes, not the long past period.

After determining the average absolute growth rate of the population, the following formula is used to forecast it:

$$D_t = D_l + (n) \times (\Delta);$$

Here, D_t is the projected target year, D_l is the population death rate based on the forecast, i.e. 2021, n - the number of years between the forecasted D_t and D_l, and Δ - based on the forecast (2011-2021.) the average annual absolute rate of change of the defined population mortality.

Therefore, the death of the population in the Syrdarya region is predicted for 2025, 2030. Assume that the average annual absolute change in population mortality is 0.01.

$$D_{2025} = 4,8 + (4) \times (0,01) = 4,84$$

$$D_{2030} = 4,8 + (9) \times (0,01) = 4,89$$

Tablet 2

Forecast of death of residents of Syrdarya region

Name of administrative units	2011	2021	2025	2030
Syrdarya District	4,7 ‰	4,8 ‰	4,84 ‰	4,89 ‰
Guliston Dity	5,4 ‰	6,2 ‰	6,52 ‰	6,92 ‰
Shirin City	4,9 ‰	6,0 ‰	6,44 ‰	6,99 ‰
Yangiyer City	6,1 ‰	5,6 ‰	5,4 ‰	5,15 ‰
Oqoltin District	3,3 ‰	4,4 ‰	4,84 ‰	5,39 ‰
Boyovut District	4,8 ‰	4,4 ‰	4,24 ‰	4,04 ‰
Guliston District	4,5 ‰	4,8 ‰	4,92 ‰	5,07 ‰
Saykunobod District	4,2 ‰	4,6 ‰	4,76 ‰	4,96 ‰

Mirzaobod District	4,4 ‰	4,1 ‰	3,98 ‰	3,83 ‰
Sardoba District	4,0 ‰	4,0 ‰	4,0 ‰	4,0 ‰
Sirdaryo District	5,6 ‰	5,2 ‰	5,04 ‰	4,84 ‰
Xovos District	4,3 ‰	4,4 ‰	4,44 ‰	4,49 ‰

The table was calculated by the author based on the data of the Statistical Office of the Syrdarya region

As can be seen from the results of the forecast, it can be said as a conclusion that by 2030, we can observe a rise in the cities of Gulistan (6.92‰) and Shirin (6.99‰) of the region.

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TA'LIM TIZIMIGA YANGICHA YONDASHUV

Anotatsiya. Ta'lim tizimiga yangicha yondashuv va ta'limga etibor berish, oliy ta'lim tizimini isloh qilish, ustuvor yo'nalishlarini aks qilish, ta'lim sifatini oshirish, mutaxassisleri tayyorlashda e'tibor berish va yoshlarni qo'llab quvatlash.

Kalit so'zlar: Ta'lim, ustuvor tizim, tarbiya, qonun, farmon, milliy dastur, istiqbollari, mutaxassislik, mustaqillik, zamonaviy, kadrlar, individual ta'lim.

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A NEW APPROACH TO THE EDUCATIONAL SYSTEM

Abstract. A new approach to the education system and attention to education, reforming the higher education system, reflecting its priorities, improving the quality of education, paying attention to the training of specialists and supporting young people.

Key words: Education, priority system, education, law, decree, national program, prospects, specialization, independence, modern, personnel, individual education.

Taraqqiyotning tamal toshi ham,
mamlakatni qudratli, millatni buyuk qiladigan
kuch ham- ilm-fan, ta'lim va tarbiyadir
Shavkat Mirziyoyev

Kirish: Ta'lim –bilim berish, malaka va ko'nikmalar hosil qilish jarayoni kirishini hayotga va mehnatga tayyorlanishning asosiy vositasi. Ta'lim jarayonida ma'lumot olinadi va tarbiya amalga oshiriladi. Ta'lim tor ma'noda o'qitish tushunchasini anglatadi. Lekin u faqat turli tipdagi o'quv yurtlarida o'qitish jarayonini emas, oila, ishlab chiqarish va boshqa sohalarda ma'lumot berish jarayonini ham bildiradi. Shu bilan bir qatorda talim to'g'risida bir qator qonunlar ham bor, ya'ni jinsi, irqi, millati, tili, dini ijtimoiy kelib chiqishi, e'tiqodi, shaxsiy va ijtimoiy mavqeidan qat'iy nazar har kimga ta'lim olish uchun teng huquqlar kafotlanadi.

Tarixiy taraqqiyotning so'nggi o'n yilligi mobaynida O'zbekistonda sodir bo'layotgan o'zgarishlar ta'lim tizimiga ham ijobiy ta'sir ko'rsatmoqda. Ma'lumki, ta'lim tizimining istiqbollari, o'sib kelayotgan avlodning tarbiyalash

va o'qitish maqsadlarining yo'nalishlari "Ta'lim to'g'risida"gi qonun va "Kadrlar tayyorlash milliy dasturi"da aniq belgilab berilgan. Dasturda ta'lim-tarbiya maqsadlari bilan bir qatorda, jamiyatning axborot va yangi ta'lim texnologiyalarini rivojlanishini sharoitlarda kasbiy–mutaxassislik sohasida o'sishini hamda kasbiy bilimdon, yuksak malakali mutaxassislarni tayyorlashni ta'minlash zarurligi ta'kidlab o'tilgan. Mustaqillik yillarida ta'lim va tarbiya tizimiga davlat siyosatining asosiy ustuvor yo'nalishi darajasiga ko'tarilgani natijasida mamlakatimizda noyob uzluksiz ta'lim tizimi barpo etilmoqda. Biz shunday sharoitda zamonaviy teran fikrlaydigan intellektual va madaniy-estetik qadriyatlarga o'zining mukammal bilimi va tajribasi nuqtai nazarida yondasha oladigan barkamol avlodni tarbiyalashni bosh maqsadimiz deb bilar ekanmiz, buning mas'uliyatini astoydil his qilish bizning oldimizda turgan murakkab hamda o'z o'rnida sharaflil vazifa ekanligini unutmasligimiz talab etiladi. Ta'lim sifatini o'zgartirish sohasida dastur ta'lim muassasalarining turli-tuman shakllari va turli ta'limning barcha bosqichlarda to'laqonli sifatli ta'lim, ta'lim jarayonini individuallashtirish uchun sharoitlarni kafotlavchi demokratik ta'lim tizimi yaratishni ko'zda tutadi. Aynan mana shu yerda inson, fuqaro, mutaxassisning shaxsi shakllanishi va rivojlanishi sodir bo'ladi. Bu haqida dastur ham rejalashtirildi. Dasturda ta'lim-tarbiya maqsadlari bilan bir qatorda, jamiyatning axborot va yangi ta'lim texnologiyalarining rivojlanishi sharoitlarda kasbiy mutaxassislik sohasida o'sishi hamda kasbiy bilimdon, yuksak malakali mutaxassislarni tayyorlashni ta'minlash zarurligi ta'kidlab o'tilgan. Zamonaviy ta'lim siyosatida shaxsning har tomonlama barkamol rivojllantirishi, uning ma'naviy takomillashuvi, xususan yoshlarning qiziqishlariga e'tibor qaratish va ta'lim sifatini oshirish uchun jumladan, shaxsni shakllantirish va uning manfaatlarini ko'zlovchi zarur sharoitlar yaratilmoqda. Shu bilan bir qatorda ta'lim tizimiga yangicha o'zgartirishlar kiritildi. Shu sababli Vazirlar mahkamasining "Oliy ta'lim muassasalari pedagog kadrlarni qayta tayyorlash va ularning malakasini oshirish tizimini yanada takomillashtirish chora-tadbirlari to'g'risida" 2012 yil 26 sentabrdagi 278-son qaroriga o'zgartirishlar va qo'shimcha kiritildi (O'zbekiston Respublikasi Prezidentining "Alisher Navoiy nomidagi Toshkent davlat o'zbek tili va adabiyoti universitetini tashkil etish to'g'risida" 2016 yil 13 maydagi PF-4797-son farmoni).

Xulosa: xulosa qilib aytganda, yoshlar uchun ajratilayotgan shart-sharoitlardan to'g'ri foydalanishlari kerak. Yurimizda ko'plab xususiy universitetlar, maktablar, maktabgacha ta'lim muassasalari ishga tushirilmoqda. Ta'lim sifati so'nggi 5 yil mobaynida ancha oshdi. 2021 yilda "El-yurt umidi" jamg'armasi orqali yetakchi xorijiy OTMLar ga magistratura va doktoranturaga o'qishga yuboriladigan yoshlar soni 5 barobarga oshirildi. 2021 yilda ilm-fan sohasida oliygohlar va ilmiy tashkilotlardagi doktorantlar soni 2017 yilga nisbatan 3 barobarga oshirildi (4,5 ming nafarga yetadi) ilmiy unvonlar va darajalar berish vakolati oliygohlarning ilmiy kengashiga o'tkaziladi. Bilim saviyasi anchaga ortdi va mamlakatimizda kadrlarni eng yaxshi tayyorlov bilan

boshqa mamlakatlarda o'qib kelishlari shart emas, balki eng yaxshi kadrlar o'zimizda ta'lim olishyapti. Bu borada prezidentimizning shunday gaplarini keltirsak mubolag'a bo'lmaydi: "Farzandlarimiz maktabdan qanchalik bilimli bo'lib chiqsa yuqori texnologiyalarga asoslangan iqtisodiyot tarmoqlari shuncha tez rivojlanadi ko'plab ijtimoiy muammolarni yechish imkoni tug'iladi. Shunday ekan yangi O'zbekiston ostonasi maktabdan boshlanadi, o'ylaymanki butun halqimiz bu fikrini qo'llab-quvvatlaydi. Xalqimizning ertasining qanday bo'lishi, farzandlarimizning bugun qanday ta'lim-tarbiya olishlariga bog'liq".

Foydalanilgan adabiyotlar ro'yxati:

1. O'zbekiston Respublikasi Konsitutsiyasi. VII bob Shaxsiy huquq va erkinliklar. 31-modda.
2. Yangi O'zbekiston. Jurnal Ta'lim tizimiga yangicha yondashuv 3-bet
3. Paxtakor29.uz "Paxtakor" gazetasi 12-son 2-bet
4. LEX.UZ O'.R. Pirizidentining farmoni Mutaxassislarni xotirjam tayyorlash va vatandoshlar bilan muloqot qilish bo'yicha "El-yurt umidi" jamg'armasi to'g'risidagi nizom 1-bob, umumiy qoidalar.
5. LEX.UZ 244- son O'zbekiston Respublikasi qonun hujjatlari to'plami 2016 – yil, 31-son, 374-modda.

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ADOBE PHOTOSHOP CC 2018 DASTURIY TA'MINOTIDA "BRASH" QURILMALARINI QO'LLASH TEHNOLOGIYALARI

Annotatsiya. Ushbu maqolada Adobe Photoshop CC 2018 daasturiy ta'minotida "Brash"lardan foydalanish texnologiyalari muhokama qilinadi. "Brash"larning har xil turlari, ularning sozlamalari, aralashtirish rejimlari va bo'yash texnikasi borasida ko'rsatma va takliflar beriladi.

Kalit so'zlar: Adobe Photoshop CC 2018, "Brash"lar, "Brash"lar turlari, "Brash" sozlamalari, aralashtirish rejimlari, chizish texnikasi, planshet, trafaretlar.

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TECHNOLOGIES FOR USING "BRUSH" DEVICES IN ADOBE PHOTOSHOP CC 2018 SOFTWARE

Abstract. This article discusses the technologies of using "Brushes" in Adobe Photoshop CC 2018 software. Instructions and suggestions are given on different types of brushes, their settings, blending modes and painting techniques.

Keywords: Adobe Photoshop CC 2018, Brushes, Brush types, Brush settings, blending modes, drawing techniques, tablet, stencils.

CS va CS6 versiyalari uchun muqobil Windows API-dan foydalangan holda Linux ostida ishlash mumkin - Photoshop asosan raqamli fotosuratlarni tahrirlash va bitmap grafiklarini yaratish uchun mo'ljallangan.² Texnologiya rivojlanib kelishi davomida Photoshop dasturiy ta'minotining CC 2018 versiyasida ham iliq qarshi olinadi va hozirga kelib dastur eng yuqori darajali tasvirlarni qayta ishlovchi dastur sifatida tan olinadi.

Turli xil usullarda tasvirlarda "Brash"dan foydalanish uchun turli xildagi "Brash"larni yaratish mumkin. Oldindan o'rnatilgan "Brash", "Brash" uchi shaklini tanlash yoki tasvirning bir qismiga asoslangan holda noyob "Brash"lar yaratish ham mumkin.

Photoshop darslarining to'liq to'plami Photoshop 7 yordamida chop etish, Internet va grafik dizayn olamiga sho'ng'ish uchun kerak bo'lgan hamma narsani taqdim etadi. Photoshop 7 ning barcha yangi funksiyalarini (jumladan, yangi

² Храбуст, Софія. (2018). Adobe Photoshop.

Healing Brush, ranglarni to'g'rilash buyruqlari va fayllarni boshqarish) qamrab olish uchun to'liq qayta ko'rib chiqilgan.³

“Brash” qanday qo'llanilishini aniqlash uchun “Brash” sozlamalari panelidagi parametrlarni o'zgartirib, qo'llab ko'rish kifoya.

“Brash”larning turlari:

1. Rastr “Brash”lari:

- Qattiq qirrali “Brash”lar;
- Yumshoq qirrali “Brash”lar;
- Tekstura “Brash”lari;
- Bo'yoq “Brash”lari.

2. Vektor “Brash”lari:

- Ruxsat etilgan o'lchamdagi “Brash”lar;
- Dinamik o'lchamdagi “Brash”lar;
- Xattotlik “Brash”lari.

“Brash”larni aralashtirish (moslashtirish) rejimlari:

- Normal: standart aralashtirish rejimi.
- Multiplication: “Brash” ostidagi ranglarni qoraytiradi.
- Brightening: “Brash” ostidagi ranglarni yoritadi.
- Screen: quyuq ranglarni yoritadi va ochiq ranglarni qorayadi.
- Overlay: “Brash” ostidagi ranglarni qoplama ranglari bilan aralashtirib yuboradi.

“Brash”larning chizish texnikasi:

1. Chizmalar bilan chizish:

- Silliq chiziqlar yaratish uchun yumshoq qirrali “Brash”;
- Aniq chiziqlar yaratish uchun qattiq “Brash”;
- Turli effektlarga erishish uchun “Brash” hajmi va qattiqligini o'zgartirish mumkin.

2. Planshet bilan chizish:

- “Brash”ni aniqroq boshqarish uchun stilusdan foydalanish;
- “Brash” sozlamalarini o'zgartirish uchun qalam bosimini o'zgartirish.

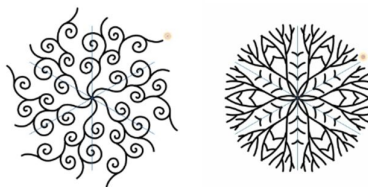
3. “Stencillar»dan foydalanish:

- Stencillarni foydalanuvchi internetdan yuklab olishi yoki mustaqil yaratishi;
- Aniq shakllar va naqshlarni yaratish uchun trafaretlardan foydalanish.

Dinamik uchlari bo'lgan “Brash”lar naqshlarni bo'yash yoki oldindan ko'rishda simmetriyani qo'llab-quvvatlamaydi. Ushbu ilovani ishlab chiqish ADDIE modeli yordamida ishlab chiqilgan.⁴ Simmetriya va naqshlar bilan bo'yash uchun oddiy “Brash”lardan foydalanish kerak.

³ Team, Adobe. Adobe PhotoShop 7.0 Classroom in a Book.

⁴ Intang, Ezra & Ahmad Zaki, Nadia Akma & Yusuf, Achmad. (2023). Memperkenalkan Tool Perisian Adobe Photoshops dalam Kalangan Pelajar Multimedia menggunakan Augmented Realiti. Journal of Engineering, Technology, and Applied Science (JETAS). 5. 79-88. 10.36079/lamintang.jetas-0502.549.

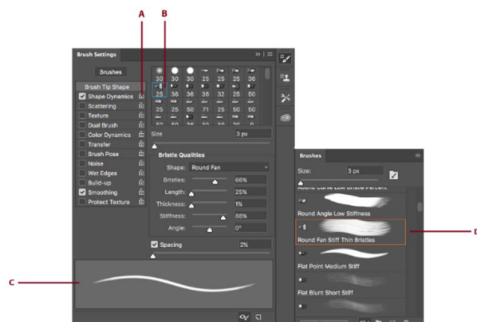


1-rasm. Radial simmetriya va Simmetriya "Mandala".



2-rasm. Takrorlanuvchi naqshni oldindan ko'rish.



“Brash” sozlamalari paneli mavjud. Bu “Brash”larni o‘zgartirish va yangi maxsus “Brash”larni hosil qilish imkonini beradi. “Brash” sozlamalar paneli» (3-rasm)da “Brash”dan qanday foydalanishni ko‘rsatadi va “Brash” sozlamalari va parametrlarini o‘zgartirishni o‘z ichiga oladi. Panelning pastki qismidagi “Brash” ishlatilishining oldindan ko‘rish qismining oynasi joylashgan va joriy “Brash” sozlamalari qanday surtilishini ko‘rsatadi.



3-rasm. “Brash” sozlamalar paneli.

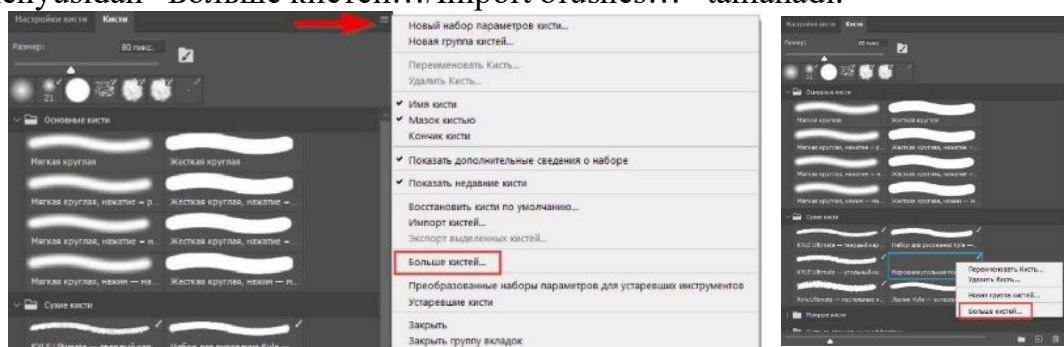
- A-Qulflangan/qulfsiz;
- B-»Brash» uchini tanlash;
- C-»Brash» chizig‘ini oldindan ko‘rish;
- D-»Brash» lar paneli

“Brash”lar paneli va “Brash” opsiyalari oynasini ochish uchun **вид > кисти** bo‘limi tanlanadi.

“Brash” orqali chizish, o‘chirish, soya hosil qilish yoki fokuslash uchun vositalarini ham tanlash mumkin. Keyin variantlar panelining chap tomonida joylashgan tugma  ni bosish orqali (rasm-3)da ko‘rsatilgan panelni ochish mumkin va uning o‘ng qismidagi bir qator variantlarni tanlash mumkin bo‘ladi. O‘rnatish uchun mavjud variantlar panelning chap tomonida joylashgan  belgi tanlanadi va ochilgan oynaning o‘ng tomon tepasidagi menyular bo‘limiga

kirib, “Import brushes...» buyrug‘i tanlanadi va internetdan tortib olingan “Brash”ning qurilmagan yuklangan manzili ko‘rsatiladi va tanlanadi.

“Brash”lar va “Brash” to‘plamlarini import qilish uchun import qilish mumkin bo‘lgan bepul va sotib olish mumkin bo‘lgan ko‘plab “Brash”lardan foydalansa bo‘ladi. Endi esa yuklash jarayonini na‘muna qilib ko‘rib o‘tamiz. “Kyle»dan “Brash” paketlarini na‘muna qilinadi. Quyidagi amallarni bajarish orqali ko‘proq “Brash”larni qo‘shish mumkin bo‘ladi. “Brash”lar panelining chap tomon yuqoridagi menyusidan “Brash sozlamalari» tanlanadi. “Brash”lar paneli ro‘yxatidagi “Brash”ni sichqonchani o‘ng tugmasi bilan bosib, kontekst menyusidan “Больше кистей.../Import brushes...” tanlanadi.



4-rasm. Brash import qilish.

- “Brash” to‘plamini yuklanadi. Na‘muna: Kyle’s Megapack.
- Photoshop ustida kichik windows file ochiladi. Internetdan yuklab olingan.ABR faylini ustiga ikki marta bosiladi.
- Qo‘shilgan har qanday “Brash”lar Brushes panelida paydo bo‘ladi. Shundan so‘ng yuklangan “Brash”lar Brushes panelining eng pastiga guruh sifatida qo‘shiladi.

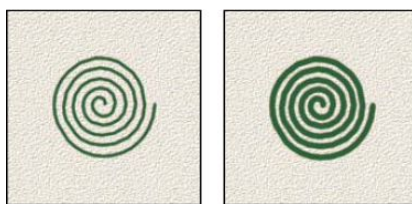
Tasvirdan “Brash” uchini yaratish. Har qanday tanlash vositasidan foydalangan holda maxsus “Brash”ni foydalanmoqchi bo‘lgan “Brash” o‘lchami belgilanadi. “Brash” shakli maksimal 2500x2500 pikselgacha bo‘lishi mumkin.

“Brash”dan foydalanish jarayonida jarayonida “Brash”larning qattiqligini “modelga ko‘ra» sozlash mumkin emas. Qattiq qirralari bo‘lgan “Brash” yaratish uchun Feather parametrini 0 ga yumshoq qirralari bo‘lgan “Brash” yaratish uchun Feather parametrini yanada oshirish kerak bo‘ladi.

Yangi “Brash”ni doimiy saqlash yoki uni boshqalarga ulashish uchun “Brash”ni “Brash”lar to‘plamining bir qismi sifatida saqlash kerak bo‘ladi. “Brush Presets” paneli menyusidan “Save Brushes” tanlanadi. Yangi sozlashni saqlang yoki mavjud bo‘lgan sozlamalarni almashtirish mumkin.

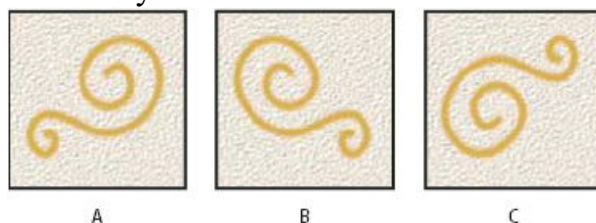
Standart “Brash”lar uchun “Brash” sozlamalari panelida quyidagi opsiyalarni o‘rnatish mumkin.

Hajmi, “Brash” o‘lchamini boshqaradi. Qiymatni piksellarda o‘rnatish yoki slayderni tortish.



5-rasm. "Brash" hajmining o'zgarishi

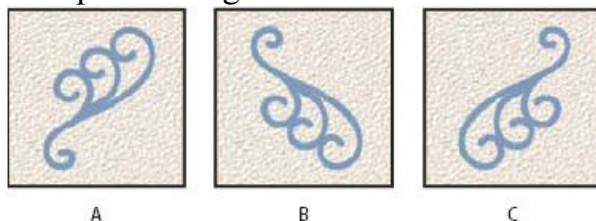
Turli diametrli qiymatlarga ega "Brash" chizmalarini hosil qilish uchun namuna hajmidan foydalanish mumkin. Bu "Brash"ni asl diametriga qaytaradi. Ushbu parametr faqat "Brash" uchi tasvirdagi piksellarni tanlash (nusxalash) orqali yaratilgan bo'lsa ishlaydi holos.



6-rasm. X o'qi bo'ylab "Brash" uchining yo'nalishini o'zgartiradi

"Brash"ning uchini X o'qi bo'ylab aks ettirish:

- A. "Brash" uchi standart holatda;
- B. Flip X tanlangan;
- C. Flip X va Flip Y tanlangan.

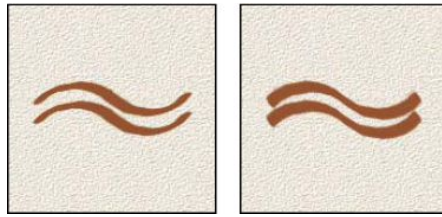


7-rasm. Y o'qi bo'ylab "Brash" uchi yo'nalishini o'zgartirish

Y o'qi bo'ylab "Brash" uchini aks ettirish:

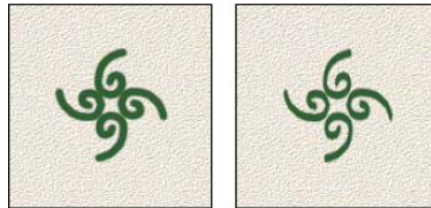
- A. "Brash" uchi standart holatda;
- B. Flip Y tanlangan;
- C. Flip Y va Flip X tanlangan.

Oval yoki naqsh "Brash"ning uzun o'qi gorizontalgga nisbatan burish burchagini belgilaydi. Qiymat darajalarda kiritiladi yoki gorizont o'qni ko'rish oynasidan tortish yoki siqish orqali hosil qilinadi.



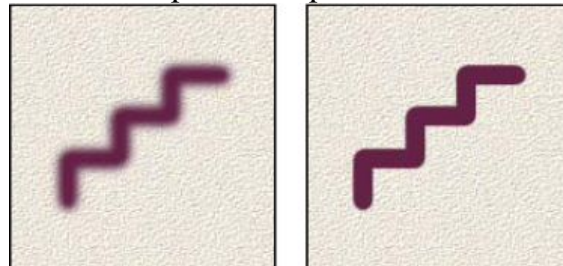
8-rasm. Oval yoki naqshnkor

Burchakli “Brash”lar keskin aniqlangan zarba hosil qiladi. Bu tur, “Brash”ning qisqa va uzun o‘qlari orasidagi munosabatni belgilaydi. Foiz qiymatini kiritish yoki nuqtalarni ko‘rish maydoniga tortish orqali hosil qilinadi.⁵ 100% qiymati yumaloq “Brash”ni, 0% qiymati keskin chiziqli “Brash”ni hosil qiladi va orasidagi qiymatlar oval “Brash”larni keltirib chiqaradi.



9-rasm. Keskin

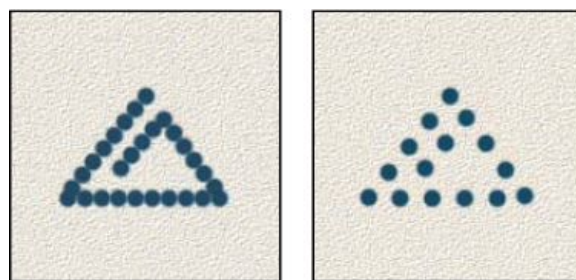
“Brash” belgisi shaklini siqish uchun shaklni tuzatishdan foydalanish. Qattqlik, “Brash”ning qattiq markazining o‘lchamini boshqaradi. Kerakli raqamni kiritish yoki “Brash” diametrining foizini ifodalovchi qiymatni o‘rnatish uchun slayderdan foydalanish orqali hosil qilinadi.



10-rasm. Turli xil qattqlik qiymatlari bilan “Brash”

Intervallar, bir zarbada “Brash” belgilari orasidagi masofani boshqaradi. Bo‘shliqni o‘zgartirish uchun raqamni kiritish yoki “Brash” diametrining foizi bo‘lgan qiymatni o‘rnatish uchun slayderdan foydalanish mumkin. Agar ushbu parametr tanlanmagan bo‘lsa, intervallar kursor tezligi bilan belgilanadi.

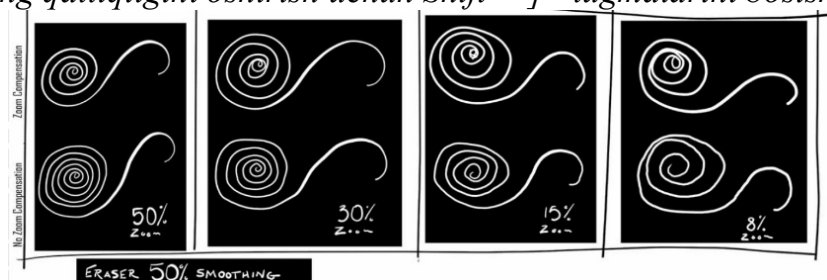
⁵ Wilson, Kevin. (2022). Getting Started with Photoshop. 10.1007/978-1-4842-8963-1_1.



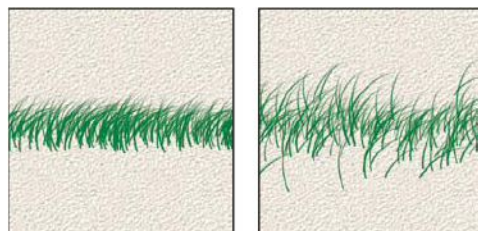
11-rasm. Bo'shliq

Bo'shliqning ortishi natijasida “Brash” zarbasida bo'shliqlar paydo bo'ladi.⁶ “Brash”ning tarqalishi zarbada “Brash” belgilarining sonini va joylashishini hosil qiladi.

Eslatma! Oldindan o'rnatilgan “Brash”dan foydalanganda “Brash”ning kengligini kamaytirish uchun “[“ yoki ”]” tugmasini, kengligini oshirish foydalanish mumkin. Hard Round, Soft Round va Calligraphy “Brash”laridan foydalanganda “Brash”ning qattiqligini kamaytirish uchun Shift+ “[“ tugmasini, “Brash”ning qattiqligini oshirish uchun Shift+ “[“ tugmalarini bosish mumkin.



12-rasm. “Brash”ning silliqligi



13-rasm. “Dispersiya” va “Nazorat”

Dispersiya, “Brash” chiziqlarini sochmasdan (chapga) va sochilmasdan (o'ngga) joylashtiradi. “Nazorat”, “Brash” belgilarining chiziq ichida qanday taqsimlanishini belgilaydi. Har ikkalasi tanlansa, “Brash” belgilari radial yo'nalishda taqsimlanadi. Ikkalasi ham belgilanmagan bo'lsa, “Brash” belgilari kontur konturiga perpendikulyar ravishda taqsimlanadi.

Adobe Photoshop CC 2018 daasturiy ta'minotida “Brash”lardan foydalanish texnologiyalarini, “Brash”larning har xil turlari, ularning sozlamalari,

⁶ Baron, Cynthia. Adobe Photoshop Forensics.

аралаштириш rejimlari va bo'yash texnikasi⁷ borasida to'liq ko'rsatma va maslahatlar na'munalar orqali keltirib o'tildi.

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METHODOLOGY OF TRAINING LESSONS USING THE MOUNTAIN METHOD OF MNEMONICS IN PEDAGOGICAL INSTITUTIONS OF HIGHER EDUCATION

Annotation: the article aims to visualize the system of memorization and memorization of foreign words of the subject "computer supply" in the memory of students, including the training carried out in higher education mausses. Some mnemonists achieve the ability to quickly remember a large volume, even meaningless material, thanks to the fact that they are used to applying various artificial methods in mastering. But the use of artificial methods to improve the depth of memory efficiency is considered to be secondary and auxiliary. The article uses mnemonics "TOG T-arjima (word translation), O-braz (image selection to words) G-ormonization (visualization)" method to visualize foreign words of the science of "computer supply", which expands the scope of learners' mastery of subjects from the sciences and simplifies understanding unfamiliar words. As a result, it provides a convenient opportunity for both educators to correctly divide the time frame for classes and to explain even large amounts of information in a short time and to keep students in mind.

Keywords: computer supply, tog, mnemonics, information, recall, education, word, image, memory, translation.

INTRODUCTION. Today, great innovations are happening in the education system. Great opportunities are being created for students, and the volume of information that students need to master in their fields and directions is increasing day by day.

This requires a lot of effort from students to remember the information and apply it in practice and life cycle processes.

The use of mnemonics is one of the effective ways to store and remember information in the process of applying and using it.

LITERATURE ANALYSIS AND METHODS. A lot of literature and articles have been written on the use of the "Mountain" method of mnemonics. We present some of them as an analysis. For example: Rahmonov Shahrukh-Mirzo's book "Perfect memory" analyzes the methods of memorizing and memorizing foreign words for science.

Shahrukh Mirzo Rahmonov and Iskandar Sattibayev's manual "Word Memorization Secrets" covers the methods of quick memorization of English

words, mnemonics and the fundamental laws of mnemonics, memorizing and remembering words using the Tog method.

In the article, the method of using the "Mountain" method of mnemonics in passing the subject of computer support in higher education institutions is given. Today, students have to memorize a large amount of information in various subjects.

How to help students better master new knowledge, and most importantly, to not forget the information they learned immediately after passing the tests in subjects, it is necessary to use the mountain method of mnemonics. [6].

RESULT AND DISCUSSION. We use the "mountain" method of mnemonics to memorize words. Here the question arises, what is the TOG method? This is the TOG method

T- Translation (translation of words)

O- Image (choosing an image for words)

G- Harmonization (imagination)

When using the "Mountain" method, we need to find the translation of the words, add images to them, and visualize those words with our imagination. When choosing an image, if you choose a very scary or very funny image, it will be easy for people to remember it. It will be necessary to repeat every week.

For example:

1. If we take the word "dush" from Russian, the translation is "heart" and now we will choose an image for this word. -Repeat 6 times face to face, don't limit your imagination, Einstein said that imagination is stronger than knowledge.

2. Выжить – to survive, let's imagine which word is similar to the word business card, imagine you are in a world war, you are shot in the leg and there is a place far away to get a business card, you have to go here no matter what imagine looking at that place vyjit- vyjit you have to survive.

3. Тяжелый – the translation of heavy, let's introduce the image of Тяжелый- camel, imagine a camel standing on one side of the scales, the scales broke due to the weight of the camel.

In the next process, let's take a look at the foreign words that the 1st-year students of mathematics and informatics majors of Pedagogical Higher Education Institutions are likely to learn from the training sessions of Computer Science.

Topic 1: maintenance of a personal computer and its types, programs and hardware, software.

Hardware, software, system, application, program, package, office

1- subject: computer generations and their classification, computer architecture and principles of operation.

Electronic, numerical, integrator, and, calculator, mother, board, central, processor, unit, random, access, memory, hard, disk, drive, video, graphic, adapter, mother, board, basic, input, output, system, complementary, metal, oxide, microsoft, office, word, super, computer, super, personal, parallel, program, driver, processor, apple, gateway

1. Result: In the subject "Computer supply" of higher educational institutions, we will consider the visualization of some foreign words using the "Mountain" method.

For example:

2. Desktop-ish stoli. Obraz is a "window" and you have a desk in front of the window, and it is on that desk that you do your tasks every day when you go to work, and it is very convenient for you that this desk is in front of the window.

3. Hard- difficult The image is "Letter", imagine that you are on a long journey, it was very difficult for you to send a letter to your family.

4. Memory- memory The image is the "architect", imagine that the architect told you all the drawings and views in his memory to build your house, and you chose the most convenient and popular option.

Town- city. Image "roof" Imagine that you are dancing on the roofs of city houses, and the people of the city are looking at you in amazement.

Compact- compact. Image "Team" Imagine that you are the most compact player in the football team, and because of this, in many situations, the players will throw at you. This luxury will often betray you.

5. Vinchester-vinchestr. Obraz "ventilyator"

SMART- smart Image "Watch" Imagine you lost your smart watch on the way back from an existing study or the bad guys stole it and with this smart watch they can find you. CASE- case Image "Bald" Imagine you went to the hairdresser and got your hair shaved off and you have a big bald spot on your head.

CONCLUSION: In conclusion, we would like to say that when using the mountain method of mnemonics, follow the following. We will prepare 3 boxes:

the words you want to memorize in the first box;

- words memorized in the second box;

- put problematic words in the third box, words that are difficult to memorize, that is, words that are difficult to imagine, and we will take it and repeat it every week.

Repetition of these methods is very useful, a person named Damenik Obrien is a person who memorized 3,000 words in two days using this method and set a record 8 times in the world championship.

If you want to learn a language and go to training courses, you will memorize 3,000 words in a year and a half.

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AKSLANTIRISHLAR MAVZUSINI O‘QITISH METODIKASI

Abstract. To learn how to teach this method, you need additional information and materials used in the lesson, such as examples or handouts, indicators, exercise or test answers. As you teach, they will learn how to present information to students and explain theoretical material with practical examples. In addition, you should learn to prepare articles and methodical materials used in the lesson and use them in the lesson. This will help you plan your lesson and explain your knowledge to the students.

Key words: reflection, image, proimage, composition, concrete reflection, surjective, injective, bijective reflection, ordered relationship, graph.

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METHODOLOGY OF TEACHING THE SUBJECT OF REFLECTIONS

Annotatsiya. Bu metodikani o‘qitishni o‘rganish uchun sizning qo‘shimcha malumotlaringizni va darsda ishlatiladigan materiallarni, masalan, misollar yoki qo‘llanmalar, ko‘rsatkichlar, mashq yoki sinov javoblari kabi narsalarni kerak. Siz darsni o‘tkazish jarayonida o‘quvchilarga ma‘lumotlarni taqdim etishda va nazariy materialni amaliy misollar yordamida tushuntirishda qanday qilib ishlatishingizni o‘rganishadi. Bundan tashqari, maqola va darsda ishlatiladigan metodik materiallarni tayyorlash va ularni darsda qo‘llashni o‘rganishingiz kerak. Bu esa sizga dars tuzishda va o‘quvchilarga bilim beringizni tushuntirishda yordam beradi.

Tayanch iboralar: akslantirish, obraz, proobraz, kompozitsiya, ayniy akslantirish, sur‘yektiv, in‘yektiv, biyektiv akslantirish, tartiblangan munosabat, graf.

1-ta’rif. $f - A$ to‘plamda berilgan binar munosabat bo‘lsin. Agar $\forall x, y, z \in A$ lar uchun $(x, y) \in f$ va $(x, z) \in f$ bo‘lishidan $y = z$ kelib chiqsa, u holda f binar munosabat **funksiya (akslantirish)** deyiladi.

Boshqacha qilib aytsak, f binar munosabatning aniqlanish sohasiga tegishli bo‘lgan har bir x element uchun, yagona y element topilib, $(x, y) \in f$

bo'lsa, u holda f munosabat funksiya deyiladi. Agar f binar munosabat funksiya bo'lib, $(x, y) \in f$ bo'lsa, u holda $y = f(x)$ deb yozish qabul qilingan. Ba'zan $x \rightarrow f(x)$ yoki $f: x \rightarrow y$ deb ham yoziladi x elementga f funksiya y elementni mos qo'yadi deb va y element x ning **obrazi (tasviri)**, x esa y ning **proobrazi (asli)** deyiladi.

$Dom f = \{x / \exists y(x, y) \in f\}$ to'plam funksiyaning aniqlanish sohasi, $Im f = \{y / \exists x(x, y) \in f\}$ to'plam funksiyaning o'zgarish sohasi deyiladi. Bizga ikkita f va g funksiyalar berilgan bo'lsa, ularning tengligini f va g - juftliklar to'plamining tengligi sifatida tushuniladi.

Predikatlar algebrasi tiliga o'tsak, $(f = g) \Leftrightarrow ((\forall(x, y) \in f) \leftrightarrow (\forall(x, y) \in g))$ formula tautologiyadir.

Har qanday funksiya $\forall x \in Dom f$ elementga yagona $y \in Im f$ elementni mos qo'yganligi sababli, f ni akslantirish deb atash maqsadga muvofiq. Agar $Dom f \subset A$, $Im f \subset B$ bo'lsa, u holda f A to'plamdan B to'plamga akslantirish deyiladi.

Agar $A = Dom f$ $B = Im f$ bo'lsa, u holda f funksiyaning A to'plamni B to'plamga akslantirish deb ataymiz. A to'plamni B to'plamga akslantiradigan barcha funksiyalar to'plamini B^A orqali belgilash qabul qilingan. Faraz qilaylik f A to'plamdan B to'plamga akslantirish bo'lsin. U holda $\forall C \subset B$ uchun $f(C) = \{y / \exists x(x \in C \wedge (x, y) \in f)\}$ to'plam M to'plamning obrazi deyiladi. $f^{-1}(M) = \{x / f(x) \in M\}$ to'plam M to'plamning proobrazi deyiladi.

Bundan keyin agar f A to'plamdan B to'plamga akslantirish bo'lsa, $f: A \rightarrow B$ deb belgilaymiz. Agar A to'plam tartiblangan juftliklar to'plamidan iborat bo'lsa, u holda $f: A \rightarrow B$ akslantirish ikki o'zgaruvchili funksiya, n o'zgaruvchili funksiya sifatida $X \neq \emptyset$ $Y \neq \emptyset$ to'plamlar uchun $f: X^n \rightarrow Y$ akslantirish tushuniladi, bu yerda $n=0, 1, \dots$ n - o'zgaruvchili funksiyaning $y = f(x_1, \dots, x_n)$ ko'rinishida belgilaymiz.

2-ta'rif. f va g funksiyalar berilgan bo'lsin, u holda $f \circ g = \{(x, z) / \exists t(x, t) \in g \wedge (t, z) \in f\}$ to'plam f va g funksiyalarning kompozitsiyasi deyiladi.

1-misol. $f = \{(1, 3), (2, 3), (3, 6)\}$ $g = \{(1, 3), (2, 1), (3, 4)\}$ bo'lsa, u holda $f \circ g = \{(1, 6), (2, 3)\}$.

1-teorema. Funksiyalar kompozitsiyasi quyidagi xossalarga ega:

- 1°. $Dom f \circ g = \{x / g(x) \in Dom f\}$
- 2°. $\forall x \in Dom f \circ g$ uchun $(f \circ g)(x) = f(g(x))$
- 3°. $f \circ g = \{(x, f(g(x))) / g(x) \in Dom f\}$
- 4°. $Dom f \circ g \subset Dom g$.
- 5°. $Im(f \circ g) \subset Im f$

6°. *Azap* $\text{Im } g = \text{Dom } f$ бўлса, $\text{Dom } f \circ g = \text{Dom } g$ ва $\text{Im } (f \circ g) = \text{Im } f$

1⁰- xossaning isboti. $\forall x \in \text{Dom } f \circ g$ bo'lsin, u holda $f \circ g$ ning ta'rifiga ko'ra $(x, y) \in f \circ g$ bo'lib, shunday t topiladiki, natijada $(x, t) \in g$ va $(t, z) \in f$ bo'ladi, demak $t = g(x)$ ekanligidan $g(x) \in \text{Dom } f$ bo'ladi. Aksincha, agar $g(x) \in \text{Dom } f$ bo'lsa, shunday z topiladiki, $(g(x), z) \in f$, u holda $(x, g(x)) \in g$ bo'lgani uchun $(x, z) \in f \circ g$ bo'ladi, ya'ni $x \in \text{Dom } f \circ g$.

Qolgan xossalarning isboti mustaqil bajarish uchun o'quvchilarga havola qilinadi.

3-ta'rif. $A \neq \emptyset$ to'plamning har bir elementini o'zini o'ziga akslantiradigan akslantirish ayniy akslantirish yoki birlik akslantirish deyiladi. Bunday akslantirishni E_A orqali belgilaymiz.

4- ta'rif. $f: A \rightarrow B$ akslantirish A to'plamni B to'plamiga akslantirish bo'lsin. U holda, agar $\forall x_1, x_2 \in A$ va $x_1 \neq x_2$ elementlar uchun $f(x_1) \neq f(x_2)$ bo'lsa, f -in'ektiv, $\text{Im } f = B$ bo'lsa, f -syur'ektiv akslantirish deyiladi.

Agar f ham syur'ektiv, ham in'ektiv akslantirish bo'lsa, u holda biektiv akslantirish deyiladi.

1-misol. Haqiqiy sonlar to'plami R ni o'zini o'ziga akslantiradigan $f(x) = x^2$ funksiya in'ektiv ham emas, biektiv ham emas haqiqatdan ham $+2 \neq -2$. Lekin $(-2)^2 = 2^2 = 4$; $\text{Im } f = R^+ \cup \{0\}$; $[R^+ \cup \{0\}]$ - manfiy bo'lmagan haqiqiy sonlar to'plami.

2-misol. $f(x) = x^2$ funksiya barcha haqiqiy sonlar to'plamini $R^+ \cup \{0\}$ to'plamga akslantirsin. U holda $\text{Im } f = R^+ \cup \{0\}$. Demak, f -syur'ektiv akslantirish, lekin in'ektiv akslantirish emas.

3-misol. $y = \sqrt{x}$ funksiya $R^+ \cup \{0\}$ to'plamni R - haqiqiy sonlar to'plamiga akslantiradi. Bu funksiya in'ektiv, lekin syur'ektiv emas.

4-misol. $y = x^3$ funksiya R - haqiqiy sonlar to'plamini R o'zini o'ziga akslantiradigan biektiv funksiyadir.

5-misol. $x = \{a, b\}$ to'plam berilgan bo'lsin, u holda $f(a) = b$; $f(b) = a$; $g(a) = a$; $g(b) = a$ shartlar bilan aniqlangan f va g funksiyalarni qarasak, $((f \circ g)(a)) = f(g(a)) = f(a) = b$. $(f \circ g)(b) = f(g(b)) = f(a) = b$; $(g \circ f)(a) = g(f(a)) = g(b) = a$ $(g \circ f)(b) = g(f(b)) = g(a) = a$ bo'ladi.

Bu misoldan ko'rinadiki, $f \circ g \neq g \circ f$, ya'ni funksiyalar kompozit0siyasi har doim ham kommutativ bo'lavermas ekan.

5-ta'rif. $f: A \rightarrow B$, $g: B \rightarrow A$ akslantirishlar berilgan bo'lsin, u holda agar $f \circ g = E_B$ bo'lsa f akslantirish g akslantirishga **chapdan teskari**, akslantirish esa f akslantirishga **o'ngdan teskari** deyiladi. Agar $f \circ g = E_B$ va $g \circ f = E_A$ shartlar bajarilsa, u holda f va g akslantirishlar bir biriga teskari akslantirishlar deyiladi.

To'plamni o'zini o'ziga akslantirish almashtirish deyiladi.

6-ta'rif. Agar ikkita A va B to'plamlarning birini ikkinchisiga o'zaro bir qiymatli akslantiradigan kamida bitta akslantirish mavjud bo'lsa, to'plamlar teng quvvatli deyiladi va $A \cong B$ ko'rinishida yoki $|A|=|B|$ ko'rinishida belgilanadi.

7-ta'rif. A to'plamda berilgan $R \subset A \times A$ antisimmetrik va tranzitiv munosabat A to'plamdagi tartib munosabati deyiladi.

8-ta'rif. A to'plamdagi tartib munosabati refleksiv munosabat bo'lsa, bunday munosabat A to'plamdagi noqat'iy tartib munosabat deyiladi.

A to'plamdagi tartib munosabat antirefleksiv munosabat bo'lsin, bunday munosabat A to'plamdagi qat'iy tartib munosabat deyiladi.

6-misol. $B(A) - A$ to'plamning barcha to'plamostilari to'plami bo'lsin. $B(A)$ to'plamda to'plamosti bo'lish munosabati noqat'iy tartib munosabatidir.

7-misol. $A = \{4, 12, 36, 72\}$ to'plamda bo'linish munosabati noqat'iy tartib munosabatidir.

9-ta'rif. A to'plamda R - tartib munosabat berilgan bo'lsin. U holda, agar $\forall a, b \in A$ elementlar uchun xRy yoki $x = y$ yoki yRx munosabatlardan kamida bittasi albatta bajarilsa, bunday munosabat A to'plamdagi chiziqli tartib munosabat deyiladi.

Chiziqli bo'lmagan tartib munosabat, qisman tartib munosabat deyiladi.

8-misol. N -natural sonlar to'plamida $R = \{(x, y) \mid \forall x, y \in N \ x : y\}$ munosabat qisman tartib munosabat bo'ladi. " $<$ " = $\{(x, y) \mid \forall x, y \in N \ \exists k \in N \ y = x + k\}$ munosabat esa chiziqli tartib munosabatdir.

9-ta'rif. A to'plamda R - tartib munosabat berilgan bo'lsin, (A, R) juftlik tartiblangan to'plam deyiladi. Agar R - qisman tartib munosabati bo'lsa, (A, R) qisman tartiblangan to'plam, R chiziqli tartib munosabati bo'lsa, (A, R) chiziqli tartiblangan to'plam deyiladi.

9-misol. $(N, <)$ -juftlik chiziqli tartiblangan to'plamdir. Kelgusida $a < b$ yozuvni odatdagidek $a < b$, $a \leq b$ yozuvni esa a kichik yoki teng b deb o'qiymiz va $a \leq b$ ni $(a < b) \vee (a = b)$ mulohaza ma'nosida tushunamiz. Xususan $4 \leq 4$, $3 \leq 4$ mulohazalar aynan rost mulohazalardir.

$(A, <)$ - tartiblangan to'plam berilgan bo'lsin, u holda $a \in A$ elementdan kichik element mavjud bo'lmasa a - minimal element, agar a dan katta element mavjud bo'lmasa a -maksimal element deyiladi. A dagi o'zidan boshqa barcha elementlaridan kichik bo'lgan a element A ning eng kichik elementi, A dagi o'zidan boshqa barcha elementlaridan katta bo'lgan b element A ning eng katta elementi deyiladi.

10-misol. $A = \{1, 2, 3, 4, 12\}$ to'plamida, agar $a : b$ bo'lsa, $b < a$ deylik, u holda 1 eng kichik element, 12 eng katta element bo'ladi.

11-misol. $A = \{1,2,3,4\}$ to'plamda ham 6.28 –misoldagi kabi aniqlangan $<$ – tartib munosabatni qaraylik. U holda 1-minimal element, 3, 4-maksimal elementlar bo'lishlari ravshan.

Shunday qilib, maksimal elementlari bir nechta bo'lgan to'plamlar mavjud ekan. Minimal elementlari ham bir nechta bo'ladigan to'plamga misol keltirishni o'quvchilarga havola etamiz.

10-ta'rif. Har qanday bo'sh bo'lmagan to'plamostisi minimal elementga ega chiziqli tartiblangan to'plam to'liq tartiblangan to'plam deyiladi.

Chiziqli tartiblangan to'plamlarda minimal element tushunchasi eng kichik element tushunchasi bilan, maksimal element tushunchasi esa eng katta element tushunchasi bilan bir xil bo'lishi ravshan.

12-misol. N -natural sonlar to'plamida $<$ - tabiiy tartib munosabati bo'lsin. Ya'ni agar $\forall a, b \in N$ uchun shunday R topilib, $a = b + k$ bo'lsa, $b < a$ deymiz. U holda $(N, <)$ to'plam to'liq tartiblangan to'plamdir.

13-misol. R -haqiqiy sonlar to'plami tabiiy tartib munosabatga nisbatan to'liq tartiblangan bo'la olmaydi. Chunki R ning eng kichik elementi yo'q.

11-ta'rif. Tekislikda chekli sondagi nuqtalardan va shu nuqtalarning ba'zilarini tutashtiruvchi chiziqlardan iborat geometrik figura graf deyiladi. Nuqtalar grafning uchlari, chiziqlar esa grafning qirralari deyiladi.

Grafning ba'zi qirralarini kesishish nuqtalari grafning uchlari bo'lmasligi ham mumkin. Agar grafning qirralarini yo'nalishi ko'rsatilgan bo'lsa, bunday graf yo'nalgan graf yoki orietirlangan graf deyiladi.

A to'plamida berilgan R -chekli binar munosabatni graf yordamida ifoda qilish uchun A to'plamning barcha elementlarini tekislikda nuqtalar yordamida belgilab olamiz. Agar $(a, b) \in R$ bo'lsa, bu juftlikni tekislikda a elementni ifoda qilgan nuqtadan b elementni ifoda qilgan nuqtaga qarab yo'nalgan yoy yoki kesma orqali ifoda qilinadi. (a, a) juftlikni esa soat strelkasi yo'nalishiga teskari yo'nalishda yo'nalgan aylana sifatida tasvirlaymiz. Natijada hosil bo'lgan figura R - binar munosabatning grafi deyiladi [2-12].

Yuqoridagi ma'lumotlarni mustahkamlash uchun tezkor savol javob metodidan foydalanamiz. Tezkor savol javob metodi bu – istalgan asosan darsda darsga qatnashmayotgan talabalarga beriladi shu orqali darsga qatnashmayotgan talabalarni darsga faol ishtirokini hamda diqqatini darsga jalb qiladi.

Takrorlash uchun savollar:

1. Akslantirish qanday munosabat?
2. Akslantirishning aniqlanish sohasiga misol keltiring.
3. Akslantirishning qiymatlar to'plami qanday to'plam?
4. Akslantirishlar kompozitsiyasini tushuntiring.
5. Akslantirishlar kompozitsiyasi xossalarini ayting.
6. In'ektiv akslantirishga maktab matematikasidan misol keltiring.
7. Syur'ektiv akslantirishga maktab matematikasidan misol keltiring.
8. Biektiv akslantirish maktabda qanday nomlangan? Misol keltiring.

9. Ayniy akslantirishni tushuntiring.
 10. Tartib munosabatga misollar keltiring.
 11. Tartib munosabat turlarini maktab matematikasidan olingan misollar yordamida tushuntiring.
 12. Tartiblangan to'plamlarga misollar keltiring.
 13. Butun sonlar to'plami to'la tartiblangan to'plam bo'ladi-mi?
 Fanlar ichida integratsiyani qo'llagan halda keying topshiriq talabalarga beriladi.

Integratsiya- bu qaysi sohada bo'lmasin bir biri bilan bog'liqlikni anglatadi.

GLOSSARIY

№	ENGLISH	O'ZBEKCHA	
1	A relation	Munosabat	
2	Reflexive relation	Refleksivlik munosabati.	Agar $\forall x \in A$ uchun xRx bo'lsa, R –binar munosabat <u>refleksiv</u> munosabat deyiladi
3	Symmetric relation	Simmetriklik munosabati	Agar xRy bo'lishidan yRx bo'lishi kelib chiqsa, ya'ni $R^{-1} = R$ shart bajarilsa, R - <u>simmetrik</u> munosabat deyiladi
4	Linear ordered set	<u>qisman tartiblangan to'plam</u>	Agar R - qisman tartib munosabati bo'lsa, (A, R) <u>qisman tartiblangan to'plam</u> , R chiziqli tartib munosabati bo'lsa, (A, R) <u>chiziqli tartiblangan to'plam</u> deyiladi.
5	Completely ordered set	To'la tartiblangan to'plam	Har qanday bo'sh bo'lmagan to'plamostisi minimal elementga ega chiziqli tartiblangan to'plam to'liq tartiblangan to'plam deyiladi.
6	Equivalence relation	<u>ekvivalentlik</u> munosabati	Refleksiv, simmetrik va tranzitiv bo'lgan binar munosabat <u>ekvivalentlik</u> munosabati deyiladi
7	Binary relation	Binar munosabat	$A \times B$ ning ixtiyoriy qism to'plamiga binary munosabat deyiladi

8	Inverse of Binary Relation	teskari munosabat deyiladi	Agar R – ikki o‘rinli, ya‘ni binar munosabat bo‘lsa, u holda $\{(a,b) / \forall (b,a) \in R\}$ munosabat R^{-1} - munosabatga teskari munosabat deyiladi va R^{-1} orqali belgilanadi. R^{-1} munosabat R ning <u>inversiyasi</u> deyiladi.
9	Factorizing a set	To‘plamni faktorlash	A to‘plamning bo‘sh bo‘lmagan to‘plamlaridan tuzilgan $B = \{A_\alpha / \alpha \in \Omega\}$ to‘plam berilgan bo‘lsin. Agar B ixtiyoriy ikkita elementining kesishmasi bo‘sh to‘plmadan iborat bo‘lib, B ning barcha elementlarining yig‘indisi A ga teng bo‘lsa, u holda B to‘plam A to‘plamning <u>bo‘laklangani</u> deyiladi.
10	An ordered set	tartiblangan to‘plam	A to‘plamda R - tartib munosabat berilgan bo‘lsin, (A, R) juftlik <u>tartiblangan to‘plam</u> deyiladi.
11	Composition of binary relations	Binar munosabatlarning kompozitsiyasi	P va Q binar munosabatlar bo‘sh bo‘lmagan A to‘plamda berilgan bo‘lsin. U holda $P \circ Q = \{(a,c) / \exists b \in A, (a,b) \in Q \wedge (b,c) \in P\}$ to‘plam P va Q binar munosabatlarning <u>kompozitsiyasi</u> deyiladi.
12	Unary relation	Unar munosabat	Bir o‘rinli munosabat esa A ning ixtiyoriy to‘plamostisi bo‘lar ekan. Bir o‘rinli

tayyorlashni va ularni darsda qo'llashni o'rganishda ham yordam beradi.

Agar siz matematika va informatika yo'nalishida talabasiz, ushbu metodika sizga o'z fanga kirishni osonlashtiradi. Binor munosabatlarni va ularning xususiyatlarini tushuntirishda, qo'llanmalar tuzishda yoki mashqlarni tayyorlashda, bu metodika sizga yordam beradi.

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LOAD OPTIMIZATION ALGORITHMS FOR INTEGRATION OF DISTRIBUTED GENERATORS IN MAIN ELECTRICAL NETWORKS

Abstract. This paper introduces a hybrid approach to find the optimal location and size of distributed generations (DG) in the radial distribution network (RDN). The proposed approach is based on the whale optimization algorithm (WOA) technique to calculate the optimal allocation of DGs and loss sensitivity index (LSI) to obtain the best buses for DGs installation in RDN. The presented approach is applied to the standard 33-bus RDN to minimize power losses. The results obtained prove that the developed approach can be highly effective in integrating DG into RDN in comparison with other methods in the literature.

Keywords— whale optimization algorithm distributed generation; photovoltaic; wind turbines; distribution network.

Introduction

Due to the huge growth in electricity demand, the use of traditional energy sources is causing environmental problems. These power units emit huge amounts of greenhouse gases. With a global concern to reduce addiction to fossil fuels and reduce climate change, an alternative paradigm for electricity generation has been adopted. Distributed generation across the radial distribution network (RDN) [1-2]. The RDN is the endpoint of the power system. It acts as a link between the power supply area and individual consumers with unidirectional power flow. Research shows that about 70% of the total power loss in a power system is attributed to the DS side. A small source of energy directly connected to the grid or close to the consumer is called "Distributed Generation (DG)". DG is an attractive replacement for centralized power generation. DG divisions include both renewable and non-renewable energy sources. DGs have tremendous technical, economic, and environmental benefits. These technical and economic benefits can be achieved by choosing the location, size, and type of DG for installation in an electrical power system (EPS). The integration of a DG based on Renewable Energy Sources (RES) into the RDN has environmental benefits such as environmental friendliness (no emissions), free availability, abundance in nature, and so on [3-4].

The most commonly used DG systems in the residential sector are solar photovoltaic (PV) technology, small wind turbines (WT), fuel cells, natural gas-

fueled ultrasounds, and emergency standby generators, usually fueled by diesel or gasoline. However, the commercial and industrial sectors use solar photovoltaic panels, hydropower, biomass combustion, biomass or natural gas fuel cell combustion, reciprocating internal combustion engines, and standby generators powered by petroleum-type diesel systems. Integration of DG units does not guarantee the reliability and stability of the system if they are placed in non-optimal places with different sizes.

Problem Formulation

As mentioned above, the optimal allocation of DG is achieved to minimize system power losses. The power loss calculations can be achieved as follows. If we assume the two buses radial distribution network as shown in Fig. 1.

The active and reactive power flow can be calculated as follows [8-9]:

$$P_i = P_{i+1} + P_{L,i+1} + R_{i,i+1} \left(\frac{P_i^2 + jQ_i^2}{|V_i|^2} \right) \quad (1)$$

$$Q_i = Q_{i+1} + Q_{L,i+1} + X_{i,i+1} \left(\frac{P_i^2 + jQ_i^2}{|V_i|^2} \right) \quad (2)$$

The voltage at receiving bus can be calculated using (3).

$$V_{i+1}^2 = V_i^2 - 2 * (R_{i,i+1} * P_i + X_{i,i+1} * Q_i) + (R_{i,i+1}^2 + X_{i,i+1}^2) * \left(\frac{P_i^2 + jQ_i^2}{|V_i|^2} \right) \quad (3)$$

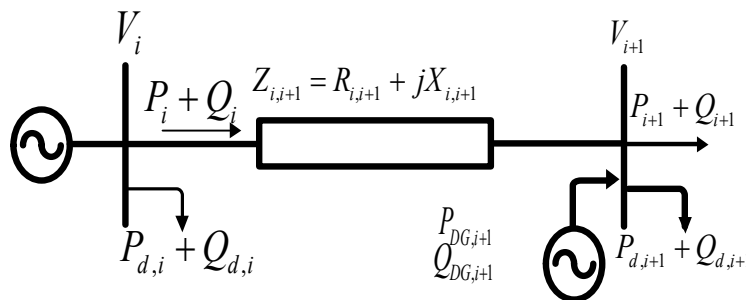


Fig. 1. Equivalent scheme of RDN.

The active and reactive power losses between buses i and $i+1$ can be expressed as follows:

$$P_{loss(i,i+1)} = R_{i,i+1} \left(\frac{P_i^2 + jQ_i^2}{|V_i|^2} \right) \quad (4)$$

$$Q_{loss(i,i+1)} = X_{i,i+1} \left(\frac{P_i^2 + jQ_i^2}{|V_i|^2} \right) \quad (5)$$

The main objective function is the minimizing total active power losses that can be given as follows:

$$F_{obj} = minimize(P_{loss}) \quad (6)$$

where, P_{loss} is the total power loss.

The above objective function is subjected to some constraints such as DG size, bus voltage, and branch current.

2.1 Equality constraints

The generated power must be equal to the demand loads and power losses as [10]:

$$P_{swing} + \sum_{i=1}^{N_{DG}} P_{DG}(i) = \sum_{i=1}^L P_{LineLoss}(i) + \sum_{k=1}^N P_d(k) \quad (7)$$

$$Q_{swing} + \sum_{i=1}^{N_{DG}} Q_{DG}(i) = \sum_{i=1}^L Q_{LineLoss}(i) + \sum_{k=1}^N Q_d(k) \quad (8)$$

where, P_{swing} and Q_{swing} are the active and reactive powers of swing bus, N_{DG} is the number of DGs, and L is the number of transmission lines.

2.2 Inequality constraints

•Voltage limitation

The bus voltages must be within the minimum voltage value (V_{min}) and the maximum voltage value (V_{max})

$$V_{min} \leq V_i \leq V_{max} \quad (9)$$

•The limits of power generated from DG

The DG's installation capacity in the network is limited. Therefore, it must not exceed the power provided by the substation [11] to prevent reverse power flow.

$$\sum_{i=1}^{N_{DG}} P_{DG}(i) \leq \frac{3}{4} * \left[\sum_{i=1}^L P_{LineLoss}(i) + \sum_{k=1}^N P_d(k) \right] \quad (10)$$

$$\sum_{i=1}^{N_{DG}} Q_{DG}(i) \leq \frac{3}{4} * \left[\sum_{i=1}^L Q_{LineLoss}(i) + \sum_{k=1}^N Q_d(k) \right] \quad (11)$$

$$P_{DG}^{min} \leq P_{DG}(i) \leq P_{DG}^{max} \quad (12)$$

$$Q_{DG}^{min} \leq Q_{DG}(i) \leq Q_{DG}^{max} \quad (13)$$

where, P_{DG}^{max} and P_{DG}^{min} are the maximum and minimum active powers generated by DG unit, Q_{DG}^{max} and Q_{DG}^{min} are the maximum and minimum reactive outputs of DG unit.

•Transmission line current limitation

The maximum transmission line current must meet the following constants [12].

$$I_k \leq I_{max,k} \quad (14)$$

where I_{max} is the maximum allowed current through the branch k .

Conclusion

In this paper, whale optimization algorithm (WOA) with a loss sensitivity index (LSI) has been proposed for the solution problem of optimal allocation of DG units in RDN. The main goal of the proposed technique is to minimizing power losses. The proposed approach has been applied to the standard 33-bus system and compared results obtained with existing optimization techniques. The proposed approach is very effective in finding the optimal solution (minimum power loss) compared to other optimizations technique. This study also focuses on parameters that depend on optimal DG allocation and sizing.

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ADJECTIVAL PHRASEOLOGICAL UNITS IN THE ENGLISH AND UZBEK LANGUAGES

Abstract. This article explores the use of adjectival phraseological units in the English and Uzbek languages. It examines the structure, meaning, and usage of such units in both languages, highlighting similarities and differences. The study aims to provide insights into the ways in which adjectival phraseological units are formed and used in these two languages, as well as the cultural and linguistic factors that influence their use.

Keywords: adjectival phraseological units, English language, Uzbek language, structure, meaning, usage, similarities, differences, cultural factors, linguistic factors.

Introduction. Adjectival phraseological units in the English and Uzbek languages offer a fascinating glimpse into the cultural and linguistic intricacies of these two distinct language systems. These units, which consist of combinations of adjectives and other words that form fixed expressions with specific meanings, play a crucial role in both languages, enriching communication and reflecting the unique characteristics of each linguistic tradition. By exploring the similarities and differences in adjectival phraseological units between English and Uzbek, we can gain valuable insights into the cultural nuances, structural peculiarities, semantic nuances, frequency of usage, and translation challenges inherent in these linguistic expressions. This comparative analysis sheds light on the diverse ways in which adjectival phraseological units contribute to the richness and complexity of language use in English and Uzbek, highlighting the importance of understanding these units in their cultural and linguistic contexts.

Literature review. Adjectival phraseological units are a prominent feature in both the English and Uzbek languages, playing a crucial role in communication and reflecting the cultural and linguistic nuances of these two distinct language systems. This literature review aims to explore the similarities and differences in adjectival phraseological units between English and Uzbek, shedding light on their structural characteristics, semantic nuances, frequency of usage, and translation challenges.

In the English language, adjectival phraseological units are pervasive and diverse, encompassing a wide range of fixed expressions that combine adjectives with other words to convey specific meanings. These units are often idiomatic and have become ingrained in everyday language use, contributing to the richness and complexity of English discourse. Studies on English adjectival phraseological

units have highlighted their role in enhancing communication, expressing emotions, and reflecting cultural norms and values.

On the other hand, in the Uzbek language, adjectival phraseological units also play a significant role in communication, reflecting the unique cultural and linguistic characteristics of Uzbek society. These units often draw on traditional proverbs, sayings, and metaphors, enriching Uzbek discourse with vivid imagery and poetic expression. Research on Uzbek adjectival phraseological units has emphasized their role in preserving cultural heritage, conveying moral lessons, and fostering a sense of community among speakers.

Comparative studies on adjectival phraseological units in English and Uzbek have revealed both similarities and differences between these two languages. While both languages exhibit a rich variety of adjectival phraseological units, they differ in terms of structural patterns, semantic nuances, and cultural references. Translation challenges may arise when attempting to render adjectival phraseological units from one language into the other, as cultural and linguistic nuances may not always have direct equivalents.

The study of adjectival phraseological units in English and Uzbek offers valuable insights into the cultural and linguistic intricacies of these two languages. By examining the structural characteristics, semantic nuances, frequency of usage, and translation challenges of adjectival phraseological units in English and Uzbek, researchers can deepen their understanding of how these units contribute to language use and cultural expression in diverse linguistic contexts.

Methodology. Adjectival phraseological units are a fascinating aspect of language that reflect cultural nuances and linguistic creativity. In both English and Uzbek languages, adjectival phraseological units play a significant role in communication, adding color and depth to expressions. Adjectival phraseological units often reflect cultural values, beliefs, and traditions. When comparing English and Uzbek adjectival phraseological units, it is important to consider how these expressions are rooted in the respective cultures. For example, expressions related to weather or nature may differ significantly between the two languages due to the unique environmental conditions and cultural associations. Adjectival phraseological units in English and Uzbek may vary in terms of their linguistic structure. While English often uses fixed collocations or idiomatic expressions, Uzbek may rely more on compound words or metaphorical constructions. Understanding these structural differences can provide insights into the underlying mechanisms of each language. The semantic range of adjectival phraseological units in English and Uzbek can also differ. Some expressions may have direct equivalents in both languages, while others may convey distinct meanings or connotations. Exploring the semantic nuances of these units can shed light on the subtle differences in how concepts are expressed in each language.

Results. The frequency and usage of adjectival phraseological units may vary between English and Uzbek. Certain expressions may be more commonly used or preferred in one language compared to the other. Examining patterns of

usage can help identify cultural preferences and stylistic conventions in each language. Translating adjectival phraseological units between English and Uzbek can pose challenges due to differences in syntax, semantics, and cultural context. Translators must navigate these complexities to ensure accurate and culturally appropriate renditions of these expressions. Comparing adjectival phraseological units in English and Uzbek provides valuable insights into the rich tapestry of language and culture. By exploring the unique characteristics of these units in each language, we can deepen our understanding of linguistic diversity and enhance cross-cultural communication.

Conclusion. In conclusion, the exploration of adjectival phraseological units in the English and Uzbek languages has revealed a fascinating interplay between language, culture, and communication. These units, which combine adjectives with other words to convey specific meanings, serve as essential tools for expressing emotions, conveying cultural norms, and enriching discourse in both English and Uzbek. While both languages exhibit a rich variety of adjectival phraseological units, they also showcase unique structural patterns, semantic nuances, and cultural references that reflect the distinct linguistic landscapes of these two languages.

The study of adjectival phraseological units in English and Uzbek not only sheds light on the intricate ways in which language shapes communication but also highlights the importance of cultural context in understanding and interpreting these linguistic expressions. Through the analysis of adjectival phraseological units, researchers can gain valuable insights into the cultural heritage, values, and traditions embedded in English and Uzbek discourse, as well as the role that these units play in fostering a sense of community and identity among speakers.

Moreover, comparative studies on adjectival phraseological units in English and Uzbek offer a platform for cross-cultural exchange and collaboration, providing opportunities to bridge linguistic divides and enhance mutual understanding between speakers of these two languages. By exploring the structural characteristics, semantic nuances, frequency of usage, and translation challenges of adjectival phraseological units in English and Uzbek, researchers can deepen their appreciation of the diversity and complexity of language use across different cultural contexts.

In essence, the study of adjectival phraseological units in English and Uzbek serves as a testament to the richness and dynamism of language as a tool for communication, expression, and cultural preservation. By delving into the intricacies of these linguistic expressions, researchers can uncover hidden layers of meaning, uncover shared cultural values, and celebrate the diversity of human language and expression. Ultimately, the exploration of adjectival phraseological units in English and Uzbek offers a window into the multifaceted nature of language and its profound impact on shaping our perceptions, interactions, and identities.

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URBAN PROSE IN RUSSIAN LITERATURE GENERAL CHARACTERISTICS OF Y. TRIFONOV

Abstract. Yuri Trifonov is a famous Soviet and Russian writer who became one of the main masters of urban prose. In his works, he described the life of Muscovites and conveyed the peculiarities of urban life, creating an accurate realistic portrait of life in the city. This article will review his key creative works, such as "Space Bridge", "Wait for Me on the Square" and "House on the Embankment", as well as articles and essays on urban culture and the history of Moscow.

Keywords: Urban prose, Yuri Trifonov, Moscow, Literature, Urban life, Realism, Intelligentsia, Culture, History, Classics, City life.

The writer Yuri Trifonov is considered one of the great masters of urban prose. In his works, he describes the life of Muscovites, conveying the peculiarities of urban life and creating portraits of various social groups. The city becomes for Trifonov a kind of hero of his books. Yuri Trifonov began his literary career in Moscow in 1949, when he was 21 years old. "Space Bridge", "Wait for Me on the Square" and "House on the Embankment" – these novels have become real bestsellers and classics of Soviet literature. "Moscow and Muscovites have found their poet," the writer Konstantin Paustovsky wrote about him. Trifonov used various genres in his work, including a novel, a short story, an essay and an article. But all his works are united by a common urban theme. He describes the life of Moscow residents using a detailed description of the urban area, the interiors of buildings and architectural monuments, which creates an accurate realistic portrait of life in the city. The Space Bridge was Trifonov's first novel in which he describes the life of Muscovites. According to the author, it was a novel about youth, love and the beauties of the city, which, it would seem, everyone knows about, but few people have seen.

"Wait for Me on the Square" is one of Trifonov's most famous works. This is a novel about the fate of several generations of Muscovites, about their lives in different years and how they meet on the same square, which symbolizes the time continuum of the city. The novel has been filmed and shown in cinemas around the world. "The House on the Embankment" is another work by Trifonov, which tells about the life of Moscow residents. The novel was written in the 1970s, at a time when mass housing construction was on the rise. The author describes the life of the characters in the new quarter, creating an image of the city as an environment where new relationships and opportunities are created.

Trifonov's work includes a number of essays and articles in which the author discusses urban culture and the history of Moscow. In these works, he addresses the reader as a respected interlocutor who shares with his author a love for the city and its culture. The term "urban prose" is a key concept in the work of Yuri Trifonov. His works describe the city not just as a place where many people live, but as a collective hero who influences them and defines their lives. Thus, life in the city becomes a kind of work of art, where the city acts as the main character. Yuri Trifonov's work has passed through different historical eras, encompassing Soviet, post-Soviet and postmodern literary trends. The author defines the concept of "urban prose" as a key theme in the work of Yuri Trifonov, where the city becomes for him a kind of hero of works that defines the lives of his characters and influences the cultural atmosphere. Thus, this article will tell you about the importance of the city for the work of Yuri Trifonov and explain how he created a unique picture of Moscow life, which can rightfully be called the great urban prose of his time. However, his main legacy is colorful descriptions of urban life and a deep understanding of Moscow culture.

Thus, the work of Yuri Trifonov is an excellent example of urban prose, where the city plays a key role in describing the life of the characters and their surroundings. His works create a rich portrait of Moscow, describing various strata of society and conveying its spiritual atmosphere. In his works, Trifonov emphasizes the importance of the city not only for its inhabitants, but also for the entire culture of the country. He became one of the first Soviet writers to start writing urban prose, creating an accurate, realistic portrait of life in Moscow. His books such as "The Space Bridge", "Wait for Me on the Square" and "The House on the Embankment" have become classics of urban prose and are still relevant to readers. The uniqueness of Yuri Trifonov lies in the fact that he was able to convey the spirit of the city and create a vivid picture of the life of the Moscow intelligentsia, skillfully drawing from his personal impressions and observations. He carefully studied the urban culture and history of Moscow, which allowed him to create a detailed portrait of the city and convey its features to his readers. Yuri Trifonov is one of the best representatives of urban prose and proved that the city can become a source of inspiration for writers, and urban life can become an object of art. His books about Moscow create an image of the city that is still alive and relevant, and readers of all generations enjoy his works and recognize the city in his work. Thus, the work of Yuri Trifonov continues to live and remain an important cultural heritage for Russia and the whole world. His urban prose has become an important element of Russian literature and carries with it important messages about life in the city.

Point out that the noble, intelligent family of Viktor Georgievich is opposed by the Lukyanov clan, to which his wife Lena belongs, "a pretty bulldog woman with a short straw-colored haircut and always pleasantly tanned, slightly swarthy face." These are the people of today, with quite modern views. Ksenia Fyodorovna's old-fashioned principled uncompromising attitude, sometimes

turning into intolerance, is alien to them. Dmitriev became his wife's "wingman", agreeing with her in any situation of life choice.

His sister considers Viktor Georgievich a traitor, since he departed from the traditions of an intelligent Moscow family and turned into a philistine. That's exactly what the modern and old-fashioned look becomes vividly in the work.

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CHARACTERISTICS OF THE MEANING OF TITLES AND POSITION NAMES IN BABURNAMA

Basis. In this work some titles are listed, their actual and historical meanings are shown and these words are proved with examples.

Key words. A historical work, a memoir, words and their meanings, diachronic words, synchronic words.

Every nation has great kings, great scientists, great poets and writers who clearly define its historical, cultural and national image. Shahs, khans and emirs such as Jalaluddin Manguberdi, Temur Malik, Amir Temur, Zahiruddin Muhammad Babur, Muhammad Shaibani Khan, Abulghozi Bahadir Khan, Amir Umar Khan, Muhammad Rahim Khan Feruz; scholars of secular, social-humanitarian and concrete sciences such as Muhammad al-Koshghari, Abu Mansur al-Saalibi, Mahmud Zamakhshari; scholars of hadith, kalam, religion and mysticism such as Imam Ismail al-Bukhari, Imam Moturidi, Abu Zayd Dabusi, Khwaja Ahmed Yasawi, Bahauddin Naqshbandi, Burhoniddin Marginani, Khwaja Ubaidullah Ahror; and great writers and poets such as Yusuf Khos Khajib, Hafiz Khorezmi, Maulana Lutfi Shoshi, Alisher Navoi, Muhammad Reza Ogahi, Mohlaroyim Nadira, Jahonotin Uvaisi, Zokirjon Furkat revive the image of our country's past in our imagination.

Babur the Great was a multi-faceted activity and creativity as a king, classical poet, linguist, theorist, literary critic, jurist, art critic, ethnographer, animal and plant scientist. Boburnoma alone is a clear example of his interest in more than twenty fields. Many artists such as Alisher Navoi, Abdurahman Jami, Behzod are described in Boburnoma and their creative activities are objectively evaluated. For example, it is said about Alisher Navoi: "Alisherbek was a man without lacks. There was no equal orator, when he recited poems in Turkish."

The information presented in Boburnoma shows that the scientist was well-versed not only in natural science and geography, but also in biology, zoology, ethnography, history and other subjects. In particular, Boburnoma contains more than a thousand geographical names - country, city, village, fortress, steppe, mountain, pass, gorge, river, bridge, lake, spring, garden, pasture, meadow and other places. In addition, Babur mentioned the names of several distant countries (Arabia, Iraq, Iran, Azerbaijan, Rum, Tibet, China, Kashgar), which is a proof that the scientist was well aware of the geography of the world at that time.

While describing the climate, topography, population and other characteristics of different places in his work, Babur skillfully used the

comparative method to compare them with each other. This is one of the widely used methods in modern geography. For example, Babur compares Osh with Koson (now Kosonsoy in Namangan province) and writes: "As water comes to Andijan from Osh, water comes to Akhsi from Koson. The weather is good. There are scenary gardens... There is a similarity between Osh and Koson in Khushhavoli...»

Boburnoma also compares the characteristics of the people living in different places and gives very interesting information: "...in Khurasan and Samarkand, Turks and Aymoks are powerful. In Afghanistan, Hazaras and Afghans move."

The names of places and natural objects mentioned in Boburnoma are given in the language of the population living there. This is a sign of the author's understanding of one of the main rules of toponymy, i.e. that place names cannot be translated. Babur called the mountains in the south-east of the Fergana valley (currently the Turkestan range) the Andijan mountains, and the mountains in the north (Talas) the Jettikent mountains. In Boburnoma, hundreds of geographical names in Central Asia, Afghanistan and India, including Konibodom, Hodarvesh, Kuhisafid, Nazargoh, Tashkent, Samarkand, Sivolak, etc., are explained historically and lexically.

The unique feature of Boburnoma is that the author describes the nature of different regions, geographical features, flora and fauna, and economic opportunities as a whole in simple language. Fergana Valley, where Babur was born, and about the geographical location of India, where he spent part of his life, mountains, waters, deserts, pastures and gardens, corresponding to their current state provided comparative data. From this point of view, it can be said that Boburnoma is the first major natural, historical, geographical scientific work written in Uzbek, and Babur is the first scientist who described the geography of Central Asia, Afghanistan and India in Uzbek.

In Boburnoma, in addition to the current and historical meanings of the words, the names of some positions and titles are also given, the meaning characteristics of these names are given, and each of them is proved by the examples given in the work. For instance:

SHAIKHULISLAM

[Arabic-Islamic sheikh; commentator on religious law]

The title of the head of the Muslim clergy, the highest religious title, and the person who holds this title, the chief priest. "Husayn Boygaro... asked Shaykhulislam about a matter related to Sharia." (Mirmukhsin, Architect)

KUSHBEGI

Kushbegi-was the highest state position in Bukhara Emirate as the prime minister. All state management agencies were subordinate to him. In a word, all executive power was in the hands of this deputy. Provincial and district governors were also appointed on the recommendation of him.

Kushbegi-an official next to the khan in the Khiva khanate. He was the first assistant of the khan. All the decrees and decrees of the Khan passed through his hands.

Kushbegi-during the Kukan khanate, he was the second-ranking official of the Ming dynasty. He was the khan's first adviser, and at the same time he was appointed as an independent mayor in one of the big cities. For example, the city of Tashkent was ruled by Kushbegi at a certain time.

In the past, Kushbegi was the title of the officials who organized the khan's work related to hunting (shikor) in the Khanate of Bukhara and Khiva.

Kushbegi- became the most influential state in the country during the reign of Ashtarkhani, Ubaydullah Khan, became the second person after the emir in the Emirate of Bukhara during the Mangit period. As the prime minister, Kushbegi oversaw the most important issues related to the country's administration, finance, taxes, treasury, and the situation in the capital. Also, all regions were subordinated to him. In the first half of the 19th century, Kushbegi was an important post in the Khanate of Khiva.

PARVONACHI

Parvonachi-the duty of the holder of this position, which existed even during the Shaibani period, was to deliver the Khan's decrees and official documents to the responsible persons and executors. Parvonachi-the official who delivers the label to that person when a person is appointed to a position in Bukhara Emirate under the rule of the Mangit dynasty.

Parvonachi is an official in the Kokhan Khanate whose authority is equal to that of the Kushbegi.

Parvonachi- during the reign of the Ashtarkhanids, he was an official who delivered the judgments, labels and other official documents issued by the ruler to their owners and executors. Parvonachi- the person who conveys the labels of the supreme ruler to the officials and the relevant people in general; he is also assigned to deal with the Arab population In the Emirate of Bukhara.

MUHTASIB

Muhtasib (chairman) was engaged in monitoring the observance of the rules of ethics by the citizens of the country.

Muhtasib-an official who monitored the implementation of Sharia laws by Muslims during the rule of the Mangits in the Bukhara Emirate.

Muhtasib-during the Shaibani period, he was engaged in the work of observing the moral norms of the country, especially the attitude of officials and even religious leaders to this issue.

SHEIKH

Sheikh is derived from the Arabic word, religious leader, religious teacher.

The sheikh is the supreme representative of the Muslim clergy; the head of the path of mysticism, the guide; a teacher; a learned person, a pious person, a Sufi, an old man, a wise man. In the composition of names, it means belonging to the family and generation of sheikhs.

Sheikh-1) old, elderly; 2) Eshon, the head of the Sufis. 3) a word added to the names of great poets and scholars, indicating their great wisdom: like Sheikh Saadi, Sheikh Kamal.

SULTAN

Sultan-shah, ruler, king. In the composition of names, it expresses the meanings of high-ranking, glorious, high, shining. In some names, the word sultan means a child born after visiting the tomb of Hazrat Sultan Ahmed Yassavi or other holy places, that is, a gift, gift of the sultan.

Sultan is derived from the Arabic word, shah, ruler, king, i.e. May he live long and hold high ranks.

SAYYID

Sayyid-Honorary title of the descendants of Muhammad (pbuh), the prophet's generation belonging to that generation. This word also appears in nouns in the meanings of nobleman, leader, boss, master, respectable, respected breed.

Sayyid is derived from the Arabic word, meaning: owner; chief, leader. This word is an honorary title of the descendants of Muhammad (pbuh); nobility; nobleman

SARKOR

Sarkor is derived from the Persian-Tajik language and means guide, leader; observer, controller.

Chief executive.

KHOJA

Khoja is derived from the Arabic word, which means respectable, considerate or master, chief, or knowledgeable, wise, scholar. This name also means big merchant.

Khoja-1) chief, master, owner, landlord, slaveholder, master. 2) a big merchant 3) a word used for a respectable and great person; Like Khoja Khafiz, Khoja Kamal. 4) pious, white bone 5) name, noun.

In conclusion, it can be said that no matter how much we study the work, there are many more secrets - art, and undiscovered aspects that we should learn more than we have studied it. We touched upon some of the titles and positions in the work, and tried as much as possible to reveal the diachronic and synchronic meanings of each of them. In the course of the analysis, we intend to reveal the different meanings of other titles and positions used in the work, to study their morpheme and morphological structure, composition and structure, and to continue studying other linguistic aspects in our further work.

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PEDAGOGIK TEXNOLOGIYANING MOHIYATI

Annotasiya. O'quv maqsadlarning noaniq va mujmal qo'yilishi, shu bilan bog'liq o'qitishdan kutilgan natijaning yo'qligi, an'anaviy ta'lim maktabining kamchiligi hisoblanadi. Hozirgi zamon bozor iqtisodiyoti sharoitida, oliy ta'lim muassasasi, o'qitishdan kutiladigan natija yo'qligidek, ortiqcha daxmazaga yo'l qo'ya olmaydi.

Kalit so'zlari: An'anaviy, o'qitish san'ati, integral, didaktik, strategik resurs

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THE ESSENCE OF PEDAGOGICAL TECHNOLOGY

Abstract. The vague and complex setting of educational goals, the lack of the expected result from training in this regard is a disadvantage of the traditional pedagogical school. In a modern market economy, a higher education institution cannot afford to be lazy, as if there is no expected result from teaching.

Key words: Traditional, art of teaching, integral, didactic, strategic resource.

An'anaviy o'qitish maktabiga tayangan oliy ta'lim muassasasi, hozirgi zamon ishlab chiqarish va boshqa sohalarning aniq talablariga javob beradigan mutaxassislarni tayyorlashga qodir bo'lmaydi. Shuning uchun, o'quv jarayonini takomillashtirish, talabalar qiziqishini oshirish, o'qitish natijalarini yaxshilashning eng samarali yo'llarini izlash ishlari uzluksiz davom ettirilmoqda. O'qitish sifatini oshirish, obyektiv zaruriyatga aylanganligi tufayli, alohida o'qitish uslublaridan pedagogik texnologiyaga o'tish muammosining dolzarbligi ortib bormoqda. O'quv jarayonini birinchi marta ushbu tarzda talqinlash Ya.A.Komenskiyning pedagogikasida uchratish mumkin.

O'qitish amaliyotida, o'qitishning turli tuman yo'llari, usullari va shakllari keng qo'llaniladi. Ammo o'qitishda yagona samarali (integral) yondashuv sohasidagi izlanishlar jadallik bilan hamon davom ettirilmoqda. O'qitishni, o'ziga xos ishlab chiqarish texnologik jarayonga aylantirishi mumkin bo'lgan didaktik yondashuvlar, didaktik vositalarni izlash davom etmoqda. 50-yillarda o'quv jarayoniga mashinalarni kirib kelishi va tarqalishi bilan, pedagogik texnologiyalarni rivojlanish bosqichi boshlandi. Bu paytda sanoat ishlab

chiqarishida yangi ilmiy yoʻnalish – sistemotexnika paydo boʻldi va u «odam-mashina» majmualarini yaratish masalalarini yechib berdi. Ushbu ilmiy yoʻnalishda «odam-mashina» tizimida odamning rolini aniqlash muhim ahamiyatga ega, hozirgi kunda ushbu muammo yechimining uch bosqichini koʻrsatish mumkin:

Birinchi bosqich - «mashina hamma narsaga qodir» tamoyilini qoʻllab, mashinani odamga bogʻliqsiz loyihalash.

Ikkinchi bosqich - vazifalarni odam va mashina oʻrtasida taqsimlash tamoyili asosida, odam bilan mashinaning oʻzaro taʼsir jarayonlarini oʻz ichiga oluvchi mashinalarni loyihalash.

Uchinchi bosqich - odamni texnik tizimning tarkibi sifatida qarashdan voz kechish bilan belgilanadi, loyihalash asosiga odam faoliyati tamoyili qoʻyiladi, yaʼni odam faoliyati tizimi loyihalana boshlandi. Faoliyat tizimi oʻzining funksional birliklaridan iborat mazkur bosqich, industrial jamiyat oʻrniga kelayotgan, informatsion yoki postindustrial deb ataluvchi yangi jamiyatning rivojlanayotgan elementlariga yoʻnaltirilgan. Yangi jamiyatning taraqqiyoti, bilimlarni toʻplash va qayta ishlash jarayonlarida inqilobiy shartni qoʻyadi, bunda markaziy rolni telekommunikatsiyalar tarmogʻiga ulangan kompyuter bajaradi. Informatsiya (axborot) bosh tovar mahsulotga aylanadi, uni yaratish qobiliyati esa mamlakatning strategik resursiga aylanadi. Ishlab chiqarishda yangi yuqori texnologiyali tarmoqlar paydo boʻladi, mavjudlarining esa shakli keskin oʻzgaradi. Intellektual ishchilar doimiy oʻzgarishlar, muammolar, vaziyatlarga moslashuvchan boʻladilar. Ular oʻz ishlarini qattiq nazoratsiz, oʻz hohishlariga koʻra, ijodiy, erkin bajarishga moyil boʻladilar. Ular oʻzlarida isteʼdodli shaxsni ifoda etadilar. Qaerda intellektual ishchi faoliyati uchun sharoit yaratilgan boʻlsa aynan shu yerda ishlab chiqarish raqobatbardosh va daromadli boʻladi. Bunda ishlab chiqarishning sifati va samaradoligiga ishchilarning muskul energiyasi, texnik malakasi orqali emas, balki uning omilkorligi, maʼlumoti, harakatchan fikrlash qobiliyati va ishga ijodiy munosabati orqali erishiladi. Postindustrial jamiyat xodimini shakllantirish uchun, jamiyat ishlab chiqarishning yangi talablariga javob beradigan, yangi taʼlim texnologiyasi zarur boʻladi, yangi turdagi xodim uchun yangi turdagi pedagog mos keladi. Sistema texnika majmuasi taraqqiyotining uch bosqichiga mos, taʼlim tizimida oʻqituvchining uch turli maqomi, pedagogik faoliyatning uch turini alohida qayd etish mumkin.

Pedagogik faoliyatning birinchi turi, shu bilan xarakterlanadiki, oʻqituvchi oʻz ishining ustasi hisoblanadi, nodir bilimlar, koʻnikmalar tashuvchisi, shaxsiy tajribaga, pedagogik qobiliyatga ega boʻladi (qadimgi davrdagi hunarmandga oʻxshash). Uning «asboblari» - yoʻllari, usullari individual boʻlib, pedagogik isteʼdodining mevasidir, qoʻllanmalar, koʻrgazmali va texnik vositalar unga meros qolgan yoki oʻzi tomonidan ishlab chiqilgan.

Pedagogik faoliyatning ikkinchi turi, shu bilan xarakterlanadiki, unda oʻqitish tajribasi umumlashtiriladi, tizimlashtiriladi va ilmiy fan koʻrinishini oladi. Bunga, kitob chop etishning paydo boʻlishi, pedagogik mehnatning

bo‘linishi va ixtisoslashuvi sabab bo‘ldi. Bu yerda pedagogik jarayon, oqilona tashkil etilgan, o‘qitish ma’lum qoidalar bo‘yicha amalga oshiriladi. Ushbu sharoitlar bilimni ob’ektivlashtirish imkonini berdi. O‘qituvchi sanoatlashgan (industrial) jamiyatning ishlab chiqarish xodimiga o‘xshab, sanoatlashgan (industrial) turdagi xodimga aylanadi.

Pedagogik faoliyatning uchinchi turi shu bilan xarakterlanadiki, u pedagogik texnologiya asosida amalga oshiriladi, o‘qituvchining holatini, zamonaviy kompyuterdan foydalanuvchi holati bilan taqqoslash mumkin. O‘qitish texnologiyasi kasbiy yondashuv asosida aniqlanadi. Ular odatda, shaxsga yo‘naltirilgan o‘qitish texnologiyalari hisoblanadi.

«Pedagogik texnologiya» atamasi, ishlab chiqarish - texnologik sohasidan olingan, o‘ziga xos ma’lum qoida va tamoyillarga ega bo‘lgan, «texnologiya» tayanch iborasini o‘z ichiga oladi. Ishlab chiqarish sohasida, mahsulotni tayyorlash uchun, ishlab chiqarishni tayyorlash talab etiladi, u turli xildagi ilmiy-tadqiqot konstruktorlik, texnologik, tashkiliy-rejaviy tadbirlarni qamrab oladi. Oliy malakali mutaxassislarni tayyorlash jarayoni ham shunga o‘xshash tadbirlar majmuasini o‘z ichiga oladi. Oliy ta’lim sohasida kadrlar tayyorlash bosqichlari va ishlab chiqarishni tayyorlash bosqichlari juda o‘xshashdir. Ishlab chiqarishni tayyorlashning birinchi bosqichida ilmiy-tadqiqotlar natijasi bo‘yicha konstruktorlik tayyorgarligi amalga oshiriladi, ta’lim esa davlat ta’lim standartlari (ta’lim sohasi «konstruksiyasi»ni aniqlovchi) tayyorlanadi.

Ishlab chiqarishni tayyorlashning ikkinchi bosqichida konstruktorlik tayyorgarlik bajarilgandan so‘ng ishlab chiqarishning tayyorgarligi amalga oshiriladi, uning o‘zagini – detallarni tayyorlash, mashina uzellari va agregatlarini yig‘ish, texnologik jarayonlarni ishlab chiqish - tashkil etadi. Texnologik jarayonlar – texnologik xaritalar va ularning to‘plamlari ko‘rinishida rasmiylashtirildi. Texnologik jarayonning texnologik xarita ko‘rinishida aks ettirilishi, yuqori malakaga ega bo‘lmagan ishiga, yuqori sifatli mahsulot tayyorlash imkoniyatini beradi, chunki texnologik xarita mahsulot tayyorlashning barcha bosqichlari – materiallar, tayyorlash, jihozlar, texnologik operatsiyalar mazmuni va ketma-ketligi, ishlov berish sharoitlari, asboblar, vaqt me‘yorlari, sifat nazorati vositalari keltiriladi. Ishlab chiqarish - texnologik jarayon, - minimal material va insoniy manbalar xarajatlari, ishlab chiqarishning maksimal mehnat unumdorligi va rentabelligi bilan zaruriy sifatdagi mahsulot olinishiga imkoniyat yaratadi.

Pedagogik texnologiyaning afzalligi ham, ahamiyati ham shu bilan belgilanadi. Bu ommaviy o‘qitish sharoitida, talabalarni to‘la o‘zlashtirishini ta’minlovchi yagona to‘g‘ri yo‘ldir.

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ALUMINOSILIKATLARNI ADSORBENTLARGA QAYTA ISLASHNING FIZIK-KIMYOVIY ASOSLARI

Annotatsiya. Ushbu maqolada alyumosilikatlarning turlari, tabiiy manbalari, fizik-kimyoviy xossalari hamda ularning xalq xo'jaligida qollanilishi yoritilgan.

Kalit so'zlar: alyumosilikatlar, slyuda, keramika, kaolin, adsorbent, diatomli tuproq, parabenlar, flokuyant, disperslik darajasi.

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PHYSICO-CHEMICAL PRINCIPLES OF RECYCLING ALUMINOSILICATES INTO ADSORBENTS

Annotation. The article describes the types, natural sources, physical and chemical properties of aluminosilicates, as well as their use in the national economy.

Key words: aluminosilicates, mica, ceramics, kaolin, adsorbent, diatomaceous earth, parabens, flocculant, degree of dispersion.

Aluminosilikatlar yerdagi eng keng tarqalgan minerallar qatoriga kiradi. Ular alyuminiy, kremniy va kisloroddan iborat bo'lib, noyob geologik va mineralogik xususiyatlarga ega. Jahonda va O'zbekistonda bu foydali qazilmalar katta ahamiyatga ega bo'lib, turli faoliyat sohalarida keng qo'llaniladi.

Aluminosilikatlarning asosiy turlaridan biri slyudadir. U boshqa minerallardan qatlamli tuzilishi bilan ajralib turadi, bu esa uni osonlik bilan yupqa qatlamlarga ajratish imkonini beradi. Slyuda yuqori issiqlik o'tkazuvchanligiga,

mukammal yongʻinga chidamliligiga va kimyoviy moddalarga chidamliligiga ega. Natijada u qurilish, keramika, shisha va elektrotexnika sohasida keng qoʻllaniladi.

Kaolin aluminosilikatlarning yana bir muhim vakili hisoblanadi. U keramika, shisha, boʻyoq va laklar ishlab chiqarishda, farmatsevtika sanoatida xom ashyo sifatida ishlatiladi. Kaolin changni yutish xususiyatiga ega boʻlgani uchun qogʻoz va kosmetika ishlab chiqarishda ham qoʻllaniladi.

Oʻzbekiston turli aluminosilikatlarga boy manba hisoblanadi. Kaolinning eng yirik zahiralari Oltintepa hududida joylashgan boʻlib, uni qazib olish faol olib borilmoqda. Mamlakatda, ayniqsa, Qoraqalpogʻistonda slyudaning katta zahiralari ham mavjud. Aluminosilikatlarning bu zahiralari Oʻzbekistonga ushbu minerallarning yetakchi ishlab chiqaruvchisi va eksportchisi boʻlish imkonini beradi. Dunyo va Oʻzbekistonda aluminosilikatlarning geologik va mineralogik xossalari ularni turli sanoat tarmoqlarida qoʻllash imkonini beradi. Ularsiz zamonaviy qurilish, elektronika va elektr jihozlari ishlab chiqarish, shuningdek, boshqa koʻplab tarmoqlarni tasavvur qilib boʻlmaydi.

Shunday qilib, aluminosilikatlar qimmatli geologik va mineralogik xossalarga ega boʻlib, turli faoliyat sohaslarida keng qoʻllaniluvchi jahon va Oʻzbekistonda muhim oʻrin tutadi. Ushbu foydali qazilmalarning yuqori sifati va katta zaxiralari tufayli Oʻzbekiston xalqaro bozorda yetakchi oʻrinni egallab turibdi.

Aluminosilikatlar, ayniqsa, adsorbsiya sohasida keng qoʻllanilishiga ega boʻlgan materiallar sinfidir. Ularning noyob fizik-kimyoviy xossalari ularni samarali adsorbent sifatida ishlatish imkonini beradi.

Aluminosilikat adsorbentlarini qayta ishlatishning fizik-kimyoviy asosi shundaki, ular turli xil muhitlardan keraksiz moddalarni olib tashlashga qodir. Ularning yuzasi yuqori adsorbsion faollik va yuqori quvvatga ega, bu ularni ifloslantiruvchi moddalarni olib tashlash uchun ideal qiladi.

Aluminosilikat adsorbentlarining asosiy fizik-kimyoviy xususiyatlaridan biri ularning turli gazlar va suyuqliklar bilan samarali taʼsir oʻtkazish qobiliyatidir. Alyuminiy, kremniy va kislorodni oʻz ichiga olgan kimyoviy tuzilishi tufayli ular turli xil kimyoviy birikmalarni saqlab qolish va olib tashlashga qodir.

Bundan tashqari, aluminosilikat adsorbentlari yuzasida turli funktsional guruhlarning mavjudligi turli moddalarni, shu jumladan organik va noorganik birikmalarni samarali sorbsiyalash imkonini beradi. Bunday funktsional guruhlar adsorbentlarni sintez qilish jarayonida kiritilishi yoki sintezdan keyin qoʻshilishi mumkin.

Shunisi qiziqki, aluminosilikatlar ham foydalanishdan keyin qayta tiklanish qobiliyatiga ega. Bu ularni qayta tiklash va qayta ishlatish mumkinligini anglatadi, bu ularni tejamkor va ekologik toza qiladi.

Aluminosilikat adsorbentlarni qayta ishlatishning fizik-kimyoviy asoslari ularning ifloslantiruvchi moddalarni samarali adsorbsiyalash, turli gazlar va suyuqliklar bilan oʻzaro taʼsir qilish qobiliyatini, ularning yuzasida funktsional

guruhlarning mavjudligini va qayta tiklanish qobiliyatini o'z ichiga oladi. Bu ularni turli xil soxalar uchun ajralmas materiallar va atrof-muhitni muhofaza qilish va ifloslanishni kamaytirishga muhim hissa qo'shadi.

Adsorbentlar - bu o'z yuzasida moddalar yoki zarralarni o'ziga sorbsiyalash va ushlab turish qobiliyatiga ega bo'lgan moddalar. Ular turli sohalarda, jumladan, kimyo sanoati, oziq-ovqat va farmatsevtika sanoati, shuningdek, sanitariya va ekologiyada keng qo'llaniladi. Ushbu matnda biz adsorbentlarni ishlab chiqarishning mavjud va muqobil usullarini ko'rib chiqamiz.

Adsorbentlarni olishning klassik usullaridan biri kimyoviy sintezdir. Bu jarayonda metall oksidi, gil, ko'mir va boshqalar kabi turli xil xom ashyolardan foydalaniladi. Ular turli xil kimyoviy reaksiyalarga kirishadi, buning natijasida adsorbsion faolligi oshgan maxsus tuzilmalar hosil bo'ladi. Kimyoviy sintez ma'lum xususiyatlarga va ekstremal mikro tuzilishga ega bo'lgan adsorbentlarni olish imkonini beradi, ularning turli sharoitlarda samarali ishlashini ta'minlaydi.

Biroq, adsorbentlarni ishlab chiqarishning ekologik jihatdan qulayroq, tejamkor va energiyani tejaydigan muqobil usullari mavjud.

Ushbu usullardan biri tabiiy materiallardan foydalanishdir. Ko'pgina tabiiy resurslar adsorbsion xususiyatlarga ega, shuning uchun ular adsorbentlarni olish uchun ishlatilishi mumkin. Masalan, faollashgan uglerod, gil, diatomli tuproq kabi materiallar sanoatda suv yoki havodagi ifloslantiruvchi moddalarni olib tashlash uchun adsorbent sifatida ishlatiladi.

Diatomli tuproq – namligi yuqori kremniyli cho'kindi jins. Diatomli tuproq o'zining noyob mikro g'ovakli tuzilishi tufayli faollashtirilgan uglerod bilan deyarli taqqoslanadigan adsorbsiya qobiliyatiga va kimyoviy inertlikka ega.

Yana bir muqobil usul - materiallarni faollashtirish. Bu xom ashyoning strukturasi o'zgartirish yoki faollashtiruvchi moddalar qo'shish orqali uning adsorbsion faolligini oshiradigan jarayondir. Faollashtirish natijasida yuqori sirt maydoni va ko'proq faol joylarga ega adsorbentlar olinadi, bu esa yanada samarali ishlashni ta'minlaydi.

Adsorbentlar ishlab chiqarishda nanotexnologiya usullaridan ham foydalanish mumkin. Nanomateriallar katta sirt maydoni va o'ziga xos tuzilish kabi noyob xususiyatlarga ega, bu ularni samarali adsorbent qiladi. Adsorbentlarni ishlab chiqarishda nanotexnologiyadan foydalanish an'anaviy usullar bilan solishtirganda yaxshilangan adsorbsion xususiyatlarga ega va samaradorligini oshiradigan materiallarni olish imkonini beradi.

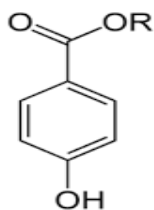
Adsorbentlarni ishlab chiqarishning ko'plab usullari mavjud bo'lib, ularning har biri o'zining afzalliklari va kamchiliklariga ega. Optimal usulni tanlash adsorbentning talab qilinadigan xususiyatlariga, mavjudligiga va iqtisodiy maqsadga muvofiqligiga bog'liq. Ammo ishlab chiqarish usulidan qat'iy nazar, adsorbentlar turli sohalarda muhim tarkibiy qism bo'lib qoladi va atrof-muhitni tozalash va jamiyat xavfsizligi va farovonligini ta'minlashda muhim rol o'ynaydi.

Adsorbentlar yuqori konsentratsiyali ifloslantiruvchi moddalarni o'z ichiga olgan sanoat oqava suvlarini tozalashda asosiy rol o'ynaydi. Ular organik va

noorganik birikmalar, og'ir metallar, neft mahsulotlari va boshqa zaharli elementlar kabi turli moddalarni o'ziga sorbsiyalash va ushlab turishga qodir materiallardir.

Adsorbentlarning asosiy afzalliklaridan biri ularning yuqori samaradorligi va past konsentratsiyalarda ham suvdan ifloslantiruvchi moddalarni olib tashlash qobiliyatidir. Aksariyat adsorbentlar keng ta'sir doirasiga ega va turli sohalarida qo'llanilishi mumkin. Ular, shuningdek, oldingi tozalash jarayonlarida ham, oqava suvlarni intensiv tozalash jarayonlarida ham qo'llanilishi mumkin.

Eng keng tarqalgan adsorbentlardan biri faollashtirilgan uglerod bo'lib, u ifloslantiruvchi moddalarni singdirish va ushlab turishning o'ziga xos xususiyatlariga ega. U neftni qayta ishlash, kimyo, farmatsevtika va oziq-ovqat sanoati kabi turli sohalarida keng qo'llaniladi. Faollashgan uglerod organik birikmalarni, shu jumladan toksik va *parabenlarni* adsorbtsiyalashga qodir, bu uni oqava suvlarni tozalash uchun samarali qiladi.



Parabenlar – para-gidroksibenzoy kislotasining alifatik murakkab efirlaridir. Parabenlar antiseptik va fungisid xossasi tufayli konsentrat sifatida oziq-ovqat, farmasevtika va parfyumeriyada ishlatiladi.

Bundan tashqari, gil, kul, diatomli tuproq va bioaktiv materiallar kabi tabiiy materiallarga asoslangan adsorbentlar sanoat oqava suvlarini tozalash jarayonlarida ham keng qo'llaniladi. Ular og'ir metallar, noorganik birikmalar va organik moddalarni o'zlashtirish qobiliyatiga ega, bu esa oqava suvlarni ifloslantiruvchi moddalardan samarali tozalash imkonini beradi.

Bugungi kunda oqava suvdan turli xil ifloslantiruvchi moddalarni olib tashlaydigan ko'plab turli adsorbentlar ishlab chiqilgan. Adsorbentlardan tozalash jarayonlarida foydalanish chiqindi suvlar tarkibidagi zararli moddalar miqdorini kamaytirish, tozalash samaradorligini oshirish va ekologik me'yorlarga rioya etilishini ta'minlashga yordam beradi, bu esa tabiat va inson salomatligini asrashga muhim hissa qo'shadi.

Shunday qilib, adsorbentlar sanoat oqava suvlarini tozalashda muhim rol o'ynaydi, turli ifloslantiruvchi moddalarni samarali olib tashlashni ta'minlaydi va sanoat jarayonlarining atrof-muhitga salbiy ta'sirini kamaytiradi. Ulardan foydalanish suv resurslarini tejash, toza va xavfsiz yashash muhitini yaratishga yordam beradi.

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THEORETICAL BASIS OF DEVELOPMENT OF TOURISM IN UZBEKISTAN

Abstract. The article entitled tourism is understood as a type of activity related to people's knowledge of the world, which represents the general system of knowledge that has led to the development and integration of mankind over the centuries. The most important thing in the international classification of types of tourism activities is the correct choice of classification feature. Tourism activities are usually based on the needs of visitors, their spending on consumption of goods and services

Key words: international classification, empirical analysis, Tourism activities, goods and services, economics.

Today, the tourism sector is one of the most profitable and rapidly developing sectors in the world, and its contribution to the volume of gross production (services), ensuring employment, gross accumulation of fixed capital and, as a result, the development of the country's economy is significant. Therefore, as an important branch of the country's economy, it is appropriate to make calculations related to the correct analysis of the activity of this sector on the basis of world standards.

Tourism is understood as a type of activity related to people's knowledge of the world, which represents the general system of knowledge that has led to the development and integration of mankind over the centuries. The most important thing in the international classification of types of tourism activities is the correct choice of classification feature. Tourism activities are usually based on the needs of visitors, their spending on consumption of goods and services [124].

In these processes, the main criterion for selecting tourism activities is the offer of tourism products and services, specialization of enterprises and consideration of needs. It is also appropriate to determine the scale of tourism based on demand. Due to the introduction of the preferential direction of tourism expenses, the additional grouping function made it possible to combine this approach within the standard international classification of tourism activities. The offer of tourism covers the demand of those entering the country for tourism purposes, as well as the main categories of goods and services included in tourism

consumption. The activities selected in this process are mutually coordinated and help to fully account for the activities of the sector. Based on these circumstances, countries with developed statistics such as Canada, Australia, and the United States have introduced these accounts into their practice [125]. At the conference held in Ottawa, a project of the tourism development program in the countries of the world was created according to the guide "TST-1993". The process of developing this manual was supervised by a committee consisting of representatives from 36 countries of the world. This organization has organized regional forums in a number of countries of the world. Also, technical assistance missions and regional seminars were organized for a number of countries. User manuals for TST-1993 have been published and distributed. In 1999, JTT hosted the World Conference on Economic Impact Assessment of Tourism. Based on the resolution of the held Conference, the agreement of JTT, IHRT and Eurostat interdepartmental working group was signed. According to it, a single methodological base of TYoH was created. Also, in 2000, the UN Statistical Commission published its manual entitled Tourism Subsidiary Accounts: Recommended Methodological Framework. In this way, TYoH emerged as a unique and perfect statistical tool for evaluating and analyzing the place of tourism in the world economy. Prestigious international organizations also began to widely use these accounts in their analysis. A number of countries have begun to make extensive use of TYoH in creating their own tourism programs and developing tourism measures in the country.

Work aimed at improving tourism statistics was carried out even into the 21st century. The identification of the important characteristics of tourism led to the acceleration of research in the field of tourism. In the following periods, the importance of the tourism sector is increasing in terms of generating income, making a significant contribution to the growth of the regional economy, reducing unemployment in the countries and ensuring stability in the economy. The growing importance of the tourism sector has led to the need to develop tourism statistics that accurately represent the state of this sector. With the change of the status of the World Tourism Organization to a specialized organization of the UN, this organization was assigned the task of coordinating tourism statistics. Also international standards such as "MHT-2008", "Balance of Payments and International Investment Situation (Part 6)", "Statistics of International Trade Services"[124] and IFUT (Part 2), "Product (Goods and Services) The introduction of classifiers such as "classification" served to improve tourism statistics. As a result of tireless research by international and regional organizations, including the UN, JTT, IHRT, Eurostat and representatives of a number of countries of the world, "Tourism statistics" in accordance with the international standards of "IMH-2008", "Balance of Payments and International Investment Situation (6th)" international recommendations - 2008" and "Tourism auxiliary accounting: recommended methodological framework 2008" manuals were developed [125].

These manuals detail tourism-related concepts, definitions, standards, templates, data sources, and recommendations on how to calculate them. These recommendations are the theoretical basis for the development of tourism statistics, and each country develops its own tourism statistics, taking into account the specific aspects of the country, in order to assess the state of tourism development and compare with other countries of the world. From this point of view, we present the main theoretical concepts, definitions and recommendations related to tourism assessment in the country, resulting from the study of the above-mentioned manuals and other sources.

The concept of "usual environment" is one of the main concepts of tourism, which refers to the geographical area that represents the activities related to the normal life of people. This concept more fully expresses the concepts of country of permanent residence used in national accounts and permanent residence used in household statistics. Researching this concept makes it possible to take into account the travel and usual environmental conditions in the life of the country's inhabitants. Places of permanent residence, work, study or (even if distant) frequented places of the population are considered as usual environment.

Each household has a primary residence, which is determined by the time spent permanently there. Apart from this, housing is considered a "Holiday House". A vacation home (field yard) is a second home that is visited by family members for rest, vacation, or other forms of recreation. In "International Recommendations on Tourism Statistics - 2008" [124] it is recommended to consider the visit to holiday homes as a tourism trip and to distinguish it separately in order to ensure comparability.

"Visitor" is a person who leaves his/her usual environment for a period of less than one year for any primary purpose (business trip, leisure or other personal purpose) other than the purpose of employment in a registered enterprise in the visiting country or territory. is a traveler who makes a trip.

"Tourism" is a social, cultural and economic phenomenon associated with the movement of people, including as a form of recreation, as a way of learning about the world around us and gathering spiritual experience, or as a field of broad international cooperation, service and business activities, as well as a direction of state policy. can be seen. A special feature of tourism is determined by the temporary status of the consumer during the observed period: it represents a visit to a place outside of his usual environment for a period of not more than one year, not related to employment in an enterprise permanently located in this area. The above-mentioned characteristics make it possible to distinguish between visitors for the purpose of a tourism trip and ordinary consumers. Visitors who stay in the visited area for 24 hours or more are considered tourists. Tourists can be divided into the following groups according to the purpose of travel:

- recreation, vacation, entertainment, religion, education, sports, medicine;

- business trip, for family reasons, business. A traveler (including cruise tourists) who spends less than 24 hours on a tourism trip in the visited area is considered an "Excursionist".

The formation of specific criteria, system of indicators, standards of tourism directly creates the need to conduct scientific research and study special approaches in this field. Compatibility of tourism with types of economic activities requires correct assessment of its indicators, conducting analyzes in connection with socio-economic processes in the visited areas. Auxiliary accounts serve as the basis for the calculation of indicators for the study of areas that are not allocated as a branch in MHT. Subsidiary accounts are compatible with national accounts, the limits of accounts in national accounts are expanded and redefined. In some of the auxiliary accounts, along with production, calculations are also made on costs.

The need for a complete analysis of the tourism sector in the form of a balance of resources and use requires the creation of a separate subsidiary account. TYoH provides a wide coverage of tourism services (goods) production along with its consumption indicators. From the point of view of consumption, the tourism auxiliary account reflects the expenditure made by visitors on tourism services (goods). From the point of view of production, the tourism auxiliary account reflects the production of tourism services (goods) as a whole.

From this point of view, the 6th table of TYoH is compiled in the form of "Resources and use" tables based on the balance of tourism consumption and production.

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THE ROLE AND CHARACTERISTICS OF THE TOURISM SECTOR IN THE NATIONAL ECONOMY

Abstract. The article entitled tourism is understood as a type of activity related to people's knowledge of the world, which represents the general system of knowledge that has led to the development and integration of mankind over the centuries. The most important thing in the international classification of types of tourism activities is the correct choice of classification feature. Tourism activities are usually based on the needs of visitors, their spending on consumption of goods and services.

Key words: international classification, empirical analysis, Tourism activities, goods and services, economics.

Tourism economy is one of the most important and rapidly developing industries in developed and developing countries. Unlike other sectors of the economy, where the created products are delivered to consumers, tourism ensures the movement of large numbers of people to places where tourism resources are concentrated, and their consumption takes place at the location. The contribution of tourism to the growth of the world economy, including the gross added value created in the sector, population employment, increase in the turnover of goods and services, the impact on the development of transport, information and communication sectors and agriculture is incomparable. In contrast to other types of economic activity in the field of tourism, natural resources are consumed sparingly, and this sector has an intensive effect on population growth. At the same time, tourism is an activity focused on the export of goods and services and is flexible to the changes taking place in the world economy.

The function of tourism to ensure population employment. The tourism sector includes activities that have a great potential for creating new jobs in the country, and is of great importance in solving the problems of providing employment to the population. This sector, while providing employment in the tourism industry, also provides an opportunity to increase employment in the industries operating in cooperation with these industries. This sector of the economy requires highly qualified personnel as well as unskilled workers. In many cases, tourism is given special attention in the development of programs

aimed at providing employment and reducing poverty. Tourism creates important opportunities for employment, especially for the segment of the population that faces certain difficulties in finding work, including young people, women with young children, and others. Income generating function. Economic activity in the field of tourism contributes to the creation of national income through tax revenues and customs payments. Also, the importance of tourism products and services in the structure of the country's exports is incomparable.

If we analyze the amount of income from this activity in countries with developed tourism, we can see the following results. In particular, in 2019, the USA spent 233.5 billion. dollars, Spain 81.3 billion. dollars, France 71.0 billion. dollars, Thailand 65.1 billion. dollars, Italy 51.9 billion. dollars, Great Britain 48.5 billion. dollars, Australia 48.0 billion. dollars, Germany 58.2 billion. dollars, from Asian countries Japan 49.2 bln. dollars, China 40.4 billion. dollars, India 31.7 billion. dollar and Turkey 42.4 billion. dollar are the leaders in this field, earning in the amount of

Currently, the top 10 countries with the highest rates of receiving tourists in the world share

It is 40%. In the 10 countries with the highest indicators of income from international tourism, this indicator

consists of 47.7%. Although the developed countries of the world are leading in the field of tourism in recent years, there is also a significant growth in this field in developing countries.

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**O‘ZBEKISTONNING ISSIQ-QURUQ IQLIM SHAROITIDA
AVTOMOBIL YO‘LLARI QURISHDA ASFALTOBETON TARKIBINI
XISOBLASHNING OPTIMAL USULLARI**

Annotasiya. Ushbu maqolada O‘zbekistonning issiq-quruq iqlim sharoitida asfaltobeton qorishmasidan avtomobil yo‘llarida qoplamalar qurishning o‘ziga xos usullari yoritilgan. Jizzax politexnika instituti olimlari tomonidan asfaltobeton tarkibini hisoblashning bir qancha usullari ishlab chiqilgan bo‘lib, ushbu maqola shular jumlasidandir.

Kalit so‘zlar: Asfaltobeton, yo‘lboq bitum, mineral kukun, mustahkamlik.

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**OPTIMAL METHODS OF CALCULATING THE CONTENT OF
ASPHALT CONCRETE IN THE CONSTRUCTION OF AUTOMOBILE
ROADS IN THE HOT-DRY CLIMATE OF UZBEKISTAN**

Annotasiya: This article describes the unique methods of constructing road pavements from asphalt-concrete mixture in the hot-dry climate of Uzbekistan. Scientists of Jizzakh Polytechnic Institute have developed several methods for calculating the composition of asphalt concrete, and this article is one of them.

Key words: asphalt concrete, road bitumen, mineral powder, strength.

Asfaltobeton strukturasi murakkab bo‘lgan qurilish materiallari sarasiga kiradi. Uning murakkabligi shundan iboratki, uning xususiyatlari rangbarang faktorlarga bog‘liq bo‘lib ob-havoning xarorati natijasida keskin o‘zgarishlarga molik bo‘ladi. Asfaltobetonning bu xususiyatlari yo‘l qurilishida qo‘llaniladigan boshqa qurilish materiallaridan o‘ziga xosligi bilan alohida ajralib turadi. Ob-havoning ijobiy haroratida asfaltobeton o‘zining qovushqoq-plastik holatini, salbiy haroratda esa aksini namoyon qilishi bilan xarakterlidir.

Jizzax politexnika instituti qoshidagi “Qurilish mahsulotlarini sinash” akkreditatsiyalangan laboratoriyasida asfaltobeton qorishmalaridan tayyorlangan standart namunalarni 50⁰S xaroratda siqilishga qarshiligini sinash jarayonida 10-20 kgs/sm² ni, 35⁰S haroratda esa 180-320 kgs/sm² tashkil qilishi va uning mustahkamligi sementobeton mustahkamligiga yaqinlashishi namoyon bo‘ldi. Havo xaroratining o‘zgarishi asfaltobetonning deformatsion xususiyatiga, yo‘l qoplamasining ishlash qobiliyatiga keskin ta'sir etadi. Bu holatlar asfaltobetonning xususiyatlarini o‘rganishda va boshqarishda bir qancha qiyinchiliklarni tug‘diradi.

Xozirgi vaqtga kelib asfaltobetonning xususiyatlariga, uni qo‘llanilishiga bog‘liq bo‘lgan ko‘pgina savollar o‘z echimini topmoqda. O‘tkazilgan ko‘plab tajribalar, sinov ishlari asfaltobetonning yuqori sifatligini, yo‘l qoplamalardagi xolatini uzoq muddatga chidamliligini ta'minlashda muhim rol o‘ynamoqda. O‘tkazilgan ko‘plab ilmiy tajribalar, sinov ishlaridan olingan natijalarni amaliyotda qo‘llash asosiy maqsadimizdir.

Asfaltobeton ishlab chiqarishda asosan tabiiy tosh materiallarni maydalash yo‘li bilan olinadigan (fraksii ot 0 do 5mm) chaqirtoshlardan chiqqan chiqindilar mayda donadorli qumlar sifatida ishlatiladi. Jizzax politexnika instituti qoshidagi “Qurilish mahsulotlarini sinash” akkreditatsiyalangan laboratoriyasida asfaltobeton tarkibini hisoblash jarayonida asosan mahalliy materiallardan keng foydalangan holda tajribalar olib borish bilan yo‘l qurilish ishlaridagi sarf harajatlarni kamaytirishga erishish yo‘llarini yaratishga erishildi. Asfaltobeton tarkibini hisoblashda ishlatiladigan materiallar xilma-xilligini, donadorlik tarkibini, maydalanish darajasi bo‘yicha mustahkamlik markasini, sifatini va barcha fizik mexanik xossalarini tekshirilib, o‘rganilgandan keyin ГОСТ 12801-98 «Материалы на основе органических вяжущих для дорожного и аэродромного строительства» me'yoriy hujjatida ko‘rsatilgan talablar bo‘yicha 1000kg miqdordagi issiq asfaltobeton uchun inert materiallar miqdori hisoblab chiqiladi. Jizzax politexnika instituti qoshidagi “Qurilish mahsulotlarini sinash” akkreditatsiyalangan laboratoriyasida inert materiallar bilan bog‘lovchi modda (bitum) ning o‘zaro bog‘lanishi asosida tayyorlangan namunalarning GOST 9128-2013 ГОСТ 9128-2013 «Смеси асфальтобетонные дорожные, полимероасфальтобетонные, аэродромные и полимероасфальтобетон» texnik sharti bo‘yicha fizik-mexanik xossalarini aniqlash ishlar olib borildi.

Olib borilgan ilmiy izlanishlar natijasiga ko‘ra mahalliy inert materiallar bilan birgalikda tabiiy tog‘ jinslarining maydalash natijasida olingan mineral kukunni roli aloxida ahamiyatga ega bo‘lib, u asfaltobeton qorishma tayyorlashda uning strukturasi shakllantirish, bog‘lovchining (bitum) qovushqoqligini, yirik va mayda bog‘lovchilar bilan tishlashishini, bog‘lovchi (bitum) tarkibidagi moy va parafin qo‘shimchalarni o‘ziga shimib olish xususiyatlari byu bilan xarakterlidir. Hozirda Jizzax viloyatidagi asfaltobeton ishlab chiqarish zavodlarida slanes,

diabaz, uglerodli oxaktosh kabi tabiiy tog‘ materiallaridan mineral kukun sifatida foydalanib kelinmoqda.

Asfaltobeton qoplamalar qurishdagi ko‘p yillik tajribalar shuni ko‘rsatadiki, me‘yorida tanlab olingan materiallardan issiq asfaltobeton qorishmasi tayyorlashning texnologik jarayoni to‘g‘ri olib borilsa, ya‘ni, ishlab chiqarish texnologiyasi talab darajasida amalga oshirilsa uzoq muddatga chidamli, muntazam transport xarakati jadalligiga turib beradigan qoplama yuzaga keladi.

Jizzax politexnika instituti qoshidagi “Qurilish mahsulotlarini sinash” akkreditatsiyalangan laboratoriyasida asfaltobeton tarkibini loyihalash ishlari asosan SoyuzdorNII usulidan foydalanilib, respublikamizning ob-havosini inobatga olgan holda, ishlatilinayotgan materiallarning granulometrik jixatlari va barcha sifatlarini tekshir yo‘li bilan olib boriladi. Tanlangan materiallardan laboratoriya sharoitida sinash uchun namunalar tayyorlanib ularning quyidagi hossalari tekshiriladi:

1. To‘ldiruvchilarning donadorlik tarkibi
2. Suv shimuvchanligi
3. Ko‘pchishi
4. 20⁰Sda mustahkamligi
5. 50⁰Sda mustahkamligi

Asfaltobeton tarkibini loyihalash texnik topshiriqga asosan olib borilib, unda asfaltobeton turi, ishlatilish va qo‘llanish sharoiti, mineral kukun va bog‘lovchilarning xarakteristikalarini o‘rganilib chiqiladi va olingan natijalarga ko‘ra hozirda xarakatdagi ГОСТ 12801-98 “Материалы на основе органических вяжущих для дорожного и аэродромного строительства” me‘yoriy hujjati talablari bo‘yicha materiallar va mineral kukun sarfi ishlab chiqiladi. Ishlab chiqilgan tarkib bo‘yicha sinash uchun namunalar tayyorlaniladi. Tayyorlangan namunalarning sinov natijalari ГОСТ 9128-2013 “Смеси асфальтобетонные дорожные, полимеробетонные, аэродромные и полимероасфальтобетон” me‘yoriy hujjat talablari bo‘yicha asfaltobeton tayyorlovchi tsexga 1000kg issiq asfaltobeton qorishma tayyorlashga tarkib loyihalaniladi.

Jizzax politexnika instituti qoshidagi “Qurilish mahsulotlarini sinash” akkreditatsiyalangan laboratoriyasida tanlab olingan materiallarning birinchi navbatda optimal zichligi, bitumning optimal miqdori va mineral qo‘shimchalarning tanlab olingan miqdordagi qismidan 3-4 xil usulda asfaltobeton qorishmadan (0,5% interval bilan) sinash uchun namunalar tayyorlandi. Bu qorishmalarga aktivlashtirilgan mineral kukun qo‘shilganda qorishmaga sarf bo‘ladigan bitum miqdori 0,5-1,0% gacha kamayishi va mustahkamligi me‘yorida bo‘lishi aniqlandi. Laboratoriyada olib borilgan tajriba sinov ishlari bevosita Jizzax tumani YXPTF korxonasi asfaltobeton tsexida qo‘llanilib, asfaltobeton qorishma tayyorlanildi va Jizzax shaxrining ichki yo‘llarida qo‘llanildi.

Olingan natijalar shuni ko'rsatdiki, asfaltobeton tarkibi to'g'ri tanlanganligi, to'ldiruvchi materiallar me'yorida tanlab olinganligi va qoplama yotqizishda texnologik talablar to'g'ri olib borilganligi natijasida Jizzax shaxrining ichki yo'llaridagi qoplamalar sifati, uzoq muddatga chidamliligi bilan ajralib turadi.

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MODERN TECHNOLOGIES FOR TEACHING FOREIGN LANGUAGES

Abstract. This article explores different types of learning and teaching technologies such as collaborative learning, project-based learning, student-centered learning, distance learning. In this article, author gives some details about these effective technologies which instructors can use in their teaching process.

Key words: teaching technology, learning technology, collaborative learning, project-based learning, student-centered learning, distance learning.

The term “learning technologies” or “pedagogical technologies” is used to denote a set of methods of work of a teacher, methods of his scientific organization of work, with the help of which the achievement of learning goals is ensured with the greatest efficiency in a minimum period of time. Most researchers consider learning technologies as one of the ways to implement a personal-activity approach to learning, thanks to which students act as active creative subjects of learning activities [1].

In the methodology of teaching foreign languages, modern teaching technologies usually include: collaborative learning, the project method (project technologies), technology of centered learning, distance learning, the use of a language portfolio, the tandem method, intensive teaching methods, the use of technical means, primarily computer technologies. Let's look at some of the listed learning technologies.

Collaborative learning is based on the idea of student interaction, on the idea of mutual learning, in which students take not only individual but also collective responsibility for solving educational problems, bear collective responsibility for the success of each student, and help each other. When learning in collaboration, conditions are created for interaction and cooperation in the “student - teacher - group” system. If you combine students into small groups (3-4 people) and give them one common task, stipulating the role of each student in completing the task, then a situation arises in which each student is responsible not only for the result of his work, but also for the result of the entire group. The task is solved through joint efforts, strong students help weak ones. The study group is formed so that it contains both strong and weak students. One rating is given per group. This is the general idea of collaborative learning. Purposeful work in collaboration allows you to increase interest in classes and significantly increase the time of speech practice for each student.

Project-based learning technology is a further development of the concept of learning in collaboration: students take on various social roles and prepare to fulfill them in the process of solving problematic problems in situations of real interaction. The popularity of project technology is explained by the fact that the project task directly connects the process of mastering a foreign language with the acquisition of subject knowledge and the actual use of this knowledge. The specific goal of the project is aimed primarily at achieving not a linguistic, but a practical result in a foreign language (album, collages, diagrams, tables, drawings, photographs, etc.). This allows language to be taught as a social phenomenon, that is, it allows students to be shown how a foreign language can be used. Thus, the creation of a project as a personal educational product makes the process of mastering subject knowledge personally significant and personally motivated for the student. From the above it is clear that the project method involves a group of students solving a problem and creating a material product as a result of joint work on a project. To do this, students need not only knowledge of the language, but also possession of a certain amount of subject knowledge or their search. Of course, project technology is most designed to work with more prepared students in senior secondary schools, where specialized training is provided.

Student-centered learning has become widespread in foreign secondary and higher schools as one of the options for modern teaching technologies. The essence of such training is the maximum transfer of initiative in the classroom to the student himself. From a didactic point of view, this teaching technology involves the most complete disclosure of the student's personal potential, the creation of partnerships between the teacher and students. Communication in a foreign language becomes more effective due to the establishment of partnerships between the teacher and students and the creation of conditions for revealing the personal characteristics of students. One of the Russian developers of centered learning technology is R.P. Milrud. Since the goal of learning within the framework of this technology is the autonomy of students in learning, the student himself must know how best to study. To this end, he chooses language acquisition strategies and tries to use them in the learning process. The goal of self-learning foreign languages is independent study of languages, which manifests itself in the desire for educational autonomy and building one's own individual model of self-learning. Those students who can independently set goals for themselves, develop their own tactics and strategy for achieving these goals, and exercise intermediate and final self-control reach the level of truly autonomous self-learning. Not teaching a language, but teaching how to master a language - this means developing independence in the process of language acquisition.

The relevance of the problem of autonomous self-learning of foreign languages is that people have strived to master foreign languages since ancient times. For a modern person, speaking one, two or more foreign languages is becoming the norm, since there are only a small number of monocultural and

monolingual countries left on our planet. The world we live in is getting smaller. It begins to resemble a common planetary home. And communication in this house is possible only on the basis of interlingual and intercultural mutual understanding and interaction. Therefore, there is a need in society for mass mastery of foreign languages, for increasing the speed and efficiency of their learning, and for the need to train multilingual specialists. The consequence of this was an increase in interest in self-learning foreign languages. Self-learning theory is an ancient science. Even Thomas Aquinas wondered whether a student could be his own teacher at the same time. Autonomous self-learning is defined today as an individually organized learning process outside of an educational institution [2]. His goal is to learn languages independently.

“Tandem method” - this teaching method implements the concept of a student-centered approach in language education. It is one of the ways of autonomous (independent) learning of a foreign language by two partners with different native languages, who work in pairs. The goal of the tandem is to master the native language of your partner in a situation of real or virtual communication, get to know his personality, the culture of his country, as well as obtain information on areas of interest. This method appeared in Germany in the late 60s of the 20th century during German-French youth meetings. Later, two main forms of work within its framework emerged - paired and collective, which can be integrated into one another. The most important principles that reveal the essence of the tandem method are the principles of reciprocity and the principle of autonomy. The principle of reciprocity assumes that each of the tandem participants will receive the same benefit from communication, and the principle of autonomy is based on the fact that each of the partners is independently responsible in their part of the training for the choice of the goal, content, means of training and for its final results [3].

In 1992-1994, work began on creating an international tandem network on the Internet. Its goal is to organize virtual communication aimed at mastering the native language of the tandem partner in the process of mutual learning using the Internet. This method is considered by Russian researchers as one of the promising options for using modern teaching technologies in language classes [4].

As a result of regular exchange of emails, writing skills are improved and knowledge is expanded language systems, the ability to search and correct one's own and others' mistakes is formed, horizons and regional knowledge are expanded, knowledge of working with a computer and using the Internet is improved. This teaching technology deserves mass introduction into the system of school and university teaching of foreign languages.

Distance learning - this form of organizing the educational process involves learning at a distance using computer telecommunication networks. Students independently complete the tasks assigned to them, which are checked by the teacher in person, or the teacher monitors the students' work via e-mail. The main feature of distance learning is the indirect nature of telecommunication

communication between teacher and student. Distance learning courses in disciplines are designed for careful and detailed planning of the student's activities, delivery of the necessary training materials, and highly effective feedback. In Russia, some options for organizing distance learning in foreign languages have currently been developed and the effectiveness of such training has been proven [5].

Distance learning allows you to widely use the world's cultural and educational values accumulated on global Internet networks, study under the guidance of experienced teachers, improve your skills and deepen your professional knowledge. In connection with the planned mass computerization of educational institutions in the country, distance learning can be considered as one of the most promising forms of education in the system of modern technologies. Language portfolio as a language teaching tool. A language portfolio is an innovative educational tool as part of an integral educational and methodological set. This is a methodological tool, a tool for assessing and self-assessing the level of proficiency in modern languages. A language portfolio can be defined as a package of working materials that reflects the results of a student's educational activities in mastering a foreign language. This set of materials makes it possible to evaluate the student's educational achievements, as well as the experience of his educational activities. It ensures the development of the student's productive activity and his personal development as a subject of the educational process. The use of a language portfolio reflects the general trend of shifting the emphasis in language education from the concept of language teaching to the concept of mastering language and culture, that is, to the independent learning activity of the student. The language portfolio is considered as a kind of "mirror" of this process, which reflects the student's achievements through his self-esteem. A language portfolio allows the student and teacher to trace the dynamics of language acquisition over a certain time and thereby reflect the progressive path of the student's language development.

In language classes, various types of portfolios have become widespread, for example, the European Language Portfolio, 1997. The most widespread in the context of secondary and higher education are two types of portfolios: Demonstration portfolio and Teaching portfolio. The first contains samples of the student's best independent work, with the help of which he can show his achievements in using the target language when applying for a job or when entering an educational institution, as well as experience in intercultural communication. The second type of portfolio contains materials and recommendations for students' independent work on various aspects of the language being studied. The main pedagogical function of a teaching-type portfolio is to develop the student's ability and readiness to independently study the language and foreign language culture.

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ADDRESSING LEARNING DISABILITIES IN EDUCATION: STRATEGIES FOR INCLUSIVE CLASSROOMS

Abstract. Learning disabilities are a common challenge faced by many students in today's educational settings. These disabilities can impact a student's ability to learn, process information, and succeed academically. Inclusive classrooms play a crucial role in supporting students with learning disabilities by providing a supportive and accessible learning environment that meets their unique needs. This article explores strategies for creating inclusive classrooms that empower students with learning disabilities to thrive and succeed in their academic journey.

Keywords: Professional development, teacher learning, feedback, staff development, student achievement, best evidence synthesis.

Learning disabilities are complex neurodevelopmental disorders that can have a significant impact on an individual's ability to learn and succeed in academic settings. While these disabilities do not reflect a person's intelligence, they can present challenges in various areas of learning, including reading, writing, math, and language comprehension. One of the most common learning disabilities is dyslexia, which affects reading and decoding skills. Individuals with dyslexia may struggle to recognize words, comprehend written text, and develop proficient reading skills. Dysgraphia, on the other hand, impacts writing abilities, making it difficult for individuals to produce coherent and legible written work [4]. Dyscalculia affects math skills, making it challenging to understand and manipulate numbers and perform calculations accurately. In addition to these specific learning disabilities, individuals may also experience auditory processing and visual processing disorders, which can impact their ability to comprehend auditory information or process visual stimuli effectively. These challenges can have far-reaching implications for academic performance and overall learning outcomes. It is crucial for educators and parents to adopt a holistic approach to supporting students with learning disabilities. By recognizing and understanding the unique strengths and challenges of these individuals, appropriate interventions and accommodations can be implemented to facilitate learning and academic success.

Creating an inclusive classroom environment is essential for supporting the diverse needs of all students, including those with learning disabilities. By implementing effective strategies and approaches, educators can ensure that every student has the opportunity to learn, grow, and succeed in a supportive and accessible setting. One key strategy for promoting inclusivity in the classroom is differentiated instruction. By tailoring instruction to meet the unique needs of

individual students, educators can provide varied learning activities, materials, and assessments that align with students' learning styles and abilities [6]. This approach allows students with learning disabilities to access the curriculum at their own pace and in ways that support their academic growth. Universal Design for Learning (UDL) principles also play a crucial role in creating an inclusive classroom environment. By designing lessons that accommodate different learning preferences and abilities, educators can provide multiple means of representation, engagement, and expression to support diverse learners, including those with learning disabilities. This approach ensures that all students have the opportunity to participate and demonstrate their knowledge effectively. Collaborative learning activities are another effective strategy for promoting inclusivity in the classroom. By incorporating group projects, peer tutoring, and cooperative learning opportunities, educators can foster a sense of community and collaboration among students. This allows students with learning disabilities to learn from their peers, develop social skills, and benefit from different perspectives and strengths within the classroom [1]. Assistive technology tools and resources are invaluable in supporting students with learning disabilities. By integrating tools such as text-to-speech software, graphic organizers, and speech recognition programs, educators can help students access the curriculum and demonstrate their knowledge in ways that suit their individual needs and preferences. Individualized Education Plans (IEPs) and 504 Plans are essential for outlining specific accommodations, modifications, and support services for students with learning disabilities. By collaborating closely with special education professionals and parents, educators can ensure that students receive the necessary support to thrive academically and succeed in the classroom. Positive behavior support strategies are vital for creating a positive and inclusive classroom culture. By promoting respect, empathy, and understanding among students, educators can establish a supportive environment that reinforces positive behaviors and addresses challenges in a constructive manner. Flexible seating arrangements, such as providing options for different learning preferences and sensory needs, can also contribute to inclusivity in the classroom [5]. By offering flexible seating options, quiet areas for concentration, and visual supports, educators can create a comfortable and accessible learning environment that caters to the diverse needs of all students. Culturally responsive teaching is another important aspect of creating an inclusive classroom environment. By recognizing and celebrating the diversity of students' backgrounds, experiences, and identities, educators can incorporate culturally relevant materials, perspectives, and examples in the curriculum. This approach ensures that learning is meaningful, engaging, and relevant for all students.

The importance of professional development and training for educators cannot be overstated. As educational landscapes continue to evolve and change, teachers must stay current with research-based practices, new technologies, and innovative instructional strategies to effectively meet the needs of their students.

One key aspect to consider when planning professional development opportunities for teachers is the need for a comprehensive needs assessment [3]. By identifying specific areas where educators require support, schools can tailor training options to meet those needs. Whether it's classroom management, technology integration, assessment practices, or social-emotional learning, providing targeted professional development can help teachers improve their skills and enhance their effectiveness in the classroom. Offering diverse learning opportunities is also essential to cater to the various learning styles and preferences of teachers. From workshops and conferences to online courses and peer observations, providing a range of options allows educators to choose the format that best suits their learning needs. Collaborative learning experiences, such as peer-to-peer learning and mentoring, can also be valuable in building a strong professional community and promoting continuous improvement. Personalized learning plans can help teachers set goals and identify areas for growth, while coaching and mentoring can provide personalized support and guidance to help educators reach their full potential. Encouraging reflective practice and staying current with research and trends are also crucial for fostering continuous growth and improvement among teachers. Finally, schools must evaluate the effectiveness of professional development activities and collect feedback from teachers to ensure that training opportunities are meeting their needs [2]. By creating a culture of continuous learning and growth within the school community, educators can stay motivated, engaged, and committed to their professional development journey. In conclusion, investing in professional development and training for educators is essential for supporting teacher effectiveness, improving student outcomes, and creating a culture of continuous improvement within schools. By prioritizing ongoing learning opportunities and providing personalized support, schools can empower teachers to enhance their skills, expand their knowledge, and ultimately make a positive impact on student learning.

Conclusion. In conclusion, creating an inclusive classroom environment involves implementing a variety of strategies and approaches to support the diverse needs of all students, including those with learning disabilities. By embracing differentiated instruction, UDL principles, collaborative learning, assistive technology, individualized plans, positive behavior support, flexible seating arrangements, and culturally responsive teaching practices, educators can create a welcoming and inclusive learning environment where every student has the opportunity to thrive and succeed. By prioritizing inclusivity and supporting students with learning disabilities, educators can ensure that all students receive the necessary resources, accommodations, and support to reach their full potential academically and socially.

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MAKSVELL MAYATNIGI YORDAMIDA JISMLARNING INERTSIYA MOMENTINI ANIQLASH

Annotatsiya. Mazkur maqolada - talabalarni faol ta'lim olish jarayoniga jalb qilish, ularning bilim, ko'nikma va malakalarini oshirishda fizika fani bo'yicha o'quv materiallarini puxta o'zlashtirish, zamonaviy va yangi o'quv-laboratoriya asbob va jihozlaridan samarali foydalanishda talabalarga yordam berish ko'rsatilgan.

Kalit so'zlar: Inertsiya momenti, kuch momenti, burchak tezlik, Maksvell mayatnigi, Shteyner teoremasi, disk, halqa.

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DETERMINING THE MOMENT OF INERTIA OF A RIGID BODY USING A MAXWELL PENDULUM

Abstract. In this article – to involve students in the process of active learning, to improve their knowledge, skills and competences, to thoroughly master the educational materials in physics, to use modern and new teaching-laboratory tools and equipment effectively. is shown to assist students in use.

Key words: Moment of inertia, moment of force, angular velocity, Maxwell's pendulum, Steiner's theorem, disk, ring.

Kirish: Fizika fanidan laboratoriya ishlarini bajarishdan maqsad talabalarning nazariy bilimlarini mustahkamlash, fizika qonunlarini kundalik turmushda hamda ishlab chiqarishda qo'llay bilishlariga zamin tayyorlash, amaliy ko'nikma va o'lchov malakalarini hosil qilishdan iborat.

Laboratoriya sharoitida jismlarning inertsiya momentini turli laboratoriya qurilmalari yordamida aniqlash mumkin (masalan, Oberbek mayatnigi, trifilyar osma mayatnik va shu.k.lar). Xuddi shunday qurilmalardan biri bo'lgan Maksvell mayatnigi yordamida ham jismlarning inertsiya momentini aniqlash mumkin.

Inertsiya momenti jismlarning aylantiruvchi moment ta'sirida burchak tezliklarining o'zgarishini xarakterlovchi fizik kattalik hisoblanadi.

Moddiy nuqtaning biror aylanish o'qiga nisbatan inertsiya momenti deganda uning m massasini aylanish o'qidan shu nuqtagacha bo'lgan r masofaning kvadratiga ko'paytmasi tushuniladi: $J = m \cdot r^2$ (1)

Biror o'q atrofida aylanuvchi qattiq jismning inertsiya momenti ayrim elementar bo'lakcha-larning shu o'qqa nisbatan inertsiya momentlarining

$$\text{yig'indisiga teng: } J = \sum_{i=1}^n \Delta m_i r_i^2 \quad (2)$$

Agarda jismning markazi orqali o'tuvchi o'qqa nisbatan inertsiya momenti J_0 , bo'lsa, shu o'qqa parallel bo'lgan istalgan o'qqa nisbatan inertsiya momenti quyidagi formuladan topiladi: $J = J_0 + md^2$ (3)

Bu formula Shteyner formulasi deyiladi. Bu yerda d-o'qlar orasidagi masofa, m- jismning massasi.

Qattiq jism aylanma harakati uchun dinamikaning asosiy qonuni quyidagicha yoziladi: $M = \frac{d(J\omega)}{dt}$ (4) bu yerda M- jism qo'yilgan kuch momentlarining yigindisi, ω - uning aylani-shidagi burchak tezligi.

Agarda $M=0$ bo'lsa, u holda $\frac{d(J\omega)}{dt} = 0$ va $J \cdot \omega = const$ bo'ladi.

$J \cdot \omega$ - kattalik harakat momentining impulsi deb ataladi. Shunday qilib aylanma harakat qiluvchi jismga aylantiruvchi momenti ta'sir etmasa, u holda doimiy impuls momenti saqlangan holda uzoq vaqt aylanishi mumkin.

Berk sistema uchun harakat miqdori momentining saqlanish qonunini yozamiz

$$\sum_{i=1}^n J_i \omega_i = const \quad (5)$$

Demak, aylanma harakatda jismning ilgariylanma harakatdagi massasi m o'rniga uning inertsiya momenti J va chiziqli tezligi v o'rniga burchak ω -tezligi ishlatiladi.

Maksvell mayatnigi - gorizontol o'qda simmetrik va qattiq mahkamlangan, ikkita cho'zilmaydigan ip bilan osilgan massiv diskdan iborat qurilma. Muvozanatdan chiqarilgan mayatnik vertikal tekislikda tebranishi mumkin.

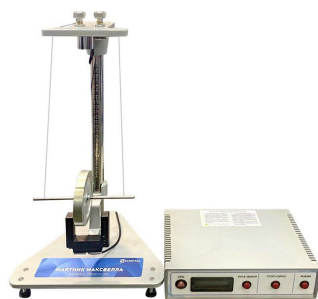
Mayatnik elektromagnit yordamida yuqori holatda ushlab turiladi. Elektromagnit o'chirilganda, gorizontol o'q atrofida aylanadigan Maksvell mayatnik tezlanish bilan vertikal pastga tushadi.

Bunday holda, energiyaning saqlanish qonuni bajariladi, ya'ni, ko'tarilgan mayatnikning potentsial energiyasi ilgariylanma va aylanma harakatining kinetik

$$\text{energiyasiga aylanadi } mgh = \frac{m g^2}{2} + \frac{J\omega^2}{2} \quad (6)$$

bu yerda $m = m_0 + m_d + m_k$ - Maksvell mayatnikining massasi; m_0 - mayatnik o'qining massasi; m_d - diskning massasi; m_k - halqaning massasi.

Olingan ifoda J mayatnikning inertsiya momentini aniqlash uchun ishlatilishi mumkin.



1-rasm. Maksvell mayatnigining umumiy ko‘rinishi.

(6) tenglamadan mayatnikning inertsiya momentini topish mumkin. Buning uchun mayatnikning h balandligi orqali v va ω qiymatlarini ifodalaymiz. Mayatnikning pastga siljish harakatini boshlang‘ich tezligi v_0 bilan bir xilda tezlashtirilgan deb faraz qilsak, kinematik tenglamadan:

$$h = \frac{at^2}{2}, a = \frac{g}{t}, h = \frac{g \cdot t}{2}, g = \frac{2h}{t}, \omega = \frac{g}{R} = \frac{2h}{R \cdot t} \quad (7)$$

bu yerda R - disk o‘qining radiusi. Topilgan v va ω qiymatlarini (6) ifodaga almashtirib, biz quyidagilarni olamiz:

$$mgh = \frac{4mh^2}{2t^2} + \frac{4Jh^2}{2R^2 \cdot t^2} \quad (8)$$

(8) ifoda inertsiya momentiga nisbatan o‘zgartiriladi:

$$J = mR^2 \left(\frac{gt^2}{2h} - 1 \right) \quad (9)$$

(9) ifoda mayatnikning inertsiya momentini tajribaviy aniqlash uchun ishchi formuladir.

Maksvell mayatnikining inertsiya momentining nazariy qiymati inersiya momentlarining yig‘indisiga teng:

a) Mayatnik o‘qining inertsiya momenti

$$J_0 = \frac{1}{8} m_0 D_0^2 \quad (10)$$

bu yerda m_0 va D_0 - mayatnik o‘qining massasi va tashqi diametri.

b) Diskning inertsiya momenti

$$J_d = \frac{1}{8} m_d (D_o^2 + D_d^2) \quad (11)$$

Bu yerda m_d va D_d diskning massasi va tashqi diametri.

c) halqaning inertsiya momenti $J_h = \frac{1}{8} m_h (D_d^2 + D_h^2)$ (12)

bu yerda m_h va D_h - halqaning massasi va tashqi diametri, u holda

$$J_{nazariv} = J_0 + J_d + J_h$$

$$J_{nazariv} = \frac{1}{8} m_0 D_0^2 + \frac{1}{8} m_d (D_0^2 + D_d^2) + \frac{1}{8} m_h (D_d^2 + D_h^2) \quad (13)$$

(13) ifoda Maksvell mayatnikining inertsiya momentining nazariy qiymatini aniqlash uchun ishchi formuladir.

Ushbu tajriba qurilmasida olingan natijalarni to'g'ri baholash uchun mayatnik inertsiya momentining tajribaviy $J_{tajriba}$ va nazariy $J_{nazariy}$ qiymatlarini solishtirish kerak.

Inertsiya momentini aniqlashdagi xatolar quyidagicha ifodalanadi:

$$\varepsilon = \frac{|J_{nazariy} - J_{tajriba}|}{J_{nazariy}} \cdot 100\% \quad (14)$$

Xulosa: Talabalarining nazariy olgan bilimlarini mustahkamlashda, ularning turli o'quv-laboratoriya jihozlari (laboratoriya universal ta'minlash manbai, o'quv laboratoriya ampermetri va voltmetri, raqamli sekudomer, elektron tarozi va sh.k.lar) bilan ishlash ko'nikma va malakalarini hosil qilish katta ahamiyatga egadir. Chunki mustaqil bajariladigan tajribalar ularning bilim, ko'nikma va malakalarini ongli ravishda oshirish, fikrlash qobiliyatini va fanga bo'lgan qiziqishlarini rivojlantirish, kuzatuvchanlik hissiyatini oshirish, borliqni to'g'ri idrok etishni shakllantirishga o'zining ijobiy ta'sirini ko'rsatadi.

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WAYS TO SOLVE CURRENT ENERGY PROBLEMS

Annotation. The article analyzes the estimates of international organizations that due to economic development, the demand for energy will increase by more than 50% by 2030 compared to the beginning of the century, and the total demand will be very high, resulting in a negative impact on the environment.

Keywords: alternative energy sources, renewable energy, solar power, atmosphere, solar power plants, carbon dioxide, wind power plants.

According to international organizations, due to economic development, by 2030 the demand for energy will increase by more than 50% compared to the beginning of the century, and the total demand will be 23.27 billion tons of conventional fuel. This means that the negative impact on the environment is growing.

If such rates continue, it is estimated that the reserves of black gold on the planet will last only 55-60 years. This period is estimated at 70-75 years for natural gas and 150-160 years for coal. In addition, the sustainable use of hydrocarbon resources is degrading the environment and human health, climate change is being observed, and the ozone layer is being depleted. According to experts, 5 billion tons of carbon dioxide are released into the atmosphere every year. tons of carbon dioxide, about 300 million. tons of carbon monoxide. This is 3.5 times more than in the first half of the twentieth century.

Under these conditions, it is natural that the widespread use of alternative energy sources will be on the agenda. This is due to the fact that their types of solar, hydro and wind energy, as well as biomass, are almost unique and renewable, very relevant to the current era of innovative development, and the creation of new jobs. In addition, the equipment and technology working on this basis are environmentally friendly, environmentally friendly and do not lead to man-made disasters.

At present, 10.2% of all energy produced in the world comes from renewable energy sources. By 2050, its share in some species is expected to exceed 70%.

Under these conditions, it is natural that the widespread use of alternative energy sources will be on the agenda. This is due to the fact that their types of solar, hydro and wind energy, as well as biomass, are almost unique and renewable, very relevant to the current era of innovative development, and the

creation of new jobs. In addition, the equipment and technology working on this basis are environmentally friendly, environmentally friendly and do not lead to man-made disasters.

Map of solar flux to the surface According to the study, the solar flux per 1 m² of land perpendicular to the center of the sun (at the time of entering the Earth's atmosphere) is 1367 W / m² (when the sun is constant). As a result of the absorption of sunlight into the Earth's atmosphere, the high solar flux above sea level is equal to 1020 W / m² (at the equator). However, at different times of the day, the angles of incidence of the sun's rays on the ground change slightly due to changes. In winter, this figure can be reduced by 2 times. Solar power plants have advantages and disadvantages, just as each process has advantages and disadvantages. Advantages of solar power plants: - Prospective, renewable source; - Environmentally friendly and cost-effective; - Renewability of fuel source; - Increased demand for alternative energy sources; - Minimum impact on environmental climate change.

Disadvantages of solar power plants: - Dependence on weather, seasons and time of day for power generation; - The need for additional traditional energy sources in the field of industrial production; - Regular dusting of the panel surface; - Occupying a lot of space. Figure 2. Solar photovoltaic device and consumers: 1 – photoelectric module (solar panel); 2 - inverter charging control device; 3 - rechargeable battery; 4– Consumers The world's demand for electricity has grown by about 50% over the last 5 years. By 2050, solar power plants will reduce carbon dioxide emissions to the environment by 20-25% of annual electricity. Converting only electricity from sunlight to heat energy is a useful example. The Sun alone sends so much heat to our planet every day that it is 20 times more energy consumed by the world's population year-round. Accordingly, last year, 120 billion solar cells were installed at solar stations around the world. More than kWh of electricity was generated. In a number of developed countries, including Germany, the share of non-conventional energy is planned to reach 15% by 2015 and 25% by 2020.

According to statistics from the Department of Energy, in 2001 (solar electricity) the energy received from solar collectors was \$ 0.09–0.12 per kWh, and by 2015–2020 this value will reach \$ 0.04–0.05 and increase economic efficiency. Currently, there are companies around the world that produce solar photovoltaic cells, including:

- China Yingli - 2300 MW
- USA First Solar - 1800 MW
- China Trina Solar - 1600 MW
- Canada Canadian Solar - 1550 MW
- China Suntech - 1500 MW
- Japan Sharp - 1050 MW
- China Jinko Solar - 900 MW
- US SunPower - 850 MW

REC Group - 750 MW

Korea produces high-quality competitive solar photovoltaic cells Hanwha SolarOne - 750 MW

The share of wind and solar energy has more than doubled since the signing of the Paris Agreement on Climate Change in 2015. At that time, the figure was 4.6 percent.

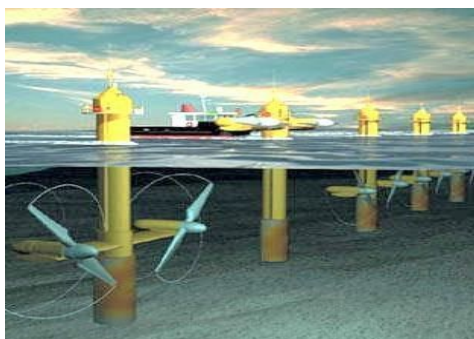
In the first half of 2020, the volume of energy from fossil fuels, the most polluting fuel, decreased by 8.3%.

Analyses show that many large countries, including China, the United States, India, Japan, Brazil and Turkey, get at least 10 percent of their total energy from wind and solar. Britain and the European Union deserve special praise, as they receive 21 and 33 percent of their energy from renewable sources, respectively.

According to the forecasts of the Global Wind Energy Council (GWEC), by 2030 the volume of offshore wind energy worldwide may increase from 29.1 GW in 2019 to 234 GW.

The world's largest sales turbine based on the principle of rise and fall. The turbine, which operates on the basis of the principle of the rise and fall of the water supply, converts the kinetic energy of the water flow into the electric current, which comes in the same direction as the wind turbine. The world's largest hydroelectric power plant near Northern Ireland has a capacity of 1.2 MW. It consists of 2 grain turbines with a diameter of more than 20 m. Due to the rotation of the turbine's turbine system, the turbine and the waves are adapted to each direction. To service the turbine, it may be lifted from the water.

The cost of 1 MW of installed power produced by such a system 5 million equal to a dollar. This is the cost of offshore wind turbines 30% more. However, in 2015, off the coast of South Korea, the cost of 820 million. It is planned to install a turbine operating on the principle of rising and falling water levels with a capacity of more than 1 MW. It is noteworthy that the widespread introduction of such "green technologies" in agriculture, energy, waste management, transport, education and science in our country will create more than 550,000 new jobs over the next ten years.



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TALABALARNING AXBOROT MADANIYATI RIVOJLANTIRISHNING NAZARIY METODIK ASOSLARI

Annotatsiya. Ushbu maqolada talabalarning axborot madaniyatini shakillantirishning nazariy jihatdan asoslanganligi va bu sohada ilmiy izlanishlar olib brogan olimlarning axborot madaniyatiga bergan tariflari taxlel etilgan.

Kalit so‘zlar: Axborot madaniyati, axborot, axborot madaniyati tarixi.

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THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE DEVELOPMENT OF STUDENTS' INFORMATION CULTURE

Abstract. This article analyzes the theoretical basis of the formation of students' information culture and the rates given to information culture by scientists who have conducted scientific research in this field.

Keywords: Information culture, information, history of information culture.

"Axborot madaniyati" tushunchasi madaniyatning odamlar hayotining axborot jihati bilan bog‘liq qirralaridan birini tavsiflaydi. Axborot jamiyatida ushbu jihatning roli doimiy ravishda oshib bormoqda; va bugungi kunda har bir inson atrofidagi axborot oqimlarining yig‘indisi shunchalik katta, xilma-xil va tarmoqli bo‘lib, u axborot muhiti qonunlarini bilishni va axborot oqimlarini boshqarish qobiliyatini talab qiladi. Aks holda, u yangi sharoitlarda hayotga, xususan, ijtimoiy tuzilmalardagi o‘zgarishlarga moslasha olmaydi, buning oqibati axborot faoliyati va xizmatlari sohasida ishlaydigan odamlar sonining sezilarli darajada oshishiga olib keladi.

Hozirgi vaqtda axborot madaniyatining ko‘plab ta'riflari mavjud. Keng ma'noda axborot madaniyati deganda etnik va milliy madaniyatlarning ijobiy o‘zaro ta’sirini, ularning insoniyatning umumiy tajribasi bilan bog‘lanishini ta’minlovchi tamoyillar va real mexanizmlar majmui tushuniladi.

Tor ma'noda - nazariy va amaliy muammolarni hal qilish uchun belgilar, ma'lumotlar, ma'lumotlar bilan ishlash va ularni manfaatdor iste'molchilarga taqdim etishning maqbul usullari; axborotni ishlab chiqarish, saqlash va uzatish uchun texnik muhitni takomillashtirish mexanizmlari; kadrlar tayyorlash tizimini ishlab chiqish, shaxsni axborot vositalari va axborotlaridan samarali

foydalanishga tayyorlash.

Axborotlashtirish sohasidagi etakchi mahalliy mutaxassislardan biri Э.П. Семенюк axborot madaniyatini jamiyatda amalga oshirilayotgan barcha axborot jarayonlari darajasini va mavjud axborot munosabatlarini ob'ektiv tavsiflovchi butun insoniyat madaniyatining axborot komponenti sifatida tushunadi.

Axborot madaniyati tarixi ming yillarga borib taqaladi. Boshlanish nuqtasini hayvonot olamiga xos bo'lgan vaziyat signaliga rasmiy munosabatning mazmunli, faqat insonga xos bo'lgan o'zgarish momenti deb tan olish mantiqan to'g'ri. Mazmun birliklarining almashinuvi tilning rivojlanishi uchun asos bo'lib xizmat qildi. Yozuv paydo bo'lgunga qadar tilning rivojlanishi og'zaki nutq usullarining keng doirasini yuzaga keltirdi va ma'no va matn bilan muomala qilish madaniyatini yuzaga keltirdi. Yozma bosqich og'zaki axborot madaniyatining barcha xilma-xilligini o'z ichiga olgan matn atrofida to'plangan.

Insoniyatning axborot madaniyati turli davrlarda axborot inqirozi ostida larzaga kelgan. Eng muhim miqdoriy axborot inqirozlaridan biri yozuvning paydo bo'lishiga olib keldi. Bilimlarni saqlashning og'zaki usullari axborotning o'sib borayotgan hajmini to'liq saqlashni va axborotni moddiy tashuvchida yozib olishni ta'minlamadi, bu esa axborot madaniyatining yangi davri - hujjatli filmni keltirib chiqardi. U hujjatlar bilan muloqot qilish madaniyatini o'z ichiga oladi: qat'iy bilimlarni olish, ma'lumotlarni kodlash va yozib olish; hujjatli qidiruv. Axborot bilan ishlash osonlashdi, fikrlash tarzi o'zgardi, ammo axborot madaniyatining og'zaki shakllari nafaqat o'z ahamiyatini yo'qotmadi, balki yozma bilan munosabatlar tizimi bilan ham boyidi.

Zamonaviy axborot madaniyati o'zining barcha oldingi shakllarini o'ziga singdirdi va ularni yagona vositaga birlashtirdi. Ijtimoiy hayotning alohida jihati sifatida u ijtimoiy faoliyatning subyekti, vositasi va natijasi sifatida harakat qiladi, odamlarning amaliy faoliyatining tabiati va darajasini aks ettiradi. Bu sub'ektning faoliyati va yaratilgan narsalarni saqlash, madaniy ob'ektlarni tarqatish va iste'mol qilish jarayonining natijasidir.

Гендина Н.И. o'qituvchining axborot madaniyatini insonning ijtimoiy tabiati bilan bog'liq bo'lgan va uning turli ijodiy qobiliyatlari mahsuli bo'lgan shaxsning umumiy madaniyatining tarkibiy qismlaridan biri sifatida tushunadi. Uning ta'kidlashicha, o'qituvchining axborot madaniyati uning axborot dunyoqarashini, ham an'anaviy, ham yangi axborot texnologiyalaridan foydalangan holda kasbiy axborotga bo'lgan ehtiyojni optimal qondirish uchun mustaqil faoliyatni ta'minlaydigan bilim va ko'nikmalar tizimini tavsiflaydi.

Л. И. Лазаревaning fikricha, o'qituvchining axborot madaniyati - bu mutaxassisning axborot madaniyatining bir turi, kasbiy pedagogik faoliyat sohasi bilan belgilanadigan shaxsning axborot madaniyatining bir qismi, bu axborot dunyoqarashi va axborot kompetensiyasi, ta'lim jarayoniga tarjima qilingan, axborot va ta'lim mahsulotlarining sifatini aniqlaydigan va talabalarning axborot madaniyatini rivojlantirishga qaratilgan.

Shaxsning axborot madaniyati - bu insonning umumiy madaniyatining

tarkibiy qismlaridan biri, an'anaviy va yangi axborot texnologiyalaridan foydalangan holda individual axborot ehtiyojlarini optimal qondirish uchun maqsadli mustaqil faoliyatni ta'minlaydigan axborot dunyoqarashi va bilim va ko'nikmalar tizimi.

Pedagogika fanlari doktori, KSUKI dotsenti N.B.Zinovyeva shaxsning axborot madaniyatini shakllantirishning asosiy predmetini "ijtimoiy ahamiyatga molik axborotning butun hajmini o'zlashtirish jarayonida shaxsning ichki dunyosini uyg'unlashtirish jarayoni" deb hisoblaydi.

Pedagogika fanlari doktori, Sankt-Peterburg davlat madaniyat va madaniyat universiteti professori V.A.Minkina "insonning axborot madaniyatini shakllantirish uning kundalik faoliyatida o'zlashtirilgan kundalik bilim va ko'nikmalar, ommaviy axborot vositalaridan olingan ma'lumotlar ta'sirida amalga oshiriladi, deb hisoblaydi. o'z-o'zini tarbiyalash paytida, oilada va ishda o'qish paytida".

Pedagogika fanlari doktori, Moskva davlat madaniyat va madaniyat universiteti professori Yu.S.Zubovning talqiniga ko'ra, "axborot madaniyati – bu bilim, ko'nikma va ko'nikmalarning tizimlashtirilgan majmui bo'lib, u har bir insonning o'zini o'zi boshqarishga qaratilgan individual axborot faoliyatini optimal tarzda amalga oshirishni ta'minlaydi. kasbiy va noprofessional ehtiyojlarni qondirish".

Kemerovo davlat madaniyat va san'at akademiyasining yetakchi mutaxassislari N.I.Gendina, N.I.Kolkova, I.L.Skipor, G.A.Starodubovalar "shaxsiy axborot madaniyati" tushunchasining quyidagi talqinini taklif qiladilar

"Shaxsning axborot madaniyati - bu shaxs umumiy madaniyatining tarkibiy qismlaridan biri; an'anaviy va yangi axborot texnologiyalaridan foydalangan holda individual axborotga bo'lgan ehtiyojni optimal qondirish uchun maqsadli mustaqil faoliyatni ta'minlaydigan axborot dunyoqarashi va bilim va ko'nikmalar tizimi. Bu muvaffaqiyatli kasbiy va noprofessional faoliyatning, shuningdek, axborot jamiyatida shaxsning ijtimoiy xavfsizligining eng muhim omilidir".

Shu bilan birga, axborotning o'sishi chegaralari va axborot madaniyatining sifati va zarurligi haqida o'ylash juda muhimdir. Shuni esda tutish kerakki, "axborot miqdorining ko'payishi bizning undan foydalanish qobiliyatimizni sezilarli darajada kamaytirishi mumkin, ya'ni. axborot miqdori va uning qiymati tubdan farq qiladi.

Axborot madaniyati umuman madaniy faoliyatning eng muhim jihatlaridan biri sifatida qaralishi kerak. Madaniyat singari, u ham insonning «ikkinchi tabiati» (ijtimoiy) bilan uzviy bog'liq bo'lib, uning aqliy qobiliyatining mahsuli bo'lib, sub'ekt-ob'ekt va sub'ekt-sub'ekt munosabatlarining mazmunli tomoni sifatida harakat qiladi, turli moddiy vositalar yordamida qayd etiladi. Bunda sub'ekt deganda ob'ektiv-amaliy faoliyat va bilimlarning tashuvchisi shaxs (yoki ijtimoiy guruh), ob'ekt esa sub'ektning ko'rsatilgan faoliyati nimaga qaratilganligi tushuniladi.

Axborot madaniyati bir vaqtning o'zida insonning madaniy voqelikni,

insoniyat yaratgan barcha boyliklarni va voqelikning o'zini, madaniy-ijodiy faoliyat natijasida paydo bo'lgan qadriyatni o'zlashtirishning zarur samarali omili va bevosita madaniy atribut sifatida ishlaydi. mavjudligi, shaxsiy ko'rinishlari (xulq-atvor, turli shakllar aloqa va boshqalar).

Inson faoliyatining barcha sohalariga yangi axborot-kommunikatsiya texnologiyalarini faol joriy etish axborot jamiyati shakllanishi sharoitida samarali faoliyat yurita oladigan badiiy mutaxassislarni (madaniyatshunoslar, musiqachilar, xoreograflar, vokalchilar, rejissyorlar) tayyorlash muammosini hal qilishni taqozo etadi., axborot va bilim muhim resursga, shuningdek, ijtimoiy-iqtisodiy, texnologik va madaniy taraqqiyotning haqiqiy harakatlantiruvchi kuchiga aylanganda. Shu nuqtai nazardan, axborot madaniyati bo'lajak mutaxassisning yuqori professionalligining ajralmas belgisidir.

Jamiyat va shaxsning axborot madaniyati insonni uzluksiz tarbiyalash imkoniyatini ta'minlashi va uning qabul qilingan qarorlar uchun mas'uliyatini oshirishi kerak. Birinchi holda, axborot madaniyati vaziyatni har tomonlama tahlil qilish asosida mustaqil ravishda bilimlarni oshirish, faoliyat doirasini o'zgartirish va o'z xatti-harakatlarini tartibga solishga qodir bo'lgan shaxsni ijtimoiy himoya qilish vositasi sifatida ishlaydi. Ikkinchidan, axborot madaniyati jamiyatni insonning puxta o'ylangan harakatlaridan himoya qilish vositasi bo'lib, har qanday sohada – ijtimoiy, iqtisodiy, texnologik bo'yicha fundamental qarorlar barcha mavjud ma'lumotlarni chuqur tahlil qilgandan keyingina qabul qilinishining kafolatidir.

Axborot madaniyati tushunchasi ko'p qirrali ekanligini aniqlab, uni iloji boricha kengroq tahlil qilish uchun uning tarkibiy qismlarini ko'rib chiqish kerak.

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THE MAIN TYPES OF TREES AND SHRUBS AND THEIR SIGNIFICANCE IN THE GREENING OF THE CITY OF NUKUS

Abstract. This article talks about the selection of the main types of trees and shrubs and their importance in landscaping the city of Nukus. Before choosing ornamental trees and shrubs in the irrigated lands of Karakalpakstan, we should consider the natural and geographical conditions of the place. This is because the conditions of each region are different. Choosing ornamental trees in such areas requires deep knowledge and experience.

Key words: greening, tree species, phenological observation, introduction, importance.

Before choosing ornamental trees and shrubs in the irrigated lands of Karakalpakstan, we should consider the natural and geographical conditions of the place. This is because the conditions of each region are different. Choosing ornamental trees in such areas requires deep knowledge and experience.

In order to correctly select new plant seedlings introduced for the purpose of landscaping, it is very important to know the decorative qualities of plants, as well as to take into account their biological characteristics and their requirements for external environmental conditions. Because different trees have different requirements for temperature, light, air humidity. Plants go through a series of stages in their individual development - from juvenile to maturity. During these periods, a plant is characterized by different sizes, shapes, and growth rates of its branches.

These allow you to determine which species to grow in which climate and how to use them.

In order to study the life of trees and shrubs introduced to the conditions of the city of Nukus and their seasonal events, the following observations were made [2; pp. 208-212]:

- ✚ swelling of leaf buds and flower buds;
- ✚ flowering period of trees;
- ✚ fruiting age of trees;
- ✚ repetition of fruiting;
- ✚ ripening period of fruits and seeds;
- ✚ the colors of the fruit;

The obtained results were recorded in special tables (Table 1).

Periods of seasonal events in trees and shrubs

Tree and shrub species	Fruiting age of trees	Repetition of fruiting	Flowering period (months)	Periods of maturation	Fruit color
<i>Amorfa fruticosa</i>	3-4	every year	may-june	august-september	brown color
<i>Ulmus pumila</i>	8-10	every year	april	april-may	gray color
<i>Robinia pseudoacacia</i>	3-4	every year	april-may	august-september	brown color, black
<i>Acer campestre</i>	5-10	every year	may-june	september - october	yellow, red
<i>Acer negundo</i>	6-8	1-2	april-may	september - october	yellow, red
<i>Populus nigra</i>	8-10	1-2	april	may-june	green
<i>Populus alba</i>	8-10	1-2	april-may	may-june	green

Many introduced ornamental tree and shrub species were identified during the next 10 years during the monitoring of many test areas and the surroundings of city buildings of the city of Nukus, Republic of Karakalpakstan (Table 2) [1; pp. 208-212].

Identification of introduced tree species in Nukus

Tree species	The height of the tree is m,	Soil demand	Scenicness	Homeland	Tree condition
1	2	3	4	5	6
<i>Juniperus virginiana</i>	15-30 m, up to	It grows in dry stony, sandy and marshy and moist loamy soils	Antlers are narrowly ovate or spreading. Branches from the bottom of his body	North America	Satisfactory
<i>Platycladus orientalis</i>	up to 10 m	It grows in different soils. But it grows well in calcareous sandy soils.	The horn is pyramidal in shape.	Mountains of North China	Satisfactory
<i>Robinia pseudoacacia</i>	Up to 18-25 m	It grows in relatively saline soils of dry, even steppe and	The cones are pyramidal or spherical in shape.	North America	Satisfactory

		semi-desert regions.			
<i>Acer campestre</i>	up to 10-15 m	Less demanding on soil fertility, resistant to saline soils.	The horn is wide pyramidal.	North America	Good
<i>Catalpa speciosa</i>	15-20m, up to	It also grows on relatively weak sand soils and dry clay soils.	Branches are pyramidal or wide. The body grows upright.	North America	Good
<i>Ligustrum vulgare</i>	up to 3-4 m	It grows in relatively weak saline soils.	Living walls are used in planting.	Japan	Good
<i>Amorfa fruticosa</i>	3-6 m, up to	Does not choose soil. It also grows in saline soil. It grows better in sandy soils.	A bush with bent branches. Living walls are used in planting.	North America	Satisfactory
<i>Salix babylonica</i>	up to 10-15 m	Less demanding on soil fertility, resistant to saline soils.	A tree with ring-shaped branches.	Iran	Good
<i>Sophora japonica</i>	up to 15 m	The soil is not picky, it is resistant to soil dryness and salinity.	It is very decorative, especially during the flowering period, with dark green, thick branches and harmonious leaves.	China, Japan	Good

Based on the information collected from scientific sources about scenic and protective forest trees and the data in the above table collected from practical experimental areas, according to the climate and soil conditions of the place, and based on the analysis of the ecological conditions of those that give the best results in greening In the conditions of the city of Nukus, depending on the condition of the soil, it is recommended to grow the following trees:

In the saline lands of the city of Nukus: *Juniperus virginiana*, *Platicladus orientalis*, *Robinia pseudoacacia*, *Acer campestre*, *Catalpa speciosa*, *Amorfa fruticosa*, *Salix babylonica*, *Sophora japonica* like trees

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NUROTA TIZMASINING TURISTIK IMKONIYATLARI VA HUDUDDA EKOTURISTIK MARSHRUTLARNI ISHLAB CHIQISH

Annotatsiya. Mazkur maqolada Nurota hududlarining turistik imkoniyatlari va hududda tabiiy, tarixiy, antropogen va tabiat yodgorliklaridan iborat diqqatga sazovor joylarning ekoturistik marshrutlarni ishlab chiqish, hududdan turizmni rivojlantirish maqsadida baholash bo'yicha taklif va tavsiyalar ishlab chiqilgan.

Kalit so'zlar –Nurota, Uxum, Mojrum, „Istiqlol“ istirohat bog'i, „Eyfel“ minorasi, Sovurbel dovoni, Xonbandi to'g'oni va sharsharasi, Mojrum archasi, Xazrati Eshon xalifa ziyoratgohi, Osrafsay, qoyatosh rasmlar, Nur chashmasi.

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TOURIST OPPORTUNITIES OF THE NUROTA RANGE AND DEVELOPMENT OF ECO-TOURISTIC ROUTES IN THE AREA

Annotation. In this article, suggestions and recommendations have been developed for the evaluation of the tourism potential of the Nurota region and the attractions of natural, historical, anthropogenic and natural monuments in the region in order to develop ecotourist routes and develop tourism from the region.

Key words - Nurota, Ukhum, Mojrum, "Istiqlol" recreation park, "Eiffel" tower, Sovurbel pass, Khanbandi dam and waterfall, Mojrum arch, Hazrat Eshan Caliph shrine, Osrafsai, rock paintings, Nur fountain.

Kirish. Turkiston tizmasidagi g'arbiy turistik hududi hisoblangan Nurota tog'lari turistik obyektlar rang-barang bo'lib, tog', adir, cho'l va ko'l tabiati hamda tabiiy yodgorliklar va ziyoratgoh hududlarni ko'pligi bilan ajralib turadi. Bu yerda 100 dan ortiq tabiiy yodgorlik va ziyoratgohlar bor bo'lib, ularni har birini alohida-alohida o'rganish va turizmdagi ahamiyati jihatida baho berilishi lozim.

Nurota tizmasi sharqdan-g'arbga tomon 264 km masofaga cho'zilgan bo'lib, eng baland nuqtasi Uxum va Majurum soylar boshlanadigan Hayotboshi cho'qqisi (2169 m) hisoblanadi. Hayotboshi cho'qqisi tog'ning markaziy qismida joylashgan. Tog'ning markaziy qismi, sharqiy va g'arbiy qismlarga nisbatan baland bo'lib, o'rtacha balandligi 1750 m ni tashkil qiladi. Bu qismda Hayotboshi

(2169 m) cho‘qqisidan tashqari, Katta Fozilmon (2134 m), Qarchig‘ay (2105 m) kabi cho‘qqilar ham bor. G‘arbiy chekkasi Nurota shahri meridianida absolyut balandligi 400-450 m ga yetadigan tepaliklarga aylanadi va asta-sekin Qizilqum cho‘liga qo‘shilib ketadi. Sharqiy qanoti esa 650-700 m balandlikdagi past tog‘ (Yetimtog‘) ko‘rinishida Jizzax shahri hududiga qadar kirib boradi.

Asosiy qism. Hozirgi kunda Yetimtog‘da, bolalarni dam olishi uchun “Istiqlol” istirohat bog‘i barpo qilingan. “Istiqlol” istirohat bog‘ida turli xil atraksionlar, basseyn, karusel hamda kichikroq bo‘lsa ham hayvonot bog‘i tashkil qilingan. Yetimtog‘ning eng baland qismida tashqi ko‘rinishidan shamol tegirmonini eslatadigan, yog‘ochlar bilan qurilgan o‘ziga xos dizaynerga ega bo‘lgan shinamgina bar faoliyat yuritmoqda. Yetimtog‘ Jizzax shahrini ramziy ma‘noda “Eyfel” minorasi deb ta‘riflanadi. Sababi, bu yerga kelgan kishi butun shaharni tomosha qilish imkoniyatiga ega bo‘ladi. Shahar va uning atrofini tomosha qilish uchun bir nechta binokllar o‘rnatilsa tashrif buyuruvchilar soni yana ham oshirish mumkin. Sovurbel dovoni (1162 m) Forish tumanining markazi Bog‘don shaharini, Qarobdol va Garasha kabi aholi punktlari bilan bog‘lab turadi. Sovurbel dovoni bahor faslida tabiatining go‘zalligi bilan kishini o‘ziga maftun etadi. Sovurbel dovonining shimoliy yonbag‘iridagi buloq bo‘yida yo‘lovchilar dam olishi uchun choyxonalar ham qurilgan. Bu dovon orqali o‘tuvchilar ko‘p bo‘lgani (taxminan bir kunda 1000 kishidan ko‘proq) uchun hordiq chiqaradigan joylar va kempinglar barpo etilsa yaxshi samara beradi. Shuningdek, dovonda ba‘zi yillari qish qattiq kelganda, qalin qor bilan qoplanib, transport qatnovi to‘xtab qolish holatlari ham kuzatilgan. Turkiston tizmasining sharqdan-g‘arbga tomon pasayib borishini dovonlarning balandligiga qarab ham aniqlansa bo‘ladi. Masalan, Turkiston tizmasining sharqiy qismidagi Shahrison dovoni (Tojikiston hududida) ning balandligi 3380 m, markazida joylashgan G‘o‘ralash dovonining balandligi 2710 m va eng g‘arbida joylashgan Sovurbel dovonining balandligi esa 1162 m ni tashkil etadi. Sovurbel dovonidan shimolda Nurota tizimiga tegishli bo‘lgan Xonbandi tog‘i joylashgan. Xonbandi tog‘i yonbag‘rida X asrning oxirlarida Qoraxoniylar hukmronligi davrida qurilgan Xonbandi to‘g‘oni bo‘lib, bugungi kungacha yaxshi saqlanib kelingan. Xonbandi to‘g‘oni Forish tumani Bandi shaharchasining shimoliy yonbag‘rida joylashgan. Xonbandi to‘g‘oni dara oldini to‘sib, taroshlangan granit toshlaridan berchlanib qurilgan. Xonbandi to‘g‘onining pastki qismi qisqaroq 24,35 metrni, yuqori qismi 51,75 metrni tashkil qiladi. To‘g‘on balandligi 15,25 metrdan iborat bo‘lib, suv to‘lganda uzunligi 1,5 km ga yetadigan suv omborni hosil qiladi (Og‘a Burgutli, 2008). Xonbandi to‘g‘oni bahor oylari to‘lib, suvlari sharshara ko‘rinishda tepadan pastga oqib tushadi. Xonbandi to‘g‘onidagi ushbu sharsharaning eni salkam 52 m ni, balandligi esa 15 m ni tashkil etadi. Mutaxassislarning aniqlashicha, mazkur to‘g‘on inshooti O‘rta Osiyo - ko‘hna Turon xalqlari bunyod etgan sug‘orish inshootlari orasida eng qadimgisidir.

Xonbandi to‘g‘oni va sharsharasi



Shu o‘rinda Xonbandi sharsharasini ba‘zi bir jihatlariga ko‘ra Afrikadagi Viktoriya sharsharasiga taqqoslasa bo‘ladi. To‘g‘ri, nam tropik o‘rmonda joylashgan Viktoriya sharsharasining o‘lchamlari (eni 1800 m va balandligi 120 m) va suv hajmi bo‘yicha Xonbandi sharsharasidan bir necha 100 barobar kattadir. Lekin maftunkorligi jihatidan o‘xshash tomonlari bor. Viktoriya sharsharasining gumburlovchi tovushlari 20 km lik masofadan ham eshitilsa, Xonbandi sharshara atrofini yalang tekisliklar egallaganligi sababli 10 km lik masofadan ko‘rish mumkin. Xonbandi sharsharasi bahor va yoz faslining boshlarida arid hududli mintaqaga hayot baxsh etib turadi. Xonbandi sharsharasini tomosha qilish va dam olish maqsadida, bahor faslida ko‘plab mahalliy sayyohlar tashrif buyuradilar.

Kelgusida Xonbandi sharsharasi va unga tutash bo‘lgan Nurota tog‘lar tabiati hamda Aydar-Arnasoy ko‘llar tizimini tomosha qilishni o‘z ichiga olgan ekomarshrut loyihasi ishlab chiqilsa, bu o‘z navbatida xorijiy va mahalliy sayyohlarni eng ko‘p jalb qila oladigan yo‘nalishlaridan biriga aylanar edi.

Qadimda ota-bobolarimiz tomonidan suv yig‘ish maqsadida qurilgan bunday gidrotexnik inshootidan, hozirgi kunda ham foydalansa bo‘ladi. Soy suvlari va sel suvlarini bahor faslida, foydasiz oqib ketishini oldini olish lozimdir. Buning uchun oqar suvlar hajmini hisobga olgan xolda, yuqorida ko‘rib o‘tgan Xonbandi to‘g‘oniga o‘xshash to‘g‘onlar qurish lozim. To‘g‘onlar o‘z navbatida, vaqti-vaqti bilan yuz berib turadigan suv toshqinlarini (masalan, G‘allaorol tumani hududidagi 2012 yilgi talofatli sel toshqini) oldini oladi va suv tanqis bo‘ladigan yoz faslida qishloq xo‘jalik yerlari hamda chorva mollarini sug‘orish tizimini yaxshilab, iqtisodiy samaradorlikni oshiradi.

Nurota tog‘ tizmasining markaziy va janubiy yonbag‘irlarida “Nurota tog‘ yong‘oqzor-meva” qo‘riqxonasi joylashgan. Qo‘riqxonasi hududi va uning atroflarida tabiati hamda tabiiy yodgorliklari, tog‘ning boshqa hududlariga qaraganda yaxshi saqlanib qolingani. Majurumsoy qishloq hududida O‘rta Osiyo mintaqasida juda kam uchraydigan daraxt - Sharqiy biota archasi yaxshi saqlanib qolingani. Yoshi taxminan ikki ming yildan ziyod bo‘lgan mazkur biotani

mahalliy xalq savri kabud - “yashil savr” deyishadi. Uning aylanasi salkam 10 metrni tashkil etadi. Bu ko‘p yillik mevali va manzarali daraxtlar tabiiy yodgorlik sifatida Nurota qo‘riqxonasining muhofaza qilinadigan hududi sifatida qo‘riqlanadi.



1-rasm. Madjerum archasi (sharq biotasi)

Mutaxassislarning fikricha, uzoq o‘tmishda bunday archalar Nurota tog‘lari hududida, xususan uning eng baland qismida joylashgan Majurumsoy qishlog‘i atrofidagi tog‘larda juda ko‘p bo‘lgan. Tog‘dagi archazorlar muhofaza qilinmaganligi va ulardan qurilish materiali hamda o‘tin sifatida ayovsiz foydalanish natijasida archazorlar keskin kamayib ketgan. O‘sha qadimgi davrlardan saqlanib qolgan yagona archa Majurumsoy qishlog‘ining o‘rta qismida joylashgan va aynan mana shu holat uning saqlanib qolishiga asos bo‘lgan. Mahalliy xalq orasida Iskandar Zulqarnayn g‘arbdan kelib, Ustrushonaga yurish boshlaganda mazkur daraxt tagida askarlari bilan dam olgan degan gap bor. Ilmiy adabiyotlarda ushbu daraxtni sovur archa deyishadi va u 1400-2500 m balandlikda o‘sadi. Ba’zi ma’lumotlarga ko‘ra sovur archa ikki ming yildan ko‘proq umr ko‘radi. Archa daraxtining turli qismlaridan tabobatda ham foydalanishadi. Masalan, archa qubbalaridan turli moddalar, efir moyi, qatron, qand, mum va organik kislotalar olingan. Qubbasining damlamasi tabobatda siydik haydovchi, balg‘am ko‘chiruvchi va ovqat hazm qilishni yaxshilovchi dori sifatida ishlatiladi. Archadan olinadigan efir moyi jarohatni davolashda qo‘llaniladi.

Uxum, Sintobsoy va Ustun qishloqlarida ham Aleksandr Makedonskiy bilan bog‘liq bo‘lgan joylar, 1000 yoshli daraxtlar davlat muhofazasi ro‘yxatiga olingan. Qo‘riqxonahududidagi Osrafsoyida qoyatoshlarda chizilgan qadimiy rasmlar saqlanib qolingan.

Andagin qishlog‘ida davlat muhofazasiga olingan mo‘tabar qadamjolaridan biri “Hazrati Eshon xalifa” ziyoratgohi bor. “Hazrati Eshon xalifa” ziyoratgohi Jizzax shahridan 120 km, tuman markazi - Bog‘don shaharchasidan 45 km shimoli-g‘arbdagi uzoqlikda joylashgan. Qishloq atrofidagi tabiiy landshaft deyarli o‘zgarmagan, tabiati nihoyatda go‘zal, baland tog‘lar, sersuv buloqlar ko‘p.



2-rasm Hazrati Eshon xalifa ziyoratgohi

“Hazrati Eshon xalifa” ziyoratgohi Andagin qishlog‘ining o‘rta qismida joylashgan. Bu manzilni so‘ngi makon tutib, avliyolik maqomiga erishgan aziz zotning ismlari Jaloliddin ibn Abdukarim bo‘lgan. Piri komil e‘tiqodi bilan o‘zgalarga namuna bo‘lgan, butun hayotini ilm, ma‘rifat va donishmandlikka bag‘ishlagan. Aziz zotning hujralarida eski buyra, kitoblar taxlangan taxta va yostiqlardan boshqa narsa bo‘lmagan.

Ziyoratgohni hozirgi hududi salkam 0,5 gektarni tashkil etadi. Mazkur madaniy meros ob‘ekti hozirda qayta qurilmoqda. Ziyoratgoh hovlisida ajoyib buloq va kichik hovuz bor. Buloq suvi shifobaxsh xususiyatga ega bo‘lib, undan doimo toza zilol suv oqib turadi. Hovuzda relikht hisoblangan gulmohi baliqlari ko‘p.

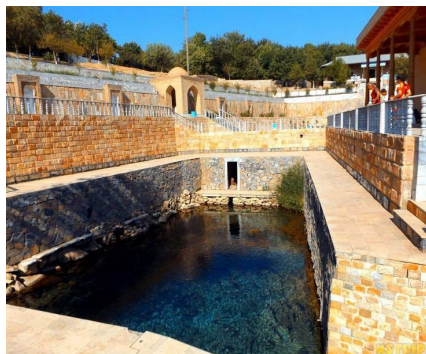
So‘nggi yillarda muqaddas qadamjo atrofi yanada obodonlashtirib turildi va turli xil archa daraxtlari hamda gullar o‘tqazildi. Ziyoratgoh hovlisida bir nechta qadimiy tut va yong‘oq daraxtlari bor. Keksa daraxtlarning yoshi taxminan 250-300 yilni tashkil qiladi.

Bu joylarning tabiati, ziyoratgohlarni hamda mahaliy aholining turmush tarzini tomosha qilish maqsadida xorijdan ko‘plab sayyohlar tashrif buyuradilar. Sayyohlarga xizmat qilish maqsadida “Asraf”, “Andagin”, “Uxum” va “Xayot” qishloqlarida 4 ta uy-mexmonxonalar tashkil qilingan.

Nurota tizmasining g‘arbiy qismida Nurota chashmasi joylashgan. Hyp chashmasi tabiatning noyob tuhfasiga bo‘lib, u bir necha ming yillar davomida ona zaminga obi hayot, insonlar qalbiga nur bag‘ishlab keladi. Akademik Y. G‘ulomovning fikricha, Nur chashmasining paydo bo‘lish tarixi bir necha ming yillik uzok o‘tmishga borib taqaladi. Tadqiqotchi P.Sh Zokirovning fikricha, u uchlamchi antik davrdan buyon oqa boshlagan. Chashma 20 x 30 metrli darg‘ot hovuzdan iborat bo‘lib, u shimolga tomon oqadi. Qadimdan shahar aholisi chashma suvidan unumli foydalangan. Qish faslida to‘rt ariq suvi shahardagi to‘rt hovuzga to‘plangan va ular hozir saqlanib qolmagan.

Chashma suvi tog‘ ichidan, toshlar orasidan sizib o‘tarkan, u ana shu toshlardagi turli xil kimyoviy birikmalarni, tog‘ jinlaridagi har xil elementlarni eritib o‘zi bilan olib keladi. Minerallashtirilgan suvlar yer yuziga chashma bo‘lib otilib chiqadi. Nur chashmasi O‘zbekistonning eng sersuv chashmalaridan bo‘lib, undan bir soniyada 380-400 litr suv qaynab chiqadi. Nur chashmasi dengiz sathidan 524 m balandlikda joylashgan. Chashma suvi xushta‘m, hidsiz, rangsiz,

yumshoq, shirinligi, bir litr tarkibida xlor, sulfat, kaliy, magniy, kalsiy, kremniy, karbonat, natriy kabi oʻn oltita mikroelementlar borligi aniqlangan. Harorati esa hayratomuz: qishin-yozin doimo $+19,5^{\circ}\text{C}$ ni tashkil etadi (Shavkat Ismoilzoda, 2005 y).



3-rasm Nurota chashmasi

Akademik K.Z.Zokirov: “Asrlar osha Nurotaning dongʻini olamga yoyib kelayotgan narsa bu uning chashmasidir”, - deb bejiz aytmagan. Dastlab chashma suvini 1912 yilda rus olimlari A. Dimo va keyinchalik professor A. Nikolaevlar tomonidan tekshirilgan va uning suvi tarkibida 8 xil shifobaxsh minerallarni topganlar. Ximik olim A. Muzaffarov esa chashma suvi tarkibida 20 xil minerallar borligini aniqlagan.

Rus olimi N.A.Kenesarin “Nur chashmasi tarkibida bir qancha mikroelementlar va kimyoviy birikmalar mavjud boʻlib, bu inson organizmi uchun zarur boʻlgan shifobaxsh suvdir” - deb yozgan. Abu Abdullo Rudakiy esa “Dunyoda ikkita nur bor. Biri quyosh nuri, ikkinchisi Nur chashmasidir”, deya chashmani ulugʻlagan.

Nur chashmasi va uning atrofidagi tabiiy - antropogen landshaft - noyob qoʻriqxonadir. Bu yerda tabiiy (chashma landshafti), biologik (shohbaliqlar), meʼmoriy (masjidlar), arxeologik (Nur qalʼasi), tarixiy (Nur tarixi shu yerdan boshlanadi), tibbiy (shifobaxsh suv) yodgorliklar betakrorligi, uygʻunligi bilan dunyoda yagonadir. Olimlarning fikriga koʻra, Nur chashmasining geologik yoshi bir necha ming yil boʻlib, chashma atrofidagi madaniy qatlam yoshi esa 35-40 ming yilga tengdir. Chashma uzra tovlanayotgan nurni har kuni minglab odamlar hayrat bilan koʻrishadi va ushbu sir-sinoatning guvohi boʻlishadi. Shaharning asli Nur deb atalishiga tabiatning ushbu betakror moʻjizasi sabab boʻlgan boʻlsa ajab emas.

Xulosa qilib shuni aytish mumkinki, Nurota togʻlari va togʻ oldi tekisliklarida kishilarni oʻziga jalb qiladigan betakror tabiat manzaralari va tabiat yodgorliklari juda koʻpchilikni tashkil qiladi. Mazkur maqola orqali togʻ hududidagi ayrim obyektlarni keltirib oʻtdik, ushbu maskanlarni koʻrishga tashrif buyurgan har qanday maxalliy va xorijiy sayyohlarni togʻ hududining soʻlim joylariga tashrif buyuruvchilar uchun turistik marshurt yoʻnalishlari ishlab chiqish

va turistik obyektlarni kompleks o'rgangan holda, hududda xalqaro tog' turizmini rivojlantirish mexanizmlarini rivojlantirish muxim masalalardan biri hisoblanadi.

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Jizzax viloyati favqulodda vaziyatlar
boshqarmasi hayot faoliyati xavfsizligini
o'qitish markazining o'qituvchisi*

EVAKUASIYA QILISH TARTIBI VA TAKOMILLASHTIRISH YO'LLARI

Annotatsiya. Ushbu maqolada tabiiy ofatlarda odamlarni xavfsizroq va samarali evakuatsiya qilish uchun sun'iy intellekt texnologiyalaridan foydalanish zarurligi ta'kidlangan. Sun'iy intellekt individual xatti-harakatlar, geologik xususiyatlar va meteorologik sharoitlarni bashorat qilish kabi ko'plab omillarga asoslangan katta hajmdagi ma'lumotlarni tahlil qilishi mumkin.

Kalit so'zlar: Tabiiy ofat, evakuatsiya, zilzila, toshqin, yong'inlar, to'fon, favqulodda vaziyat, tanlov va transport modellari, samarali va xavfsiz evakuatsiya, modellashtirish.

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EVACUATION PROCEDURES AND WAYS OF IMPROVEMENT

Abstract. This article highlights the need to use artificial intelligence technologies for safer and more efficient evacuation of people during natural disasters. Artificial intelligence can analyze large amounts of data based on a variety of factors, such as individual behavior, geological features, and forecasting meteorological conditions.

Keywords: natural disaster, evacuation, earthquake, flood, fires, flood, emergency, selection and transport models, effective and safe evacuation, modeling.

Bugungi kunda dunyoda tabiiy ofatlarning sodir bo'lishi kundan-kunga oshib bormoqda. Ushbu ofatlar natijasida aholini xavfsiz va samarali evakuatsiya qilish zaruriyati tug'iladi va bu butun dunyo bo'yicha dolzarb muammoga aylanib ulgurgan. Bu borada sun'iy intellekt yordamidan keng foydalanilmoqda, desak yanglishmagan bo'lamiz. Turli xil davlatlarda sun'iy intellektdan foydalanishning ko'p bosqichlari tajribadan o'tkazilib kelinmoqda. Sun'iy intellektdan bu muammoni hal etish uchun ko'p foydalaniladi.

Favqulodda vaziyatlar va boshqa ekstremal holatlar sodir bo'lganda yoki sodir bo'lishi xavfi yuzaga kelganda aholini, moddiy va madaniy boyliklarni

muhofaza qilishning asosiy usullaridan biri - evakuatsiyadir. Favqulodda vaziyatlarda aholining sezilarli qismi ko'pincha boshpanasiz, oziqovqat, suv, tibbiy yordam va boshqa asosiy ehtiyojlarsiz qoladi. Shu munasabat bilan bunday vaziyatlarda aholining hayot faoliyatini qo'llabquvvatlash muammosini hal etish, ayniqsa favqulodda vaziyatlar oqibatlarini bartaraf etishning dastlabki davrida, davlat hokimiyati organlari, mahalliy o'zini o'zi boshqarish organlari va FVDT boshqaruv organlarining barcha darajadagi birlamchi vazifalaridan biridir.

Aholini hayotini qo'llab-quvvatlashdan maqsad favqulodda vaziyatlarda aholining fiziologik, moddiy va ma'naviy ehtiyojlarini belgilangan me'yorlarga muvofiq qondirishdan iborat. Shu munosabat bilan favqulodda vaziyatlarda va boshqa ekstremal holatlarda aholini evakuatsiya qilish usullarini, uning boshpanalardagi yashash sharoitlari, ana shu boshpanalarning turlarini ko'rib chiqish masalalari real holatlarda dolzarb bo'lib qolmoqda.

O'rmon yong'inlarini evakuatsiya qilishni modellashtirish bo'yicha mavjud adabiyotlarni ikki toifaga bo'lish mumkin: konseptual modellar va muhandislik modellari. Konseptual modellar xulq komponentlarini tushuntirib, sifat asoslarini ta'minlash va baholash, insonlar orqali qay tarzda borish va favqulodda yong'inlar haqida ma'lumot beradi. Muhandislik modellari tanlov va transport modellari o'z ichiga oladi. Tanlov modellari inson xulq-atvoriga ta'sir qiluvchi omillarni o'rganish va qaror qabul qilish jarayonini modellashtirish uchun mo'ljallangan. O'rmon yong'inlarini evakuatsiya qilishda ular odamlar o'rmon yong'iniga qanday yoki qachon javob berishini va masalan, yong'in xavfi ostida bo'lgan hududni evakuatsiya qilish uchun zarur bo'lgan vaqtni taxmin qilish uchun ishlatilishi mumkin. Boshqa tomondan, transport modellari- bu o'rmon yong'inlari paytida mikroskopik yoki makroskopik transport sharoitlarini simulyatsiya qilishga imkon beradigan vositalar hisoblanadi. Shunday qilib, makroskopik simulyatsiyalar misolida trafik modellar sayohat avlodlari va taqsimotlari, rejim tanlovlari va marshrut topshiriqlari, trafik simulyatorining kiritilishi sifatida aniqlash uchun tanlov modellaridan chiqishni talab qiladi.

Tabiiy ofatlarda evakuatsiya operatsiyasini yuritish juda muhim va ahamiyatli bo'lib, bu sog'lom turmush muhitini himoyalash uchun zaruriy bo'ladi. Bu yerda sun'iy intellekt tizimlari, shuningdek, aksiyon rejalashtirish tizimlari ko'p faoliyat ko'rsatishi mumkin. Avvalgi yillarda, tabiiy ofatlar yuzaga kelganida, evakuatorlar kiruvchi ko'plab bandliklar soni to'plamdan ko'proq bo'ldi. Bular faqat taxminiy rejalashtirishlar ta'bir etadi, chunki xavfli qurollarda va atrof-muhitda milliardlab omillar va faktorlar to'rtburchak o'tkir holat yuzaga kelishiga olib keladi. Bu yerda, sun'iy intellekt tizimlari tomonidan yaratilgan qurilmalar aksiyonlarni o'tkazish va evakuatsiya jarayonini boshqarishning afzalliklarini o'z ichiga oladi. Misol uchun, ta'sirli tsunamida dengizdagi suv sathi yuqoriga oshiriladi. Shu bilan birga, sun'iy intellektli evakuatsiya tizimi tepaga ko'tarilgan turmush markazlaridagi kasalliklarni ko'proq aniqlab berishi mumkin. Bu usulda, qurilma ta'lim sharoitlariga mos kelmasa, yangi situatsiyalarga mos holda ularni tanlab oladi, holatini tekshiradi va qanday yordam o'tkazilishi

kerakligini aniqlaydi. Sun'iy intellekt tizimlarining evakuatsiya jarayonini portlashish va boshqarish yordamlarida yaratishga qodir bo'lgan foydali vositaga ega bo'lishga qaratilgan bo'ladi. Bu, avlod ko'p tomonlama turli xil faoliyatlar uchun ro'yxatga olingan bobga muvofiq qo'shimcha ijobiy ta'sirga sabab bo'lishi ham mumkin.

Shuningdek, 2020-yil 1-may, soat 05:55 da Sirdaryo viloyatida qurilgan "Sardoba" suv ombori to'g'oning buziishu oqibatida, toshqinning birinchi kunida 11598 kishi evakuatsiya qilindi. 2-may kuni esa 60450 kishi xavfsiz joyga ko'chirildi. Keyinchalik amalga oshirilgan evakuatsiya tadbirlari natijasida jami 89 450 nafar aholi vaqtincha xavfsiz hududga ko'chirilgan. Suv ombori hududida aholini lokal xabarlash tizimi bo'lmaganligi sababli, shuningdek, suv bosishi mumkin bo'lgan hudud to'g'risida ma'lumot bo'lmaganligi sababli evakuatsiya tadbirlari suvning bostirib borishi yo'lidagi aholi punktlarida ham amalga oshirilgan. Shuningdek, favqulodda vaziyatlar shtabi ham 3 marotaba ko'chirilgan.

Agar mazkur lokal xabarlash tizimi bo'lganida hamda oldindan suv bosishi mumkin bo'lgan hududlar aniq bo'lganida aholi oldindan xabar topardi va evakuatsiya tadbirlari uchun yetarli vaqt bo'lardi. Ma'lumot uchun: suv bosgan Mirzaobod tumanining Nayman va Baliqchi aholi punktlariga suv toshqini taxminan 6 soatda yetib borgan. Ushbu aholi punktlarida aholi ko'chirib ulgurilgan bo'linsada vaqt kamligi sababli aholining qora mollari orasida yo'qotishlar bo'lgan. Xavfsiz hududlarga ko'chirilgan aholining aksariyat qismi tanish-bilishlarinikiga va qarindosh-urug'larinikiga ko'chib ketgan bo'lsada, kollejlar binolariga joylashtirilgan aholini issiq ovqat va kiyim-kechak bilan ta'minlashda qiyinchiliklar yuzaga kelgan.

Yuqoridagilarni inobatga olgan holda hamda tegishli me'yoriy-huquqiy hujjatlar va qo'llanmalar talablari asosida yuzaga kelishi mumkin bo'lgan favqulodda vaziyatlarda aholini evakuatsiya qilish tadbirlarini to'g'ri tashkil etish maqsadida quyidagilar taklif etiladi:

1. Favqulodda vaziyatlar yuzaga kelganda aholini evakuatsiya qilish tadbirlari bo'yicha me'yoriy-huquqiy hujjatlarga va undagi evakuatsiya tadbirlarini amalga oshirishda mutasaddi vazirlik va tashkilotlarning vazifalariga aniqliklar kiritish;

2. Respublika hududida zararlanishi (suv toshqini, kimyoviy va radiatsion zararlanish) mumkin bo'lgan hududlarga aniqliklar kiritish;

3. Aholini yuzaga kelgan favqulodda vaziyatlar to'g'risida potensial xavfli obyektlarda ularda yuzaga kelishi mumkin bo'lgan favqulodda vaziyatlarning zararlash hududlarini qamrab oladigan aholini lokal xabarlash tizimlarini qayta ko'rib chiqish va ishga tushirish;

4. Aholi bilan barcha o'tkazilayotgan profilaktika tadbirlari hamda fuqaro muhofazasi o'quv mashqlarida evakuatsiya tadbirlarini o'tkazishga alohida e'tibor qaratish.

5. Aholini, boshqaruv organlarining mansabdor shaxslarini, qutqaruv xizmatlari va qutqaruv tuzilmalari, shuningdek, fuqaro muhofazasi tuzilmalarini favqulodda vaziyatlarda harakat qilishga tayyorlash tizimining faoliyatini yanada takomillashtirish;

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ASSESSMENT OF THE EFFECT OF WATER RESERVOIRS ON THE HYDROLOGICAL REGIME OF AMUDARYO

Abstract. The article is devoted to the study of the influence of reservoirs on the hydrological regime of the Amu Darya. For this purpose, the influence of the Norak and Tuyamoya reservoirs on the change in the Amu Darya flow during the year by month and on interannual fluctuations was assessed. The research results make it possible to organize the effective use of transboundary water resources of the Amudarya.

Key words: Amudarya, hydrological regime, water reservoirs, hydropower, irrigation, annual flow, fluctuation of river flow, variability, distribution of flow throughout the year, lower bef.

Introduction. Since the middle of the 20 th century, many reservoirs have been built and put into operation in the Amudarya basin. Among them, the Norak and Tuyamoyin reservoirs are among the largest hydrotechnical facilities in Central Asia. The first of them was built in the upper reaches of the Amudarya, and the second in the lower reaches, for hydropower and irrigation purposes. The Norak Reservoir was fully operational in 1972, and the Tuyamoyin Reservoir in 1979. These reservoirs began to have a great influence on the hydrological regime of the Amudarya, especially on the distribution of the river's flow throughout the year and its interannual variation. But, despite this, studying this issue from a hydrological point of view has been left out of researchers' attention.

The main goal of this article is to study the influence of Norak and Tuyamoyin reservoirs on the hydrological regime of the Amudarya, in particular, on the distribution of the river flow throughout the year and its interannual change, i.e. fluctuation.

Based on the purpose of the research, the following tasks were defined in the article and found their solution in the process of research:

1) Collect and analyze hydrological data about the Norak and Tuyamoyin reservoirs built in the Amudarya basin, as well as the observed hydrological data at the water measuring stations located along the length of the river;

2) Selection of basic hydrological stations that allow to study the annual and interannual changes of the Amudarya flow;

3) assessment of the impact of water reservoirs on the annual and interannual fluctuations of the Amudarya flow based on the data of the selected base hydrological stations.

In accordance with the goals and tasks of the work, the Norak and Tuyamoyin reservoirs, which were built in the Amudarya and its basin and have a great influence on the river flow, were selected as research objects. The subject of the study is the study and assessment of the impact of these hydrotechnical structures, that is, reservoirs on the hydrological regime of the Amudarya, based on the data of the main hydrological stations. In order to achieve the set goal, research methods such as hydrological similarity, geographical comparison, river bed water balance, special hydrological calculations and mathematical-statistical analysis were used in the research process.

Main results and their discussion. It is known that the Norak Reservoir is located in the territory of the neighboring Republic of Tajikistan, and was built in the upper reaches of the Amudarya, more precisely, on the Vakhsh River, which is considered its right tributary. It is one of the largest reservoirs in Central Asia. The water surface area of the Norak reservoir is 98 km², the total volume of water collected in it is 10.5 km³, and the useful volume is 4.5 km³ (Table 1).

Table 1

Large reservoirs in the Amu Darya basin morphometric indicators

Water reservoir	Dam height, m	Started in the year	Water surface area, км ²	Size, км ³		Power, thousand kW Hour
				Full	Useful	
Norak	310	1972	98	10,5	4,50	2700
Tuyamoyin	130	1979	790	7,80	5,27	150

The Norak Reservoir is designed for seasonal control of the flow of the Vakhsh River, i.e. for regulation and production of electricity. The height of the reservoir dam is more than 310 m, and it is the highest structure in Central Asia. Its gates are able to pass an average water consumption of 645 m³/s. Currently, the Norak hydropower station produces an average of 2.7 million per year. kWh of electricity is generated.

The construction of the Tuyamoyin reservoir dam in the lower reaches of the Amudarya, in Khorezm region, began in 1970, and the reservoir was fully operational in 1979. This large hydrotechnical facility also serves to seasonally control the flow of Amudarya for irrigation and energy purposes. The reservoir was built in the Amudarya basin and its left bank, in the territory of the neighboring Republic of Turkmenistan, in 3 natural depressions, namely Kaparas, Sultansanjar, Koshbulok (Fig. 1). These depressions, which are the place of

ancient lakes, are filled with Amudarya water with the help of special water transfer structures.

The total water capacity of the Tuyamoyin Reservoir is 7,80 km³ at the standard humidity level, and the water surface area is 790 km² (Table 1). An average of 150,000 kWh of electricity is produced at the Tuyamoyin hydroelectric power station per year.

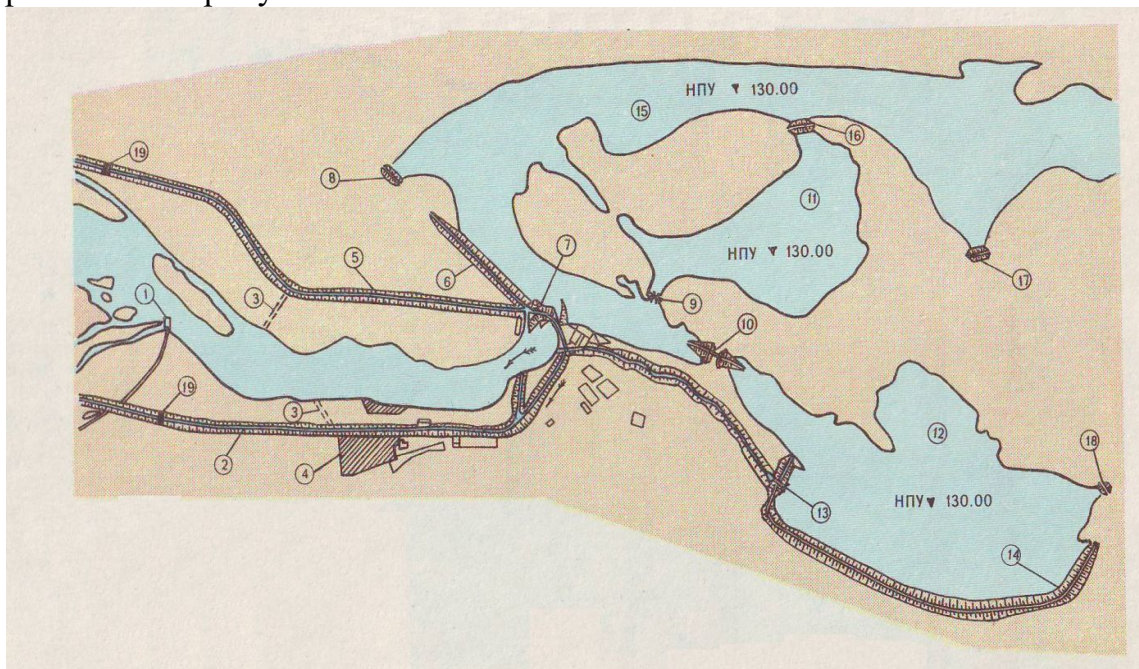


Fig.1. Plan - scheme of Tuyamoyin reservoir

Conventional symbols:

1. The main dam of the Toshsaqa canal 10. Water discharge facility to Sultansanjar
2. Left bank trunk channel 11. Kaparas Reservoir
3. Fishing channel 12. Sultansanjar Reservoir
4. Builders' fortress 13. Deionized water receiving device
5. Right bank main channel 14. Sultansanjar Dam
6. Right Bank Dam, №1 15. Uzan reservoir
7. Hydronodule of the camel's neck 16. Dam, №4
8. Right Bank Dam, №2 17. Dam, №5
9. Kaparas dam 18. Dam, №9

The water collected in the reservoirs described above is used for irrigation, energy, drinking water supply for the population, washing of land and other purposes. Depending on the mode of operation of reservoirs for hydropower purposes and the demand for water, the amount of water stored in them also varies in different values for months and years. In order to study this process, the change of the amount of water collected in the Norak and Tuyamoyin reservoirs by month in 2000-2022 was analyzed (Fig. 2).

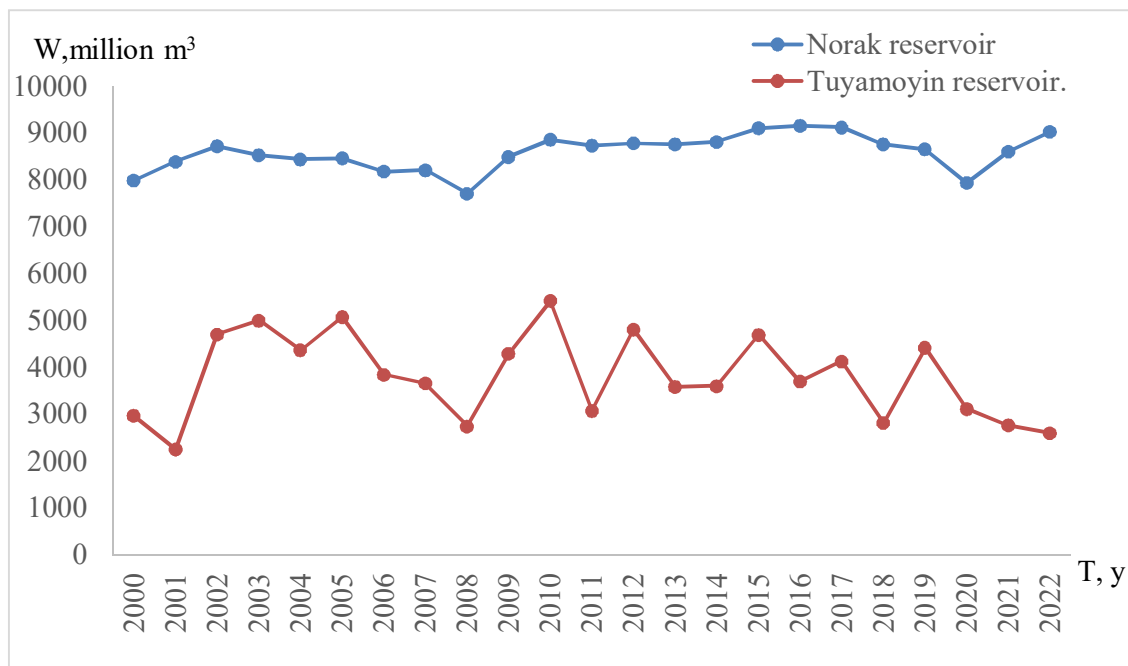


Fig. 2. The amount of water collected in Norak and Tuyamoyin reservoirs Interannual variation of (W).

As can be seen from the diagram, the amount of water collected in the Tuyamoyin reservoir was 2253-3081 million m³, while the amount of water collected in the Norak reservoir was 8391-8734 million m³.

It should be noted that during the former Union, these changes were mainly due to the demand for water used for irrigation purposes. For example, in the spring and summer months, that is, during the vegetation period of plants, the amount of water released from them is somewhat larger and is used to irrigate cultivated fields. In winter, water is released from reservoirs mainly for energy purposes. If this situation applies to the Norak reservoir, the water collected in the Tuyamoyin reservoir is also used for the purpose of washing the salt of cultivated fields in the autumn-winter period, as mentioned above.

In the second task set for the realization of the goal set in the article, it was noted the need to select basic hydrological stations. According to this task, Kerki and Tuyamoyin were selected from among the 10 hydrological stations that have been measuring and monitoring the length of the Amudarya. The first of them, i.e. the data on the elements of the water regime measured at the Kerki hydrological station, reflects the influence of the Norak reservoir and the Karakum canal on the Amudarya flow. It should be noted that the study of the impact of the Karakum Canal on the Amudarya flow is a separate research object. The Tuyamoyin hydrological station located below the Tuyamoyin reservoir of the river is representative in assessing the impact of this reservoir on the Amudarya flow.

Based on the data collected at the Kerki water measuring station, the distribution of Amudarya flow by months during the year was studied for two

accounting periods. The first calculation period covers the natural period from 1911 to 1971, that is, the interval until the construction of the Norak reservoir. The second calculation period refers to the years 1972-2022 and reflects the change of the Amudarya flow under the influence of the anthropogenic factor, that is, the Norak reservoir. The distribution of the Amudarya flow by months during the year was studied for the above-mentioned two calculation periods. Calculations were made on the basis of the average multi-year values of monthly water consumption, and the results obtained for both calculation periods were analyzed by mutual comparison (Fig. 3).

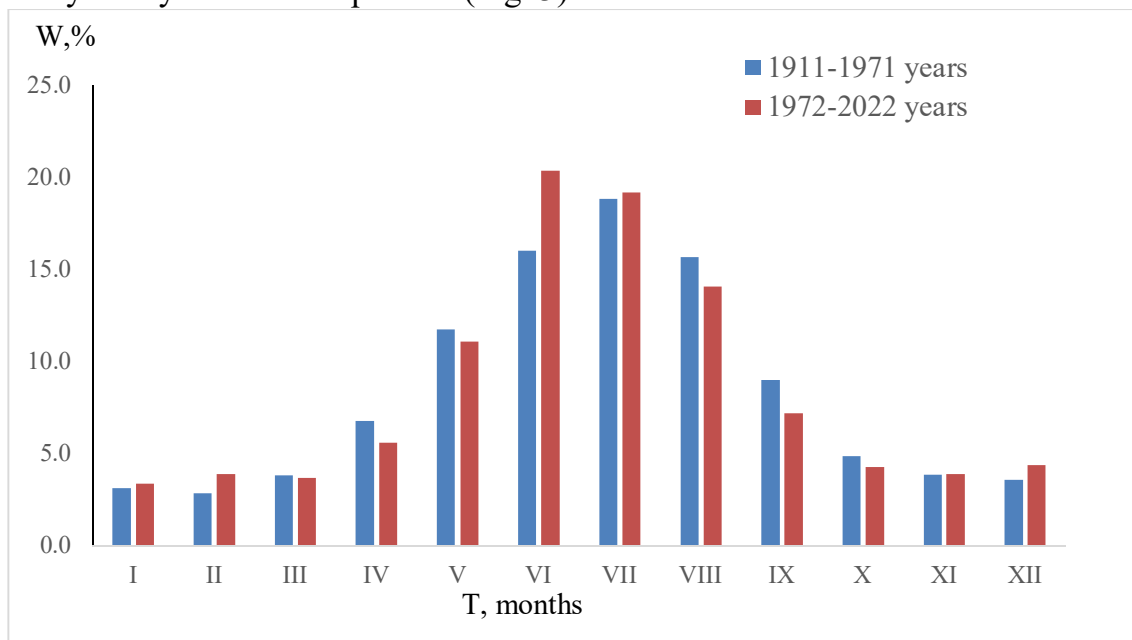


Fig. 3. Distribution of Amudarya flow by months during the year (Kerki post)

As can be seen from this chart, the flow of Amudarya in February was 2,9% of the annual flow in the first calculation period, while it was 16% in June. This indicator increased from 6,8% in April to 15,7% in August. The results of the analysis indicate that in the second accounting period, that is, as a result of the construction of the Norak reservoir, there has been some change compared to the above indicators. For example, in this accounting period, the amount of flow in February was 3,9% compared to the year, and in June it was equal to 20,4 %. So, in the second accounting period, the flow amounts in both months increased compared to the first accounting period.

Based on the data collected at the Tuyamoyin water measuring station, the distribution of the Amudarya flow by months during the year was also analyzed based on two accounting periods. The first accounting period is the natural period of 1953-1979, which includes the period before the construction of the Tuyamoyin reservoir. The second calculation period refers to the years 1980-2022 and shows the change of the Amudarya flow under the influence of the

anthropogenic factor, that is, the Tuyamoyin reservoir. The distribution of the Amudarya flow by months during the year was studied for the above-mentioned two calculation periods. Calculations, as above, were performed on the basis of the average multi-year values of monthly water consumption in both calculation periods, and the obtained results were compared (Fig. 4).

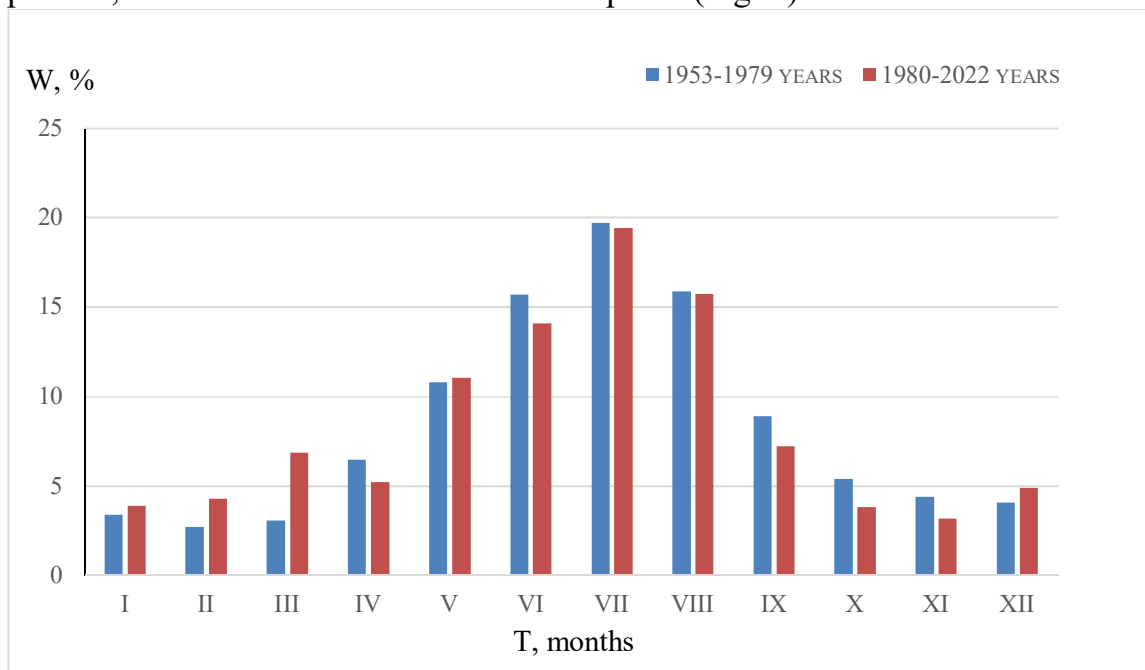


Fig. 4. Distribution of Amudarya flow by months during the year (Tuyamoyin post)

As shown in the above diagram, during the first accounting period, i.e. 1953-1979, before the construction of the Tuyamoyin reservoir, the flow of Amudarya in February was equal to 4,3% of the annual flow, while in July it was 19,7%. This indicator increased from 6,5% in April to 15,9% in August.

In the second accounting period, i.e. after the commissioning of the Tuyamoyin reservoir, the above indicators have changed somewhat. In this period, it was 4,3% in February, and 19,4% in June. So, in this accounting period, the amount of flow in June decreased by 1,7% compared to the first accounting period.

In the article, special attention was paid to the assessment of the effect of Norak and Tuyamoyin reservoirs on the interannual fluctuation of the Amudarya flow. For this purpose, the coefficient of variation (Cv) representing the variability of the river's annual flow was calculated for the aforementioned accounting periods based on the data of both hydrological stations (Table 2).

Table 2

**Kerki and Tuyamoyin hydrological stations of Amudarya
coefficients of variation of observed annual flow**

Kirky		Tuyamoyin	
Accounting period	C _v	Accounting period	C _v
1911-1971	0,18	1953-1979	0,27
1972-2022	0,23	1980-2022	0,41

As shown in the table, the coefficient of variation of the Amudarya flow was equal to 0,18 in 1911-1971 at Kerki post. This value increased by 0,23 for the period 1972-2022. Also, according to the data of the Tuyamoyin hydrological station, the coefficient of variation was equal to 0,27 for the first calculation period, while this indicator was 0,41 for the second calculation period. This result indicates that the flow of the Amudarya is controlled according to the water demand by means of the Tuyamoyin Reservoir. In order to study this issue, the dynamics of flow quantities released from reservoir dams to their lower reaches were studied. The analyzes were performed on the basis of the average annual water consumption recorded in both reservoirs during the years 2000-2022 at our disposal (Figure 5).

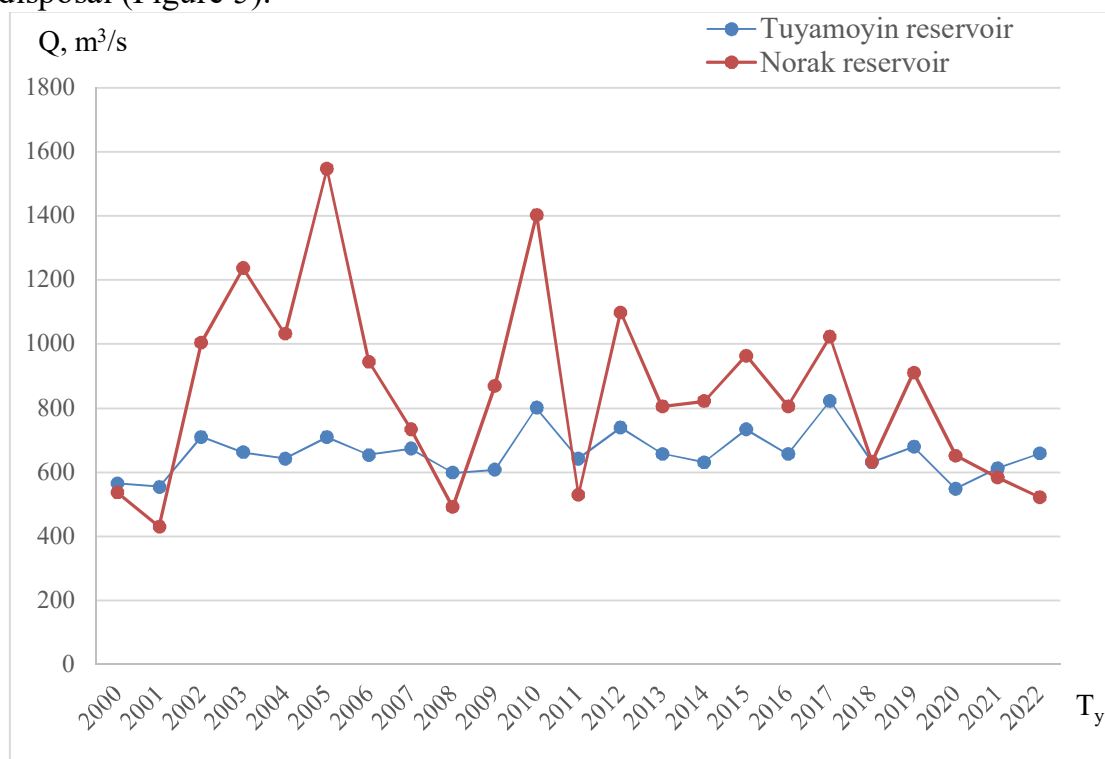


Fig. 5. Changes in the average annual flow from the Norak and Tuyamoyin reservoirs to the lower bef

As can be seen from the diagram, in 2001, 9,8 km³ of water was released from the Norak reservoir, and 16,6 km³ of water was discharged from the Tuyamoyin reservoir. The consumption of water from both reservoirs to the lower

def was observed in 2005-2010-2013 at the highest values. These numbers show that these years were full of water in the Amudarya and its main tributaries.

Based on the results of the research, the following can be noted as a conclusion:

1. Hydrological data about the Tuyamoyin reservoir in the Amudarya and the Norak reservoirs built on the Vakhsh River, its right tributary, as well as the observed hydrological data at the water measuring stations located along the length of the Amudarya, were collected and analyzed;

2. Depending on the goals and tasks defined in the work, basic hydrological observation posts were selected that would allow researching the annual and interannual changes of the Amudarya stream under the influence of the Norak and Tuyamoyin reservoirs;

3. Based on the hydrological calculations and their analysis, the impact of the Norak and Tuyamoyin reservoirs on the change of the Amudarya flow during the year by months and on the interannual fluctuation was evaluated. The results of the research allow to organize the effective use of transboundary Amudarya water resources.

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STUDY OF HEAVY METAL SALTS OF *PHYSALIS ANGULATA* BY ICP-MS METHOD

Abstract. The obtained data show that due to the very small amount of heavy metal salts, this plant species is a very safe and useful raw material for creating biologically active supplements.

Key words: Solanaceae, *Physalis angulata*, elements, mass spectrometry.

Introduction. One of the important representatives of the *Solanaceae* family is the *Physalis* genus, which includes about 120 plant species. *Ph. angulata* originates from tropical America and is found in many countries in tropical Africa [1, p.427]. *Ph. angulata* is an annual herb 80-100 cm tall. The flowers are yellow, small, bell-shaped, 7-8 mm in diameter, but the main distinguishing feature is the calyx of the fruit, which enlarges to cover the fruit and hangs down like a lantern. Each fruit looks like a lantern shaped like a yellow pearl. *Ph. angulata* is a plant that grows as a weed in oases, gardens and cultivated fields as well as plowed areas [2, p.12].

The chemical composition of representatives of the genus *Physalis* is unique and includes flavonoids, saponins, physalins, vitamins, glycosides, polyphenols and other useful substances [3, c.94]. Pharmacological studies show that *Ph. angulata* plant substances showed a certain level of cytotoxic activity in HeLa and Hep-2 tumor cells. This serves as a basis for the hypothesis that there are compounds with high cytotoxic activity among the extractive substances and for further research in the study of plant chemical components. Based on the above information, it is an actual task to study the element composition of plant raw materials [5-11].

The purpose of this research work is to study the content of heavy metal salts of *Ph. angulata* plant by mass spectrometry method with inductively coupled argon plasma.

Materials and research methods. An accurate sample of 0.05-0.5 g is weighed on an analytical balance and transferred to Teflon autoclaves. Then the appropriate amount of purified concentrated mineral acids (nitric acid (reagent grade) and hydrogen peroxide (reagent grade)) is poured into the autoclaves. The autoclaves are closed and placed in a Berghoff microwave digestion device with MWS-3+ software or a similar type of microwave digestion device. Determine the decomposition program based on the type of substance being tested, indicate the degree of decomposition and the number of autoclaves (up to 12 pcs). After

decomposition, the contents in autoclaves are quantitatively transferred into 50 or 100 ml volumetric flasks and the volume is adjusted to the mark with 0.5% nitric acid. Quantification is carried out using ICP MS. When constructing a sequence of tests, indicate the amount in mg and the degree of its dilution in ml. After receiving the data, the true quantitative content of the substance in the test sample is automatically calculated by the device and displayed in the form of mg/kg or µg/g with error limits - RSD in%.

The plant for research was harvested in August 2020 in the Kibray district of the Tashkent region. The study of heavy metal salt content was carried out by inductively coupled plasma mass spectrometry (ICP-MS). Sample preparation was carried out using the method of wet acid-peroxide ashing on an X-Expert device.

For quantitative determination, standard solutions of multielements were used. To eliminate the background, the UCT™ quadrupole universal background elimination system was used in the range from 1 to 285 amu.

Analysis conditions: Device: NexION-2000. Perkin-Elmer with Syngistix™ software for ICP-MS (USA); argon gas flow – 15 l/min; peristaltic pump speed - 1.2 ml/min; detector – quadrupole mass analyzer; generator power – 1500W.

To verify the device, standard samples of solutions of elements GSO 7759-2000 (Be), GSO 7268-96 (Co), GSO 7252-96 (Pb), GSO 7472-98 (Cd) were used (relative error limits ($P = 0.95$) $\pm 1.0\%$). The experimental results are shown in Table 1.

Table 1

Data from a comparative analysis of the elemental composition of the roots, stems and leaves of the plant *Ph angulata*

№	Elementy	Root (mg/kg)	Stem (mg/kg)	Leaf (mg/kg)
1	Ag	0.015	0.018	0.119
2	Sb	0.020	0.015	0.022
3	Hg	0.407	2.104	0.455
4	Pb	0.656	0.224	0.684
5	Bi	0.218	0.031	0.058
6	U	0.031	0.010	0.022
7	Ta	0.001	0.001	0.000
8	Cd	0.035	0.018	0.025
9	Co	0.203	0.170	0.243
10	Mo	0.279	0.555	1.275

Results. As can be seen from the table, *Ph. angulata* plant has the highest amount of heavy metal salts corresponding to lead, 656 mg/kg in the root of the plant, 224 mg/kg in the stem and 684 mg/kg in the leaf. The remaining heavy metals were found in very small amounts. Heavy metals and their compounds accumulate in tissues and cause a number of diseases. Some elements, such as

vanadium or cadmium, may be beneficial for some species in small concentrations [4, с.262].

Conclusion. The obtained data show that due to the very small amount of heavy metal salts, this plant species is a very safe and useful raw material for creating biologically active supplements.

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INTERNET LEARNING SITES AS RECOURSES FOR LANGUAGE LEARNERS

Annotation. This article discusses how the Internet has revolutionized language learning, making it more accessible and convenient through Internet learning sites. It highlights the flexibility, diverse learning materials, exposure to authentic language use, and opportunities for social learning that Internet learning sites provide. It also emphasizes the importance of discerning in choosing reliable and reputable sites for effective language learning.

Keywords: Internet learning sites, Language learning, Digital age, Flexibility, Authentic language exposure, Social learning, Personalized feedback, Progress tracking, Language resources, Credibility of sites, Reputable language learning sites, Language proficiency, Linguistic interests, User reviews and ratings, Democratization of language learning.

Introduction. In today's digital age, the internet has revolutionized the way we learn and acquire new skills, including language learning. Internet learning sites have become valuable resources for language learners of all levels, providing access to a wealth of language learning materials, tools, and resources that can enhance the learning experience and help learners achieve their language learning goals. Language learning has always been an important skill for personal and professional development, and the advent of Internet learning sites has made it easier and more accessible than ever before. These websites offer a wide range of language learning resources that cater to different learning styles, levels of proficiency, and language goals. One of the key advantages of Internet learning sites for language learners is the flexibility they offer. Learners can access these sites at their own pace and time, allowing them to fit language learning into their busy schedules. Whether it's a busy professional looking to learn a new language for business purposes, a student preparing for a study abroad program, or simply someone interested in learning a new language for personal enrichment, internet learning sites provide the flexibility to learn at one's own convenience. Another significant benefit of Internet learning sites for language learners is the availability of diverse learning materials. These sites typically offer a wide range of resources such as interactive lessons, grammar explanations, vocabulary exercises, pronunciation tutorials, listening exercises, speaking practice, and more.

These resources are often designed to be engaging and interactive, using multimedia elements such as videos, audios, images, and games to make the learning process fun and enjoyable. Many internet learning sites also offer features that can enhance language learning, such as progress tracking,

personalized feedback, and social learning. Progress tracking allows learners to monitor their learning progress, set goals, and track their achievements, providing motivation and a sense of accomplishment. Personalized feedback, through quizzes, assessments, or tutor support, can help learners identify their strengths and weaknesses, and tailor their learning approach accordingly. Social learning features, such as discussion forums, language exchange platforms, and virtual classrooms, provide opportunities for learners to practice their language skills with other learners, native speakers, or language experts, fostering a sense of community and immersion. Internet learning sites also offer the advantage of exposure to authentic language use. Many of these sites provide access to authentic language materials such as articles, videos, podcasts, and real-life conversations, which expose learners to the nuances of the language, including its vocabulary, grammar, culture, and context.

Moreover there are some methods to improve learning foreign language. Lessons are fully taught in English language based on all experiences, which are needed for lessons. That is to say students begin to understand by reading, by listening, practice of writing, improve speech and others. Students are become focal point of lessons, not teachers. The teacher only helps student to get knowledge. In this way the possibility of self studying is got well. When lessons aren't traditional, tasks are divided into couple or small group of students due to the type of it, and then students work in groups or individually. For instance, at the beginning of lesson teacher makes plan and shares news with students. Each student participates in this plan and shares news each other's. As a result mutual exchanging of knowledge is appeared and all students get to know the theme. Some exercises are done by couple or group of students. For working in the group students are given such tasks: organize debates, debate the theme with playing roles, and work with high techs. To work in couple they are given dialogues, grammar materials, and also reading. By these methods we can make all students to participate in lesson and teacher can help every student due to his or her demands. We wanted to speak that the main thing in learning language is attracting students, that is to say they need motivation. It is necessary to keep activeness of student during and after lessons. The teachers around the world are always in searching about how to teach successful foreign languages to students. Today teachers are facing to the following fact: Like other artisans, language teachers need both models and tools. In addition to the essential theory, aims and goals – the vision or pattern of what is to be created – they must gain through study, reflection, trial and error, and experience, the necessary expertise in using the tools essential to success in their craft. They must give serious thought to how they may lift their work to higher levels of usefulness and joy.

Authentic language exposure can greatly enhance learners' language proficiency and help them develop their listening, speaking, reading, and writing skills in real-life situations. Furthermore, internet-learning sites often offer a wide range of languages to choose from. Learners can choose from popular languages

such as English, Spanish, French, Chinese, and Japanese, as well as less commonly taught languages, allowing learners to explore their linguistic interests and broaden their cultural horizons. However, it is important to note that not all Internet learning sites are created equal, and learners should be discerning in choosing reliable and reputable sites. It is essential to consider factors such as the site's credibility, the qualifications of the instructors or tutors, the quality of the content, the effectiveness of the learning methods, and the user reviews and ratings.

Teaching materials are a critical component of education as they serve as educational standards and important tools for educators. They align with educational standards and provide educators with the necessary resources and guidance to deliver instruction that meets the expected outcomes. Teaching materials enhance instruction, ensure consistency, support differentiation, facilitate assessment and feedback, save time and effort, and foster professional development. By using high-quality teaching materials, educators can create engaging, inclusive, and effective learning experiences for students, leading to improved learning outcomes and educational success. It is essential for educators, policymakers, and other stakeholders in the field of education to recognize and invest in the importance of teaching materials as educational standards and valuable tools in the teaching and learning process for better learning outcomes. The importance of teaching materials in education cannot be overstated, as they play a vital role in shaping the quality of education and ensuring that students receive a consistent and rigorous education. As education continues to evolve and adapt to changing needs and technologies, teaching materials will continue to be a crucial pillar of the educational system.

Conclusion. Internet learning sites have become invaluable resources for language learners, providing flexible, diverse, and engaging learning materials and tools to enhance the language learning experience. With their accessibility, convenience, and wide range of languages and resources, internet learning sites have democratized language learning and made it possible for learners around the world to learn new languages and achieve their language goals. However, learners should exercise caution in choosing reliable and reputable sites to ensure the quality and effectiveness of their language learning experience. So, if you're interested in learning a new language, consider exploring the plethora of internet learning sites available to find the one that best suits your needs and learning style. Happy language learning!

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THE ROLE OF NATIONAL CUSTOMS, VALUES AND TRADITIONS IN OUR SOCIETY

Abstract. In this article, the importance of national values in educating young people and instilling in them a sense of loyalty to the Motherland is a scientific level. State policy on youth, national and universal values are defined.

Key words: faith, belief, conscience, spirituality, culture, integrity, purity, nationality, universality.

It is a natural state to restore the immense, moral and national values created by our ancestors for many centuries. In addition to the rich historical cultural and spiritual heritage of our nation, it plays an important role in the formation of patriotism among young people. It remains a never-ending issue ⁸. "

Values always play an important role in the life of a person and society, they are the product of social, economic and spiritual development, and have been the main factor of human spiritual maturity.

"Values are a social phenomenon of great importance in the material and spiritual life of a person and society in the creation of material and spiritual wealth for the development of man and society." The active attitude of a person to existence and himself, his material and spiritual life activity, the surrounding natural, socio-economic, political and spiritual conditions form various factors that can serve the interests of a person. will cry Every thing, event and event that has the ability to serve their interests in the life of human beings and society is called value because they are able to continue their life and activity to satisfy the needs of society. In general, when we say values, we mean all natural and social things and events that have a certain value and enterprise that have come in the historical development of human and social life, and that serve the development of human and social life. There is a change.

"In the development program of Uzbekistan, the development program of our national statehood and national values, we will improve the material and spiritual world of our people, especially the young generation, while deeply studying and appreciating the changes made by our ancestors, developing universal values., we set it as a task in the spirit of capturing the peaks of modern scientific science.

In young people, patriotism is the knowledge and acquisition of national and universal values. People who have an important capital in the formation of

⁸President of the Republic of Uzbekistan Sh. Mirziyoyev. Address to the Oliy Majlis. People's Word, December 29, 2018

patriotism are the development of AD, its history and culture, art and literature, lifestyle, morals, beliefs, rituals and traditions.

depends on our morals, upbringing, education and national values, which are deeply rooted in our own lives.

For this reason, the next national residence of this country is an important part of high spirituality for each person to preserve and honor their own values, to pass them on to the next generation with new traditions. Therefore, living in a nation-state is an important part of high spirituality for each person to preserve and honor his or her abilities, to pass them on to the next generation with new traditions. Analyzing the evaluation of universal democratic values in the world and applying it to life.

For this purpose, ensuring the political culture of each person and leading to increase the secular culture is put on the agenda. In the development of social thinking, views on the role of problems in the management of society can be found in the works of modern Greek philosophers Socrates, Aristotle, and Epicurus. The works of Abu Nasr Farabi, Abu Rayhan Beruni, Abu Ali Ibn Sina, Amir Timur, Alisher Nawai also have valuable articles. The great scholar Alisher Navoi in his work "Hayratul-Abror" imagined the calculation of a spiritual person: "You made it your motto to bring benefits to people; You have chosen the benefit of their being. There is no doubt that you have benefited the people: but know that the benefit that you will receive is greater than this. Whoever makes a habit of harming others, does not harm others, but harms them first. If you are a real person, do not call him a person if he does not care about the people's grief. Spirituality and enlightenment are the source of ensuring the existence and well-being of society, the mutual cooperation of people. Spiritual wealth knows no borders, does not recognize the nation, in whatever country or society it is, it is the property of the spiritually perfect people of that place. In whatever region they are, the environment for the growth of spirituality, every condition is necessary.

According to the words of the first President of the Republic of Uzbekistan, IA Karimov, "Spirituality is an incomparable force that calls a person to spiritual purification, spiritual growth, a person's inner world, strong will, faith and conscience, and his is the criterion of all views ⁹.

Spirituality is the first and foremost existence of human law. Each generation, each individual accepts it as a sacred and indestructible heritage of past ancestors. In order to build a fair and virtuous society, it is necessary to establish the basis of the spiritual management of state administration, power and politics and to show its activity. For this reason, the harmony of politics and spiritual values has become one of the requirements of universal human values.

In conclusion, the democratic past, present and future harmonious action system of capabilities serves as the foundation of the civil society we are building. At the same time, it is important to educate the next generation, to inculcate in

⁹High spirituality is an indomitable force. Tashkent "Spirituality" - 19 pages of 2008

them national pride, love for the Motherland, and to educate our youth as perfect human beings.

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DEVELOPMENT OF FAMILY-NEIGHBORLY RELATIONS IN THE PROCESS OF EDUCATION

Abstract. In the period after our people and country went on the path of independent development, great attention is paid to raising a spiritually mature and physically healthy generation. This about defined plans perform Our country in the future developed worldly democratic from the states to one to rotate important is a condition.

Key words: independent development, social, spiritual life, control measures, family-neighborhood society, social welfare, elements of social structure.

In the period after our people and country went on the path of independent development, great attention is paid to raising a spiritually mature and physically healthy generation. This about defined plans perform Our country in the future developed worldly democratic from the states to one to rotate important is a condition. Spiritual mature, physical healthy generation in education of the family place important and is unique. Man health and spiritual maturity the first foundation in the family is placed. This about Uzbek of the people in the family a child in education experience attention deserves This in experience national education traditions, man spirituality formation with depends has been Universal, religious values too own expression found Family strengthening, his spiritual and moral education regarding importance strengthen issue state in politics more and more big place is taking.

Of the family development of society material work release social, spiritual life with depends. Family relationships in society social and moral of relationships structural part, society of development important factor as surface came known, in general society life and development, man spiritual maturity family without a relationship imagination reached it won't be. Because of this too family with society progress of dependence social, historical, biological the basics together take learning of philosophy important from problems is one In the past thinkers all in periods too family formation and stability moral of development important condition as those who looked In society living, family in construction too a person genetic possibilities in their blood with them depends has been of needs place big But people generation set up reached in the family social necessities solution doer importance occupation reach, biological needs second to the seat down remains. In society of the family formation people team surface to come reason has been social, economic, moral, legal relationships with connected. Man

breed the family mating descent to leave just for not together live and breed leaving them educating society moral the basics strengthening for set up is enough That's why for humans are very ancient of times starting from the family strengthening society development of provision main condition as those who looked This thought the most ancient written in sources, mature thinkers said wise in his thoughts religious, secular in teachings too own expression found.

Of the family of society moral in development held place about initial thoughts the most ancient from manuscripts one in " Avesta". meeting can This at the source family holy social and moral unity as is described. Known social, moral, legal to criteria relying on family to build him material in terms of provide a child see them education on this basis generations step continue carry on a person for big happiness as is described. 2600 years from now intro lived great china thinker Confucius family and family traditions about thoughts too for now until own importance did not lose worldly is one of the values. He is in the family education of parents children in front of the children parents duty to and responsibility with tied He especially of children their parents in front of responsibility to the issue big attention gave Confucius according to " child's their duty to their parents belly to satiate not known to traditions relying on them is to respect ". ¹ Another one important problem This is the Confucian family society life and of development main from the conditions one that looked at His according to the family strengthen husband, wife and children between relationships stabilization only not society is strengthening. Strong family one just in place stable society will be Confucian society life and of development each other with connected three main factor showing past This to the past respect, musiahkam family, people between kindness and rahim is compassion. ¹ This three factor now too China people national of the idea main content organize is enough In general humanity of history each one during family to the issue attention did not give socio-philosophical, religious-religious doctrine was not In them family of life social, moral, legal criteria too set given Family, family relationships formation and development different periods, conditions with depends forms, criterion and standards too was Because of this family of relationships different periods, conditions, countries, ethnicity in groups forms exactly equalizing it won't be. Theirs organizational, ethical, legal criteria from each other difference doer there are sides. Of the family moral essence, formation and development reasons while everyone in the place basically was the same. In this sense family - of society important structural is part of Of the family formation and development society in his life political, economic, social, spiritual relationships with directly depends respectively done increased Historical development in the process family relationships development society public effect transfer them manage necessity too increases. This necessity as a result marriage with depends relationships come came out Marriage-family building between two ages relationships state, society by certain moral, legal criteria based on management necessity as a result to the body came is a ceremony. Marriage two of age consent based on note will be done

and mutually trust, respect and to love relies on Marriage is a family building two of age to each other, to society, to their children relatively has been moral, legal duty and responsibility is to define. Marriage holy that be counted too family stability main from the factors one being is coming This bright to the world now coming new generation spirituality formation of marriage authenticity and of the family strength depend Spiritual unity, love, love attention not taken made up marriage the family weakens children spirituality formation too negative effect is enough.

Islam philosophy and of the right mature from scholars one is famous thinker Rezauddin ibn Fakhruddin of the family society life and in development role, importance about the following thoughts said was: " People's religions and worlds to fix desired if, the most first of all beautiful behavior have to be families fix it ! Families from recovery after both religion and the world will heal." ² Of the family formation, development basis has been moral, legal, social factors are as follows:

✓ Family two to sex belongs to has been of young people to adulthood reached combination, natural need, specific traditions. Ethical values, legal to criteria relying on together marriage is dry.

✓ Family to people special has been moral values are mutual respect, trust, love, cooperation, sympathy of feelings diary married manifestation to be A guy and girl two to sex belongs to that it was just for not but each other loved one lifetime together to be and ahil to live, children to see, to grow old, to live all heavy lightness overcame to pass that he believed for too family builds Family in relationships natural out of need according to social, spiritual factors priority importance occupation is enough.

✓ In the family children upbringing big social important have Children intelligent, polite, hardworking, honest, faithful, honest from being only parents not the first first the whole society is interested. Because society development of humanity bright perspective spiritual mature, physical healthy only young people provide takes.

✓ In the family of people consanguinity, kinship based on relations is formed. This too humanity for extremely important Inbreeding with depends relationships too society life and in development big place holds Relative - seed breeding understanding, strengthening with depends traditions.

Quran In Karim too to relatives gracious to be a person to do must has been meritorious of work one as described In " Nisa " surah so verses there is: " To God prayer do it to him never who partner don't do it To parents, relatives, orphans, poor, neighbors, ordinary to people, family to your members do good."

² Uzbek in families to parents, children, relatives relationship in the matter of too legal to duty relatively moral responsibility priority does Our ancestors centuries during family to build responsibility with approached, young people spiritual being to be educated big attention those who gave Family a person generation development duration provides. In the family mature the child found physically

mature, certain spiritual qualities occupied, social and legal duty realized a person as is brought up.

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OLIV TA'LIM MUASSASALARIDA FAN VA ISHLAB CHIQRISH INTEGRATSIYASI KLASTERI

Annotatsiya. Maqolada inson kapitali boshqaruviga klaster yondashuvi o'rganiladi. Ushbu yondashuv "bilimlar"ni boshqarishni ko'zda tutib, maqsad innovatsiyalar rivojlanishini rag'batlantiradigan innovatsion inson kapitalini shakllantirish hisoblanadi. Milliy iqtisodiyot raqobatbardoshligi va iqtisodiy xavfsizligini oshirish maqsadida uning strategik resursi hisoblangan inson salohiyatini saqlash va rivojlantirish inson kapitali boshqaruvining asosiy vazifasi hisoblanadi. Tadqiqotda inson kapitalini boshqarish vositasi sifatida innovatsion ilmiy-ishlab chiqarish-ta'lim klasteridan foydalanish taklif qilinadi. Innovatsion klasterning asosiy maqsadi mintaqalar xo'jalik tizimi innovatsion faolligi darajasini oshirish va innovatsiyalar yangilanishi uzluksiz jarayonida ifodalangan inson kapitali innovatsion imkoniyatlaridan foydalanish asosida xo'jalik tizimlarining innovatsion rivojlanishini jadallashtirishdan iborat. Fan, ishlab chiqarish va ta'lim sohalari o'rtasidagi tafovutlarni tugatish innovatsion klasterning xususiyati hisoblanadi.

Kalit so'zlar: inson kapitali, innovatsion taraqqiyot, klaster, klaster siyosati, innovatsion salohiyat, inson kapitalini boshqarish.

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CLUSTER OF SCIENCE AND INDUSTRY INTEGRATION IN HIGHER EDUCATION INSTITUTIONS

Abstract. The article examines the cluster approach to human capital management. This approach involves the management of "knowledge", the goal of which is the formation of innovative human capital that stimulates the development of innovations. In order to increase the competitiveness and

economic security of the national economy, the main task of human capital management is to maintain and develop human potential, which is considered its strategic resource. The research suggests using an innovative research-production-education cluster as a tool for human capital management. The main goal of the innovation cluster is to increase the level of innovative activity of the economic system of the regions and to accelerate the innovative development of economic systems based on the use of the innovative opportunities of human capital expressed in the continuous process of innovation renewal. Bridging the gap between science, industry and education is a feature of the innovation cluster.

Key words: human capital, innovative development, cluster, cluster policy, innovative potential, human capital management.

Kirish

O‘zbekiston Respublikasi Prezidentining 2022 yil 28 yanvardagi PF-60-sonli “Yangi O‘zbekistonning 2022-2026 yillarga mo‘ljallangan taraqqiyot strategiyasi to‘g‘risida”gi Farmonida:”Global innovatsion indeksda O‘zbekiston Respublikasining o‘rnini yaxshilash va 2030 yilga qadar reytingning top-50 mamlakatlari qatoriga kirish” [1] maqsadi alohida yo‘nalish sifatida belgilangan. Yangi O‘zbekiston taraqqiyot strategiyasining bosh maqsadi inson qadrini yuksaltirish va erkin fuqarolik jamiyatini yanada rivojlantirish orqali xalqparvar davlat barpo etishdan iborat etib belgilangani holda uni “Inson qadrini ulug‘lash va faol mahalla yilida amalga oshirishga oid davlat dasturi” da ham bir qator inson kapitalini rivojlantirish bilan bog‘liq vazifalar belgilangan. Jumladan, ilmfanga asoslangan sohalarda bandlik va oliy ma‘lumotli ayollarning bandligi ko‘rsatkichlari bo‘yicha milliy so‘rovnomalarni Xalqaro mehnat tashkiloti bilan hamkorlikda takomillashtirish vazifalari qo‘yilgan. Innovatsion hududga aylantirilayotgan tumanlarda mavjud analoglaridan 50 foizgacha arzonlashtirilgan va sifatli, xom ashyo narxiga nisbatan 2-3 baravar yuqori qo‘shilgan qiymat yaratadigan innovatsion mahsulotlar ishlab chiqarish texnologiyalarini o‘zlashtirish, bunda umumiy qiymati 165,9 mlrd. so‘mlik jami 195 ta ilmiy, tijoratlashtirishga tayyorlash va startap loyihalarni amalga oshirish asosida hududlarda innovatsion mahsulot va xizmatlarni ishlab chiqarishni tashkil etish, 1920 ta yangi ish o‘rinlarini yaratish ko‘zda tutilgan.

Inson kapitalining innovatsion salohiyatini takror ishlab chiqarishda ilmiy-ishlab chiqarish-ta‘lim klasterini tashkil qilish hukumat tomonidan qo‘yilayotgan ushbu vazifalarning muvaffaqiyatli bajarilishida muhim ahamiyat kasb etadi. Tadqiqotning maqsadi - hozirgi ijtimoiy-iqtisodiy rivojlanishning innovatsion yo‘naltirilganligi jihatidan inson salohiyatini takror ishlab chiqarishga qaratilgan davlat siyosati va vositalarini takomillashtirish yo‘nalishlarining zaruriyatini asoslash va taklif qilishdan iborat. Tadqiqot maqsadiga erishish iqtisodiy sub’ektlar innovatsion faolligi darajasiga ta’sir ko‘rsatuvchi inson kapitali tavsiflari tizimini tarkibiy tasavvur qilish kabi muammoli vazifalarni hal qilishni talab qiladi.

Xalqaro integratsiya asosida iqtisodiyotning hozirgi siklik rivojlanishi N.D. Kondratev, S. Kuznes, Y.Shumpeter kabi ko‘plab tadqiqotchilarning qayd etishlaricha, har xil turdagi yangiliklar bilan belgilanadigan innovatsion yangilanishlar bilan tavsiflanadi. Bunday iqtisodiyotning raqobat ustunliklari, uni doimiy ravishda innovatsion yo‘nalishda modernizatsiyalash imkoniyati inson kapitalining intellektual va ijtimoiy resurslarini birlashtirgan holda innovatsiyalar, yangi bilimlarni yaratish, turlituman noan‘anaviy qarorlar qabul qilish, barqarorlikni ta‘minlaydigan ijtimoiy iqtisodiy jarayonlarni boshqarish yangi usullarini amalga oshirish layoqatiga bevosita bog‘liqdir.

Siklik rivojlanishda innovatsion yo‘naltirilgan iqtisodiyotning barqarorligi muammosi bugungi kunda alohida milliy iqtisodiyotlar va butun jahon iqtisodiyotining rivojlanish sur‘atlarini oshirish asosiy vazifalari qatorida turgan muhim masala hisoblanadi. Milliy iqtisodiyotning innovatsion yo‘naltirilgan rivojlanishi chiziqsiz, siklik tamoyillarning barqarorligini tadqiq etishda jamg‘arish ko‘rsatkichlaridagi nisbatlar - sifatli inson salohiyati iste‘moli iqtisodiy traektoriyasi mazkur integral tavsiflarining o‘ziga xos ko‘rsatkichi hisoblanishi yaqqol kuzatiladi. Inson salohiyatining tizim hosil qiluvchi muhim funksiyasi uning innovatsion turdagi takror ishlab chiqarish tizimida tutgan muhim o‘rnini belgilaydi.

Inson kapitalining mazmuni, uning xo‘jalik tizimlarini barqaror rivojlantirish uchun roli va ahamiyatini aniqlash sohasidagi ilmiy tadqiqotlar inson kapitali boshqaruvi faoliyatining muhim unsuri hisoblanishi haqida xulosa chiqarish imkonini beradi. Inson kapitali – bu intellektual qobiliyatlar va intellektual ko‘nikmalarning namoyon bo‘lish shaklini o‘zida mujassamlashtiradigan aktivdir. Unga inson kapitali barqarorligi konsepsiyasi nuqtai nazaridan zamonaviy xo‘jalik tizimiga va uning barqarorligiga xos mohiyatli tavsiflarini aks ettiradigan tushuncha sifatida qarash zarur [4]. Inson iqtisodiy taraqqiyotning strategik resursi sifatida axborot, intellekt, bilimlar, ko‘nikmalar, qobiliyatlarni tashuvchi va harakatlantiruvchi, jamiyat uchun boyliklarni yaratuvchi, uning tizimli xossalari va sifatlarini shakllantiruvchi o‘z hayotiy faoliyatining tashkilotchisi sifatida chiqadi. Inson kapitalining ushbu qobiliyatlari mamlakat iqtisodiy tizimining barcha darajalarida namoyon bo‘ladi.

Globalashuv davrida industrlashgan davrdagi yagona tarkib hosil qiluvchi korxonalarini qo‘llab-quvvatlashga yo‘naltirilganlikdan farq qilib, yuqori darajada industrlashgan davrda davlatning asosiy strategik maqsadi klasterlarni rivojlantirish yo‘li bilan mamlakatlar va mintaqalarning xalqaro raqobatbardoshligini oshirishdan iborat bo‘lib qoldi. A.V.Babkina: “Iqtisodiyotni klasterli tarkiblash innovatsion yo‘naltirilgan iqtisodiy dinamika shartlari va omillarini mintaqa darajasiga siljitadi, rivojlanish muammolarini hal qilishda ularning ahamiyatini oshiradi” [6], deb ta‘kidlaydi. Ye.I.Lazareva tomonidan klasterlarning barqarorligi, tizimli emerjentligi va raqobatbardoshligini ta‘minlaydigan inson va ijtimoiy kapital, ilmiy-ishlab chiqarish va innovatsion salohiyatlar “kritik massasi”ni jamg‘arish maydoni sifatida o‘rganiladigan

aglomeratsion omilning roli ancha oshayotganligi [7], ko'rsatiladi. XX asr oxiri – XXI asrning boshlarida barqaror innovatsion evolyusiya manbalarini faol izlash sharoitida innovatsion iqtisodiyot, innovatsiyalarni boshqarish sohasida turli nazariyalar shakllandi. Ushbu tadqiqotlar orasida Y.Shumpeter, E.Xansen nomi bilan bog'liq yangiliklar nazariyasi ko'proq mashhurdir [8]. Qo'shilgan qiymatlar o'sishining yangi (qo'shimcha) omillarini izlash inson kapitalining barqaror, innovatsion dinamika asosiy (fundamental) resursi bo'yicha boshqaruv tizimiga asta-sekin kirib borishiga ko'maklashadigan, iqtisodiyotning barqaror innovatsion yo'naltirilgan rivojlanishi tahliliga resursli yondashuv sohasidagi nazariy tadqiqotlarning faollashuviga olib keldi. Inson kapitali nuqtai nazaridan ilmiy yondashuvlar texnika, texnologiya, innovatsion menejment kabi alohida, bir-biridan ajralgan rivojlanish manbalariga uustuvorlik beradi. Bundan tashqari, iqtisodiy taraqqiyotning innovatsion yo'naltirilganligi muammolari, asosan, kelajakka e'tibor qaratmagan va uzoq istiqbolda nimalar yuz berishini ko'rsatmagan holda muayyan takror ishlab chiqarish sikli doirasida o'rganiladi B.Z.Milner, B.N.Kuzik, Yu.V.Yakoves tadqiqotlarida inson kapitalining nafaqat uning iqtisodiy, individual, balki noiqtisodiy, ijtimoiy ko'rsatkichli tavsiflarini strategik boshqarish tizimiga bosqichma-bosqich o'tkazishga olib boradigan kengaytirilgan talqin qilish tendensiyasi mavjud [10]. Hozirgi sharoitda innovatsion yo'naltirilgan iqtisodiyotga o'tishda strategik qarorlar qabul qilish tizimida inson salohiyatining yangi, modernizatsiyalashgan tuzilmalari va vazifalarini ko'chirib o'tkazish mexanizmiga mutlaqo turlicha nuqtai nazarlar vujudga kelmoqda. Mualliflik yondashuvi strategik boshqaruv qarorlarini qabul qilish tizimida inson kapitalini takror ishlab chiqarish vositalarini o'tkazish zaruriyati bilan belgilanadi. Funktsional xossalar va inson kapitali tarkibiy qismlarining o'zaro bog'liqligi majmuining iqtisodiyot innovatsion taraqqiyoti jarayoni bilan tahlil qilinishi to'rt sohali tizim ko'rinishida tarkiblangan tasavvurga olib kelib, uning unsurlari yakka inson kapitali sifatini, farovonlik darajasini hamda ijtimoiy va ekologik sohalar sifatini ifodalaydi. Aynan inson salohiyatining ajratilgan to'rt unsuri klaster siyosatining asosiy yo'nalishlarini ham belgilaydi. Aynan ular iqtisodiyotning innovatsion barqaror rivojlanishini boshqarish tizimida inson salohiyatini takror ishlab chiqarish strategiyasini tahliliy baholashning tegishli vositalarini tashkil qiladi.

Barcha yuqorida aytib o'tilgan fikr-mulohazalar iqtisodiyotning innovatsion barqaror rivojlanishini boshqarish uslubiyatini o'zgartirishni namoyish etib, inson resurslarining takror ishlab chiqarilishini ta'minlaydigan, integratsiyalashgan muhitni institutsional tashkil qilishga qaratilgan. Davlat siyosatining klaster xususiyati uning namoyon bo'lish shakllaridan biri hisoblanadi. Ko'p bo'g'inli iqtisodiy tizim raqobatbardoshligini belgilaydigan inson salohiyatini takror ishlab chiqarish strategiyasini yaratmasdan turib, klaster siyosatini rivojlantirib, uning samaradorligini oshirib bo'lmaydi.

Jahon iqtisodiyotining yangi texnologik ukladga o'tishi, eng avvalo, barcha nuqtai nazarlardan hududlar resurslarini takror ishlab chiqarishni tizimli tashkil

qilishdan ajralmagan holda innovatsion iqtisodiy taraqqiyot jarayonida inson resurslarini davlat tomonidan tartibga solish strategiyasiga qarashlarning tubdan o'zgarishini keltirib chiqardi. Inson resurslarining yuqori qiymati, eng avvalo, raqobatbardosh, "intellektual sig'imli" ne'matlar va xizmatlar ishlab chiqarishning innovatsion omillariga ularni institutsional konvertatsiyalash innovatsion renta ko'rinishidagi daromadni shakllantirgan holda global raqobatli bozorlarda amalga oshirilishi bilan belgilanadi. Innovatsion rentani kapitallashtirish uni takror ishlab chiqarish jarayonini innovatsion yo'naltirilgan modernizatsiyalash manbaiga aylantiradi.

Milliy farovonlik tahliliga resursli yondashuv, uning resurs-takror ishlab chiqarish va renta hosil qiluvchi vazifalari milliy farovonlikning innovatsion turdagi takror ishlab chiqarish tizimidagi (takror ishlab chiqarish sikli) o'rini va "to'plangan milliy boylik – iqtisodiyotning innovatsion yo'naltirilgan taraqqiyoti" funksional o'zaro bog'liqligini ro'yobga chiqarishning iqtisodiy shaklini aniqlash imkonini berdi. Bunda stagnatsiya davrida to'plangan milliy farovonlik qismi innovatsion iqtisodiy o'sishni ta'minlash maqsadida harakatlantiriladi va yuksalish davrida esa aksincha, o'sib boruvchi qo'shilgan milliy daromad hisobiga milliy farovonlikning kengayishi yuz beradi. Milliy farovonlik unsurlarini innovatsion iqtisodiyotning zamonaviy kengaytirilgan takror ishlab chiqarishi boshlang'ich va belgilovchi bosqichlari kabi ishlab chiqarish resurslariga konvertatsiyalash jarayonini aniqlashda ushbu jarayon jamg'arish sur'atlarining o'zaro bog'liq kengayishi asosida shakllanishi ko'rsatilgan: yangi bilimlar, aholi ta'lim darajasi va sifati, novatorlik va faol xo'jalik tarzini rag'batlantirish (dinamik-kreativ tuzilmalar tizimini rivojlantirish, "malaka portfeli"ni maqbullashtirish va h.k.); aholi salomatligi va milliy genofond (sog'liqni saqlash tizimini rivojlantirish va uy-joy qulayliklari/komfortligining ortishi, ekologik muhit sifatining oshishi orqali); ijtimoiy kapital (mavjud va yangi bilimlardan samarali foydalanishdan manfaatdorlikni ta'minlaydigan institutsional tartibotni belgilash, takror ishlab chiqarish jarayoni sub'ektlarining innovatsion faolligini (ilm-fan va bilimlar sohasining boshqa tarmoqlariga inson kapitali oqimini rag'batlantirish; kichik va o'rta innovatsion biznesni davlat tomonidan maqsadga muvofiq qo'llab-quvvatlash); innovatsion yo'naltirilgan iqtisodiy dinamikaning ancha ko'paydigan resurs asosini rag'batlantirish.

Milliy farovonlikni takror ishlab chiqarish tizimida sub'ekt-ob'ekt munosabatlari yangi modelining shakllanish omillari va sharoitlarini hamda uning unsurlarini innovatsion o'sish resurs manbalariga konvertatsiyalashni tadqiq etish shuni ko'rsatadiki, "tarmoqli voqelik" milliy farovonlik salohiyatini rivojlantirish jamoaviy strategiyasini ishlab chiqish haqidagi masalani dolzarblashtirib, bunda "hamkorlik" holati "raqobat" holatidan ustunlik qiladi. Liberalizm va iqtisodiyotni bozor orqali tartibga solishning huquqiy ta'riflariga asoslangan fuqarolik jamiyati klassik modeli esa korporativ hamjamiyat modeli bilan almashadi. 2017-2020 yillarda O'zbekistonda ilmiy tadqiqot va tajriba-

konstruktorlik ishlarini bajargan xodimlar soni oshib bormoqda. Jadval ma'lumotlari ko'rsatishicha, tadqiqotchi mutaxassislar soni ko'payib bormoqda va 2020 yilga kelib, 14 ming 55 kishini tashkil etgan.

O'zbekiston iqtisodiyotining innovatsion rivojlanishi holatini uning texnologik rivojlanish darajasini ifodalovchi ko'rsatkichlar orqali ham tahlil qilish mumkin (2- jadval)

Ma'lumotlardan ko'rinib turibdiki, yuqori texnologiyali, shu jumladan, o'rta texnologiyali va ilm talab qiladigan tarmoqlarning YaIM dagi ulushi 2017 yildagi 21,4% dan 2020 yilda 26,1% ga oshgan. Yuqori texnologiyali tarmoqlarning ishlab chiqarishning ishlab chiqaradigan sanoat qo'shilgan qiymatidagi ulushi 2,2% ni tashkil etmoqda. Natijada yuqori texnologik mahsulotlarning eksportdagi ulushi 2017-2020 yillarda 1,7% dan 2% gacha oshgan, o'rta texnologiyali mahsulotlar ulushi esa mos ravishda, 6,4% dan 4,7% gacha pasaygan. Iqtisodiyotga joriy etilgan texnologik innovatsiyalar soni 2017-2020 yillarda 1946 birlikdan 4011 birlikka oshgan (2-rasm). Bular, albatta, milliy iqtisodiyot darajasida daromadlilikning ortishiga xizmat qiladi, bu korxonalarda ishlovchi ishchi-xodimlarning o'rtacha ish haqi, tadbirkorlarning sof foydasi o'sishida o'z ifodasini topadi. Milliy farovonlikni takror ishlab chiqarishda innovatsion yo'naltirilgan rivojlanish sub'ektlarining o'zaro foyda, ishonch va davlat-xususiy sheriklikka tayangan ijtimoiy ne'mat sifatidagi insoniy manfaatlari muvozanatini ta'minlash va muvofiqlashtirish innovatsion iqtisodiy o'sish maqsadida milliy farovonlikdan foydalanish samaradorligini oshirish va boshqarishni maqbullashtirishga olib keladigan korporativ strategiya shakllanishining muhim uslubiy tamoyillaridan biri hisoblanadi.

Muvofiqlashgan uslubiy tamoyilni amalga oshirish muqobillaridan biri iqtisodiy sub'ektlar manfaatlari ideal "ierarxik zanjiri" ni aniqlash va rag'batlantirish moslashuvchan siyosatini unga yo'naltirishdan iborat. Inson kapitaliga investitsiyalar (ta'lim, sog'liqni saqlash, aholishunoslik sohasidagi siyosat) bevosita turmush sifatini yaxshilashi mumkin. Ular yana investitsiyalarga bo'lgan katta qiziqishni ham ta'minlashi mumkin. Chunki sog'lom va yaxshi ta'lim olgan ishchilar kapital unumdorligini oshiradilar. Shu tariqa, uzoq muddatli istiqbolda o'sishni saqlab turish maqsadida inson kapitalining foydasiga ustuvor yo'nalishlarni qayta ko'rib chiqish zarur bo'ladi. Tabiatni muhofaza qilish chora-tadbirlariga va atrof-muhit sifatini yaxshilashga investitsiyalar inson hayoti sifatini, xususan, salomatligini oshirishning muhim shartlaridan biri hisoblanadi hamda barqaror iqtisodiy o'sishning zaruriy shartini tashkil qiladi. Mazkur investitsiyalar samaradorligini baholash uchun atrof muhit sifatining o'zgarishi aholi salomatligining o'zgarishiga qay tarzda olib kelishi, ya'ni ko'zda tutilayotgan foyda yoki zararlar qanchaligini bilish muhimdir [14]. Inson kapitalining strategik rivojlanishini boshqarish konsepsiyasini ijtimoiy tashkiliy-boshqaruv innovatsiyasi sifatida talqin qilish mumkin. Zamonaviy korxonalar kuchayib borayotgan raqobat, xo'jalik tizimlari rivojlanishining innovatsion tendensiyalari va hokimiyat organlari tomonidan bosim ta'sirida texnologik

innovatsiyalarni ham, tashkiliy-boshqaruv innovatsiyalarini ham rivojlantirish hisobiga o'zining innovatsion salohiyatini oshirmoqda.

Xo'jalik tizimlarining turli darajalaridagi boshqaruv amaliyotida boshqaruv munosabatlarining yanada ko'proq tarqalishi kuzatiladi. Hozirgi vaqtda mintaqalarda mavjud fan, ishlab chiqarish va ta'lim sohalari o'rtasidagi tafovut butun inson kapitalidan foydalanishning past samaradorligiga va mintaqaviy tizim amal qilish barqarorligining pasayishiga olib kelmoqda. Tadqiqotlar ko'rsatishicha, klaster yondashuvi ishlangan innovatsion salohiyatdan samarali foydalanish imkonini beradi, chunki biznes (yirik, o'rta va kichik korxonalar shaxsida), ta'lim tuzilmalari (universitetlar, o'rta maxsus o'quv yurtlari, kollejlari, o'quv markazlari, tijorat o'quv markazlari), ilmiy tashkilotlar (fanlar akademiyasi, ilmiy-tadqiqot muassasalari, OO'Yu lari ilm-fani) innovatsion faoliyatini muvofiqlashtirish imkonini beradigan tubdan yangi munosabatlar shakllanadi. Shuni ta'kidlash kerakki, biznes-tuzilmalar, ta'lim tuzilmalari va ilmiy tashkilotlarni ularni klasterlash dasturlari negizida integratsiyalash nafaqat iqtisodiy samaraga erishish, balki keltirilgan klaster unsurlarining o'zaro ta'siridan olinadigan sinergetik samara hisobiga mintaqa innovatsion barqarorligini oshirish imkoniyatini beradi. Bunday tashkiliy tuzilma inson kapitalini shakllantirish va rivojlantirishning barcha bosqichlarida uni permanent boshqarishni ta'minlaydi. Umumjahon tendensiyasi shuni ko'rsatadiki, klasterlashtirish, raqobatbardoshlikning kuchayishi, innovatsion faoliyatning rivojlanishi va milliy iqtisodiyotning barqarorligi o'rtasida o'zaro bir-birini belgilash va o'zaro bog'liqlik mavjud. Ushbu dalilni mintaqalar qat'iy raqobatiga qarshi turish yangi usuli, ularning raqobatbardoshligini oshirish usuli va xo'jalik tizimlarini innovatsion barqaror rivojlantirish talablariga moslashtirish imkoniyati sifatida qarash mumkin [16]. Shuni ta'kidlash kerakki, klaster yondashuvini rivojlantirish va keng foydalanish klaster birlashmalari mazmunining o'zgarishiga, ularning tarkibiga, ushbu birlashmalar shakli va maqsadli qurilmalariga ta'sir ko'rsatadi. Bu esa pirovardida klaster yondashuvining yangicha mazmunini boyitadi va to'ldiradi. Inson kapitali boshqaruvi uchun milliy innovatsion ilmiy-ishlab chiqarish-ta'lim klasteridan foydalanish vositasi sifatida taklif qilinadi.

Yagona klaster boshqaruvi biznes ehtiyojlari, fan va ta'lim imkoniyatlarini muvofiqlashtirish imkonini beradi. Milliy iqtisodiyot yoki uning alohida mintaqalari uchun innovatsion ilmiy-ishlab chiqarish-ta'lim klasteri beradigan afzallik quyidagilardan iborat:

- innovatsion iqtisodiyotni barqaror rivojlantirish uchun tashkiliy asosni shakllantiradi, klaster ishtirokchi-a'zolari bir xil mintaqaviy g'oya tashuvchilari hisoblanadilar;

- inson kapitali unsurlariga bo'lgan talab va taklifni birlashtiradi, inson kapitali unsurlariga talab va taklif tuzilmasini hisoblash imkonini beradi, aniq ishlab chiqarish, innovatsion loyiha uchun ustuvor kadrlar tayyorlash strategiyasini amalga oshiradi;

- innovatsion loyihalar malaka sig‘imining shakllanishiga olib keladi, inson kapitali ma’lum sifatining tayyorlanishi va talab qilinganligini prognozlashtirish jarayonini yengillashtiradi, uning harakatchanligi va raqobtabardoshligini ta’minlaydi;

- ularning harakatchanligini shakllantirgan holda fan, ishlab chiqarish va ta’lim o‘rtasidagi iqtisodiy aloqalarni kuchaytiradi, fan, biznes manfaatlarini uyg‘unlashtiradi, innovatsiyalarni tijoratlashtirish uchun to‘siqlarni bartaraf qilish imkoniyatini beradi;

- inson kapitaliga investitsiyalardan samarali foydalanish imkoniyatini yaratadi;

- o‘quv, ilmiy va ishlab chiqarish tashkilotlarini geografik konsentratsiyalashni qo‘llab-quvvatlaydi, yangi g‘oyalar, bilimlar, texnologiyalar, mahsulotlarni taqsimlash tizimidan foydalanish samaradorligini oshiradi;

- kooperatsiya asosida ko‘lam samarasi hisobiga klaster ishtirokchilari xarajatlarini kamaytiradi, transaksion xarajatlarni qisqartiradi, xo‘jalik tizimlarining rivojlanish noaniqliklari va risklarini bartaraf qilish imkonini beradi, mintaqaning barqaror innovatsion rivojlanish ta’limotini amalga oshirish vazifasini bajaradi.

Innovatsion ilmiy-ishlab chiqarish-ta’lim klasterini (IITK) tashkil qilish konsepsiyasi besh bosqichni o‘z ichiga oladi va ular quyidagilardan iborat: Birinchi bosqich – fan, ishlab chiqarish va ta’limning ustuvor yo‘nalishlarini yaratish, tanlash maqsad va vazifalarini belgilash. Ikkinchi bosqich – IITK ni tashkil qilish va istiqbolda o‘zaro ta’sir va muvofiqlashtirishni amalga oshirish imkonini beradigan innovatsion rivojlanish yagona strategiyasini ishlab chiqishdan manfaatdor ishtirokchilarning mavjudligi omillarini baholash. Uchinchi bosqich – IITK rivojlanishining institutsional asoslarini aniqlash. To‘rtinchi bosqich – IITK tashkiliy tuzilmasi va inson kapitalini boshqarish asosida uning innovatsion rivojlanishi boshqaruv tizimini shakllantirish. Beshinchi bosqich – hal qiluvchi, klasterni yaratish haqidagi me’yoriy-huquqiy hujjatlarni imzolash bosqichi.

Innovatsion ilmiy-ishlab chiqarish-ta’lim klasterini shakllantirish algoritmini quyidagicha tasavvur qilish mumkin:

- innovatsion ilmiy-ishlab chiqarish-ta’lim klasteri inson kapitalini baholash;

- innovatsion ilmiy-ishlab chiqarish-ta’lim klasterining maqsad va vazifalarini belgilash;

- tashabbuskor guruhlarni shakllantirish;

- inson kapitali innovatsion rivojlanish darajasini tahlil qilish;

- korxonalarni zaruriy innovatsion ilmiy-ishlab chiqarish-ta’lim klasteriga jalb qilish sharoitlarini yaratish;

- innovatsion ilmiy-ishlab chiqarish-ta’lim klasterining amal qilish tamoyillarini belgilash;

- innovatsion ilmiy-ishlab chiqarish-ta'lim klasteri (investitsiya loyihasining moliyaviy rejalari va biznes-rejalari) tashkiliy loyihasini texnik-iqtisodiy asoslash;

- innovatsion ilmiy-ishlab chiqarish-ta'lim klasteri muvofiqlashtiruvchi kengashini tashkil etish;

- innovatsion ilmiy-ishlab chiqarish-ta'lim klasteri boshqaruv tizimini ishlab chiqish;

- innovatsion ilmiy-ishlab chiqarish-ta'lim klasteri ta'lim loyihasini amalga oshirish rejasini shakllantirish

Ushbu klasterning boshqa umumqabul qilingan integratsiya shakllaridan, masalan, hududiy-ishlab chiqarish majmualari (HIM), xoldinglar, moliya-sanoat guruhlar (MSG) dan asosiy farqi shundaki, u ichki raqobat muhitini va klasterdan tashqaridagi raqiblariga munosabatlar bo'yicha yetarli darajada jiddiy raqobat mavqelarini shakllantiradi.

IITK ning asosi universitetlar bo'lishi zarur, chunki ular inson kapitalini takror ishlab chiqarish va amal qilishi uchun asosni shakllantiradilar. Bundan tashqari, klasterda qatnashuvchi boshqa tashkilotlar, tuzilmalar o'zaro ta'sirini gorizontal aloqalar asosida amalga oshiradilar. Asosdan tashqari, texnologiyalar transferi, bilimlar, axborotlar, infratuzilmani ta'minlovchi yordamchi tashkilotlarni ham yaratish lozim. IITK ning strategiyasi fan, ishlab chiqarish va ta'lim o'rtasidagi innovatsion zanjirni maqbullashtirish asosiga tayanadi. Barcha uch sohalarda inson kapitalidan to'liq foydalanish tufayli ijobiy samarani shakllantiradi.

Ushbu muamoni tadqiq etish jarayonida IITK asosiy tamoyillari shakllantirildi:

1) klasterni hududiy mahalliyashtirish, ya'ni xo'jalik tizimi yoki mintaqaga majburiy bog'lash;

2) klaster ishtirokchilari o'rtasida bevosita aloqalar va bog'lanishlarning mavjudligi;

3) kooperatsiya va ichki raqobat negizida o'zaro munosabatlarni shakllantirish, qo'shilish belgilarining mavjud emasligi;

4) maqsad belgilash asosiy vazifasi - mintaqani barqaror rivojlantirish uchun inson kapitalini shakllantirish va innovatsion takomillashtirishni aks ettirish zarur;

Innovatsion ilmiy-ishlab chiqarish-ta'lim klasterining asosiy maqsadi innovatsiyalarning to'xtovsiz yangilanishi jarayonida ifodalanadigan inson kapitali innovatsion salohiyatidan foydalanish asosida xo'jalik tizimi innovatsion rivojlanishini jadallashtirishdan iborat.

Innovatsion ilmiy-ishlab chiqarish-ta'lim klasterining amal qilish samaradorligi mezoni xo'jalik tizimi innovatsion faollik darajasini oshirish hisoblanadi.

Inson kapitalini rivojlantirishga klaster yondashuvi, birinchi navbatda, boshqaruvchilik qarorlarini qabul qilish jarayonida rivojlanishning ijtimoiy va

iqtisodiy trendlarini tizimli tartibga solish samaralarini har tomonlama hisobga olish imkonini beradigan inson salohiyatini takror ishlab chiqarishni strategik boshqarish innovatsion modeliga integratsiyalashning evristik zaruriyatini nazariy-metodologik jihatdan asoslashdan iboratdir. Yangi klaster siyosatining samaradorligini dinamik tizimli tahlil qilish tartibining muhim metodologik jihati iqtisodiy tizimning funksional-makon jihatdan rivojlanishini boshqarishga bosqichma-bosqich o'tish hisoblanib, bu yerda innovatsion klasterlar va xulq-atvor qoidalarini (iqtisodiy, ijtimoiy, ekologik va h.k.) shakllantirish asosiysi hisoblanadi.

Tadqiqot natijalari innovatsion yo'naltirilgan iqtisodiy dinamikaning quyidagilardan iborat ijtimoiy va iqtisodiy strategiyalarini o'zaro kelishtirish darajasi mezonlarini taklif qilish imkonini beradi:

- aholi jon boshiga to'g'ri keladigan yalpi mahsulot katta hajmini ishlab chiqarish, farovonlik yuqori darajasiga erishish, ijtimoiy institutlarning rivojlanganligi;

- rivojlanish ustuvorliklari orasida ijtimoiy siyosatning o'rni, jamiyatda daromadlarning yuqori tabaqalashuvini bartaraf qilish hamda kambag'allik va boylik o'rtasidagi tafovutni tugatish imkonini beradigan davlat qayta taqsimlash vazifalarining ahamiyati.

Shunday qilib, O'zbekistonda IITK ni tashkil qilish loyihasining amalga oshirilishidan olinadigan natija quyidagilar bo'lishi mumkin: O'zbekistonda IITK ni shakllantirish uslubiyatini ishlab chiqish; O'zbekistonda IITK ning axborot asosini shakllantirish; kichik innovatsion korxonalar reestrini tuzish; moliyaviy tuzilmalar ro'yxati; ilmiy-tadqiqot laboratoriyalari asosi; inson kapitalini boshqarish, ishlab chiqarish ehtiyojlari sohasida mutaxassislar tayyorlashga qaratilgan ta'lim muassasalari va dasturlari ro'yxati; IITK infratuzilma tashkilotlari ro'yxati; klaster doirasida inson kapitaliga bo'lgan ehtiyojlar va imkoniyatlarni baholash; klaster ishtirokchilari, kichik tadbirkorlikni rivojlantirish va qo'llab-quvvatlash vazirligi, mintaqaviy hokimiyat organlari o'zaro ta'sirini shakllantirish bo'yicha tavsiyalar.

Rivojlanish istiqbollari:

- universitetlar negizida IITK ning maslahat va muvofiqlashtiruvchi markazini tashkil qilish;

- respublika hududida IITK modelini joriy qilish va moslashtirish

Zarur resurslar: inson kapitali (kreativ mehnat resurslari, kompyuter, tashkiliy texnika, kanselariya mahsulotlari, telefon, Internet va axborot bazasidan foydalanish, milliy va xorijiy adabiyotlar (jumladan, maqolalar), yoritiladigan tajriba hamda IITK ni shakllantirish va rivojlantirishning nazariy jihatlari.

IITK ning ahamiyatini g'oyalarning tug'ilishi, innovatsiyalarni tijoratlashtirish va uni ishlab chiqarishga joriy etish va iste'molchiga yetkazishgacha barcha texnologik zanjirlarni tashkil qilishning tegishli va samarali shakli sifatida aniqlash mumkin. Taklif qilingan yondashuvda ayniqsa, ishlab chiqarish va ta'lim o'rtasida bilimlar, ilmiy kashfiyotlar va ixtirolarni

o‘tkazish bo‘yicha xarajatlarni maqbullashtirishga, klaster ishtirokchilari xo‘jalik tizimi va butun xo‘jalik tizimi innovativligi darajasini oshirishga olib keladigan barqaror gorizont al oloqalar vositasida barcha klaster ishtirokchilari o‘rtasidagi o‘zaro aloqalar va o‘zaro bir-birini belgilash amalga oshadi, firmaichki ierarxiya va bozor mexanizmi afzalligidan foydalaniladi.

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PUBLIC CONTROL OF THE FIGHT AGAINST CORRUPTION IN NEW UZBEKISTAN

Abstract. This article deals with the implementation of the policy of openness in the prevention of corruption, the rule of law by state bodies, the role of the public and mass media, honesty and impartiality.

Key words: transparency, publicity, media, truthfulness, impartiality, honesty, sacrifice, leadership, corruption, democracy, crime, bribery, vice and society.

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YANGI O‘ZBEKISTONDA KORRUPSIYAGA QARSHI KURASHNING JAMOATCHILIK NAZORATI

Annotatsiya. Ushbu maqolada korrupsiyani oldini olishda ochiqlik siyosatini yuritish, davlat organlari qonun ustuvorligini ta’minlashi, jamoatchilik va ommaviy axborot vositalarining roli, halollik hamda xolislik haqida so‘z boradi.

Kalit so‘zlar: oshkoralik, jamoatchilik, ommaviy axborot vositalari, haqqoniylik, xolislik, halollik, fidokorlik, rahbarlik, korrupsiya, demokratiya, jinoyatchilik, pora, illat va jamiyat.

Kirish. XX asrning ikkinchi yarmiga kelib korrupsiya xalqaro muammoga aylandi. Ayniqsa, globallashtirish jarayonlari natijasida bir mamlakatdagi korrupsiya boshqa mamlakatlar rivojlanishiga salbiy ta’sir ko’rsata boshladi. Ta’kidlash joizki, 2003-yil 31-oktabr kuni BMTning korrupsiyaga qarshi kurash konvensiyasi imzolangan. Ushbu konvensiya korrupsiya kabi umumbashariy ofat bilan global darajada kurashishga imkon beradigan xalqaro hujjat hisoblanadi.

O‘zbekiston bu dolzarb muammolarning oqibatlarini chuqur anglagan holda Birlashgan Millatlar Tashkiloti, Jahon banki, Iqtisodiy hamkorlik va taraqqiyot tashkiloti kabi nufuzli xalqaro tuzilmalar bilan yaqindan hamkorlik qilmoqda, BMTning korrupsiyaga qarshi kurash konvensiyasi talablaridan kelib chiqib, mamlakatimiz tarixida ilk bor Prezident Shavkat Mirziyoyevning siyosiy irodasi bois, 2017-yilning 3-yanvarida O‘zbekiston Respublikasining “Korrupsiyaga qarshi kurashish to‘g‘risida”gi qonuni qabul qilindi.

Mamlakatimizda 2017-yilga qadar O‘zbekiston Respublikasining “Korrupsiyaga qarshi kurashish to‘g‘risida”gi qonuni, ya’ni korrupsiyaga qarshi kurashishning maqsadli huquqiy asosi yaratilmaganligini ham tan olish kerak [1].

Mavzuga oid adabiyotlar tahlili (Literature review) O‘tgan davr mobaynida korrupsiyaga qarshi kurashish sohasiga bevosita taalluqli 13 ta, boshqa sohalarda korrupsiya omillarini qisqartirishga qaratilgan 24 ta normativ-huquqiy hujjat qabul qilindi. Davlat boshqaruvida byurokatiyani kamaytirish maqsadida amalga oshirilgan ma’muriy islohotlar natijasida ijro organlari soni 61 tadan 28 taga qisqartirilib, vazirlik va idoralar funksiyalarini optimallashtirildi.

Tadqiqot metodologiyasi (Research Methodology). Korrupsiyaga qarshi kurashishning tashkiliy-huquqiy va moliyaviy mexanizmlarini takomillashtirish, bu jarayonga jamoatchilikni jalb qilish hamda korrupsiyaning oldini olish bo‘yicha idoralararo hamkorlik samaradorligini oshirish maqsadida, Respublikamizda Korrupsiyaga qarshi kurashish agentligini faoliyati tashkil etildi. Mazkur agentlikga:

- Davlat organlari va tashkilotlari faoliyatida ochiqliqni ta’minlashga oid matreallarni tayyorlash uchun buyurtmalar berish;

- Nodavlat notijorat tashkilotlari, fuqarolik jamiyatining boshqa institutlarining davlat organlari va tashkilotlari faoliyati ochiqligini ta’minlashga qaratilgan loyihalarini hamda bu borada o‘tkaziladigan tadqiqotlarini va ijtimoiy so‘rovlarini moliyalashtirish;

- Korrupsiyaga qarshi kurashish sohasida kadrlarni tayyorlash, qayta tayyorlash va ularning malakasini oshirishga ko‘maklashish kabi vazifalar yuklatildi.

Tahlil va natijalar (Analysis and results). Korrupsiyaga qarshi an’anaviy usullar bilan kurashish bugun yetarlicha samara bermasligini hayotning o‘zi ko‘rsatib turibdi. Shu bois, davlat va jamiyat boshqaruvida korrupsiyaning oldini olish, bu illatga nisbatan murosasizlik muhitini shakllantirish uchun davr va taraqqiyot talabiga mos zamonaviy, ta’sirchan va kezi kelganda, keskin choralar bilan oldinga intilmoqdamiz.

Yangi tahrirdagi Konstitutsiyaga ilk bor korrupsiyaga qarshi kurashish masalasi kiritilgani ham ushbu yo‘nalishdagi islohotlarning mamlakatimiz taraqqiyotida nechog‘liq ahamiyatli ekanini yaqqol namoyon etdi.

2017-2023 yillar mobaynida korrupsiyaga qarshi kurashishning huquqiy va institutsional asoslari yaratildi. Natijada korrupsiyaga qarshi kurashish sohasida islohotlarni yagona yondashuv asosida samarali amalga oshirish mexanizmi yaratildi.

Korrupsiyani jilovlash borasida mamlakatimizda islohot va ochiqlik, oshkoralik, xolislik, hisobdorlik jarayonlari dadillik bilan amalga oshirilmoqda. Haqiqatan ham, O‘zbekiston iqtisodiyoti erkinlashtirilmoqda: kichik biznes sohiblariga nazorat yuki pasaytirilmoqda, ba’zi inspeksion tashkilotlardagi byurokratik ovoragarchiliklarga barham berilmoqda, moliyaviy, soliq va bojxona tizimlarimiz liberallashtirilmoqda.

O‘zbekistonda dastlab **“yashirin iqtisodiyot”** ulushini qisqartirish bo‘yicha keng ko‘lamli chora-tadbirlar amalga oshirilishi natajasida **vazirlik va idoralarda “yashirin iqtisodiyotni”** hamda korrupsiyaga qarshi muvofiqlik tizimi - **“komplayens nazorat”** tizimini joriy etish ishlari yo‘lga qo‘yildi.

2023-yilning 27-noyabr kuni O‘zbekiston Respublikasi Prezidenti tomonidan imzolangan **“Korrupsiyaga qarshi kurashish tizimini yanada takomillashtirish hamda davlat organlari va tashkilotlari faoliyati ustidan jamoatchilik nazorati tizimi samaradorligini oshirish chora-tadbirlari to‘g‘risida”**gi 200-sonli farmoni sohadagi islohotlar yanada qat‘iy va tizimli davom ettirilishiga zamin bo‘ldi. Yangi farmon bilan Korrupsiyaga qarshi kurashish bo‘yicha 2023–2024-yillarga mo‘ljallangan navbatdagi davlat dasturi tasdiqlandi[2].

Davlat dasturi bilan tanishar ekansiz uning tegishli bandlarida davlat boshqaruvi, davlat xizmati, ma‘muriy tartib-taomillar, davlat xaridlari, ijtimoiy-iqtisodiy rivojlanish va tadbirkorlik, sud-huquq sohalarida korrupsiyaning oldini olish, korrupsiyaga qarshi kurashishning institutsional asoslarini takomillashtirish, aholining huquqiy ongi va huquqiy madaniyatini yuksaltirish, jamiyatda korrupsiyaga nisbatan murosasiz munosabatni shakllantirish, xalqaro hamkorlikni kuchaytirish kabi ustuvor yo‘nalishlarda muhim chora-tadbirlar belgilandi. Jumladan, yangi O‘zbekiston sharoitida amalga oshirilayotgan islohotlardan kelib chiqib, korrupsiyaga qarshi kurashishning qonuniy asoslarini yanada takomillashtirish ko‘zda tutilmoqda.

Korrupsiyaga qarshi kurashish bo‘yicha 2023–2024-yillarga mo‘ljallangan Davlat dasturiga ko‘ra, Korrupsiyaga qarshi kurashish bo‘yicha 2030-yilgacha mo‘ljallangan milliy strategiya ishlab chiqilishi ham korrupsiyaga sabab bo‘lgan omillarni aniqlash va ularni tahlil qilish, korrupsiyaga qarshi kurashish bo‘yicha belgilangan amaldagi mexanizmlar samaradorligini baholash va takomillashtirish, jamiyatda korrupsiyaga nisbatan murosasiz munosabatni shakllantirish ishlarini jadal davom ettirishda katta ahamiyatga ega.

Xulosa va takliflar (Conclusion/Recommendations). Xulosa qilib aytganda farmon korrupsiyaning oldini olish va unga qarshi kurashish sohasida qilinayotgan ishlar natijadorligini oshirish, muhim ijtimoiy masalalarga oid ochiq ma‘lumotlar ko‘lamini yanada kengaytirish, ulardan to‘siqlarsiz foydalanishni ta‘minlash, shuningdek, “O‘zbekiston — 2030” strategiyasida belgilangan vazifalarni bajarish kabi muhim maqsadlarni ko‘zda tutadi:

Birinchidan, mazkur farmon bilan har chorakda Korrupsiyaga qarshi kurashish agentligi tomonidan davlat organlari va tashkilotlari kesimida sodir etilgan korrupsiyaga oid jinoyatlar tahlil qilinishi, ushbu jinoyatlar ko‘rsatkichi oshgan davlat organlari va tashkilotlariga kechiktirib bo‘lmaydigan chora-tadbirlarni bajarishi uchun agentlik xodimlari ishtirokida ko‘rib chiqilishi majburiy bo‘lgan taqdimnoma kiritib borilishi belgilandi.

Ikkinchidan, bundan buyon har yarim yilda jinoyatlarning oldini olish hamda ularga imkon bergan omillarni bartaraf etish borasida ko‘rilayotgan

choralar Korrupsiyaga qarshi kurashish bo'yicha milliy kengash yig'ilishlarida tegishli davlat organlari va tashkilotlari birinchi rahbarlari ishtirokida tanqidiy muhokama qilinadigan bo'ldi.

Uchinchidan, qayd etish lozimki, mamlakatimizda ochiq ma'lumotlarga hukumat shaffofligining muhim vositasi va raqamli iqtisodiyotni rivojlantirishga hissa qo'shadigan omil sifatida katta ahamiyat qaratilmoqda. Bu borada davlat organlari va tashkilotlari tomonidan ochiq e'lon qilinishi lozim bo'lgan ijtimoiy ahamiyatga molik ma'lumotlarning qat'iy ro'yxati tasdiqlanib, axborotlar joylashtiriladigan resurs, yangilab borish muddati va mas'ul ijrochilar aniq belgilab berilgan.

To'rtinchidan, yangi farmon asosida ochiq e'lon qilinishi lozim bo'lgan ijtimoiy ahamiyatga molik ma'lumotlar ro'yxati yanada kengaytirilib, aholini qiynab kelayotgan qator dolzarb masalalar yechimini topishga imkon yaratiladi. Masalan, hozirgi kunda keng tarqalgan va jamiyatni tashvishga solayotgan firibgarlik holatlarining oldini olish va navbatga turish tizimi ochiq va shaffof bo'lishini ta'minlash maqsadida haj ziyoratiga boruvchilarning yagona onlayn navbati joriy etilib, doimiy yangilab boriladi va u barcha uchun ochiq bo'ladi.

Beshinchidan, farmon bilan falsafa doktori (PhD) va fan doktori (DSc) ilmiy darajasini olish uchun o'tkaziladigan dissertatsiya himoyasi, o'rta-maxsus va professional ta'lim muassasalari, Prezident, ijod va ixtisoslashtirilgan maktablarga kirish imtihonlari, harbiy kafedralarga qabul qilishdagi saralash tanlovlarini internet tarmog'i orqali jonli efirga uzatish tartibi joriy etiladi.

Oltinchidan, davlat organlari va tashkilotlari budjetdan tashqari jamg'armalariga kelib tushayotgan mablag'lar, masalan, jarima, davlat mulkini ijaraga berish va sotish, pulli xizmatlardan kelib tushgan mablag'larning qaysi maqsadlarga sarflanayotgani, shuningdek, sudlar tomonidan davlat organlari va tashkilotlari, ularning mansabdor shaxslarining noqonuniy chiqarilgani uchun bekor qilingan qarorlari to'g'risidagi ma'lumotlar jamoatchilikka ochiq e'lon qilib boriladi.

Yettinchidan, Davlat xaridlarida tovarlar narxlarini nazorat qilish mexanizmlari takomillashtirilib, tovarning boshlang'ich narxi davlat xaridlarining maxsus axborot portalida e'lon qilingan narxlar asosida shakllantiriladi [3].

Davlat boshqaruvi akademiyasi va agentlik hamkorligida "Korrupsiyaga qarshi kurashish" darsligi chop etildi. IIV Akademiyasida birinchilardan bo'lib, 2020-yilda "Ichki ishlar organlarida korrupsiyaning oldini olish va xodimlarda korrupsiyaga qarshi xulq-atvorni shakllantirish" nomli darsligi hamda IIV Malaka oshirish instituti tinglovchilarida korrupsiyaga murossasiz immunitetni mustahkamlash maqsadida «Korrupsiya — ichki ma'naviy tahdid» maxsus kurslari o'qitilishi yo'lga qo'yildi.

Toshkentda Korrupsiyaga qarshi kurashish bo'yicha yuksak xalqaro mukofot bilan taqdirlash marosimida muhtaram Prezidentimiz Sh.Mirziyoyev, kelgusida tajriba almashish va muloqotni kuchaytirish, nodavlat notijorat

tashkilotlarini faol jalb etgan holda ilmiy tadqiqotlar olib borish maqsadida Korrupsiya masalalari bo'yicha hududiy tadqiqot markazini tashkil etish taklifini berishi ham bu borada mazkur illatning bartaraf etishga ilmiy yondashishni taqazo etadi.

Qatar amiri tashabbusi bilan ta'sis etilgan Korrupsiyaga qarshi kurashish bo'yicha mukofot bilan taqdirlash marosimida, delegatsiya ishtirokchilari havolasiga, "Jurnalistlar kuchidan samarali foydalanish va korrupsiyaga qarshi kurashda ularning ta'sirini yanada oshirish maqsadida Global Media Forum o'tkazish haqidagi taklifimizni qo'llab-quvvatlaysiz, degan umiddaman", — deya Prezidentimiz tomonidan qayd etildi [4].

Respublikamizda korrupsiyaga qarshi kurashishda fuqarolik institutlariga hamda ommaviy axborot vositalariga keng vakolatlar berilgan. Darhaqiqat mamlakatimizda jamoatchilik nazoratini amalga oshirishning tashkiliy-huquqiy mezanizmlarini mustahkamlashga qaratilgan islohotlar bosqichma-bosqich amalga oshirilmoqda[5].

Xulosa sifatida aytish mumkinki, faqatgina korrupsiya uchun jazolarni og'irlashtirish yo'li bilan bu illatga qarshi kurashib bo'lmaydi. Fuqarolarning faolligi, ijtimoiy hodisalarga befarq emasligi hamda har bir davlat xizmatchisining o'z faoliyati jamoatchilik nazoratida ekanini chuqur his etishi korrupsiyaga qarshi kurashishning muhim shartidir.

Adabiyotlar:

1. O'zbekiston Respublikasining 03.01.2017-yildagi "Korrupsiyaga qarshi kurashish to'g'risida"gi O'RQ-419-son qonuni.
2. O'zbekiston Respublikasi Prezidentining 2023-yilning 27-noyabrdagi "Korrupsiyaga qarshi kurashish tizimini yanada takomillashtirish hamda davlat organlari va tashkilotlari faoliyati ustidan jamoatchilik nazorati tizimi samaradorligini oshirish chora-tadbirlari to'g'risida"gi 200-sonli Farmoni
3. O'zbekiston Respublikasi Prezidentining 11.09.2023 yildagi "O'zbekiston — 2030" strategiyasi to'g'risida"gi PF-158-son Farmoni.
4. Ўзбекистон Республикаси Президентининг Қарори, 29.06.2020 йилдаги ПҚ-4761-сон
5. Исомиддинов Ю. Ю. ЎЗБЕКИСТОНДА КОРРУПЦИЯГА ҚАРШИ КУРАШ МЕХАНИЗМЛАРИ //Uzbek Scholar Journal. – 2022. – Т. 3. – С. 84-87.

PROFESSIONAL BURNOUT AS A FACTOR OF DEMOTIVATION SOCIAL WORKERS

Abstract. In the modern world, social workers face high demands and stress, which makes them especially vulnerable to professional burnout. This article aims to analyze the relationship between burnout and demotivation among social workers and to identify effective strategies to prevent and reduce burnout.

The results of the study showed a significant connection between the level of professional burnout and a decrease in motivation to work, which is reflected in the quality of social services provided and the overall level of satisfaction with the profession. Key factors that contribute to burnout have been identified, including excessive workload, insufficient support from colleagues and management, and difficulties in interacting with clients.

Based on the data obtained, several recommendations were developed to improve working conditions and reduce the risk of professional burnout. These include introducing psychological support and stress management training programs, reviewing workload and work processes, and strengthening the role of organizational culture in supporting employee well-being.

The study highlights the need for a comprehensive approach to the problem of burnout in social work, including changes at the organizational level and the development of individual self-care and professional development strategies for social workers. The proposed measures can help improve professional satisfaction and effectiveness in important social work.

Key words. Social services, social work, psychological support, professional burnout, demotivation, professionalism, professional effectiveness, social worker, quality of services.

In today's world, where social services play a key role in supporting vulnerable populations, the professionalism and emotional well-being of social workers are of particular importance. Despite the high social significance and demand of the profession, social workers face some challenges, among which professional burnout occupies one of the leading places. This condition, characterized by emotional exhaustion, depersonalization, and decreased professional effectiveness, becomes not only a cause of personal suffering but also a factor of demotivation, undermining the quality and effectiveness of social work.

This article is devoted to the analysis of professional burnout as a significant factor in the demotivation of social workers. Particular attention is paid to the mechanisms of burnout, its consequences for the psycho-emotional state of

specialists, and the quality of the services they provide. In the context of the study, both individual strategies for overcoming and adapting to professional stress, as well as organizational approaches to managing the risks of burnout and increasing staff motivation are considered.

The purpose of this work is to identify the main factors contributing to the development of professional burnout among social workers and to develop recommendations for minimizing its impact on the effectiveness of social work. To achieve this goal, the method of analyzing scientific literature is used.

The study of professional burnout and its impact on the demotivation of social workers has important theoretical and practical significance since it contributes to the development of effective strategies to improve working conditions, professional development, and psychological support for specialists, which, in turn, is aimed at improving the quality of social services for the population.

This study also intends to study the influence of external and internal factors on the level of professional burnout. Among external factors, special attention is paid to workload, task complexity, interaction with clients, and organizational culture. Internal factors include personal characteristics of social workers such as level of empathy, stress coping strategies, and motivational aspects. A feature of this study is an attempt to integrate various approaches and theories related to professional burnout to create a comprehensive model for understanding and preventing this phenomenon in the field of social work.

In addition, it is intended to highlight issues related to the consequences of professional burnout not only for the individual well-being of social workers but also for society as a whole. The deterioration in the quality of services provided, a decrease in the level of trust in social services, and an increase in staff turnover in this area hurt the social support of the population, which makes the problem of burnout of social workers relevant not only for the professional community but also for society as a whole.

Thus, scientific research into professional burnout among social workers as a factor of demotivation is a multidimensional task that requires an integrated approach. It is expected that the results of this work will contribute to the development of effective strategies to improve the well-being of social workers and improve the quality of social services provided to the population.

Maslach, C[1]., Schaufeli, W.B., [2] and Leiter, M.P. in their work "Theoretical foundations of professional burnout": define professional burnout as a state of emotional exhaustion, depersonalization, and decreased personal effectiveness that can occur in people working with people for a long time. Stress and emotional exhaustion, as shown by research by Stamm, B.H. [3] are significant problems among social workers due to the high demands and emotional load of their work.

The study by Kim, H. and Stoner, M. "The relationship between burnout and job quality" [4] shows that burnout negatively affects the quality of social services provided, reducing customer satisfaction and job performance.

Siebert, D.C. in his work "Burnout and Demotivation" [5] discusses how professional burnout leads to a decrease in motivation among social workers, increasing their desire to leave the profession.

In "Organizational Strategies" According to Morrow, S.L. [6], organizational strategies, including management support, improving working conditions, and developing a professional community, can significantly reduce the risk of professional burnout.

Individual coping strategies: According to Lee, J.J., and Miller, S.E. [7], Developing personal coping strategies such as time management, self-care, and professional development helps reduce burnout.

Despite significant contributions to the study of burnout among social workers, gaps still exist in the literature, such as the need to more deeply examine the influence of cultural and demographic factors, as well as the development and testing of comprehensive burnout prevention programs.

Factors contributing to professional burnout can be external and internal:

External factors: include high workload, uncertainty of labor relations, insufficient organizational support, and difficult relationships with clients.

Internal factors: include personal characteristics such as empathy, stress tolerance, professional ambitions, and expectations.

It is important to remember that professional burnout can lead to a decrease in the quality of services provided and customer satisfaction and an increase in the number of errors and shortcomings in work. In this regard, those responsible for organizing the process of social services need to develop a strategy to overcome and prevent professional burnout, for example, introducing a flexible work schedule, providing opportunities for professional development, and increasing support from management. Personal strategies for coping with professional burnout, including developing time management skills, self-care, and seeking social support are also effective methods in the fight against burnout.

It is important to consider that there is a relationship between professional burnout and personal life. This, in turn, requires in-depth study and methodological approaches. In the future, it is possible to study how professional burnout affects family relationships, social activity, and the overall quality of life of social workers.

All of the above requires a serious approach to the fight against professional burnout. As an example, we can use technological innovations in the prevention of this gap in social work practice.

Technological innovation plays a key role in combating burnout, offering new approaches and solutions to support psychological well-being and improve work efficiency. These innovations span a wide range of tools and platforms, including mobile apps for meditation and self-help, task management systems to

streamline workflow, software to monitor employee well-being, and virtual platforms for learning and skills development.

Mobile apps such as Headspace [8] and Calm [9] offer users meditation, mindfulness exercises, and relaxation sessions that can help reduce stress and prevent burnout. These tools make self-help practice accessible and convenient, allowing users to practice meditation anytime, anywhere.

Technologies such as Asana, Trello, and Microsoft Teams help with work organization, task planning, and project management. They enable social workers to effectively allocate resources, set priorities, and track progress on tasks, which helps reduce work stress and prevent overload.

Platforms such as Limeade and Welltok are designed to monitor and improve employee wellbeing. They provide tools for surveys, questionnaires, and analysis of employee well-being data, allowing employers to quickly identify signs of stress or burnout and take appropriate action.

Online platforms such as Coursera, Udemy, and LinkedIn Learning offer courses and training to develop personal and professional skills, including stress management, time management, and mindfulness. These resources allow social workers to improve their skills and find new ways to cope with professional challenges.

Artificial intelligence and machine learning technologies can analyze large amounts of data on employee behavior and well-being, identifying patterns and predicting the risk of burnout. This allows for the development of personalized support and intervention programs.

Based on the results found, the following main areas for recommendations can be identified:

Recommendations for social work practice.

Improving working conditions: Social work organizations should pay attention to optimizing workload and providing sufficient time to rest and recuperate between work assignments. It is important to create an environment where social workers feel supported and understood by management and colleagues.

Professional Development Programs: Regular training and professional development help improve the competence of social workers, which helps reduce feelings of professional burnout. Including modules on stress-coping strategies and burnout management may be particularly helpful.

Psychological support: Introducing regular sessions with a psychologist or counselor to discuss professional difficulties and emotional challenges can help reduce stress and prevent burnout.

Recommendations for organizational policies.

Developing policies to prevent burnout: Organizations should develop and implement comprehensive policies to manage stress and prevent burnout that include measures to improve the work environment, provide support, and develop staff.

Creating a system for early detection of signs of burnout: It is important to train managers and colleagues to recognize the first signs of professional burnout among social workers to provide timely support and prevent the development of more serious problems.

Recommendations for further research.

Investigating the Long-Term Effects of Prevention Programs: Further research is needed to evaluate the long-term effectiveness of various programs and strategies to prevent burnout.

Cross-cultural research: It is important to conduct research in different cultural and socioeconomic contexts to understand how cultural differences influence the perception and management of burnout.

Professional burnout remains a serious problem in the field of social work, affecting the personal well-being of social workers and the quality and effectiveness of the services they provide. This study highlights the importance of a comprehensive approach to addressing this issue, including changes in organizational culture, improving working conditions, and providing resources for professional and personal development.

Creating a positive work environment where employees feel supported by colleagues and management is key to combating burnout. This requires not only implementing formal programs and policies, but also building a culture of mutual respect, openness, and caring within the team.

Additionally, an emphasis on professional development and training, especially in areas related to stress management and emotional intelligence, can significantly increase job satisfaction and reduce the risk of burnout. Psychological support and access to counseling services should become the norm, not the exception, for all social workers.

In addition to practical interventions, further research is needed to examine the effectiveness of implemented policies and programs and to understand the unique challenges faced by social workers in different contexts. Cross-cultural research in this area can shed light on global and local aspects of the problem, as well as help develop universal and specific approaches to solving it.

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MODERN OUTLOOK AND SCIENTIFIC THINKING IN FORMATION OF VALUES IMPORTANCE

Annotation. Studying the topic of values as a scientific object of philosophical research and mastering the knowledge gathered in this direction helps to form a modern worldview and scientific thinking. A comprehensive and deep analysis of current issues in this field, issues of improving the existing value system have become one of the current topics in this regard.

Key words: society, reforms, values, universal values, national values.

The system of values and topics related to it are a component of distant historical processes, like a person himself, a unique phenomenon of social reality that began to form with the emergence of society. It is a general law of development that each historical stage, any period of human life has its own values and value systems, and that this factor is of great importance in the history and destiny of states and nations. This law attracts the attention of scholars and thinkers, scientists and specialists both in the past and in the present. In this regard, many doctrines and theories have been created, various views and approaches have been formed.

Summarizing various theories and approaches in this field, in turn, in the process of social development, while the society is moving from one stage of development to another, as well as in all spheres of life, the existing value system also undergoes specific changes and updates, indicates that it is a general process related to this aspect. Even today, when the world is becoming globalized and the scope of various problems related to it is expanding, this general axiological law is being implemented and it is manifested as an important component of the development of the whole humanity on the one hand, and on the other hand, the life of Uzbekistan, which is being updated more and more.

At the same time, the instabilities in some regions of the world are intensifying and the problems related to the spiritual crisis are becoming more and more serious, causing rapid changes in the system of universal human values in which the age-old traditions of the peoples of the world prevail. In turn, attention is being paid to scientific research related to the general laws and its national characteristics, which ensure the intensive impact of such complex socio-axiological processes on the global value system and the existing set of values in our country.

As the President's speech at the 72nd session of the UN General Assembly emphasized, "Uzbekistan is rapidly developing today. Following the wise

traditions of our ancestors, we are carrying out strict reforms, and we are on the way to form a new image of our country. Political activity is increasing in our society, deep reforms are being implemented in all spheres. Their goal is to establish a democratic state and a just society, where the implementation of the simple and clear principle that "human interests are above all else" is of primary importance.

In this direction, in the analysis of issues related to the renewal of the value system characteristic of our society today and the impact of the reforms implemented in all areas of our life on this process, honorable President Shavkat Mirziyoev's " We will build a free and prosperous, democratic state of Uzbekistan together" (T.: "Uzbekistan", 2016), "Critical analysis, strict discipline and personal responsibility should be the daily rules of every leader's activity" (T.: "Uzbekistan", 2017), "We will continue our path of national development with determination and raise it to a new level" (T.: " Uzbekistan", NMIU, 2017), "Ensuring the rule of law and human interests is the guarantee of the country's development and people's well-being." (T.: "Uzbekistan", 2017), "We will build our great future together with our brave and noble people." (T.: "Uzbekiston", 2017. – 488 p.) works such as "New Uzbekistan Strategy" (T.: "Uzbekiston Nashriyoti", – 2021), as well as the Decree " On the Strategy of Actions for the Further Development of the Republic of Uzbekistan " is important. From this point of view, the works of the head of our state serve as a methodological basis for further improvement of the system of social innovative values in studying the directions and main principles of the process of renewal in the spiritual and educational value system of our society as a result of our nation's achievement of independence, restoration of national statehood and strengthening of independence.

At the same time, the decree of the President of the Republic of Uzbekistan dated July 28, 2017 "On improving the effectiveness of spiritual and educational work and raising the development of the field to a new level" PQ-3160 dated May 31, 2017 "On measures for further development and improvement of the sphere of culture and art" PQ-3022 dated August 14, 2018 " Education of young people with moral, moral and physical perfection, education for them" Decisions and Decrees No. PQ -3907 on measures to raise the quality of the education system to a new level, and Addresses of the head of our state to the Oliy Majlis in 2017 and 2018 are undoubtedly the methodological basis for understanding the essence of issues in this direction and setting urgent tasks.

Researching the objective regularities and specific features of the process of changing and renewing the general value system specific to the life of our country today in all spheres as a socio-philosophical special topic serves the realization of these methodological sources and historical documents.

In this regard, the need to deeply study the impact of global axiological processes taking place in an extremely complex manner on the system of spiritual and educational values specific to today's Uzbek society, to find effective

solutions to emerging problems in this field, and the tasks of systematic research in this direction are becoming extremely urgent. In order to further increase the effectiveness of the reforms in this direction in order to create a new image of our country, there is a need for holistic conceptual scientific developments to further improve the existing value system and optimize its renewal mechanism. The need to develop innovative approaches and practical proposals and recommendations for their implementation is also increasing

As the Honorable President Sh.Mirziyoev specifically stated in his 2017 Address to the Oliy Majlis: "Today, we aim to fundamentally renew all areas of state and community life we are moving to the path of innovative development. It's not for nothing, of course. Because in today's fast-paced world, who wins? The state that relies on a new idea, a new idea, and innovation will win. Innovation is the future. If we start building our great future today, we should start it on the basis of innovative ideas and an innovative approach.

If we think on the basis of this conclusion, it should be noted that the scope of topics related to values is expanding, different views and topical issues are emerging in this direction. At the same time, current issues such as strengthening independence, building a new democratic state in Uzbekistan based on universal values, and strengthening the influence of the value factor in the process of building a civil society have made this topic more relevant. In this regard, there is a growing need for scientific and practical analyzes of issues such as reevaluation of values, restoration of ancient oriental and national values, their preservation and inheritance for future generations, determination of valuable criteria for reforms and changes, and application of universal criteria for solving problems related to this process.

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YANGI O'ZBEKISTONDA RAQAMLI IQTISODIYOTNI RIVOJLANTIRISHDA XORIJ TAJRIBALARINING O'RNI

Annotatsiya. Ushbu maqolada iqtisodiyotda raqamli iqtisodiyotning tutgan o'rni va Yangi O'zbekistonda raqamli iqtisodiyotni rivojlantirishning dolzarb masalalari haqida ma'lumotlar keltirilgan bo'lib, Bir qancha rivojlangan mamlakatlarda raqamli iqtisodiyotning rivojlanishi hamda infratuzilmalari tahlil qilinib olingan natijalar asosida mamlakatimizda raqamli iqtisodiyotni rivojlantirish bo'yicha taklif va tavsiyalar ishlab chiqilgan.

Kalit so'zlar: raqamli iqtisodiyot, raqamli platformalar, raqamli texnologiyalar, raqamli transformatsiya, sun'iy intellekt, neyrotexnologiyalar, kriptovalyutalar.

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THE ROLE OF FOREIGN EXPERIENCES IN THE DEVELOPMENT OF THE DIGITAL ECONOMY IN THE NEW UZBEKISTAN

Annotation. This article provides information on the role of the digital economy in the economy and current issues of development of the digital economy in New Uzbekistan. Based on the results of an analysis of the development and infrastructure of the digital economy in a number of developed countries, proposals and recommendations have been developed for the development of the digital economy in our country.

Keywords: digital economy, digital platforms, digital technologies, digital transformation, artificial intelligence, neurotechnologies, cryptocurrencies.

KIRISH

Raqamli iqtisodiyotda iqtisodiy, ijtimoiy va madaniy aloqalar raqamli texnologiyalarni qo'llash asosida amalga oshiriladi. O'zbekiston Respublikasi Prezidenti SH.Mirziyoyev ta'kidlaganidek, "Tarmoq va hudud rahbarlari raqamlashtirishsiz natija, rivojlanish bo'lmasligini tushunib yetishi shart. Barcha darajadagi rahbarlar buni o'ziga kundalik vazifa sifatida belgilab, raqamlashtirish

sohasini alifbosidan boshlab chuqur o'rganishi kerak".¹⁰Raqamli iqtisodiyotning global dunyoda muhimlik darajasi oshib bormoqda. Raqamlashtirish jarayonlari iqtisodiyotning barcha soha va tarmoqlariga o'z ta'sirini ko'rsatmoqda. Ayniqsa, turli tarmoq va sohalardagi logistika hamda tashkiliy xarajatlarni qisqartirishda va mehnat unumdorligini oshirishda muhim ahamiyat ega ekanligi taqsinga sazovor.

Bugungi kunda, raqamli iqtisodiyot va u bilan bog'liq bo'lgan bir qancha samarador texnologiyalar, loyihalar hayotimizga shiddat bilan kirib kelmoqda. Shu sababli davlat va jamiyat taraqqiyotini yanada rivojlantirish maqsadida respublikamiz rahbariyati bir qancha muhim qarorlarni qabul qildi. Masalan, O'zbekiston Respublikasi prezidenti 2018 yil 28 dekabrda 2019 yil uchun eng muhim ustuvor vazifalar haqidagi Oliy Majlisga Murojaatnomasida ham mamlakatimizda raqamli iqtisodning rivojlanishi bo'yicha quyidagilarni aytib o'tdi: *"Iqtisodiyotning barcha sohalarini raqamli texnologiyalar asosida yangilanishini ko'zda tutadigan "Raqamli iqtisodiyot milliy kontseptsitasi"ni ishlab chiqishimiz kerak. Shu asosda "Raqamli O'zbekiston-2030" dasturini hayotga tatbiq etishimiz zarur. Raqamli iqtisodiyot yalpi ichki mahsulotni kamida 30 foizga o'stirish, korrupsiyani keskin kamaytirish imkonini beradi. Nufuzli xalqaro tashkilotlar o'tkazgan tahlillar ham buni tasdiqlamoqda. Shuning uchun Hukumatga ikki oy muddatda raqamli iqtisodiyotga o'tish bo'yicha "yo'l xaritasi"ni ishlab chiqish topshiriladi. Bu borada axborot xavfsizligini ta'minlashga alohida e'tibor qaratish zarur"*.¹¹

Hozirgi kunda raqamli iqtisodiyot tushunchasi bir qator mamlakatlarning iqtisodiy nazariyasi va amaliyotida o'z o'rniga ega bo'lib usiz tarmoqni hatto tasavvur etib bo'lmaydigan darajaga borib qoldi. Bu esa o'z navbatida raqamli texnologiyalarning jadal rivojlanishi, axborot sohasida inqilob va iqtisodiyotning globallasuv jarayonlarini tezlashtirish bilan ajralib turadi. Ulardan foydalanish samaradorligi orqali tobora rivojlanib ijtimoiy-iqtisodiy aloqalar rivoji kengayib bormoqda.

Shu jumladan soha olimlarining "raqamlashtirish" va "raqamli iqtisodiyot" haqida bergan tushunchalarini ko'rib chaqidigan bo'lsak bunga ko'ra, raqamli iqtisodiyot tushunchasi birinchi bo'lib, 1994-yilda Tapscottning "Raqamli iqtisodiyot: tarmoqli razvedka asrida va'da va xavf-xatar" nomli asarida keltirilgan.¹² Uning fikricha, raqamli iqtisodiyotni kompaniya nazariyasiga asoslangan holda, biznesning yangi ommaviy axborot vositalariga o'tishiga oid bir qator farazlarni shakllantirgan. Raqamli iqtisodiyot bilimlarni boshqarish, raqamli aloqa, virtualizatsiya, internet orqali integratsiya, vositachilardan qochish, sohalarni yaqinlashtirish, innovatsiya, iste'molchiga individual xizmat,

¹⁰ "Raqamli O'zbekiston — 2030" strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to'g'risidagi O'zbekiston Respublikasi Prezidentining farmoni PF-6079-son, 05.10.2020

¹¹ "Raqamli O'zbekiston — 2030" strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to'g'risidagi O'zbekiston Respublikasi Prezidentining farmoni PF-6079-son, 05.10.2020

¹² D. Tapscott, "The digital Economy: promise and peril in the age of networked intelligence." – New York: McGraw-Hill. – 1997.

tezkor javob, globalizatsiya, raqamli bo‘linish kabi xususiyatlarga ega ekanligi bilan ajralib turadi. N.Leyn ta’kidlashicha, “Raqamli iqtisodiyot” tushunchasiga quyidagicha ta’rif beradi. Internetda hisoblash va kommunikatsiya texnologiyalarining yaqinlashuvi va natijada elektron tijorat va keng tashkiliy o‘zgarishlarni rag‘batlantiradigan axborot va texnologiyalar oqimi bo‘lib qoladi.¹³ 1995-yilda N.Negroponte ham "raqamli iqtisodiyot" tushunchasi izohladi. Unga ko‘ra, raqamli iqtisodiyot — atomlar harakatidan bitlarning harakatiga o‘zgarishi hisoblanadi.¹⁴ S.Baller, S.Datta, B.Lanvinlarning ilmiy maqolasida raqamli iqtisodiyotni keng doirada ta’sirini baholashgan. Unga ko‘ra raqamli iqtisodiyot asosida rivojlanish iqtisodiy-ijtimoiy va huquqiy jarayonlarda o‘ziga xos xususiyatlari talab qilishi, milliy innovatsion tizimlar va dunyoda raqamli texnologiyalarni rivojlantirishning to‘siqlari va istiqbollari aniqlangan.¹⁵ Yana bir o‘z sohasining yetakchisi T.L.Mezenburg tomonidan raqamli iqtisodiyotga mavjud raqamli texnologiyalardan foydalanish orqali dasturiy tarmoqlarning ahamiyatining o‘sishi, qo‘shilgan qiymatning ortishi, dasturiy va raqamli iqtisodiyotdagi ishchi kuchi miqdorining har xil darajasi, internet tijorati, elektron biznes strukturasi amalga oshirish imkonini berishligini ta’kidladi.¹⁶

Bukht va Heekslarning ilmiy izlanishlarida epririk tahlillarga asoslangan holda quyidagi fikrni ta’kidlashgan. Iqtisodiyotni raqamlashtirish yoki raqamlashtirish transformatsiyasi jarayoni deyarli barcha tarmoq va sohalarni qamrab olgan holda, ish unumdorligi va mehnat samaradorligini keskin oshirishga, ko‘rsatilayotgan xizmat turlari sifatini yaxshilashga, ular tannarxini keskin kamaytirishga, jahon bozorini keng miqyosda qamrovini amalga oshirishga imkoniyat yaratadi.¹⁷ Bunga ko‘ra esa yana bir mutaxassis N.M.Maxmudov esa, globallashtirish sharoitida istalgan mamlakatning iqtisodiy ta’minlash va jahon maydonida raqobatbardoshligini oshirishda ko‘p jihatdan raqamli iqtisodiyotning samarali modellari borligini hamda raqamli iqtisodiyot xo‘jalik faoliyatini yuritish bo‘lib, bunda ishlab chiqarish va xizmat ko‘rsatishdagi asosiy omil raqamlar ko‘rinishidagi ma’lumotlar bo‘lib, katta hajmdagi axborotlarni qayta ishlash va shu qayta ishlash natijasini analiz qilish yordamida har xil turdagi ishlab chiqarish, xizmat ko‘rsatish, texnologiyalar, qurilmalar, saqlash, mahsulotlarni etkazib berishda oldingi tizimdan samaraliroq yechimlar tatbiq qilishdir. Boshqacha qilib aytgancha, raqamli iqtisodiyot bu onlayn xizmatlar ko‘rsatish, elektron to‘lovlar amalga oshirish, internet savdo, kraudfanding va boshqa turdagi sohalarni raqamli kompyuter texnologiyalarini

¹³ N.Lane Advancing the Digital Economy into the 21st Century (Assistant to the US President for Science and Technology), 1999;

¹⁴ N.M.Maxmudov, N.R.Avazov Raqamli iqtisodiyot—qulay investitsion muhitni shakllantirishning asosi //Материалы

¹⁵ S.Baller, S.Dutta, and B.Lanvin, “The global information technology report 2016”, Innovating in the Digital Economy. [Proc. World Economic Forum], Geneva, 2019, p. 307

¹⁶ Mesenbourg, T. Measuring the Digital Economy / US Bureau of the Census. – 2001

¹⁷ R. Bukht and R. Heeks, “Defining, conceptualizing and measuring the digital economy”, Development Informatics

rivojlanishi bilan bog‘langan faoliyatdir¹⁸ deb ta’kidladi. Mamlakatimizda aynan O‘zbekiston iqtisodiyoti uchun raqamli iqtisodiyotni shakllantirishda asosiy imkoniyat inson resurslarini rivojlantirishdir. Soha vakili B.YU.Xodiyev fikriga ko‘ra O‘zbekiston raqamli iqtisodiyotning rivojlanishi cheksiz imkoniyatlar ochadi, raqamli iqtisodiyotni rivojlantirish uchun to‘siqning asosiy sababi AKT infratuzilmasi hisoblanadi.¹⁹

Avvalo shuni aytish kerakki, raqamli iqtisodiyot o‘zaro bog‘liq bo‘lgan ishlab chiqarish va boshqaruv jarayonlarining zanjiridan iborat bo‘lib, uning ajralmas elementi zanjirlararo (*insonlararo, mashinalararo, bulutlar orqali, data markazlararo*) raqamli texnologiyalar yordamida amalga oshiriladigan ma’lumot almashinishdir. Raqamli iqtisodiyotda raqamli ko‘rinishdagi ma’lumotlar barcha ijtimoiy-iqtisodiy sohalaridagi ishlab chiqarishning asosiy elementi hisoblanadi va bunday iqtisodiyot tizimiga bosqichma-bosqich o‘tish mamlakatimizning global miqyosdagi raqobatbardoshligi oshirib, fuqarolarning hayot sifatini yanada oshiradi, yangi ish joylarini yaratadi, jadal iqtisodiy o‘sishga imkon yaratadi va milliy mustaqillikni ham ta’minlab beradi

Hozirgi paytda jahondagi bir qancha rivojlangan mamlakatlar (Koreya, singapur, AQSH, Xitoy, Yaponiya, Yevropa Ittifoqi mamlakatlari, Rossiya va boshqalar), jahon iqtisodiyotida ro‘y berishi boshlangan o‘zgarishlarni hisobga olgan holda, iqtisodiyotning ko‘pchilik tarmoqlarini raqamlashtirish bo‘yicha jadal harakatlanmoqdalar. Lekin, bu ma’lumotlarni nazarda tutgan holda shuni qayd etishga majburiylik, bironta, jumladan, yetakchi mamlakatlarda ham raqamli iqtisodiyot o‘zi nima ekanligi va u kelajakda qanday oqibatlarga olib kelishi mumkinligi haqida to‘laqonli falsafiy tushunish yo‘q. Ko‘rinib turibdiki, raqamli iqtisodiyot deganda, ko‘plab mamlakatlar iqtisodiy munosabatlar va boshqaruvning yangi shakllarni emas, balki, iste’molchilar bilan kommunikatsiya qilish va to‘lovlarning yangi elektron raqamli shakllarini tushunadi, holos. Chunonchi, ko‘pchilik rivojlangan mamlakatlar raqamli iqtisodiyotni ongli ravishda tashkil etmaydilar, balki mavjud iqtisodiy munosabatlarni raqamlashtirish jarayoni bilan shug‘ullanadi, xolos. Iqtisodiyotni raqamlashtirish jarayonining ba’zi yetakchi mamlakatlari esa qarama-qarshi yondashuvlar tanlab olishgan. Masalan, AQSH bozor yo‘nalishini, Xitoy esa rejali iqtisodiyotni tanlab olgan. Qolgan mamlakatlar ma’lum bir oraliq variantlarga rioya qilishadi. Shuni alohida aytib o‘tishni kerakki, xuddi Xitoy kabi, AQSH dasturi nuqtai-nazaridan ham iqtisodiyotni raqamlashtirish jarayonida biz globallashtirishning yangi bosqichini ko‘ramiz. Dunyodagi eng kuchli ikkita iqtisodiyot sifatida AQSH va Xitoy uchun globallashtirish foydali, chunki iqtisodiy jihatdan kuchliroq bo‘lgan o‘yinchi doimo o‘z ustunligini namoyish etish imkoniyatiga ega bo‘ladi. Agar bu

¹⁸ N.M.Maxmudov, N.R.Avazov Raqamli iqtisodiyot—qulay investitsion muhitni shakllantirishning asosi //Материалы

¹⁹ Xodiev B. YU. Sifrovaya ekonomika v Uzbekistane. //Mirovaya ekonomika, 2017, №12

sohadagi AQSH ning ko‘rib chiqadigan bo‘lsak, raqamli iqtisodiyotni tashkil qilish jarayonini to‘rt asosiy blokka ajratish mumkinligi ma’lum bo‘lib qoladi:

- *Raqamli iqtisodiyotni rivojlantirish uchun kerakli bo‘lgan shart-sharoitlarini yaratish (ya’ni, tegishlinormativ-huquqiybaza tashkil qilish);*

- *Raqamli transformatsiya qilinishga eng tayyor bo‘lgan iqtisodiyot subyektlarida raqamli iqtisodiyot platformalarining vujudga kelishi va global miqyosda ishga tushishi;*

- *Raqamli iqtisodiyot platformalarning o‘zar-raqobat kurashi va ularning asta-sekinlik bilan integratsiyalashuvi amalga oshishi;*

- *Raqamli iqtisodiyot sohasidagi eng perspektiv yechimlarni butun iqtisodiyotga joriy qilish.*

Biz ham mamlakatimizda raqamli iqtisodiyotni rivojlantirishning AQSH va Xitoy mamlakatlarida sinovdan o‘tgan xuddi shunday strategiyasini tanlaganimiz maqsadga muvofiq bo‘lar edi. Raqamli iqtisodiyotning hozirda butun jahon bo‘ylab o‘rganilishi va ilmiy tadqiqotlar olib borilishining sabablaridan biri, raqamli texnologiyalarning ortib, foydalanish qamrovi kengayishidadir. Iqtisodiyotning barqaror rivojlanishi va undagi qator muammolarni bartaraf etishda raqamli iqtisodiyot yechim bo‘ladi. Iqtisodiyotni raqamli transformatsiyalashuvi, avvalambor uning tarkibidagi barcha soha va tarmoqlarida raqamli texnologiyalarni keng joriy etish natijasida mehnat unumdorligini oshirish, qarorlar qabul qilishga asoslangan kompleks jarayonlarni qamrab oladi. Buning asosida raqamli iqtisodiyotning qamrov sohalari ham kengayib boradi.

Zamonaviy taraqqiyotning keyingi istiqbolida katta hajmli ma’lumotlar bilan ishlash texnologiyalari (Big Data), sun’iy intellekt, neyrotexnologiyalar, kvant texnologiyalari, buyumlar interneti, robototexnika va sensorika, raqamli elektron platformalar, bulutli va mobil texnologiyalar, virtual va qo‘shimcha reallik texnologiyalari, kraudsorsing, blokcheyn texnologiyalari, kriptovalyutalar va ICO, 3D- texnologiyalari singari raqamli texnologiyalar hal qiluvchi ahamiyat kasb etmoqda.

1-jadval.

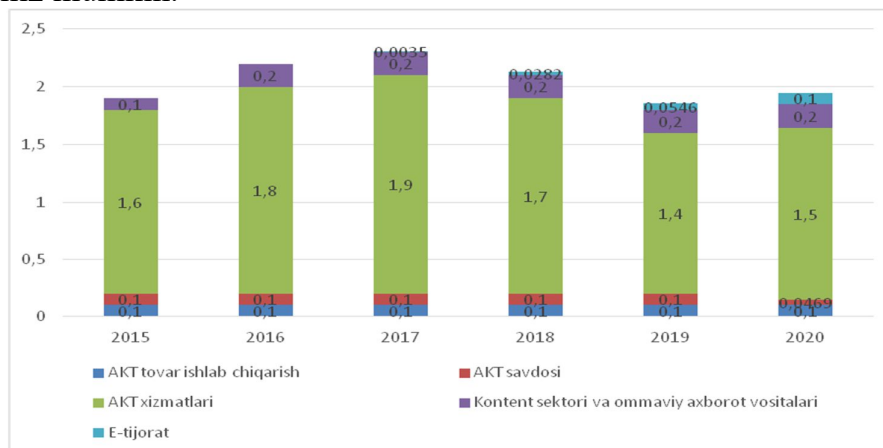
Raqamli iqtisodiyot soha va tarmoqlari

Raqamli transformatsiyalashgan iqtisodiyot	Raqamli iqtisodiyot	AKT sektori
Elektron biznes; Elektron tijorat, Sanoat 4.0 Aniq qishloq xo‘jaligi (Precision agriculture) Algoritmik iqtisodiyot (Algorithmic economy); Gig iqtisodiyot (gig economy)	Raqamli xizmatlar Platformali iqtisodiyot	AKT ishlab chiqarish; Axborot xizmatlari; Dasturiy ta’minot va AKT konsalting, Telekommunikatsiya

O‘zbekistondagi raqamli iqtisodiyotni 1-jadval asosida tahlilini ko‘rib chiqadigan bo‘lsak, bunda AKT sektori raqamli transformatsiyalashgan iqtisodiyot va raqamlashtirilgan iqtisodiyot tarkibiga kiruvchi soha va tarmoqlarga nisbatan rivojlanish darajasi yuqoriligi bilan ko‘zga tashlanadi. Amaliyotda raqamli transformatsiyalashgan iqtisodiyot tarkibida ayrim soha va tarmoqlarga raqamlashtirish jarayonlari sezilarli darajada joriy etilmagan. Jumladan aniq qishloq xo‘jaligi, algoritmik iqtisodiyot, gig iqtisodiyot, sanoat 5.0, kabilarni misol keltirishimiz mumkin.

Raqamli xizmatlar va platforma iqtisodiyoti esa asosan xizmatlar sohasida joriy etilgan. Bu holat 1-rasmdagi tahlilda o‘z aksini topadi. Raqamli iqtisodiyotda yaratilgan yalpi qo‘shilgan qiymat 2020-yil hisobida YaIMning 2 foizini tashkil qilib, uning asosiy ulushini AKT sektori va raqamlashtirilgan iqtisodiyot tarkibidagi e-tijorat egallaydi.

1-rasm ma’lumotlaridan ko‘rinadiki, AKT tovarlar ishlab chiqarishda o‘shish kuzatilmagan. AKT xizmatlarining ulushi esa 2017-yilda jamiga nisbatan eng yuqori ulushni (1,9 foiz) ko‘rsatgan. Shuningdek, AKT sektorining tarkibida tovar ishlab chiqarish va savdoning ulushi pastligicha qolmoqda. Raqamlashtirilgan iqtisodiyot tarkibida esa e-tijoratning ulushini faqat 2018-yildan boshlab ko‘rishimiz mumkin. E-tijoratda ham jami raqamli iqtisodiyotning qo‘shilgan qiymatiga nisbatan 2018-2020-yillarda deyarli o‘shish kuzatilmagan. Biroq YaIMdagi raqamli iqtisodiyotning qo‘shilgan qiymati esa o‘sganini ko‘rishimiz mumkin.



1-rasm. O‘zbekistonda raqamli iqtisodiyotning tarkibiy tuzilishi (foizda) ²⁰

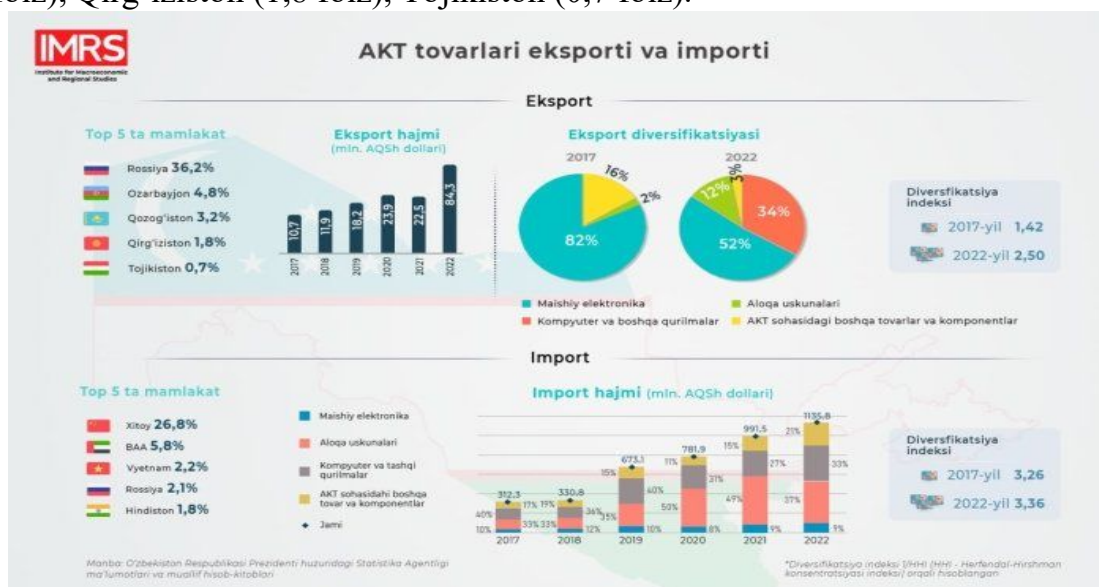
Makroiqtisodiy va hududiy tadqiqotlar instituti (MHTI) ekspertlari 2017-2022 yillar davomida AKT sohasida tovarlar eksporti va importini baholadi.

AKT tovarlari eksporti:

Ko‘rib chiqilayotgan davrda AKT tovarlari eksporti hajmi 7,9 barobar oshdi va 2022-yilda 84,3 million AQSh dollarini tashkil etdi (umumiy tovarlar

²⁰ “Yangi O‘zbekistonning 2022-2026 yillarga mo‘ljallangan Taraqqiyot strategiyasi” O‘zbekiston Respublikasi Prezidentining farmoni PF-60 son 28.01.2022

eksportining 0,4 foizi). AKT tovarlari eksportining diversifikatsiya darajasi* 2017-yildagi 1,42 dan 2022-yilda 2,50 gacha oshdi. 2022-yilda AKT tovarlari eksporti tarkibida maishiy elektronika tovarlari eng katta ulush (52,3 foiz) ni egalladi. Kompyuterlar va tashqi qurilmalar 2017-2022 yillar davomida eng yuqori o'sish sur'atiga ega bo'ldi – 4716,9 barobar. Bu esa ushbu sohaga 2022-yilda IT-mahsulotlari eksportida ikkinchi (33,6 foiz) o'ringa ko'tarilish imkonini berdi. 2022-yilda aloqa uskunalari AKT tovarlari eksportining 11,6 foizini tashkil etdi va 2017-yildagiga nisbatan 59,5 barobarga oshdi. Eng past o'sish sur'ati AKT sohasidagi boshqa tovar va komponentlar guruhida kuzatildi — 1,3 barobar. Bu guruh AKT eksportida eng kam ulushga ega – 2,6 foiz. AKT tovarlarining asosiy eksport bozorlari: Rossiya (36,2 foiz), Ozarbayjon (4,8 foiz), Qozog'iston (3,2 foiz), Qirg'iziston (1,8 foiz), Tojikiston (0,7 foiz).



2-rasm. 2017-2022 yillar davomida AKT sohasida tovarlar eksporti va importi.

AKT tovarlari importi: 2017-2022 yillarda AKT tovarlari importi hajmi 3,6 barobarga oshib, 2022-yilda 1135 million dollarga yetdi (umumiy importning 3,8 foizi). 2017-2022 yillarda AKT tovarlari importining diversifikatsiya darajasi* 3,26 dan 3,36 gacha ko'tarildi. 2022-yilda AKT tovarlari importi hajmida eng katta ulush aloqa uskunalari (37,3 foiz) va kompyuterlar hamda tashqi qurilmalar (32,5 foiz) tovarlar guruhiga to'g'ri keldi.

AKT sohasida boshqa tovar va komponentlar guruhining ulushi 2022-yilda 21,1 foizni tashkil etdi. 2022-yilda AKT tovarlari importida eng kichik ulush maishiy elektronika (9,1 foiz) guruhiga to'g'ri keldi. Ko'rib chiqilayotgan davrda barcha mahsulot guruhlari bo'yicha o'sish sur'ati kuzatildi va u o'rtacha 3,7 barobarni tashkil etdi. AKT tovarlari asosan Xitoy (26,8 foiz), BAA (5,8 foiz), Vyetnam (2,2 foiz), Rossiya (2,1 foiz) va Hindistondan (1,8 foiz) import qilingan. Diversifikatsiya indeksi 1/HHI (Xerfindal-Xirshman konsentratsiyasi indeksi) orqali hisoblangan

Yangi O‘zbekistonda amalga oshirilayotgan islohotlar natijasida ochiqlik, xalqaro iqtisodiy-siyosiy aloqalarning rivojlanishi yurtimizda sanoat tarmoqlarini modernizatsiya qilish, texnik va texnologik jihatdan qayta jihozlash imkoniyatlarini yuzaga chiqardi. Bunga mamlakatimiz tashqi savdo hajmining o‘shirishini misol qilib keltirish mumkin. “Elektron hukumat”, “elektron boshqaruv”, “telekommunikatsiya”, “internet”, “veb-sayt” kabi yuzlab iboralar hayotimizning ajralmas bo‘lagiga aylandi. IT kundalik hayotimizning barcha sohasini qamrab olmoqda.

Amalga oshirilayotgan islohotlar natijasida Elektron hukumat va yagona interaktiv xizmatlar portali orqali 178 ta xizmat yo‘lga qo‘yildi hamda ushbu xizmatlar aholining vaqti va xarajatlarini tejamoqda va bu esa o‘z navbatida mehnat samaradorligini oshirishga olib keladi. Raqamli iqtisodiyotni shakllantirish kerakli infratuzilma, ko‘p mablag‘ va mehnat resurslarini talab etishini juda yaxshi bilamiz. Shu bois raqamli iqtisodiyotga faol o‘tish kelgusi 5 yildagi eng ustuvor vazifalarimizdan biri bo‘ladi. Raqamli texnologiyalar nafaqat mahsulot va xizmatlar sifatini oshiradi, ortiqcha xarajatlarni, ayniqsa, korrupsiyani keskin kamaytiradi. O‘z o‘rnida qayd etib etish lozimki, mamlakatimiz hayotida raqamli iqtisodiyotning ayrim elementlari allaqachon muvaffaqiyat bilan faoliyat ko‘rsatmoqda. Jumladan, hujjatlar va kommunikatsiyalarning ommaviy ravishda raqamli vositalarga o‘tkazilishini hisobga olib, elektron imzoga ruxsat berish, davlat bilan muloqot qilish ham elektron platformalarga o‘tkazilmoqda.

Raqamli iqtisodiyotning amaliy ahamiyati va jihatlari, bu birinchi navbatda, insonlarning turmush darajasini sezilarli darajada oshiradi, bu uning asosiy foydasidir. Qolaversa, raqamli iqtisodiyot korrupsiya va “qora iqtisodiyot”ning asosiy kushandasidir. Binibarin, raqamlar hamma narsani muhrlaydi, xotirada saqlaydi, kerak paytda ma’lumotlarni tez taqdim etadi. Bunday sharoitda biron ma’lumotni yashirish, yashirin bitimlar tuzish, u yoki bu faoliyat haqida to‘liq axborot bermaslikning iloji yo‘q, kompyuter hammasini namoyon qilib qo‘yadi. Ma’lumotlar ko‘pligi va tizimlilik yolg‘on va qing‘ir ishlarga yo‘l bermaydi, chunki tizimni aldash imkonsiz. Natijada “iflos pullarni” yuvish, mablag‘larni o‘g‘irlash, samarasiz va maqsadsiz sarflash, oshirib yoki yashirib ko‘rsatish imkoni qolmaydi. Bu esa iqtisodiyotga legal mablag‘lar oqimini oshiradi, soliqlar o‘z vaqtida va to‘g‘ri to‘lanadi, byudjet taqsimoti ochiq bo‘ladi, ijtimoiy sohaga yo‘naltirilgan mablag‘lar o‘g‘irlanmaydi, maktablar, kasalxonalar, yo‘llarga ajratilgan pullar to‘liq yetib boradi va hokazo. Qolaversa, davlatning raqamli iqtisodiyotni rivojlantirish yo‘lini tanlaganligi axborot texnologiyalari sohasida va umuman, elektron hujjatlar aylanmasi sohasida yangi yo‘nalishlar ochib beradi. “Raqamli texnologiyalar” tomon burilishga butun jahon internet tarmog‘i va sifatli aloqaning rivojlanishi sababchi bo‘ldi. Ta’kidlash joizki, bugungi kunda bu tizimdan foydalanuvchilar oziq-ovqat, turli parfyumeriya va zamonaviy kiyim-kechak mahsulotlariga buyurtma berish uchun Telegram botlaridan faol foydalanmoqdalar. Shuningdek, turli internet do‘konlar, elektron to‘lov tizimlari ham faol rivojlanib bormoqda. Demak, fuqarolarimiz

elektron bitimlarni amalga oshirishga ishonaptilar. Faqat hozirgi kungacha foydalanuvchilar katta xarajatlar talab qilmaydigan kichik bitimlarni amalga oshirmoqdalar, oʻrtacha xarid hajmini oshirishga esa unchalik tayyor emaslar. Endigi masala oʻrtacha va yirik iqtisodiy bitimlar va moliyaviy operatsiyalarni raqamli texnologiyalar orqali amalga oshirishni rivojlantirishdan iborat.

Xalqaro tajriba shundan dalolat bermoqdaki, bugungi kunda raqamli texnologiyalar asosan ilmiy hamjamiyat va xususiy sektorda jadal rivojlanmoqda. Shuning uchun davlat, aynan, ushbu sohalarida innovatsion loyihalar va ITkompaniyalarni qoʻllab quvvatlagan holda qulay ekotizimni yaratishi lozim.

XULOSA

Xulosa qilib aytganda, iqtisodiyotda raqamlashtirish jarayonlarini amalga oshirish ehtiyojdan kelib chiqqan holda jadallashtirish talab etiladi. Raqamli texnologiyalar AKT sektorida ustuvorlik kasb etishidan tashqari, iqtisodiyotning boshqa tarmoq va sohalarida ham anʼanaviylikdan voz kechib, raqamli texnologiyalarni joriy etishga ustun darajada ahamiyat qaratilmoqda.

Iqtisodiyotni raqamlashtirish jarayonlarini toʻgʻri tashkil etish, tarmoq va sohalarida raqamli transformatsiyalashgan iqtisodiyotni kengaytirishda quyidagi maqsadlarni amalga oshirish maqsadga muvofiq:

➤ Oʻzbekistonda iqtisodiyotni raqamlashtirish uchun fundamental baza boʻladigan maʼlumotlarning aniqligi va ishonchli tizimini joriy etishda hamda tarmoq va sohadagi statistik maʼlumotlarning shaffofligini taʼminlashda har bir soha va tarmoqning korxonalar va tashkilotlarida big data texnologiyasi asosida tahlilni amalga oshirish zarur.

➤ Raqamli iqtisodiyotda biznes qilishni kengaytirish, xalqaro raqamli kompaniyalarni Oʻzbekistonga kirib kelishiga imkoniyat yaratish, mamlakatga xorijiy investitsiya oqimini ijobiy tomonga oʻzgarishiga asos boʻlishida, raqamli transformatsiyalashgan iqtisodiyot oʻzgartiruvchi iqtisodiy hatti-harakatlarning huquqiy meʼyoriy asoslarining yaratilishi zarur.

➤ Raqamli iqtisodiyotning qamrov darajasini kengaytirishda xususan, e-tijorat, aniq qishloq xoʻjaligi, sanoat 5.0 kabilarni rivojlantirish va qoʻllabquvvatlashda hukumat tomonidan raqamli transformatsiyalashgan ekotizim shakllantirilishi lozim.

➤ Iqtisodiyotning tarmoq va sohalaridagi muammolarni soha mutaxassislari aniqlab, raqamlashtirish orqali ularni bartaraf eta oladilar. Bunda taʼlim tizimida har bir tarmoq va soha kesimida informatsion texnologiyalar mutaxassislari boʻyicha alohida kurs tashkil etilib, maxsus dastur asosida oʻqitish maqsadga muvofiq boʻladi.

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MAKTAB KIMYO FANIDA SUV MAVZUSINI BARQAROR TARAQQIYOT TUSHUNCHALARI BILAN UYG'UNLIKDA O'QITISH

Annotatsiya. Atmosferaga chiqadigan va er osti suvlariga tushadigan karbonat angidridini suvning qattiqligiga bog'liqligini umumiy o'rta ta'lim maktablarida barqaror taraqqiyot tushunchasi bilan o'qitish.

Kalit so'zlar: Karbonat angidrid, kalsiy karbonat, magniy karbonat, kalsiy gidrokarbanat, magniy gidrokarbanat va boshqalar.

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TEACHING THE SUBJECT OF WATER IN SCHOOL CHEMISTRY IN ACCORDANCE WITH CONCEPTS OF SUSTAINABLE DEVELOPMENT

Abstract. Teaching the dependence of carbon dioxide released into the atmosphere and groundwater on the hardness of water in secondary schools with the concept of sustainable development.

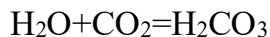
Key words: Carbon dioxide, calcium carbonate, magnesium carbonate, calcium bicarbonate, magnesium bicarbonate, etc.

O'zbekiston Respublikasi Prezidentining Farmoni ilm-fanni 2030-yilgacha rivojlantirish konsepsiyasini tasdiqlash to'g'risida. Davlat buyurtmasi doirasida ustuvor tadqiqotlar hamda davlat ahamiyatiga ega dasturlar suv xo'jaligi tizimlari favqulodda holatlarning oldini olish va bartaraf etish masalalari katta e'tibor berilgan.

Kimyo fani azaldan dunyodagi barqaror taraqqiyot muammolariga yechim topishga imkon berib kelmoqda. Biz maktab darsliklarida suvning doimiy va vaqtinchalik qattiqligi va ularni yo'qotish usullarini o'quvchilarga o'qitishda avvalo suvning qattiqliklari qaerdan kelib chiqichini tushuntirishimiz kerak.

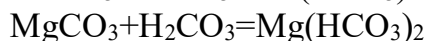
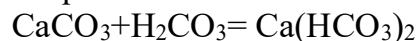
Bizga ma'lumki suvning qattiqligini yo'qotish ommolashgan usullaridan biri suvini qaynatish yo'lidir. Mazkur jarayonni amalga oshirish uchun juda katta miqdorda issiqlik energiya ta'lab qilinadi va yoqilg'iga bo'lgan extiyojni yanada oshiradi. Yoqilg'i yonishi natijada havoda katta miqdorda karbonat angidrid ajralib chiqadi.

Fotosintez orqali yorug'lik energiyasi uglerod (IV) oksidini kimyoviy energiyaga aylantirish jarayoni. Yorug'lik energiyasi orqali amalga oshadigan ushbu jarayonda daraxtlarning kam-ko'pligiga bog'liq, demak, biz daraxtlarni ko'p ekish va asrashimiz kerak. Juda ko'p miqdorda ajralayotgan uglerod (IV) oksidi yomg'ir va qor suvlari bilan ta'sirlashib karbonat kislotaga aylanadi.



Hosil bo'lgan karbonat kislotaga tog' toshlari va tuproq tarkibidagi CaCO_3 va MgCO_3 birikmalari bilan reaksiyaga kirishib gidrokarbonat tuzlarini hosil qiladi.

Bu jarayonda suvda erimaydigan tuzlar karbonat tuzlari suvda eriydigan gidrokarbonat tuzlarini hosil qiladi.

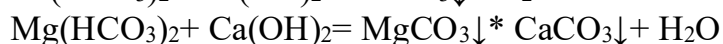


Bu jarayon yer osti suvlarida ham kuzatiladi. Ya'ni yerda juda ko'p organik birikmalar parchalanishi natijasida yerosti qatlamlari orasida karbonat angdridi hosil bo'ladi va yuqorida bikkarbonatlar natijada suv bilan birikib karbonat kislotaga hosil qiladi. Bunda xam yer osti suvlari yer qatlamlaridagi CaCO_3 va MgCO_3 birikmalari bilan suvda erigan H_2CO_3 bilan reaksiyasi natijasida eruvchan $\text{Ca}(\text{HCO}_3)_2$ va $\text{Mg}(\text{HCO}_3)_2$ larni hosil qiladi. Bu vaqtinchalik qattiqlikni beradi. Bu jarayonlarni o'quvchilarga o'qitishda karbonat angdridning atmosferaga ko'p miqdorda chiqishi salbiy oqibatlarga olib kelishini misol qilib keltirishimiz mumkin. Vaqtinchalik qattiqlikni qanday qilib yo'qotish mumkin.

1. Qaynatish usuli bilan

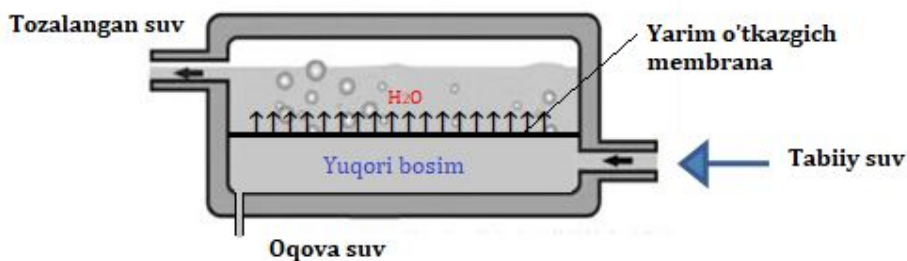


2. So'ndirilgan ohak bilan



Sanoatda suvni tozalashda maxsus apparatlar qo'llaniladi.

Bunda asosiy ishni polimerdan yasalgan filtrlar bajaradi. Bu filtrlar g'ovakligi suvda erigan moddalar yani Ca, Mg va boshqa moddalarning o'lchamlaridan kichik suv molekulari o'lchamlaridan katta shuning xisobiga bu filtrlar faqat suvni o'tkazadi. Natijada istemolga yaroqli toza ichimlik suvi hosil bo'ladi.



Rasmda. Revers (qaytar) osmos moslomasining ishlash prinsipi.

Inson salomatligi uchun ichimlik suviga bo'lgan ehtiyoj suvning xavfsiz, toza va iste'molga yaroqli bo'lishini ta'minlaydigan turli omillarni o'z ichiga oladi.

Mikrobiologik xavfsizlik:

Ichimlik suvi bakteriyalar, viruslar va protozoa kabi patogen mikroorganizmlardan xoli bo'lishi kerak, ular suv bilan yuqadigan vabo, tif isitmasi va gastroenterit kabi kasalliklarga olib kelishi mumkin.

Filtrlash, dezinfektsiyalash (masalan, xlrlash, UB nurlanish) kabi suvni tozalash jarayonlari va mikroblarning ifloslanishini yo'q qilish yoki kamaytirish uchun tegishli saqlash joylaridan foydalanish kerak.

Kimyoviy xavfsizlik: Ichimlik suvida me'yoriy me'yorlardan oshib ketadigan darajada zararli kimyoviy moddalar yoki ifloslantiruvchi moddalar bo'lmasligi kerak. Umumiy kimyoviy ifloslantiruvchi moddalarga og'ir metallar (masalan, qo'rg'oshin, mishyak), pestitsidlar, sanoat kimyoviy moddalari va organik ifloslantiruvchi moddalar kiradi.

Ichimlik suvi manbalarida kimyoviy ifloslantiruvchi moddalarni aniqlash va kamaytirish uchun monitoring va sinov dasturlarini amalga oshirish kerak. Ichimlik suvi shaffof, rangsiz bo'lishi kerak va uning estetik sifatiga ta'sir qilishi mumkin bo'lgan yoki ifloslanganligini ko'rsatadigan loyqalik, cho'kindi yoki ko'rinadigan zarralar bo'lmasligi kerak.

G'ayrioddiy ta'm, hid yoki rang o'zgarishi ifloslantiruvchi moddalar mavjudligini ko'rsatishi mumkin va darhol tekshirilishi kerak. Xavfsiz ichimlik suvidan foydalanish ijtimoiy-iqtisodiy holati, geografik joylashuvi va demografik xususiyatlaridan qat'i nazar, barcha aholi uchun adolatli va universal bo'lishi kerak.

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PERSONAL LEASING AND FORMATION OF THE LEASING STATUS OF THE COMPANY, ITS ADVANTAGES AND DISADVANTAGES

Abstract. This article aims to study the formation of the status of personal leasing and company leasing, as well as to study their advantages and disadvantages. Leasing is a promising way of financing the investment process. Leasing provides an opportunity for the enterprise to update the main funds with relatively small funds, to create a technical base for the production of new products, and to gradually pay the rent of the property at the expense of the income from the sale of the manufactured products.

Key words: leasing, personal leasing, company leasing, enterprises, individuals, financial goals.

INTRODUCTION.

Leasing is a long-term lease that allows you to purchase the leased object at the end of it. On the one hand, it is very similar to a regular lease. In fact, the difference between them is clear enough. Leasing is a service. For example, a farmer who wants to lease a tractor visits a company that provides this type of service. In turn, the company buys a tractor at its own expense and hands it over to the customer for long-term use for a certain amount of payment. After the end of the specified lease period, the right to own the tractor is directly transferred to the name of the customer. Leasing is a convenient form of investing in business. Purchase of equipment, machinery or motor vehicles necessary for expansion, modernization of the existing business or opening of a new line of activity by using the object purchased in exchange for a lease, with the condition of returning the funds purchased for the object within a certain period of time. We offer a variety of leasing products, from motor vehicles to real estate, from equipment to special equipment, on favorable terms. Leasing services are provided by all branches of the bank. In leasing, the subject of the transaction is chosen by the client. He chooses the seller. The purchase is carried out by the leasing company and gives the purchased goods to the client for temporary use for the agreed period. After the specified amount is paid, the leased property is transferred to the customer.

MATERIALS AND METHODS.

Leasing has become a popular alternative to traditional ownership for individuals and businesses that want access to assets without the upfront costs and long-term commitment associated with purchasing. Personal leasing and company leasing are two different forms of leasing that cater to the needs and

preferences of different lessees. Personal leasing involves individuals leasing assets for personal use, while company leasing involves businesses leasing assets for operational purposes. Understanding the nuances of each leasing option is critical for lessees to make good decisions that fit their financial goals and operational requirements. By examining the advantages and disadvantages of personal leasing and company leasing, individuals and businesses can weigh their options and choose the lease agreement that best suits their needs. Let's look at the details of personal leasing and company leasing to uncover the advantages and disadvantages of each form of leasing.

Personal leasing and company leasing: advantages and disadvantages.

Leasing is a popular and flexible financing option that allows individuals and companies to use assets without directly owning them. Personal leasing and company leasing are two common forms of leasing that offer distinct advantages and disadvantages for lessees. In this article, we will look at the formation of the status of personal leasing and company leasing, as well as their pros and cons. Personal leasing, also known as consumer leasing, involves the renting of assets by individuals for personal use. This form of leasing is typically used for vehicles such as cars and motorcycles, but can also include electronics, appliances, and other goods. Individuals typically enter into personal lease agreements with leasing companies or dealerships for a fixed term, during which they pay monthly lease payments in exchange for the use of the asset.

RESULTS AND DISCUSSIONS.

Advantages of private leasing:

1. Lower upfront costs: Personal leasing often requires a lower down payment compared to buying an asset outright, making it more affordable for individuals with limited capital.

2. Access to new assets: Personal leasing allows individuals access to the latest models of assets without the commitment of long-term ownership, providing access to updated equipment and technology.

3. Maintenance and repair coverage: Some private leases include maintenance and repair services, relieving the lessee of the responsibility to maintain the asset.

Disadvantages of personal leasing:

1. No Equity: Unlike buying an asset, a lease does not create equity for the lessee, meaning they do not own the asset at the end of the lease term.

2. Mileage limits and wear and tear charges: Individual lease agreements often set mileage limits and charge charges for excessive wear and tear on the leased item, which can increase the total cost of the lease.

3. Limited Customization Options: Lessees may have restrictions on how they can modify or adapt the leased asset as they wish, as the asset remains the property of the lessor.

Company leasing:

A company lease, also known as a business lease, involves businesses leasing assets for operational use. This form of leasing is common for equipment, machinery, vehicles and office space. Companies enter into lease agreements with leasing companies or lessors to acquire assets necessary for their business operations.

Advantages of company leasing:

1. Improved cash flow management: Company leasing allows businesses to save capital by avoiding the large payments associated with asset purchases, allowing for better cash flow management for operating expenses.

2. Tax Benefits: Leasing payments for business assets are often tax deductible, reducing the overall tax liability for the company and providing financial savings.

3. Flexibility and Scalability: Company leasing offers the business the flexibility to renew or change leased assets as needed, keeping in mind business growth and changing operational requirements.

Disadvantages of company leasing:

1. Long-term costs: Although leasing can reduce initial costs, the cumulative costs of long-term leasing can exceed outright purchase costs, especially for assets with long useful lives.

2. Dependence on lessor: Companies that rely on leased assets are dependent on the lessor for the availability and maintenance of the assets, which may pose a risk in the event of the lessor's insolvency or operational disruption.

3. Restrictions on the use of assets: The company's lease agreements may impose restrictions on the use, maintenance and disposal of the leased assets, limiting the company's independence and control over the assets.

Leasing has a number of advantages when choosing financing options:

The leased object is taken into account in the lessee's balance sheet, and because of this, the leased object is exempt from paying property tax;

It is possible to apply accelerated depreciation of the leased object;

Technological equipment imported to the Republic of Uzbekistan under the terms of the lease is exempted from payment of state duties and VAT.

The main requirements for customers:

Certain legal status of the lessee, along with the availability of necessary documents such as registration, authorization, etc., at the time of initiation of financing of the project. Lessees can be legal entities with the status of a resident of the Republic of Uzbekistan and commercial income from their activities. The projected cash flow of the project being financed and the cash flow available to the lessee must ensure that the lease payments are made on time and in full over the lease term. Existence of mechanisms or specific plans for providing the financed project with other structural components (raw materials, working capital, qualified personnel, product sales markets, etc.).

CONCLUSIONS.

In summary, both personal leasing and company leasing offer unique advantages and disadvantages for individuals and businesses seeking access to non-owned assets. Understanding personal and company leasing arrangements, as well as evaluating the pros and cons of each leasing option, can help lessees make informed decisions that fit their financial goals and operational needs.

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**UMUMIY O'RTA TA'LIM MAKTABLARINING 9-SINFIDA
DARSLARNI KOMPYUTER ANIMATSIYALARINI YORDAMIDA
INKLYUZIV TA'LIMGA QO'LLASH**

Annotatsiya: maqolada umumiy o'rta ta'lim maktablarining 9-sinfida darslarni kompyuter animatsiyalarini yordamida inklyuziv ta'limga qo'llash haqida gap borgan.

Kalit so'zlar: umumiy o'rta ta'lim maktabi, kompyuter, inklyuziv ta'lim.

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**APPLICATION OF LESSONS TO INCLUSIVE EDUCATION USING
COMPUTER ANIMATIONS IN THE 9TH CLASS OF GENERAL
SECONDARY SCHOOLS**

Abstract. The article talks about the use of computer animations in the 9th grade of general secondary schools for inclusive education.

Key words: general secondary school, computer, inclusive education.

Fizika fanini o'qitish hayotiy tajribalarga boy bo'lganligi sababli boshqa fanlardan ajralib turadi. Buning boisi, inson har kuni fizik jarayonlarni takrorlaydi va juda ko'p fizik jarayonlarga ro'baro' keladi. Bugungi kunda ta'lim tizimida imkoniyati cheklangan maktab o'quvchilariga yangi texnologiyalar asosida ta'lim berish masalani yechish uchun turli metodlarni qo'llash mumkin. Bularga misol qilib multimedia vositalar asosida darslarni kompyuter imitatsion modelini yaratish asosida tashkil qilishni olishimiz mumkin.

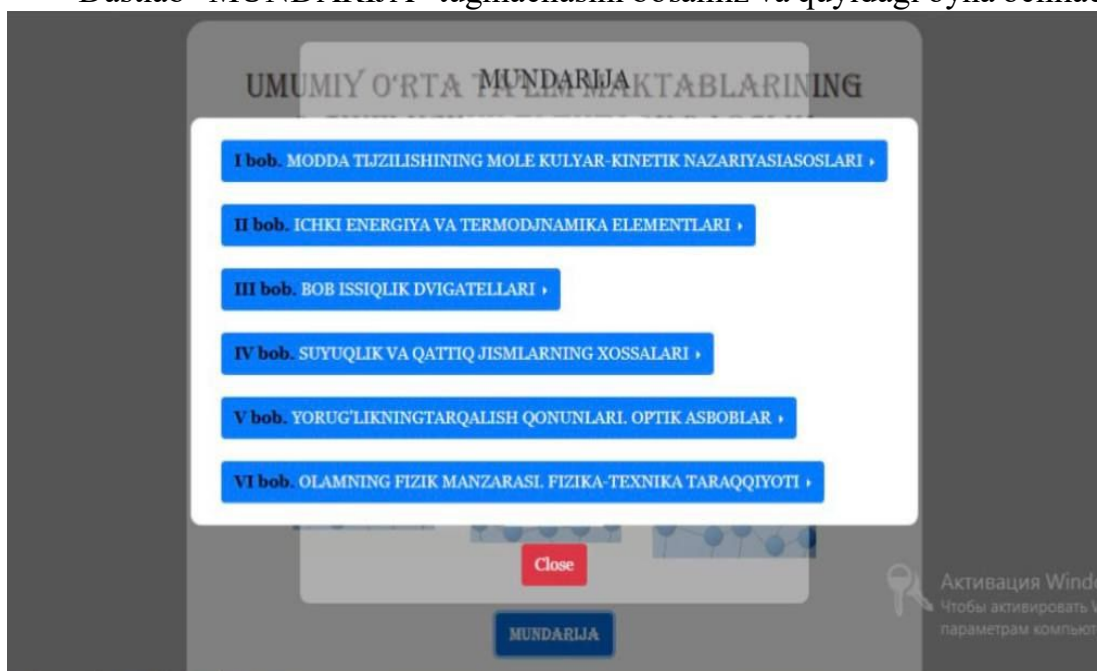
Biz 9-sinf maktab fizikasida imkoniyati cheklangan bolalar uchun yangi texnologiyalarni qo'llab elektron qo'llanma ishlab chiqdik. Qo'llanmaning ko'rinishi 1-rasmda ko'rsatilgan.



1-rasm. Elektron qo‘llanma bosh sahifasi.

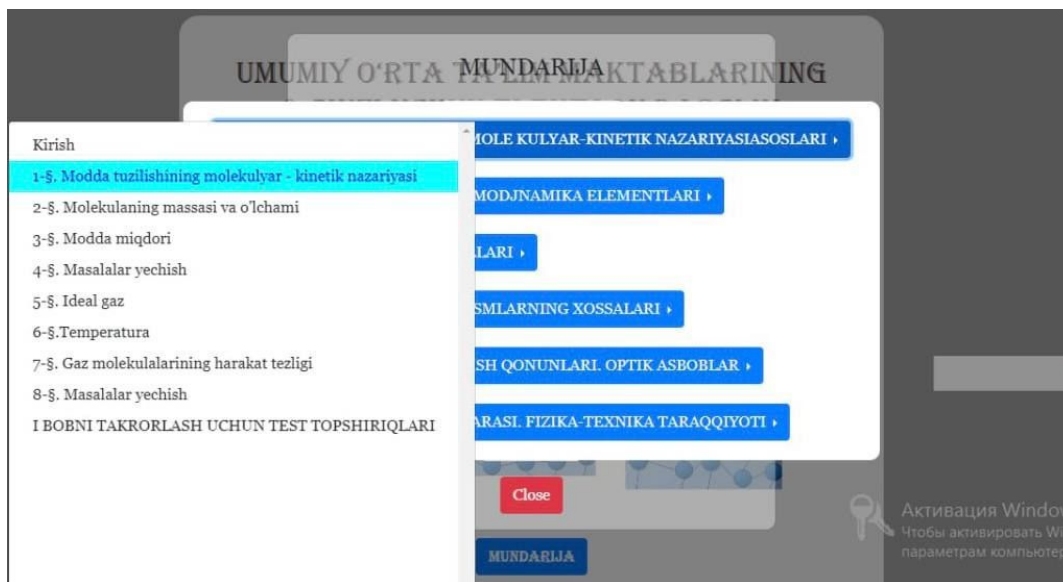
1-rasmda tasvirlanganidek elektron qo‘llanma “I-bob. Modda tuzilishining molekulyar kinetik nazariyasi”, “II-bob. Ichki energiya va termodinamika elementlari”, “III. bob. Issiqlik dvigatellari”, “IV -bob. Suyuqlik va qattiq jismlarning xossalari”, “Amaliy mashqlar”, “Laboratoriya ishlari,” “Umumiy test savollari”, “Masalalar to‘plami”, “Taqdimotlar”, “Qo‘shimcha adabiyotlar” hamda “Biz bilan aloqa” tugmalaridan iborat.

Dastlab “MUNDARIJA” tugmachasini bosamiz va quyidagi oyna ochiladi:



2-rasm. Elektron uslubiy qo‘llanmada mavzular ketma ketligi.

Ushbu oynada 9-sinf dasturiga mos bo‘lgan boblar ro‘yhati chiqadi. Bundan I bobga kiramiz va quyidagi oyna ochiladi(3-rasm):



3-rasm.

Ushbu oynada I bob bo'yicha mavzular ketma ketligi ochiladi. Bundan mavzuni tanlab mavzu ichiga kiriladi va quyidagi yangi oyna ochiladi:

Oldingi mavzu Keyingi mavzu MUNDARIJA

Mavzu: MODDA TUZILISHINING MOLEKULAR KINETIK NAZARIYASI.

Modda tuzilishi to'g'risidagi ta'limotga dastlab miloddan oldingi V - IV asrlarda yashagan grek faylasufi Demokrit tomonidan asos solingan. Demokrit tabiat hodisalarini o'rganish uchun jismning ichki tuzilishini o'rganish zarur ekanligini o'z asarlarida yozgan. Uning fikricha, barcha moddalar juda kichik zarralardan tashkil topgan. U moddaning eng kichik bo'linmas zarrasini atom deb ataganligi haqidagi ma'lumot bilan siz 6-sinfda tanishgansiz.

Moddaning tuzilishi va xossalari uni tashkil qilgan molekularlarning harakatiga hamda molekularlar orasidagi o'zaro ta'sir kuchining mavjudligiga bog'lab o'rganuvchi nazariya molekulyar - kinetik nazariya (MKN) deb ataladi.

Modda tuzilishining molekulyar-kinetik nazariyasi XVIII asrdan uzviy taraqqiyotini rivojlantirishda rus olimlari M.V.Lomonosov, D.I.Mendeleyev, ingliz olimlari D.Dalton, J.Maksveill, nemis olimi O.Shtem, avstriya fizigi L.Bolsman, italyan olimi A.Avogadro va boshqalar o'zlarining hissalarini qo'shganlar.

Molekulyar-kinetik nazariya tajribalarda isbotlangan uchta qoidaga asoslanadi:

1. Moddalar zarralardan - atom va molekularlardan tashkil topgan.
2. Atom va molekularlar to'xtovsiz va tartibsiz harakat qiladi.
3. Atom va molekularlar orasida o'zaro tortishish va itarilish kuchlari mavjud.

Bu qoidalar quyidagi amaliy misollarda yaqqol ko'rinadi.

1. Xonaning bir chekkasiga atir sepilsa, uning hidi xonaning boshqa chekkasi ga ham yetib keladi. Bu hid, atir molekularidan tashkil topgan. Atir molekulari xona bo'ylab to'xtovsiz va tartibsiz harakat qilishi natijasida tarqaladi. Atir hidi bizga yetib kelguncha ma'lum vaqt o'tadi. Bunga sabab - atir molekulari o'z yo'lida son-sanoosiz havo molekulari bilan to'qnashadi va o'z harakat yo'nalishini ko'p marta o'zgartiradi.

Активация Windows
Чтобы активировать Windows, перейдите в параметры компьютера.

3-rasm.

Ushbu oynaga kirgach mavzu nuqsoni bor bolalar uchun kompyuter imitatsion modellar asosida o'quv materiallarini yuqoridagi ko'rinishida taqdim etish mumkin. Mavzu dars jarayoni axborot-kommunikatsion texnologiyalari vositalari asosida taqdimotlar, multimedia vositalari bilan yoritilib inklyuziv ta'limga joriy etishga qaratilgan.

Mavzuda asosan Brown harakati turli misollar va tajribalar yordamida

tushuntirilgan.

Suyuqlik yoki gazdagi juda kichik zarralarning to'xtovsiz va tartibsiz harakatiga Brown harakati deb nom berilgan.

Buni quyidagi amaliy hamda kompyuter tajribasida ko'rishimiz mumkin.

Tajriba. Mexanik model asosida molekullarning tartibsiz harakatini ko'rsatish.

Kerakli jihozlar: oq va qora rangdagi sharchalar, tarelka, flomaster.
Maqsad: molekullar tartibsiz harakatlanadi, degan gipotezani mexanik model asosida o'rganish.

1. Molekula modeli sifatida oq va qora rangdagi sharchalarni olamiz. Masalan, taxminan 20 tadan oling.

2. Pastki asosi tekis bo'lgan chuqurroq idish, oling (masalan, tarelka).

3. Idishning ichki asosini flomasterda chizib, teng ikkiga ajrating.

4. Idish asosining birinchi yarmiga oq rangdagi sharcha donalarini, ikkinchi yarmiga qora rangdagi sharcha donalarini soling (6-a rasm).

5. Idishni silkitib uning ichidagi sharcha donalarini harakatga keltiring va idish ichidagi sharcha donalarining joylashuvini kuzating (6-b rasm) hamda o'z xulosangizni yozing.



4-rasm. Diffuziya hodisasini tajribada kuzatish.

Bu tajribani bajarish uchun rasm ustiga bosiladi. Bunda bizda ikki xil rangdagi sharchalar va ularning parametrlari (zarrachalar soni, massasi, radiusi, boshlang'ich temperaturasi) berilgan bo'ladi. O'quvchilar ushbu parametrlarni belgilaganda zarrachalar harakatlanib turganini ko'rishadi. Shundan so'ng to'siqni olib tashlanadi va hodisani ko'rib xulosa chiqarishadi.

E'tibor berib qaralganda pastda ovozli xabarni ko'rish mumkin. Bu ko'rishda nuqsoni bor bolalar uchun ishlab chiqilgan.

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KUCHNI RIVOJLANTIRISH MAXSUS MASHIQLAR BAJARISH

Annotatsiya. Ushbu maqolada stol tennisida o'yin qoidalari, talablari, tarixi kelib chiqishi va rivojlanish jarayonlari haqida yozilgan. O'yin mazmuni stolga ko'ndalang tortilgan to'r ustidan koptokni raketka va zarur vositalari haqida ma'lumotlar berilgan.

Kalit so'zlar: Tushirish, tezlikni his etishni, burilish, raketka, zarba.

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PERFORMING SPECIAL EXERCISES TO DEVELOP STRENGTH

Abstract. This article describes the rules, requirements, history, emergence and development processes of table tennis. The content of the game is to throw the ball over a net stretched across the table with a racket and information about the necessary tools.

Key words: Lowering, feeling of speed, swing, racket, impact.

O'yin uchun stol, to'r, raketka va koptok zarur bo'ladi. O'yin qur'a orqali birinchi bo'lib boshlash huquqiga ega bo'lgan o'yinchining koptok uzatishidan boshlanadi. Raketka bilan uzatilgandan so'ng, koptok boshlovchi tomonida stolga urilib, to'rga tegmasdan sakrab o'tishi va ikkinchi tomonda stolga urilishi lozim. Koptok uzatish vaqtida o'yinchi uning raketkasi va koptok stolning orqa chizig'i tashqarisida turishi kerak. Agar koptok stol ustida urib qaytarilsa, o'yin qoidasi buzilgan hisoblanadi (2002 yil 1 sentyabrdan koptok uzatish reglamenti yangi qoidalarga binoan belgilangan). Agar koptok boshlovchi tomonida stolga urilib, to'rga tegib sakrab o'tsa va ikkinchi tomonda stolga urilsa, koptok uzatish yangitdan bajariladi va ochko hisoblanmaydi. Qaytadan uzatishlar soni cheklanmagan. Koptok ikkinchi tomonda stolga urilgandan so'ng, ikkinchi o'yinchi uni raketka bilan urib orqaga qaytaradi. O'yin shu tarzda o'yinchilardan biri xatoga yo'l qo'ymaguncha davom etadi. Har bir xato raqibga bir ochko beradi. O'yinchi quyidagi hollarda ochkoga ega bo'ladi:

- agar raqibi koptokni noto'g'ri uzatsa;
- agar raqibi koptokni stolga tegmasidan qaytarsa;
- agar raqibi koptokni stoldan tashqariga urib yuborsa;
- agar raqibi to'g'ri uzatilgan koptokni qabul qila olmasa;

-agar raqibi koptokka raketka bilan bir martadan ortiq ursa yoki koptokni raketka bilan tutib olsa va qaytarib uzatsa;
- agar raqibi koptokka tana a'zosi bilan tegib ketsa yoki to'r, stol tirgagiga tegsa. Har ikki ochkodan so'ng (2001 yil 1 sentyabrdan - har besh ochkodan so'ng) koptok uzatish qabul qiluvchiga o'tadi. O'yinchilardan biri 11 ochko (2001 yil 1 sentyabrgacha – 21 ochko) to'plagandan so'ng kamida 2 ochko tafovut bilan partiya yutilgan hisoblanadi. 10:10 hisobda (2001 yil 1 sentyabrgacha - 20:20 hisobda) koptok uzatishlar har ochkodan keyin almashiladi. Har partiyadan keyin o'yinchilar tomonlarni va koptok uzatish navbatini almashtirishadi. O'yin yoki 7 partiyadan iborat bo'ladi.

Ochiq raketka nakati (o'ng tomondan). O'ng tomondan top-spin O'ng tomondan nakat hujumga o'tuvchi usullarning asosiylaridan biridir. Bu holda raketka tepaga va oldinga harakatlanadi va koptokning tepa yon qismiga uradi. Koptokka urish tartibi quyidagicha: oyoqlar elka kengligida, tizzalar biroz bukilgan. Chap oyoq bir oz oldinga qo'yilgan. Tana og'irligi ikkala oyoqqa bir maromda bo'lingan. Tananing tepa qismi stol tarafga bir oz chaproq egilgan, raketka ushlagan qo'l zarba uchun orqaga uzatilgan. Raketka ushlagan qo'l oyoqlar, raketka va yaqinlashib kelayotgan koptok teng tomonli uchburchak hosil qilganda harakatga keladi. Koptok stolga tegib, sakrab, eng baland nuqtaga etganida zarba beriladi va raketka ushlagan qo'l chapga-tepaga qaytadi. Raketka koptokka tekkanida qo'lning elkaoldi qismi koptokdan oldinga harakatlanadi. Raketka yoy shaklida harakatlanib, sekin-asta egilish burchagini o'zgartirib boradi va natijada koptokni tepadan aylantirish sodir bo'ladi. Qo'l kafti tezkor harakat bilan koptokni aylantiradi. Zarba berish vaqtida tana og'irligi chap oyoqqa o'tadi. Zarbadan so'ng tezda avvalgi holatga qaytish zarur. Bu zarba usulining maqsadi koptokni tepadan kuchli aylantirishga erishishdir. U katta tezlikda bajariladi, shu sababli zarbani qaytarishda raqibga qiyinchilik tug'diradi. Birinchidan, koptokni stolga tegib, sakrash har vaqt kutilmagan holdir. Ikkinchidan, raketka bilan qabul qilingan koptok ham bo'ysunmasligi mumkin, shu sababli uni kerakli yo'nalishda harakatlantirish juda va juda murakkab. Top-spinning yaxshi tarafi shundaki, aylantirib zarba berilgan koptok to'r ustidan baland uchib o'tadi va zarba bergan o'yinchiga ustunlik beradi. Top-spinni har doim qo'llash mumkin, deb hisoblanadi, lekin bunday emas. Top-spinda uzatilgan qo'l bilan keng va kuchli zarba beriladi. Harakat boshlanishida qo'lni tekislab olish raketka tezligini va zarbani qo'lning kaft va elkaoldi qismlari bilan kuchaytirish imkoniyatini beradi. Nakat zarbasidan farqli o'laroq, top-spinda qo'l harakati tepaga yo'naltiriladi, koptokka zarba berish sirpanma tarzda bo'ladi. Boshlang'ich holat: chap oyoq bir oz oldinga qo'yilgan, o'ng qo'l tekis holda o'ng tarafdin orqaga yo'nalgan. Tana zarbani kuchaytirish uchun o'ng tomonga burilgan. Tizzalar bukilgan, tana tinch holatda. Top-spin zarba tomoniga tezkor harakat qilish bilan boshlanadi. O'ng qo'l oldinga-chapga-balandga harakatlanadi. Tana og'irligini o'ng oyoqdan chap oyoqqa o'tkaziladi. Inersiya natijasida tana va qo'l chap tarafga ketib qolishi mumkin. Koptokka urilganda

raketka undan sirpanib o'tishi zarur. Bu holda koptokning raketkaga urilish kuchi juda past. Lekin qo'l kafti unga so'nggi tezlanish beradi. Bundan tashqari top-spinning o'ng taraf varianti ham bor, u yonbosh top-spin deb ataladi.

To'g'ri top-spin va yonbosh top-spinning farqi raketka ushlagan qo'lni koptokka yonboshdan yo'naltirib, qo'l kaftini ko'proq pastga tushirishdadir. Yopiq raketka nakati (chap tomondan). Chap tomondan top-spin Koptokning harakati xuddi o'ng tomon nakati kabidir. Koptokuchunzarurbo'lgan aylanishlar tepaga-oldinga harakatlanish bilan bajariladi. Zarba berish ketma-ketligi quyidagichadir: oyoqlar elka kengligida, biroz bukilgan, chap oyoq bir oz oldinga surilgan, tana og'irligi ikkala oyoqqa bir maromda bo'lingan. Qo'l bel balandligida tirsakdan bukilgan va orqaga-chapga yo'naltirilgan, qo'lning elkaoldi qismi stol sathiga parallel. Zarba berilganda qo'lning elkaoldi qismi oldinga tezkor harakatlanadi, raketka koptokka tepadan tegadi, shundan so'ng qo'l erkin holda o'ngga-tepaga qaytadi. Og'irlik markazi o'ng oyoqqa o'tadi, qo'l dastlabki holatga qaytadi. Chap tomondan top-spin o'ng tomondan top-spinga nisbatan kamroq ishlatiladi. Chap tomondan top-spinning an'anaviy turi ishlatilmaydi, bu narsa zarbani kuchaytirish zarurati bilan tushuntiriladi, chunki bu holda tepadan aylanishdan tashqari yonboshdan aylanish ham sodir bo'ladi.

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THE ROLE OF CAPITAL IN STRENGTHENING THE RESOURCE BASE OF PRIVATE BANKS AT THE REGIONAL SCALE

In the article, the resource base of private banks, their size and dynamics, the role and structure of capital in the composition of the resource base are analyzed and given corresponding conclusions. In addition, the article examines the researches of foreign and domestic scientists in showing the role of capital in strengthening the resource base of private banks at the regional level, and the advantages of strengthening the resource base are researched. In particular, as a result of studying the scientific opinions of researchers, a number of shortcomings and problems in strengthening the resource base were identified. Also, the role of bank capital in strengthening their resource base was studied. Conclusions and practical recommendations were formed based on the conducted research.

Key words: private banks, resource base, deposit, capital, non-deposit funds, own funds, asset and loan.

Introduction

At the time when the current globalization process is accelerating, the country's economy and its development cannot be imagined without banks. That is why it is important for banks to be free to operate, to be competitive and, most importantly, to have a solid capital base. Because the bank's capital is the initial financial basis of the bank's activity and the source that ensures its development, stability and security.

At the very beginning of the establishment of commercial banks in our country, great attention was paid to bank capital as the main financial source. This movement is still economically relevant today. Because now the role of banks in people's lives is expanding more and more. The President of our country said in this regard: "Banks will now have to teach and lead our people to entrepreneurship and entrepreneurship.[2]"-, they said. For this, banks are required to be financially strong and have a solid capital base.

The strengthening of the resource base of banks creates the basis for the full satisfaction of the demand for long-term credit resources of the real sector of the economy. In particular, the ultimate goal of the reforms in the banking and financial system of our country is to strengthen the resource base of commercial banks of our republic, to increase the confidence of economic entities and the population in the banking system. Based on this, by the Decree of the President

of Uzbekistan dated May 12, 2020 No. PF-5992 "On the strategy of reforming the banking system of the Republic of Uzbekistan for 2020-2025" by 2025, the minimum amount of authorized capital of banks will be 500 billion. tasks of gradually increasing to soums, strengthening their financial stability and reliability[2] marked indicates the relevance of the topic.

To the topic analysis of related literature

In the existing economic literature, the concept of "Capital" has been studied by foreign scientists and specialists and appropriate definitions have been given. The term "capital" (Latin capitalis - head, main) means basic property. Private capital of the bank includes authorized capital, added capital, reserve capital and retained earnings. In most literature, bank private capital is equated with the concept of bank equity.

Many economists refer to bank capital as private capital and view regulatory capital as a measure of capital adequacy. There is no single approach to the nature of private capital of the bank, and economic definitions describe one or another of its aspects and functions.

In particular, the Russian economist G. G. Karobova views bank capital as a set of fully paid elements (funds) that ensure the economic independence, stability and reliability of the bank. [3] In fact, it describes the amount of bank capital, its financial stability and independence.

Professor V. M. Usoskin considers bank capital as an important and indispensable component of bank financial resources. [4] It can be seen that capital is considered here as an important and integral part of bank resources, and its main functions (protection, operational and regulation) are neglected.

Economist R.G.Olkhova considers the nature of bank capital as a "protective cushion" and believes that if the bank suffers an unexpected loss, the capital mitigates the consequences of the damage and creates an opportunity to restore the bank's economic solvency. [5]

Renowned economist Jan Matuk, who has earned a reputation for his research on banking, views a bank's capital as the primary means of ensuring its solvency. [6] Of course, the risk of solvency (liquidity) always remains in the bank during its activity, that is, there is a risk of running out of sufficient liquid funds in any unexpected situation for commercial banks in the conditions of the market economy.

Sh.Abdullaeva and A.Omonov, one of the economists of our republic, defined the economic content of bank capital as follows: "The capital of commercial banks is a stable source, and it is a unique means of protection that allows to cover unexpected losses in the operational process of the bank".[7] In addition, one of the local scientists, R. Kurbanov, in his scientific research, paid special attention to the role of bank capital in strengthening the resource base of private banks [8,9,10].

Also, American economists Chris Dj. According to Barltrop and Diana McNaughton, bank capital is a sufficient reserve to prevent various contingencies

that occur in banking operations, and helps to eliminate the inability to pay when adapting to changing conditions, and the size of bank capital affects the development of the banking system and its economy in each country. They emphasized that it will be different depending on. In addition, while acknowledging Chris Barltrop's definition of bank capital as a "valuable" resource, we would like to emphasize that here, too, the nature of capital is given one-sided importance. [11] However, bank capital is not only a valuable resource, but also an additional resource and a means of protection.

In short, commercial bank capital- it is a stable source of financing the bank's activities, and it is a special means of protection that allows to cover losses that occur unexpectedly in the bank's operational process.

Research methodology

In the preparation of the article, practical information on the role of capital in strengthening the resource base of private banks was analyzed, and all the used information was researched by the author based on the current legal documents and statistical indicators of the Central Bank. Grouping, comparison, systematic approach, and structural analysis methods were used in the article.

Analysis and results

In the practice of our republic, the resource base of commercial banks has been strengthening over the years. Of course, the role of banks' capital is also very important. The capital of private banks of our republic has grown significantly in recent years. This is explained by the fact that the government of our country and the Central Bank are conducting a policy of increasing the authorized capital of commercial banks. In general, we can see the dynamics of the total capital of private banks of our republic in the figure below.

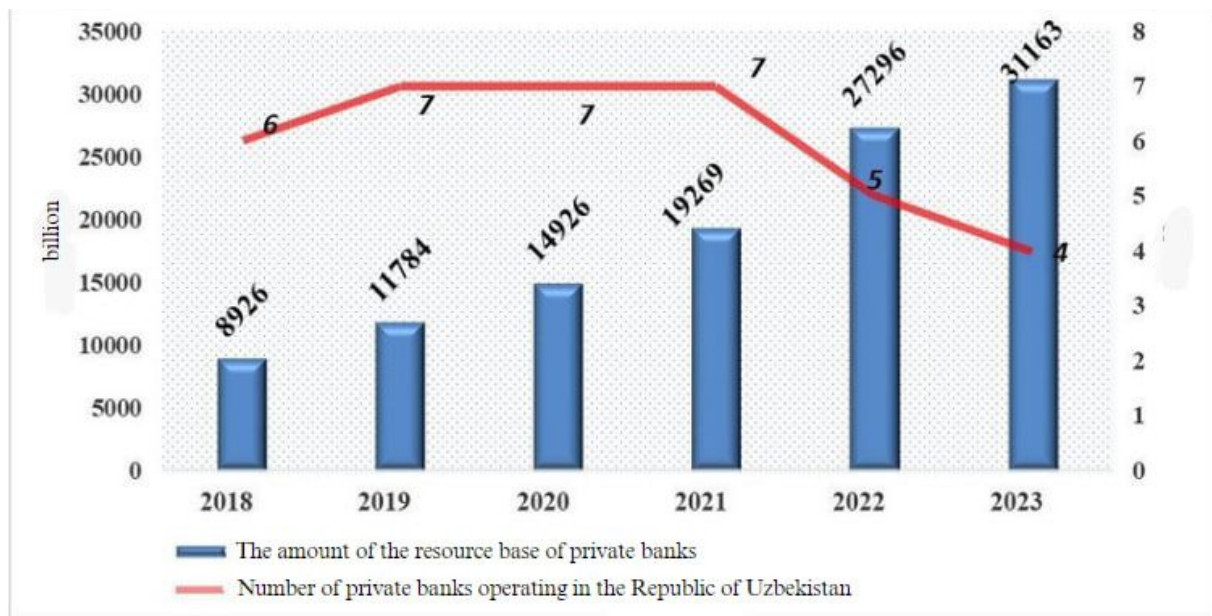


Figure 1. Dynamics of the number of private banks operating in the Republic of Uzbekistan and the size of their resource base (billion soums).[12]

From the data of the above picture, we can see that the number of private banks operating in our Republic has been decreasing over the years. As of January 1, 2024, only 4 out of 37 commercial banks have become private banks, we can see how painful the role of private capital is in the banking system.

Nevertheless, in the last 6 years, the resource base of private banks has strengthened, from 8,926 billion soums in 2018 to 31,163 billion soums by 2023, and the total resource base of private banks has increased by 2.6 times over the past 5 years. We can also see this in the table below.

**Table 1
Analysis of the composition of the resource base of private banks of the Republic of Uzbekistan[12]**

Indicators	2019		2020		2021		2022		2023	
	billio n soum	%	billio n soum	%	billio n soum	%	billio n soum	%	billio n soum	%
Own funds	1 627	13.8	3 007	20. 1	3 685	19.1	4442	16. 3	5 977	19. 2
Funds involved	10 157	86.2	11,919	79. 9	15,584	80.9	22 854	83. 7	25 186	80. 8
Total resource base	11784	100	14925. 6	100	19269	100	27296	100	31163	100

Based on the data of Table 1, the resource base of private banks increased to 19,380 billion soums in 2023 or 2.6 times compared to 2019. This change was ensured due to the increase in the amount of funds involved by 15,029 billion

soums and own funds by 4,351 billion soums. While positively assessing the increase in the resource base of private banks in terms of volume, changes in the relative structure of the resource base of private banks during the analyzed period, the weight of own funds will increase from 13.8% in 2019 to 19.2% in 2023, and the share of funds attracted at the same time, on the contrary, It is observed that it will decrease from 86.2% in 2019 to 80.8% in 2023. We should evaluate this situation positively. The reason is that increasing the share of banks' own funds in the total strengthens the independence of the bank. In addition, the Decision of the President of the Republic of Uzbekistan dated September 12, 2017 No. PQ-3270 "On measures to further develop and increase the stability of the banking system of the Republic"[13]its adoption also prompted private banks to increase their capital. According to the decision, as one of the main tasks aimed at ensuring the stability of the banking system, all banks operating in our republic must have a minimum authorized capital of 100 billion by January 1, 2019. was set at soum. To date, the minimum amount of authorized capital for all banks is 200 billion. is set at soum.

Despite the above reforms, the resource base and total capital of the private banks of our republic remain low in the total total capital of the banking sector. It cannot be positively estimated that the total resource base of private banks is only 4.8% of all commercial banks and 6.2% of their own funds[12].

When analyzing the resource base of private banks, studying its composition is of particular importance.

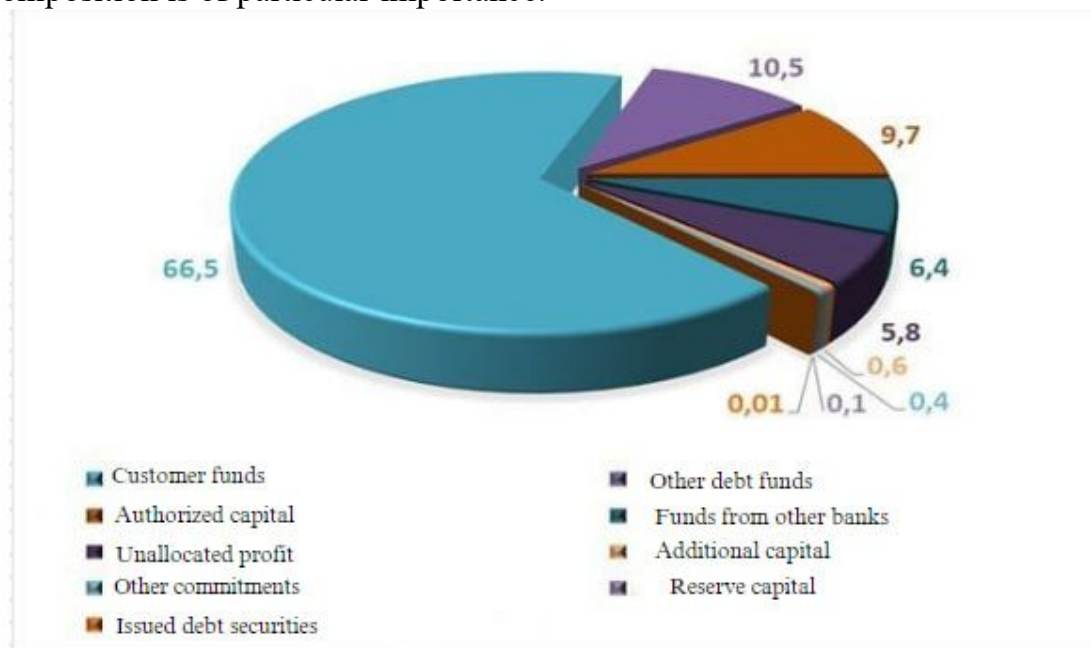


Figure 3. Structure of the resource base of private banks of the Republic of Uzbekistan (in percentage as of 01.01.2024)[12].

As can be seen from the data of the picture, the main share of the resource base of private banks in 2023 is made up of customers' funds. Its share was 66.5%.

After that, other debt funds and authorized capital occupied significant resources. Their share is 10.5 and 9.7%, respectively. As of January 1, 2024, the share of non-deposit funds of private banks in the structure of the resource base was 17.3%, the main part of which was other debt funds (10.5%). Unfortunately, the share of issued debt securities and reserve capital in the composition of non-deposit operations of private banks is completely absent. The fact that they are 0.01% and 0.1%, respectively, indicates that the additional capital of private banks is not sufficiently formed. It can be seen that special attention should be paid to optimizing the structure of the resource base of private banks.

Conclusions and suggestions

In conclusion, it can be noted that one of the most important tasks of commercial banks is to attract enough free money in the economy and to manage the effective placement of these funds. The main reason for this is the increased demand for financial resources among commercial banks as a result of the deepening of market relations and further liberalization of the economy in Uzbekistan. As a result, the increasing need of banks for cheap and "long" funds has become one of the important issues in the formation of resource bases and their effective management. This situation has a positive effect on the strengthening of free competition between banks in the "distribution" of temporary free funds available at the country level among banks and in attracting additional resources from the financial market.

Based on the above research and analysis, the following proposals were developed:

1. In order to strengthen the resource base of private banks, it is necessary to increase the amount of additional capital.

For this, first, It is necessary to issue subordinated debt obligations in private banks. Secondly, it is necessary to improve the practice of opening credit institutions under private banks.

In the banking practice of developed countries, it is common to open credit institutions such as trust, leasing, factoring and forfeiting companies under private banks. As a result, it becomes possible to develop their asset operations and increase the amount of additional capital.

2. In order to further strengthen the resource base of private banks, market tools and mechanisms should be used effectively. For this, taking into account the needs of the population and economic entities, it is necessary to regularly introduce new types of savings and deposits, to issue long-term bonds, certificates of deposit and other securities, as well as to plan the implementation of measures to actively attract subordinated debts..

3. It is necessary to ensure that the shares of private banks are publicly traded on the secondary securities market (IPO). For this, first of all, it is necessary to raise the level of dividends paid to ordinary shares by commercial banks to an acceptable level for the benefit of investors. In doing so, it is necessary to use the interest paid on short-term bonds by the government as a basis, and take into

account the effect of inflation and exchange rate on the investments made by investors in bank shares and the income they receive from them. In order to increase the authorized capital of many commercial banks, the capitalization of the main part of the net profit for several years in a row leads to a decrease in the dividends they pay. In the capitalization of net profit, it is necessary to use the matrix of capital formation and maintain the trend of constant growth of dividends. Otherwise, it will not be possible to create a stable demand for shares in the secondary securities market and determine the market price of bank shares.

We think that the above suggestion implementation will serve to properly form the resource base of private banks of our country and, as a result, to strengthen the resource base of private banks.

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TOPONYMS OF KASHKADARYA REGION AND THEIR GEOGRAPHICAL ANALYSIS

Annotation. Following article deals with the origination of the names of districts in Kashkadarya region, as well as geographical features of toponomic analysis. The analysis of the toponyms of the district shows that the main feature of the toponymy of Kashkadarya region - the large number of ethnotoponyms in the place names and oikonoms named according to the profession is also significant for the studied area.

Key words: Khanakah, Gazar, Khazar, Navtak, Navtaka, Kat, Katob, Ob, Uzvi, Ordu, Toponomics.

As a result of the improving of cultural relations on a global scale, the increasing volume of trade between countries and the exchange of tourists, the need for more practical use of geographical place names and the formation of a standardized system of toponyms at the international and national level is increasing. A number of reforms on standardization and normalization of geographical names, creation of the state register of geographical names, naming and renaming of geographical objects are being carried out in our republic and significant positive results are being achieved. In the Decree of the President of the Republic of Uzbekistan, that was adapted on October 21, 2019 № PF-5850 "On measures to fundamentally increase the prestige and position of the Uzbek language as a state language", "... the law on geographical and other toponymic objects, in accordance with the documents, systematic tasks have been defined in terms of monitoring and coordination of activities related to naming.²¹

Geographical place names are divided into several types by toponymists according to their appearance and characteristics. Since they are very diverse according to their origin, it is difficult to divide them into some types and to unite them into some groups. Any event, phenomenon, and process occurs under the influence of certain conditions and factors. The emergence of place names also occurs under the influence of certain conditions and factors. Such conditions and factors can generally be divided into historical, geographical and linguistic groups. The historical conditions and factors that give rise to place names can

²¹ Decree of the President of the Republic of Uzbekistan № PF-5880 dated October 21, 2019 "On measures to fundamentally increase the prestige and status of the Uzbek language as a state language".

include the social system of the historical period and the events and phenomena that take place in it. The etymological analysis of place names in the territory of Kashkadarya region shows that the place names typical of each historical period reflect the social system of that period, the stratification of the population, events and incidents. For example, the name of the city and district in Kashkadarya region.

Chirakchi has long been a city of skilled craftsmen. Therefore, the name of the city of Chirakchi is related to the profession of "lamp-making artisans". According to T. Nafasov opinion, Chirakchi was a large and prosperous city in IV-X centuries. The city became a ruin during the Mongol invasion. There are two interpretations of the word "chirakchi", which is the basis of the name of the district: "chirakchi" is a craftsman who makes lamps. As well as, a lamplighter is a person who lights a lamp (candle) in a place such as a cemetery. Usually, a geographic object can be named if it attracts people's attention due to some feature or certain activity or events. [5]

Dehkanabad - the village was founded in 1981 by the initiative of Dehkonboy Boltaboyev, the head of the "Gulshan" State Farm in the district. The name of the village is taken from the name of this person. It is the name of the district within the Kashkadarya region. In 1925, the district was established under the name of Tangiharam. Dehkanabad is a mountainous district, the terrain consists of medium-high mountains, low mountains and sub-mountain slopes. In the speech of the inhabitants of mountainous regions, tangi means a narrow gorge (in tajik language, tang means "narrow"). "Kambar" stream is a narrow, narrow part of the gorge, where water often flows. "Haram" is a holy place or a shrine. Tangiharam is a mountain in the gorge where the pilgrimage site is located. In 1935, the name of the district was officially changed to Dehkanabad. The name consists of two components: farmer and prosperous. A farmer works in the agricultural sector, owns land and conducts economic activities on it. Dehkanabad is a prosperous settlement that was taken over by farmers and newly established.

Ghuzor – it was a district in 1926, and became a city in 1977, in Kashkadarya region. The composition, meaning, and language of the name written in the style of Khuzar/Khuzar/Khazar in ancient Turkic petroglyphs, that are more uncertain. It is important that this name was written in the form of Khuzar/Khuzar/Khazar in the V-VII centuries old Turkic records and it was explained as the name of the city in the most remote area inhabited by Turkic peoples. It is interpreted differently in folk tales: "khuk+zor" - a place with pigs' tracks. It is known that the Khazar/Khazar confederation lived in the territory of Afghanistan in the recent past.

Kasbi - the name of the district within the Kashkadarya region. The ruins of the city of Kasba, Kasbi, which is the basis of the district's name, are located 35 km southwest of the city of Karshi. According to historical sources, Kasbi is bigger than the city of Nasaf in terms of territory. According to the scientist, this word has two meanings: first, big village, small town; the second is a pledge, a

reed. With these meanings, it was used in the past of the Tajik language in the X-XIX centuries.

Kitob – the name of the city and district in Kashkadarya region. Kitob was originally the name of the city, and then the district was also named with the same name. The name of the district has nothing to do with the book (“kitob” is translated from Uzbek into English as a book), which is a means of preserving and spreading knowledge, forming socio-political, scientific, aesthetic views and a tool of education. In some toponymic literature, it is said that the name of the district is based on the Tajik words “kitf”- shoulder and “ob”- water. The city may have been named Kitfiob because the high Hisar and Zarafshan mountains around the city served as a watershed. Later, according to the rule of saving place names, the name was changed to Kitab. According to T. Nafasov’s opinion, the city is located on the bank of Okdarya, and its ancient name is Katob. It is a Sugdian word, kat means "fortress, village". The last meaning of this word is village, city. Katob means "fort by the river or village, city by the water".

Koson – was a district center in 1926n, and became a city in 1972, in Kashkadarya region. The changed appearance of the ancient name "Kushan" (3rd BC and 4th AD centuries). The name of the ancient Kushan Empire comes from the name of the "Kushan" clan (ethnonym). Kosonsoi in Namangan region refers to the name of the ancient city of Kosonsoi in the Fergana valley. The Kushan Empire ruled Central Asia in the 1st and 3rd centuries BC. The inhabitants were Kushans, a part of the Yuyechji tribe. The changed form of the Kushan ethnonym is Koson. In the middle of the word sh→s, u/a→o sound change occurred: kushan→kusan→koson→Koson. Monument of the 9th century. In "Hudud al-Olam" the name of Kosan is mentioned in the works of Kason, Samani and Yakut. In some sources, its current name is also recorded as Kosonsoy (in Namangan region). This is described in detail in "Boburnoma".

Mirishkor - the name of a village in the Vabkent district, in the Kashkadarya region, as well as in Bukhara region. The word Mirishkor means "master of his work", "factor". It is also worth noting that there is an ancient tribe called Mirishkor (Merishkor), which is part of the Uzbek nation. The name of the tribe means "hunting governor". There is a village with the same name in Shurchi district of Surkhandarya region. The word mirishkar (Persian mirishikor) - "manager of hunters" came into the Uzbek language as mirishkor - "skilled, experienced, knowledgeable".

Muborak - city in Kashkadarya region since 1982. The meanings of the word “muborak” from the Arabic language means: bringer of happiness; goodness; blessed and holy. The name of a person is based on these meanings. The name of the village on the left bank of the Karshi-Bukhara road was Khojamuborak. Khojamuborak and Muboraktepa's house is there. The pilgrimage is named after Muborak person. The real name of this person was Abdullah ibn Mubarak al-Marwazi and was born in Marv. He studied in Bukhara and Arabia. He was the leader of jurisprudence. He wrote dozens of books and collected

hadiths. The name of this person was the basis for naming the village. The words "khoja" and "father" were added for sanctification. The name of the village and the shrine came from the name of the person. The name of the district and city is derived from the name of the village.

Nishon – a district (1975), town (2009), desert in Kashkadarya region. In the 30s of the 20th century, a new livestock farm was established in the Balkhiyak desert. Since it is a new type of state economy, the place symbolically and officially named as "Nishon". Meanings of the word "nishon" word: sign, trace, target, medal. Sometimes girls and boys were named like this. In the middle of the 70s of the 20th century, a district was formed in this area, the name of the farm became the name of the district.

Qamashi - the name of the city and district in Kashkadarya region. The Karshi desert occupies part of the territory of the district. The name Qamashi is derived from the name of the Qamaichi clan of the Uzbek Kunhirot tribe. According to T. Nafasov, kamay is an ancient Turkic ethnonym. The Turkic tribe is named after the totem. For the representatives of this ethnic group, the kamay bird belonging to the family of falcons, the karchigai family, was accepted as a totem. The modern Uzbek name of this bird is kumoy, and it is found in the Hisar mountains in Uzbekistan. Kumoy is a rare species in nature. Uzbekistan is included in the "Red Book". According to the legend, the one whose shadow falls on the head of a hummingbird when it flies, will get the state, kingdom and happiness. The bird was originally a totem, and later became a clan name, a city name, and a district name.

Karshi - the center of Kashkadarya region. The name of the city of Karshi appeared in the 14th century. The city of Karshi, which has a history of 2700 years, was called by a different name in the past. The ancient name of the city of Karshi is Navkat. In the ancient past of Iranian languages, "nav" is new, and "kat" is kurghan. Synonymous with the Uzbek name of Yangikurghan. In written sources dedicated to the history of the peoples of Uzbekistan, the name of the city of Karshi is written as Navtak, Navtaka, Navtok. According to historical information, the name Navtak was applied to the city, and the name Navtaka was applied to the region. It is known that Navtak is a model of an ancient city that appeared on the site of the ruins of Yerkurgan. It was built about 8 centuries BC. Academician M. Y. Masson considered the word taka in the name Navtaka to be related to the Sugdian word "taq", "taqa". The word taqa is a construction term. The last syllable of the words chortoq, chordoq, and peshtoq in the modern Uzbek and Tajik languages is related to this word. Chortok is a space between the roof and ceiling of a building. The luxurious upper part of the front of the gabled building, arch. The word "taq" also meant the ancient market team. Tim means an attic with open sides and a closed top, intended for trade. Sometimes, it is known that the word "ti" also calls a domed building. It is known that there were ancient fortresses named Toghi Girra in Kurdistan, Toghi Boston on Besutun Mountain, and Toghi Kasra in Mesopotamia. It should be said that the word "tak", "taka" in

the ancient Navtak, Navtaka names of the city of Karshi in the written sources can be assumed to be related to the word "taq". A more reliable argument is that the name Navtak, Navtaka is related to the word Navkat. "Kat" is the most common word in the Central Asian system of place names. The name of Navkat was found in every region. The primitive meaning of the word "karshi" - "kharsh" is a wall that acts as a barrier. [3]

Shahrisabz - district in Kashkadarya region since 1929. Sources mention that this city of Southern Sughd, which has a history of three thousand years, was called Kesh in ancient times, and was called Shahrisabz from the 14th century. It is known from the description "... they call it Shahrisabz because of the desert and city of springs, and because it has many roofs and roofs, it is green". Natural features and qualities are the basis for naming the city. Shahrisabz is a city full of gardens, trees, green crops, grasses.

Yakkabogh - the name of the city and district within the Kashkadarya region. Yakkabogh district is located in the eastern part of Kashkadarya region. The name Yakkabog is not the only one in the toponymy of the republic, but geographical objects with the same name can be found in other regions. It should be noted that each geographical name has its own "load", because it contains various historical, linguistic and geographical information that has a specific meaning. The explanation will be convincing only if all its components are properly analyzed. In the words of the ancient Greek philosopher Plato, "He who understands the true meaning of a name knows the place well". Yakkabogh is a name that reflects real reality. The name contains a word that means lonely and secluded. The conclusion is that the garden is located in a separate place from other objects of this type, so the singular word was used for it.

Kukdala- a district in Kashkadarya region. It was established on March 17, 2022 by dividing the territory of Chirakchi district into two. The center is Yettitom town. The area is 171 thousand hectares. Kukdala means "a field covered with green plants", "a field where grass grows thickly". The settlement, which was formed in the fields and steppes where grass grows thickly, was also named Kokdala due to the landscape and nature of the area. The toponym is based on the natural geographical features of the place. Some researchers also note this toponym as Kuk dala - green field.

First of all, knowing the meaning and the reason for the name of the geographical names that are heard not only in classes, but also in the mass media, is a requirement of today's information speed. At the moment, he respects the past and values of the people he belongs to, the country he lives in, and sees the ingenuity and wisdom of the people because the names embodying the dreams and hopes of the ancestors are a part of the history of the country. Geographical names show pride in the homeland.

Based on the above analysis, we would like to attach the following conclusions, suggestions and recommendations:

1. The names of villages, hills, graves, ditches are a subject that deserves to be carefully studied and researched. This is an invaluable source of information about our past, which tribe or clan we belong to, which language our ancestors spoke, and which nations they had economic and cultural relations with.

2. The analysis of the toponyms of the district shows that the main feature of the toponymy of the Bukhara region is the large number of ethnotoponyms in place names and oikonyms named according to their profession, which is typical for the region under study.

3. Explanation of place names, especially ethnotoponyms, in the course of geography, history and language lessons, there are not enough sources about ethnic groups formed in different historical periods.

4. At the same time, the occurrence of neotoponyms among the place names of the district is its unique feature. This is explained by the existence of territories that were appropriated in the recent past.

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TA'LIMDA INNOVATSION TEXNOLOGIYALARNING O'RNI

Annotatsiya. Ushbu maqolada ta'limda innovatsion texnologiyalarning qo'llash yo'llari, texnologiyaning asosiy jarayonlari o'z ifodasini topgan.

Kalit so'zlar: "Komil inson", texnologiyaning asosiy jarayoni: tashkil etish, hamkorlikda ish yuritish, takomillashtirish, tahlil qilish, qiyoslash, umumlashtirish, xulosa chiqarish, boshqarish, nazorat etish, baholash.

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ROLE OF INNOVATIVE TECHNOLOGIES IN EDUCATION

Annotation. This article describes the ways of using innovative technologies in education, the main processes of technology.

Key words: "Perfect Man", the main process of technology: organizing, working together, improving, analyzing, comparing, summarizing, drawing conclusions, managing, controlling, evaluating.

Ta'lim tarbiya sohasiga yangicha yondashuv- barqaror taraqqiyot garovidir.

Sh.Mirziyoyev

Mamlakatimizda so`ngi yillarda erishishilgan iqtisodiy, ijtimoiy sohalarda tub islohotlarning asosiy mohiyati, yosh avlodning har tomonlama rivojlanishi, ularning ma'naviy boy, yuksak salohiyatli, bilim, ko`nikma va malakalarga ega bo`lishini nazarda tutadi. Yuqori malakali kadrlar tayyorlash talabi oliy ta'lim tizimi oldiga bilim olishning zamonaviy samarali vositalarini joriy etishdan iborat yangi vazifalarni qo`ymoqda. Bu vazifalar bosqichma-bosqich, islohotlar yo`li bilan amalga oshirilmoqda.

O`zbekiston Respublikasi Prezidentining O`zbekiston Respublikasi oliy ta'lim tizimini 2030-yilgacha rivojlantirish konsepsiyasi²² oliy ta'lim mazmunini sifat jihatidan yangi bosqichga ko'tarish, ijtimoiy soha va iqtisodiyot

²²O`zbekiston Respublikasi oliy ta'lim tizimini 2030 yilgacha rivojlantirish konsepsiyasi O`zbekiston Respublikasi Prezidentining farmoni Toshkent shahri, 2019 yil 8 oktab

tarmoqlarining barqaror rivojlanishiga munosib hissa qo'shadigan, mehnat bozorida o'z o'rnini topa oladigan yuqori malakali kadrlar tayyorlash tizimini yo'lga qo'yish, oliy o'quv yurtlari professor-o'qituvchilarining kasb darajasi va malakasini muttasil oshirib borish, ularni zamonaviy talablarga muvofiq muntazam qayta tayyorlashning takomillashtirilgan tizimini joriy etish asosida yuqori malakali mutaxassislar tayyorlash sifatini tubdan oshirishga qaratilgan.

Shu nuqtai nazardan davlatimiz ta'limda ilg'or pedagogik texnologiyalarga asoslangan xolda talaba - yoshlarning bilim olishiga bo'lgan qiziqishi va ehtiyojlarini qondiribgina qolmasdan, yuqori bilimga ega bo'lgan, fan va ishlab chiqarishni rivojlantirishda raqobatbardosh iqtidorli yoshlarni shakllantirish vazifalarini ham qo'ymoqda.

Prezidentimiz ta'lim va tarbiya sohasidagi tub islohatlarni yuksak bosqichga ko'tarish muhim vazifamiz va muqaddas burchimizdir deb takidlaganidek shuni unutmaslik kerakki, kelajagimiz poydevori bilim dargohlarida yaratiladi, boshqacha aytganda, xalqimizning ertangi kuni qanday bo'lishi farzandlarimizning bugun qanday ta'lim va tarbiya olishiga bog'liq. Demokratik jamiyat qurilishni va uning taraqqiyotini ta'lim va tarbiya sohasisiz tasavvur etib bo'lmaydi. Bu ta'lim-tarbiya sohasini milliy madaniy meros va umumiy e'tirof etilgan demokratik prinsiplarga asoslanishi bilan bog'liq. Shu ma'noda bu sohada chuqur islohatlar amalga oshirildi.

Vazirlar Mahkamasining 2017-yil 6-apreldagi 187-son qaroriga ko'ra umumiy o'rta ta'limning davlat ta'lim standarti hamda 2020 yil 23- sentyabrda O'RQ -637-sonli yangi "Ta'lim to'g'risida"gi qonuni mamlakatimizda ta'limni rivojlantirish va yuqori malakali mutaxassislarni tayyorlash borasidagi islohatlarni amalga oshirishning nazariy-amaliy asosini tashkil qilib, kelgusida ta'limni yanada rivojlantirishning istiqbollarini belgilovchi tarixiy ahamiyatga molik hujjatlardir. Bu hujjatlarda vatanimizning kelajagi bo'lgan yoshlarni voyaga yetkazish, ulardagi mavjud iste'dod va iqtidorni namoyon etishlariga alohida e'tibor berilgan, mamlakatimiz ta'lim tizimini isloh qilishning asoslari, tamoyillari va bosqichlari belgilangan.

O'quv jarayonini to'g'ri tashkil etishda innovatsion texnologiyalar o'qitish samaradorligini ta'minlovchi eng asosiy manba bo'lib xisoblanadi.

Innovatsion texnologiyalar mustaqil faoliyat asosida talabalarda bilim, ko'nikmalarni shakllantirish, ularda rejalashtirish, o'z-o'zini boshqarish va nazorat qilish, o'zlashtirish bo'yicha samarali natijani ta'minlashga qaratilgan eng samarali yondashuvlardan biri bo'lib qolmoqda. Innovatsion texnologiyalar bu shunday maqsadga yo'naltirilgan bog'lamki, u o'zida o'rganiladigan mavzu mazmuni va uni o'zlashtirish texnologiyasini aks ettiradi.

Respublikamizda yosh avlodga ta'lim-tarbiya berish, kasbga o'rgatish, aqliy va ma'naviy kamol topishlarini tashkil etishda jiddiy o'zgarishlar sodir bo'lmoqda. Boshlang'ich sinflarda ta'lim-tarbiyaning maqsad va vazifalari o'qitish metodlari ham yangilanmoqda. «Ta'lim to'g'risida» qonun talablaridan kelib chiqqan xolda ta'limning mazmuni qayta ishlab chiqildi. Ta'lim

mazmunining o'zgarishi ta'lim jarayoni tarkibiy qismlarini yangicha tartibda namoyon bo'lishini taqozo etadi. An'anaviy ta'lim qonuniyatlari va tamoyillariga mos xolda yangi tamoyillarga amal qilish, ta'lim metodlarining paydo bo'lishi, ta'lim vositalarining takomillashuvi, ayniqsa ta'limni tashkil etishning noan'anaviy shakllari keng ko'lamda joriy etilishi kuzatilmoqda. Bu o'zgarishlarning bir qismi mavjud didaktik ta'limotlarning tarkibidan chiqqan bo'lsa, yana bir qismi dunyodagi ta'lim tizimi rivojlangan mamlakatlar olimlarining pedagogik tajribalariga suyangan xolda vujudga kelmoqda.

Prezidentimiz Sh.Mirziyoyev "Ilmli odamlar - mamlakatimizning oltin fondi." hisoblanadi shu sababdan kelajak avlod tarbiyasida asosiy maqsad qilib komil inson tarbiyasi turishini ta'kidlaganlar.

Umumiy o'rta ta'lim tizimi va maktab oldiga maqsad qilib ya'ni, komil insonni tarbiyalab voyaga yetkazish qo'yildi. "Komil inson", - deganda biz, eng avvalo, ongi yuksak, mustaqil fikrlay oladigan, o'z xulq-atvori bilan o'zgalarga ibrat bo'la oladigan, bilimli, ma'rifatli kishilarni tushunamiz. Shu boisdan ta'limda quyidagi vazifalarni belgilab olindi;

I Ta'lim to'g'risidagi qonun, Maktab ta'limini rivojlantirish Davlat umummilliy dasturini ta'lim jarayoniga tadbiq etish bilan ta'limda sifat va samaradorlikka erishish va shu orqali modernizatsiya qilingan ta'lim standartlari to'liq bajarilishini ta'min etish davri boshlandi. Davlatimiz tomonidan yangi maktablar qurilib, minglab maktablarni yangitdan rekonstruksiya qilindi, joriy ta'mirlash ishlari jadal sur'atlar bilan olib borildi. Maktablarni yangi jihoz, asbob-uskunalar, takomillashtirilgan dasturlar, moderinizatsiya qilingan, tajriba-sinovdan o'tgan standartlar, darsliklarning yangi avlodi bilan (ijara tariqasida) ta'minlandi, kompyuterlashtirish davlat umummilliy dasturi asosida izchil amalga oshirildi. Endi o'quv jarayonini yangilangan dastur va standart talablariga javob beradigan zamonaviy darslar asosida tashkil etish davri keldi. Boshqacha qilib aytganda zerikarli darslar o'rniga darslarni tashkil etishga ma'suliyat bilan yondashadigan, kasbiy bilimdonlik, metodik mahoratga ega, ma'suliyatli, zamonaviy, interfaol pedagogik texnologiyani mukammal o'zlashtirib olgan, innovatsiyon texnologiyalar asosida ta'limni tashkil etaoladigan o'qituvchilarga talab oshib bormoqda. Bunda o'qituvchi quyidagi tarzda ish tutishni rejalashtirib olishi lozim;

1. Talabalar shaxsini, ularning rivojlanishi va qobiliyatini hisobga olgan xolda guruhlariga ajratish. (guruhlariga ajratish ikki yo'l bilan boradi; birinchi - talabalarning o'z ixtiyorlari bilan guruhlanish, ikkinchi - o'qituvchi talabi bo'yicha guruhlanish).

2. Didaktik materiallar test, varaqalar, o'quv vazifalari, o'quv topshiriqlarini tayyorlash. Ushbu didaktik materiallarning talabalar mustaqil ijodiy ishiga qay darajada mosligini aniqlash (testlar yordamida).

3. Talabalar guruhining mustaqil ijodiy faoliyatiga tayyorgarlik darajasi.

4. Talabaning o'quv guruhlariga aloqadorlikka qo'shgan hissasi.

5. Guruhdagi har bir talabaning samaradorlikka qo'shgan hissasi.

6. Talaba va o'qituvchi orasidagi o'zaro munosabat (hamkorlik, hamjihatlik, do'stona tanqidiy).

7. O'qituvchining talabalar guruhi yutuqlariga munosabati.

8. Guruhlar bilan ishlashda talaba bilan muloqotda bo'lish.

9. Talabalarning dars jarayonidagi faoliyatini nazorat qilish va baholash (mavzuni to'liq so'rash, qisman so'rash, ma'lumot tarzida so'rash, muammoni hal qilish, ijodiy topshiriqlarni bajarish).

10. Darsni yakunlash va guruh talabalarini hamda yakka tartibda qatnashishini tahlil qilish.

Ta'limda moddiy baza, davlat standarti, o'quv rejalar, dastur va darsliklar qanchalik takomillashtirilmasin, kutilgan asosiy natijaga erishish, chuqur va puxta bilim berish, yuqori sifatdagi o'zlashtirishga erishish bevosita nazariy va amaliy mashg'ulotlarni olib boruvchi o'qituvchining ijodkorligi, izlanuvchanligi, malakasiga pedagogik mahoratiga bog'lanib qolaveradi, o'quv-biluv markazida esa talaba turmog'ini taqozo etadi.

II Pedagogik texnologiyaning asosiy jarayoni: -Tashkil etish, hamkorlikda ish yuritish, takomillashtirish, tahlil qilish, qiyoslash, umumlashtirish, xulosa chiqarish, boshqarish, nazorat etish, baholash kabilarni o'z ichiga oladi.

Texnologiyalarning **obyekti**- ta'lim mazmunini texnologiyalashtirish jarayonidir.

Texnologiyani **predmeti** - ta'lim jarayonini pirovard samarali natijasini olish shakli, usul va vositalarini belgilashdan iborat.

Texnologiyani **maqsadi** - ta'lim mazmunini modullashtirish, loyixalashtirish asosida talabani shaxsiy faolligi ishtirokida Davlat ta'lim standartlarini to'la o'zlashtirishni kafolatlashdan iborat. Har bir professor-o'qituvchi pedagogik texnologiyani o'z mashg'ulotlariga qo'llash uchun quyidagi texnologik xaritasidan foydalanishi mumkin: Mavzuni aniqlash; maqsadni aniqlash; mavzu yuzasidan o'zlashtirishi lozim bo'lgan kalit-tayanch so'zlarni belgilash; vazifalarni esa 1,2,3 tartibida belgilab olish; texnologik jarayonni tashkil etish: (1. Yakka ishlash; 2. Juft bo'lib ishlash; Kichik guruhlarda ishlash; Katta guruhlarda munozara, savol javob, debat va boshqa topshiriqlar) mavzu mazmuni va vazifalariga moslab tanlab olinadi.

III Ta'lim vositalari - o'qitish samaradorligini oshiruvchi yordamchi materiallar hisoblanadi.

a) Ta'limning texnik vositalari (TTV) - o'quv materialini ko'rgazmali namoyish etishga, uni tizimli yetkazib berishga yordam beradi; talabalarga o'quv materialini tushunishlariga va yaxshi eslab qolishlariga imkon beradi. (Diaproyektor, grafoproyektor, doska-bloknot, doska-stend, flipchart, videofilmlar yozuv taxtasi).

b) Yordamchi ta'lim vositalari (YoTV) – grafiklar, chizmalar, namunalar va h.k. Ta'lim vositalarini tanlashni aniqlovchi omillar: Maqsadni belgilash; O'quv axborot mazmuni; Ta'lim vositalari; Yetakchi bilim manbai; O'quv materialining yangiligi va murakkabligi.

Innovatsion texnologiyalar pedagogik jarayon hamda o'qituvchi va talaba faoliyatiga yangilik, o'zgarishlar kiritish bo'lib, uni amalga oshirishda asosan interfaol uslublardan foydalaniladi. Boshqacha so'z bilan aytganda, o'qitishning interfaol uslubiyotlari – bilish va kommunikativ faoliyatni tashkil etishning maxsus shakli bo'lib, unda ta'lim oluvchilar bilish jarayoniga jalb qilingan bo'ladilar, ular biladigan va o'ylayotgan narsalarni tushunish va fikrlash imkoniyatiga ega bo'ladilar. Interfaol darslarda o'qituvchining o'rnini qisman talabalarning faoliyatini dars maqsadlariga erishishga yo'naltirishga olib keladi.

Talabaning yuksak kamoli uzluksiz ta'lim tizimida ta'lim-tarbiya jarayonining tashkil qilinishiga, boshqarilishiga bog'liq bo'ladi. Har tomonlama rivojlangan shaxsning tarkib topishi uchun avvalo u ham ma'nan ham jismonan sog'lom bo'lishi, yuqori saviyadagi, sifatli ta'lim-tarbiya olgan bo'lishi kerak.

Fan doimo taraqqiyotda bo'lar ekan, inson ham doimo izlanishda, tadqiqotda bo'ladi, yangiliklarni ochishga, hayot farovonligini yaxshilashga harakat qiladi. Shunday ekan, hozirgi zamon talabalari ham fan asoslari bo'yicha chuqur bilim olish, fan yangiliklarini egallash, mustaqil fikrlash, ta'lim jarayonining faol ishtirokchisi bo'lishga harakat qiladi. Talabaning qiziqishlarini orttirish, bilim olishga bo'lgan ehtiyojlarini qondirish, ularning bilish faoliyatini faollashtirish maqsadida ta'lim-tarbiya jarayoniga pedagogik texnologiyalarni qo'llash zarur.

Foydalanilgan adabiyotlar:

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SUV BO'YLARIDA VELOSIPED YO'LAKLARINI TASHKIL ETISH BO'YICHA XORIJ TAJRIBASI

Annotatsiya. Ushbu maqolada suv bo'ylari bo'ylab velosiped yo'llarini tashkil qilish bilan bog'liq tajribalar, ularning afzalliklari va muammolarini tahlili keltirilgan. Amaliy tadqiqotlar va mavjud adabiyotlardan kelib chiqqan holda, ushbu tadqiqot rejalashtirish jarayoni, loyiha masalalari, atrof-muhitga ta'siri va dengiz bo'yidagi velosiped yo'llarining ijtimoiy-iqtisodiy afzalliklarini yoritadi. Natijalar ushbu yondashuvning faol transportni rivojlantirish, shahar landshaftlarini yaxshilash va ekologik barqarorlikni rag'batlantirishdagi salohiyatini ta'kidlaydi.

Kalit so'zlar: Velosiped yo'llaklari, harakat xavfsizligi, ekologik transport, barqaror shaharlar, tirbandliklar.

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FOREIGN EXPERIENCE ON ORGANIZING BICYCLE PATHS ON WATERSIDES

Abstract. This article presents a comprehensive analysis of the experiences, challenges, and benefits associated with organizing bicycle paths along waterfronts. Drawing from case studies and existing literature, this study elucidates the planning process, design considerations, environmental impacts, and socio-economic benefits of waterfront bicycle paths. The findings underscore the potential of this approach in fostering active transportation, enhancing urban landscapes, and promoting ecological sustainability.

Keywords: Bicycle paths, Urban mobility, Waterside development, Active transportation, Sustainable cities.

Kun sayin ortib borayotgan transport oqimi va uning natijasida yuzaga kelayotgan tirbandliklar, yo'l transport hodisalarining ortib borishi so'nggi yillarda yirik shaharlardagi dolzarb muammoga aylangan. Suv havzalari bo'yida velosiped yo'llarini tashkil etish dam olish, transport va ekologik barqarorlikni uyg'unlashtirgan shahar harakatchanligiga transformativ yondashuv sifatida paydo bo'ldi [1].

Ushbu kontseptsiya dastlab Niderlandiyada ildiz otgan bo'lsa, keyinchalik u dunyoning ko'plab mamlakatlarida ommalashdi. Gollandiya velosiped infratuzilmasini, jumladan, suv bo'yidagi yo'llarni rivojlantirish va amalga oshirishda ilk davlat hisoblanadi. Gollandiyaning Amsterdam va Utrext kabi shaharlari XX asrning o'rtalariga kelib, kanallar va daryolarning keng tarmog'idan foydalangan holda velosiped yo'llarini o'zlarining shaharsozlik strategiyalariga qo'shishni boshladilar. Gollandiya tajribasi boshqa mamlakatlar uchun namuna bo'lib xizmat qiladi, u innovatsion dizayn yechimlari, yo'l harakati boshqaruvi strategiyalari va asosiy transport turi sifatida velosipedda harakatlanishga ustuvor ahamiyat beruvchi siyosatlarni namoyish etadi [2, 3].



1-rasm. Suv bo'ylarida tashkil etilgan velosipedlar yo'lakchasi (Gollandiya)

Gollandiya misoliga asoslanib, Yevropaning bir qancha davlatlari turli darajadagi muvaffaqiyatlar va qiyinchiliklarga qaramay, suv bo'yida velosiped yo'llarini tashkil etish kontseptsiyasini qabul qildi. Kopengagen, Daniya va Gamburg (Germaniya) kabi shaharlarda piyodalar uchun qulayliklar va yashil maydonlar bilan bir qatorda velosiped infratuzilmasiga ustuvor ahamiyatga ega bo'lgan dengiz qirg'oqlarini rivojlantirish bo'yicha ulkan loyihalar amalga oshirildi. Ushbu tashabbuslar Yevropa bo'ylab barqaror shaharsozlik va multimodal transport tizimlariga kengroq o'tishni aks ettiradi [4, 5].

So'ngi vaqtlarda, Shimoliy Amerikadagi shaharlar shahar hayotini yaxshilash, faol transportni rivojlantirish va qirg'oq bo'yidagi hududlarni jonlantirish uchun suv bo'yidagi velosiped yo'llarining imkoniyatlarini tobora ko'proq tan olishmoqda. Portlend, Oregon va Vankuver (Kanada) kabi shaharlarda velosport infratuzilmasini qirg'oq bo'yidagi rekonstruksiya loyihalari bilan integratsiyalash harakatlari moliyalashtirish, yerdan foydalanishdagi mojarolar va jamoatchilik ishtiroki bilan bog'liq muammolarga duch keldi. Biroq, innovatsion dizayn yondashuvlari, davlat-xususiy sheriklik va ommaviy targ'ibot harakatlari velosipedda qulayroq va borish mumkin bo'lgan dengiz qirg'oqlari sari olg'a siljishini ta'minlamoqda [6, 7].

Huddi shu kabi tajriba Osiyo mamlakatlarida ham keng qo'llanila boshlagan. Bunda, Osiyoda tez sur'atlar bilan urbanizatsiya va havoning ifloslanishi va tirbandlik bilan bog'liq tashvishlar muqobil transport turlariga, jumladan velosipedga qiziqish uyg'otdi. Yaponiya va Janubiy Koreya kabi mamlakatlar velosiped yo'llarini shahar yashil yo'llari va dam olish yo'laklarining asosiy komponentlari sifatida o'z ichiga olgan dengiz qirg'oqlarini qayta tiklash loyihalarini amalga oshirdi [8,9].

Bundan tashqari, Xitoyning Xanchjou va Shanxay kabi shaharlari barqaror transport imkoniyatlariga ortib borayotgan talabni qondirish uchun velosiped almashish sxemalarini va daryo bo'yida maxsus velosiped yo'laklarini barpo etdi [10-11].



2-rasm. Yaponiyaning turli shaharlarida suv bo'ylarida tashkil etilgan velosiped yo'laklari

Avstraliya va Yangi Zelandiya kabi davlatlar suv bo'yidagi velosiped yo'llarining dam olish afzalliklarini tabiiy yashash joylari va mahalliy madaniy qadriyatlarni saqlash bilan muvozanatlash muammosi bilan kurashmoqda. Melburn va Oklend kabi shaharlar ekologik yaxlitlik va madaniy merosni saqlab qolgan holda velosiped marshrutlari, jamoat bog'lari va qirg'oq bo'yidagi sayr qilish joylari o'rtasida uzluksiz aloqa o'rnatishga qaratilgan ulkan qirg'oqbo'yi regeneratsiyasi loyihalarini amalga oshirishga kirishdi [12].

Xulosa

Suv bo'yida velosiped yo'llarini tashkil etish bo'yicha xorijiy tajribalar ushbu innovatsion shahar infratuzilmasi amaliyotining global ahamiyati va salohiyatini e'tirof etadi. Gollandiyadan Shimoliy Amerikagacha, Yevropadan Osiyogacha, butun dunyo shaharlari velosipedni barqaror transport turi sifatida qabul qilib, dengiz sohillaridan shaharlarda harakatlanish va dam olish uchun qimmatbaho boylik sifatida foydalanmoqda. Qiyinchiliklar davom etayotgan bo'lsa-da, velosipedlar uchun qulay shaharlar va qirg'oqlar tomon ortib borayotgan jadal global miqyosda barqaror shahar rivojlanishi uchun istiqbolli kelajakni ko'rsatadi.

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CONDITIONS FOR THE DEVELOPMENT OF TOURISM IN THE KASHKADARYA REGION

Abstract. This article presents the conditions of development of the tourism sector in the Kashkadarya region, strategic plans for the development of tourism in the region and the impact of tourism on the development of the economy.

Key words: tourism, investment, export, import, tourist network, guides, tourism potential, subsidy, tourist information centers, gastronomic tourism.

Currently, the tourism sphere has become the main strategic network of the economy in developed countries of the world. The role of the tourism sector in the country's gross domestic product is increasing day by day. Therefore, the development of the tourism sector in Uzbekistan, which has chosen the path of economic development, should be one of the priorities.

We know that wherever there is peace, peace of mind, that area is more interested in both foreign investors and tourists who come for a trip. Uzbekistan has always been in the spotlight in this regard.

Taking into account the touristic potential of the country, the large flow of tourists, and the need to pay special attention to them, a safe tourism system was formed in our country a few years ago.

In the program for the development of the national economy, tourism was described as the enhancer of the economy of Uzbekistan.

Article 3 of the law of the Republic of Uzbekistan on tourism provides the following definition of Tourism: "Tourism-departure (travel) of an individual from a permanent place of residence, not engaged in activities related to the receipt of income from sources in the country (place) of temporary stay" [1]

Today rapid socio-economic development as one of the strategic tasks of the economic development of the regions, to increase the standard of living and income of the people, it is envisaged to ensure the comprehensive and effective use of the natural, mineral and raw materials, industrial, agricultural, tourism and labor potential of each region. Therefore, the development of tourism is one of the main factors that cause the development of the economy of the regions, an increase in the income of the population, an improvement in the standard of living of the population.

In January-February 2024, a total of 16.9 thousand foreign citizens visited the Republic of Uzbekistan for commercial purposes. This figure increased by 11.5 thousand people or 3.1 times compared with the corresponding period last year. In the first 2 months of this year, the largest number of citizens of the following countries came to Uzbekistan for commercial purposes (per person): Turkmenistan – 12013; Tajikistan – 2937; Afghanistan -582, China – 260, Turkey – 243, India – 167, South Korea – 133, Kyrgyz Republic -101, Iran-65, USA -61, other countries -384. [2]

Attracting additional investments in the direction of tourism in our country, further improvement of tourism infrastructure by creating favorable conditions for the private sector, increase in population employment, expansion of transport routes, accelerate the promotion of the tourist potential of the Republic in domestic and foreign markets, also, in order to introduce new procedures in the management of this sector by the state, several measures were laid out in the decision of the president of the Republic of Uzbekistan on "Measures to further accelerate reforms in the direction of Tourism and effectively organize the public administration system in the sector" PQ-238 of 27.07.2023. An example of this is from January 1, 2024, in order to increase the flow of tourists to the Republic and provide additional state support to tour operators:

a) to provide incentive subsidies in equal shares from US \$ 20 to US \$ 100 at the expense of the state budget of the Republic of Uzbekistan and the tourism Support Fund for each tourist brought to the Republic of Uzbekistan from foreign countries with low tourist flow by tour operators, as well as

b) part of the costs of tour operators and aircraft carriers for charter flights carried out from foreign countries to Samarkand, Bukhara and Urgench international airports for each foreign tourist, in the event that he stayed on the territory of the Republic for at least five nights, It is worth noting the issues of reimbursement in equal shares at the expense of the state budget of the Republic of Uzbekistan and the funds of the tourism Support Fund in the equivalent of US \$ 20, and in the winter season (from November 20 to February 20) in the equivalent of US \$ 50. [3] The implementation of these tasks serves as the basis for the development of tourism in our country.

Uzbekistan has a huge tourism and recreational potential, in which there are a total of 8.2 thousand objects of cultural heritage, 209 of them are located on the territory of four Museum cities — Ichan fortress in Khiva, the historical center of Bukhara city, the historical center of Shahrisabz city and the city of Samarkand and are included in the UNESCO World Heritage List.[4]

At the same time, a number of works were carried out on the development of the tourism sector in the Kashkadarya region. On March 1, 2021, the decision of the Cabinet of Ministers of the Republic of Uzbekistan "On measures to further support and develop the tourism sector in the Kashkadarya region" was adopted. Therefore, the importance of the tourism sector is high for the development of the regional economy and attracting investments.

It is important to carry out the following strategic tasks for the development of tourism in the Kashkadarya region:

- improving the management system in the development of the tourism network;
- simplifying the procedures of the system for issuing visas, issuing licenses and obtaining permits in the field of Tourism;
- creation of new tourism destinations in the region, development of modern types of tourism, increasing their attractiveness.

Uzbekistan and its Kashkadarya region have great potential for tourism development, which has a total of 1321 material and cultural heritage sites with ancient history. Therefore, the historical objects in Shahrisabz are included in the list of UNESCO's World Heritage Sites. In particular, there are 1043 archaeological, 208 architectural, 27 landmarks, 43 monumental art monuments of the historical and cultural heritage objects taken into account.

In addition, the Kashkadarya region also has its place in our republic with its national cuisine. Especially, the national dish of Kashkadarya "tandoor meat" is known among most countries for its special taste. Therefore, today the region is also considered favorable for the development of the Gastronomic tourism sector.

According to the results of the research, the tourism network has an increasing influence on the economic indicators of the region and the increase in the volume of GRP. Another strong point of this network is that it will have a positive effect on the activity of other networks of the region, even on the development of the economy of regions specializing in industrial production in a depressed state, and we believe that it will help to improve their activity.

The tourism sector has its place for the development of the regional economy. To develop tourism in the region, it is necessary to pay attention to the following:

- creating a website that provides information to tourists about historical monuments, historical figures, territorial and administrative structure of the region, as well as customs and traditions;
- creating a special software system for training guides working in the field of tourism in our region and evaluating their knowledge and skills, development and implementation of a separate project aimed at limiting the participation of the human factor as much as possible in conducting exams and improving the qualifications of guides;
- improvement of engineering-communication and tourism infrastructure in regions with tourism potential of the region, carrying out construction, reconstruction, expansion and modernization of the adjacent infrastructure;
- formation of a list of objects where it is possible to organize gastronomic tourism in the region;
- allocating subsidies for the establishment of family guest houses to business entities that want to establish family guest houses in the region;

- organization of modern sanitary-hygiene points, tourist information centers or visitor centers in the region, as well as installation of tourist maps and road signs;

- organization of tourist streets, as well as special pedestrian and bicycle lanes on the roads of the region, providing for the placement of souvenir, handicraft and food stalls;

- In order to further encourage the introduction of foreign currencies into Uzbekistan by tourist organizations, to give them tax benefits, i.e. exempting a certain part of their foreign currency income from taxes, etc. This causes entrepreneurs to invest more in the industry.

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CHOICE OF PARAMETERS FOR COMBINED RENEWABLE ENERGY INSTALLATIONS

Annotation: the calculation of the economic characteristics of RES installations with known TE characteristics can be carried out in the usual ways. However, the variability of RES and, in connection with this, the variability of energy characteristics requires that these features of RES be taken into account in the calculations

Key words: RES power plants, "compositional" method, power supply of the station, the main parameters of the CPP (helio+wind), the main parameters of the MED.

Introduction. One of the main tasks in the field of using RES power plants is to ensure their economic feasibility. To solve this problem, it is necessary to know the relationship between the technical and economic parameters and indicators of renewable energy installations, which is significantly more complicated given the variability of renewable energy sources over time and, in connection with this, the difficulties of coordinating the modes of energy generation and consumption, as well as, as a rule, the need for renewable energy installations to store energy (AB). To determine the economic characteristics.

In general, the calculation of the economic characteristics of RES installations with known TE characteristics can be carried out in the usual ways. However, the variability of RES and, in connection with this, the variability of energy characteristics requires that these features of RES be taken into account in the calculations.

Methods. In /12/ a mathematical model for calculating and optimizing the main parameters of the CPP (helio+wind) was proposed. The basic equation of the model is the total reduced costs for the construction and operation of the power plant, taking into account the profit and damage from the production of products. The main conclusion obtained in the work is that, depending on the potential of renewable energy sources in a particular area, it may be beneficial not for CPPs, but for individual wind turbines or power plants.

Results. The comments on the work include the following:

- The model is quite generalized, so the model has technical and economic characteristics (empirical dependencies of cost on power are presented), but the dependencies of power change and efficiency are not taken into account. power

plants from RES parameters. Those. in the KEU model, it is necessary to separately identify and set the technical and economic characteristics of the KEU and, in general, the relationship between them.

- the initial data are not selected in the model - what load should the power plant provide.

- it is important to note that in the work, their long-term average values were used as initial data for wind and solar energy, i.e. in the estimates, these indicators were seasonal variables, and for shorter periods of a day, a week, a month, their actual constant values were used.

In /13/ the cost of wind-solar power plants was estimated for the case of a constant load relative to the average solar radiation during the day and a constant wind speed.

In /14/ on the basis of the model developed in /13/, the energy cost of such a CPP was estimated. It was found that the share of the solar part at constant load and constant power generation by the wind part is significantly small and does not exceed 5%. It was also concluded that the cost of CPP as a whole is higher than individual installations of wind turbines and SFEU, which is not consistent with the conclusions of Makhkamdzhanov B.M.

In /25/ estimates of the cost of electricity are given for the estimated generation of wind power plants with a capacity of 60, 250 and 500 kW, mass-produced by Taske (Germany) in the region of 88 meteorological stations in Uzbekistan. Based on the analysis, areas were identified where the expected cost of generated energy is at the level of world achievements; the most suitable types of wind turbines for wind conditions in these areas and effective ways of their application are determined. However, the cost of wind turbine power for the consumer is not given for the available wind speed ranges, which differ significantly from the nominal nameplate wind speeds for wind turbines.

In /28/, it was proposed to identify and evaluate the possibilities of using the energy of the sun, wind and small rivers to provide heat supply and improve the power supply of non-gasified SNPs in the above zone. The predicted consumption of electrical and thermal energy of residential buildings in rural settlements in the mountainous Chimgan-Charvak zone, including those not subject to gasification until 2010, was determined. The possibilities of covering these loads with the help of solar photovoltaic installations were considered; wind power plants of small and medium capacity in areas for which the observational data at the MS Charvak reservoir are representative; small hydroelectric power stations on the river. Pskem, Ugam and Chimgansay. The paper considers the possible potentials of renewable energy sources, however, an economic assessment of the use of these renewable energy sources has not been carried out.

In /29/ the main principles of the combined use of RES were presented, as well as ways to increase the efficiency of the energy complex based on solar, wind and hydraulic energy by accumulating their generation. Based on the selected methods and accumulated information, as well as the results of calculations, the

most effective option for building an energy complex is selected. The model does not consider such points as the criteria for optimizing the CPP, the relationship of the output characteristics of the CPP depending on the supply of RES.

In /30/ the issues of designing an autonomous source of electricity with renewable energy converters were considered. The structural-technological scheme of the combined power source, mathematical models for calculating the capacity of the storage device and the energy balance are given. On the basis of mathematical modeling of the output energy parameters of the power source, a block diagram of the algorithmization of designing a combined power source with solar-wind energy converters together with a low-power hydraulic unit has been developed. It can be noted that, as in /30/, it is precisely the features of RES that are not considered - the variability of the supply and, accordingly, the variability of the output power, as well as the criteria for optimizing the parameters of the CPP.

In /31/ indicators of the cost of power and mass of microhydroelectric power plants were considered by analogy with the density of solar radiation, depending on the density of the energy flow of water. The dependences of the change in these indicators with a change in the energy of the water flow are determined.

In /32/ options for using a microhydropower plant were considered, generalized models of its technological process were built, and a method for determining the main parameters of this plant was also described. It is said that on the basis of the proposed methodology, the main parameters of the MED and the required amount of accumulated energy at the design stages can be determined.

In /33/ the questions of combined use of micropower installations with hydrostorage and without it were considered, as well as the characteristics of the economic efficiency of their work, depending on the load schedule of consumers.

Discussion. The following conclusions are obtained:

1. With sufficient wind energy potential, it is recommended to use MPP based on wind turbines and power plants with accumulation of excess wind energy in the upper basin.

2. In conditions of insufficient return of wind energy, in order to improve the reliability of power supply, it is advisable to use controlled MPPs based on wind turbines, SPPs and GPPs with a hydraulic accumulator.

3. The use of a hydraulic accumulator in combined systems for the use of renewable energy sources leads to a reduction in annual costs and the cost of energy compared to the option without a hydraulic accumulator.

However, all these conclusions were obtained for the case of constant load and constant power of RES, i.e. variability of RES and output characteristics of CPP was not taken into account.

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OPTIMAL INTEGRATION OF DISTRIBUTION SYSTEM OF DG UNITS BASED ON WIND GENERATOR WITH CONSIDERATION OF UNCERTAINTIES

Abstract. Global environmental problems associated with traditional energy generation have led to a rapid increase in the use of renewable energy sources (RES) in power systems. The integration of renewable energy technologies is commercially available nowadays, and the most common of such RES technology is wind turbine (WT). This paper proposes an application of Salp Swarm Algorithm (SSA) for determining the optimal allocation of WT based distributed generation (DG) units in the distribution system (DS) with the aim of minimizing the total power and energy losses.

Keywords: uncertainties; wind turbine; differential evolution algorithm; distribution system.

1. Introduction

In the last few years, considerable attention has been paid to the usage of RES (such as WT, etc.) to minimize power losses due to global environmental problems associated with traditional generation. Many countries have been introduced or are proceeding towards the implementation of renewable energy policies like the Renewable Energy Portfolio Standard (RPS) [1]. Accepting an RPS is a production obligation of a certain percentage of the total electricity production from RES for a specific date. However, available WT energy is unstable and variable.

WT produces energy when exposed to wind speed, and several other components are needed to properly conduct, control, convert, distribute and store the energy produced by the turbine. In restructured power systems, the use of distributed generation energy resources, including wind turbine (WT), fuel cells, small micro turbines, etc. The advantage of distributed generation energy resources includes reducing power and energy losses, improving voltage profile (VP), and increasing network reliability. To achieve the advantages of DG units, the choice of the optimal location and size becomes a major problem [2].

2. Problem formulation

Objective function

The objective of this article is to minimize the real power and energy losses and improve the DS voltage.

Real power loss

The first term of the objective function is the real power loss, which is determined by equation (1)

$$P_{LOSS} = \sum_{j=1}^{n_f} \sum_{k=1}^{n_s} R_k |I_k|^2 \quad (1)$$

Accordingly, minimizing the total active power losses in the DS leads to reduce the total active energy losses E_{loss} during 24 hrs as:

$$E_{loss} = \sum_{t=1}^{24} P_{loss}(t) \Delta t \quad (2)$$

where,

I_k – Is the current passing through line k

n_f – Is the total number of branches

n_s – Total number of sections in the system

R_k – Resistance of the line section between buses k and $k + 1$

Voltage Profile improvement

The second goal of this work is to improve the VP, which is represented by the VP index in equation (3) [8].

$$VP = \sum_{j=1}^{n_f} \sum_{k \in lb} |V_k - V_{ref,k}| \quad (3)$$

where,

lb – Collection of the load buses

$V_{ref,k}$ – Nominal voltage at load bus k .

V_k – Voltage amplitude at bus k .

WT and Load models

3.1.1 Wind speed modeling: Weibull PDF was chosen to evaluate the stochastic behavior of wind speed at a predetermined duration of time. Weibull PDF for wind speed v_t (m/s) at the t^{th} time interval can be calculated as:

$$f_v(v) = \frac{k'}{c'} \left(\frac{v}{c'} \right)^{k'-1} \exp \left(- \left(\frac{v}{c'} \right)^{k'-1} \right) \quad \text{for } c' > 1; k' > 0 \quad (4)$$

The shaping rate (k') and scale rate (c') at t^{th} time interval are expressed as [9]:

$$k' = \left(\frac{\sigma^t}{\mu_v^t} \right)^{-1.086} \quad (5.1)$$

$$c' = \frac{\mu_v^t}{\Gamma(1 + 1/k')} \quad (5.2)$$

where, μ_v^t and σ^t are mean and Sd of wind speed at time interval 't'.

3.1.2 WT power generation: The hourly WT average output power corresponds to a specific time interval 't' (P_{WT}^t) can be expressed as (6). A typical day for three years is generated in p.u., as shown in Fig. 4.

$$P_{WT}^t = \sum_{g=1}^{n_s} P_{WT_g}(v_g^t) f_b(v_g^t) \quad (6)$$

where 'g' denotes a stage factor and n_s is the number of wind speed discrete stage. v_g^t is the g^{th} stage of wind speed at t^{th} time interval.

The WT power generation [9] with an average wind speed (v_{ag}) for stage “g” is expressed as:

$$P_{WT_g} = \begin{cases} 0 & v_{ag} < v_{cin} \text{ or } v_{ag} > v_{cout} \\ (A*v_{ag}^3 + B*P_r) & v_{cin} \leq v_{ag} \leq v_r \\ P_r & v_r \leq v_{ag} \leq v_{cout} \end{cases} \quad (7)$$

where P_r is the nominal power rate that WT can be generated; v_{cout} is cut-out; cut-in (v_{cin}) and nominal (v_r) wind speed, respectively, constants A and B are achieved]:

$$A = \frac{P_r}{(v_r^3 - v_{cin}^3)} \quad (8.1)$$

$$B = \frac{v_{cin}^3}{(v_r^3 - v_{cin}^3)} \quad (8.2)$$

3.2 Load model

The load demand for the system is modelled corresponding to the normalized daily 24- hours load curve with a peak of 1 pu, as shown in Fig. 1 [10-11]. The load factor (LF) can determine as the field beneath the load curve, the load curve in p.u. subdivide by the sum of time interval [3]

$$LF = \sum_{t=1}^{24} \frac{\text{per.unit. Demand}(t)}{24} \quad (9)$$

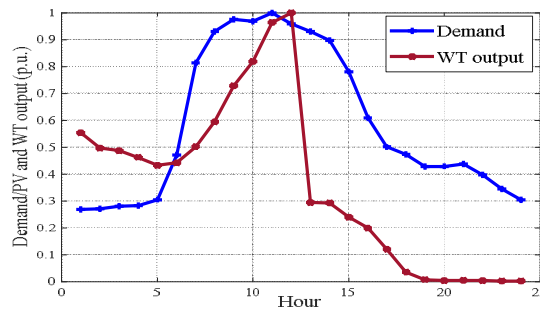


Fig 1. Normalized daily active load curve and WT output

The voltage-dependent load demand model, which includes variable load over time, can be calculated as [4]:

3. Conclusion

The proposed approach is used to reduce power losses, energy loss and improve VP in the distribution system. To test the effectiveness of the proposed approach was tested on a test system with a standard 33 bus system. For the 69-bus system, the loss reduction is 98% and energy loss reduction is 66 %. In addition, the VP performance is improved over the base system.

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GIBIRID TIZIMLARNI MODELLASHTIRISH

Annotatsiya. Ushbu maqolada gibrid tizimlarni modellashtirish jarayonlari va unda yuzaga keladigan holatlar tahlil qilingan.

Kalit so'zlar: qayta tiklanadigan energiya manbalari, gibrid, avtonom tarmoqlar, quyosh qurilmalari, shamol qurilmalari, energiya xususiyatlari.

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MODELING OF HYBRID SYSTEMS

Annotation. This article analyzes the processes of modeling hybrid systems and the situations that occur in it.

Key words: renewable energy sources, hybrid, autonomous networks, solar installations, wind installations, energy characteristics.

Asosan, gibrid tizimlar mustaqil (avtonom) va tarmoqqa ulangan tizimlar sifatida ikki toifaga bo'linadi. Shamol va quyosh energiyalari vaqt va mintaqaning bir-birini to'ldirishidan kelib chiqqan holda elektr energiyasini ishlab chiqarishda qo'shimcha hisoblanadi; mustaqil tizimlarda shamol turbinasi va PV tomonidan ta'minlanadigan energiya asosiy qayta tiklanadigan energiya manbalari hisoblanadi[1].

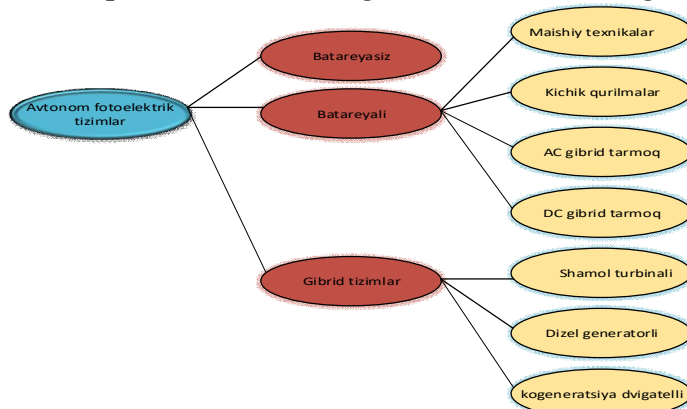
Mustaqil tizimlar olis va qishloq joylarda yuklama etkazib berishning eng istiqbolli texnologiyalari hisoblanadi. Ular yagona ishonchlilik texnologiyalaridan foydalanish bilan taqqoslaganda katta ishonchlilik, yuqori samaradorlik va arzon narxlarni ta'minlaydi.

PV va shamolning kombinatsiyasi mustaqil tizimlarda qayta tiklanadigan energiyaning eng keng tarqalgan manbalari bo'lganligi sababli, ushbu tadqiqotlar davomida PV va shamolni energiya avlodlari manbai sifatida akkumulyator va dizel generatorlarini o'z ichiga olgan gibrid tizimlarni optimallashtirish o'rganiladi. Qayta tiklanadigan manbalarning tarkibiy modellari quyidagi

bo'limda umumlashtiriladi va keyinchalik gibril qayta tiklanadigan energiya tizimlarining (HRES) ishlashini bashorat qilish uchun gibril tizimlarining manbalari va ulanishlarini tartibga solish muhokama qilinadi[2].

Fotoelektrik (PV) texnologiyasi va modellashtirish. Fotoelektrik tizimlar ikkita katagoriyaga bo'linadi ya'ni tarmoqqa ulangan va mustaqil (avtonom) tizimlarga, ular masofaviy elektr ta'minoti (RAPS) tizimlari sifatida tanilgan.

1.rasmda Mustaqil PV tizimlarining tasnifini aks ettirilgan[3].



Rasm 1: Mustaqil PV tizimlarining tasnifi

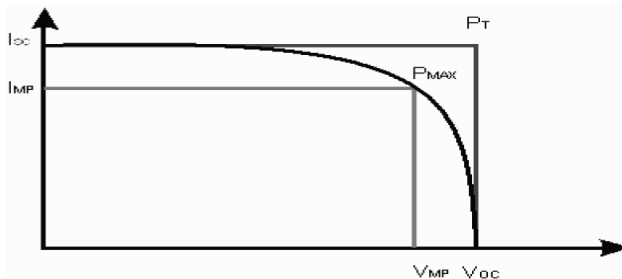
Quyosh nurlarini yoki sun'iy nurni olish va uni elektr energiyasiga aylantirish bilan bog'liq barcha texnologiyalar fotovoltaiik (PV) deb nomlanadi, ular kristalli, ingichka plyonka, aralash yarimo'tkazgich va nanotexnologiyalarga bo'linadi. PV texnologiyasidagi texnologik rivojlanish qishloqlarni elektrlashtirishda yanada istiqbolli va talabchan loyihalarni amalga oshirishga olib keladi[4].

PV modellari va tenglamalari

PV ishiga, ma'lum bir joyda quyosh nurlanishining mavjudligi va PV-modul harorati ta'sir qiladi. Kristalli kremniy quyosh moduli bitta diod bilan ifodalanishi mumkin. Ushbu modelda nurlanishni rag'batlantiruvchi oqimni ifodalovchi oqim manbai, ijobiy tanqislik va Rsh qarshilik ostida ideal diodga parallel. Oqim ketma-ket qarshilikli RS orqali yuklamaga tushadi. Ushbu modelning asosiy parametrlari PV modullarining kerakli joyida, materialida va haroratida quyosh nurlanishiga ta'sir qiladigan qisqa tutashuv oqimi (I_{sc}) va ochiq tutashuv kuchlanishi (V_{oc}). PV modulining yana ikkita eng muhim elektr xarakteristikasi: Maksimal quvvat chiqishi (P_{max}) va to'ldirish koeffitsienti (FF). $P_{max} = V_{mp} \times I_{mp}$ tomonidan hisoblanadi, agar V_{mp} va I_{mp} mos ravishda maksimal nuqtada kuchlanish va oqim bo'lsa. P_{max} , shuningdek, 2-rasmda ko'rsatilgandek I-V egri chizig'iga o'rnatilgan eng katta to'rtburchak tomonidan grafik hisoblanishi mumkin. FF bir xil mos yozuvlar sharoitida turli xil quyosh modullari bilan taqqoslaganda quyosh xujayralarining sifatini o'lchaydi. FF o'lchovsiz; u birlikka qanchalik yaqin bo'lsa, PV modulining sifati shunchalik yuqori bo'ladi. U 0,5 dan 0,82 gacha va quyidagi tenglama bilan hisoblanadi[4]:

$$FF = \frac{P_{\max}}{V_{oc} I_{sc}} = \frac{I_{\max} V_{\max}}{V_{oc} I_{sc}}$$

FF, shuningdek, 3.2-rasmda ko'rsatilgandek PV modullarining I-V egri chizig'idan grafik izohlanadi:



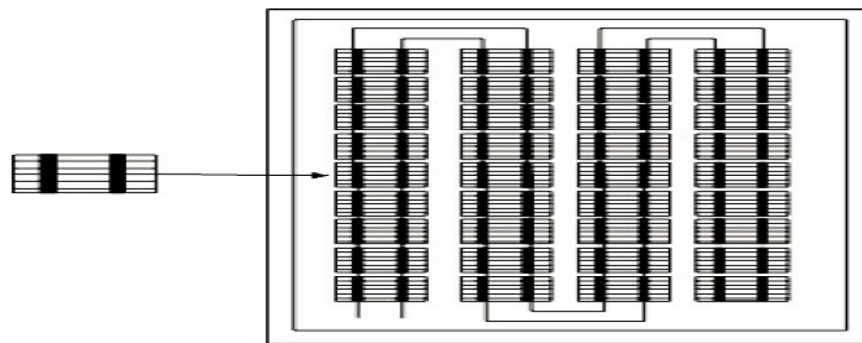
Rasm 2: I-V egri chizig'idan to'ldirish koeffitsientini (FF) hisoblash

Va nihoyat, xizmatning eng muhim ko'rsatkichi samaradorlikdir, bu quyidagilarga asoslanadi:

$$\eta = \frac{FF \times V_{oc} \times I_{sc}}{P_{in}}$$

Bu yerda η va P_{in} mos ravishda quvvatni konvertatsiya qilish samaradorligini va kirish quvvatini anglatadi.

Ko'pgina dasturlarda kerakli chiqish kuchlanishini olish uchun odatda bir nechta katakchalarni modul hosil qilish uchun ulash mumkin (3.3-rasm).



Rasm 3: PV moduli

Array – oqimni oshirish uchun parallel ravishda yoki kuchlanishni kuchaytirish uchun ketma-ket ulangan bir qator PV modullaridan iborat tuzilish.

Parallel ravishda N_s modullari va N_p modullari bo'lgan PV massivining kuchi quyidagicha hisoblanadi:

$$P_A = N_p \cdot N_s \cdot P_M \cdot \eta_{MPPT} \cdot \eta_{Other}$$

η_{MPPT} bu-Maksimal quvvat nuqtasini kuzatib borish samaradorligi (masalan, 93-97%) va boshqa yo'qotishlarni ko'rsatadigan omil, ya'ni kabelning chidamliligi, akkumulyator changlari va boshqalar.

Fotovoltaiq quvvatiga harorat va quyosh nurlari kabi ob-havo sharoiti juda ta'sir qiladi. Ushbu omillarni hisobga olgan holda PV modulining maksimal quvvatini quyidagi tenglama bilan hisoblash mumkin:

$$P_M = FF \cdot I_{sc} \cdot V_{oc} =$$

$$\frac{\frac{V_{oc}}{n_{MPP} \frac{KT}{q}} - \ln\left(\frac{V_{oc}}{n_{MPP} \frac{KT}{q}} + 0.72\right)}{1 + \frac{V_{oc}}{n_{MPP} \frac{KT}{q}}} \cdot \left(1 - \frac{RS}{\frac{V_{oc}}{I_{sc}}}\right) \cdot I_{sc0} \left(\frac{G}{G_0}\right)^\alpha \cdot \frac{V_{oc0}}{1 + \beta \ln\left(\frac{G_0}{G}\right)} \cdot \left(\frac{T_0}{T}\right)^\gamma$$

Bu yerda, T - PV modulining harorati, K - Boltsman konstantasi ($1,38 \times 10^{-23} \text{ J / K}$), q - elektron zaryadining kattaligi ($1,6 \times 10^{-19} \text{ C}$), G_0 va G - standart va normal tushadigan quyosh navbati bilan nurlanish va n_{MPP} PV modulining ideal quvvat ko'effitsientini ifodalaydi ($1 < n_{MPP} < 2$), uni quyidagicha hisoblash mumkin [4].

$$n_{MPP} = (V_{MPP} + I_{MPP} R_S) / [V_{oc} + V_t \ln\left(\frac{I_{sc} - I_{MPP}}{I_{sc}}\right)]$$

α va γ fotosurat va harorat voltajining chiziqli bo'lmagan ta'siri uchun javobgar bo'lgan ko'rsatkichlar va β quyosh xujayralari texnologiyasining o'ziga xos ko'effitsienti (masalan, 0.085). Ular quyidagicha bo'lgan tenglamalar bilan aniqlanishi mumkin:

$$\gamma = \frac{\ln\left(\frac{V_{oc0}}{V_{oc1}}\right)}{\ln\left(\frac{T_1}{T_0}\right)} \quad \alpha = \frac{\ln\left(\frac{I_{sc}}{I_{sc1}}\right)}{\ln\left(\frac{G_0}{G_1}\right)} \quad \beta = \frac{V_{oc0} - 1}{V_{oc1}} \cdot \frac{1}{\ln\left(\frac{G_0}{G_1}\right)}$$

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PRACTICAL USAGE OF POLYSEMY IN TEACHING ENGLISH

Abstract. Language is defined as a human system of communication that uses arbitrary signals, such as voice sounds, gestures, or written symbols. But frankly speaking, language is far too complicated, intriguing, and mysterious to be adequately explained by a brief definition. The organic function of the language is to carry meaning. Most of the problems in linguistic science are intimately bound to question of semasiology and call for scientific analysis of communication in words. The study of words is not exclusively a study of roots and stems, of prefixes or suffixes. The mysterious world of words is an object of scientific investigation [12].

Key words: polysemy, new meanings of words, vocabulary, specific techniques, teaching, achievements, grammatical, contextual.

Practicing polysemy is distinguishing between the various meaning of a single word form with several but closely related meanings (head: of a person, of a pin, of an organization). In my opinion the most important aspect of vocabulary teaching for intermediate learners is to foster learner independence so that learners will be able to deal with new lexis and expand their vocabulary beyond the end of the course. Therefore, guided discovery, contextual guesswork and using dictionaries should be the main ways to deal with discovering meaning. Teachers can help students with specific techniques and practice in contextual guesswork, for example, the understanding of discourse markers and identifying the function of the word in the sentence.

In my opinion the most important aspect of teaching polysemy for learners is to foster independence so that learners will be able to deal with new lexis and expand their vocabulary beyond the end of the course. Therefore, guided discovery, contextual guesswork should be the main ways to deal with discovering meaning.

Intermediate level includes the 5th - 9th form pupils. They already have some basic knowledge in studying a foreign language. If pupils have had good achievements in language learning, they are usually interested in the subject and work willingly both in class and at home. The desire to learn depends fully on the teacher's ability to involve each pupil in language activities during the lesson. Pupils give preferences to those exercises which require thinking [11].

Exercise 1

Give all the meanings you know to the following verbs, illustrating them with examples: to get; to go; to bring; to make; to do; to let; to buy; to begin; to feel.

Exercise 2

The noun leg has several meanings: 1) one of the long parts of your body that your feet are joined to; 2) one of the series of games in a football competition played between two teams; 3) one of the upright parts that support a piece of furniture; 4) the part of your trousers that covers your leg; 5) one part of a long journey or race.

Exercise 3

Define the meaning of the noun head as used in the sentences below. How many different meanings did you find?

- 1) People going out in conditions like this need their heads examined.
- 2) She was outside cutting the dead heads off the roses.
- 3) She saw her father, a head above the rest of the crowd.
- 4) Keep arms hanging, head down and neck and shoulders relaxed.

Exercise 4

How many meanings of the following words do you know? Name them: head, bench, to feel, to dress, hand, leg, power.

Pupils can realize the importance of studying language more thoroughly. However, their attitude to foreign language depends on the achievements they have attained during the previous years of studying the subject. While explaining the material, teacher should take into account everything: pupils age, the material they deal with, their previous knowledge, etc.

So, the exercise should be of various kinds, they have to be creative and develop pupils critical thinking and memory. Teacher should encourage his/her pupils, get them interested in learning the language on deeper level [11]. Below, there are exercise, which are suitable for this level of language learning. They will help pupils to adopt more material, to be able to differentiate polysemantic meanings of the words through the context of the sentences.

Exercise 1

Comment on the meaning of the following adjectives in the given phrases.

Fresh - air, approach, basil, blood, bread, breeze, election, evidence, face, fish, flower, food, fruit, herb, idea, look, meat, parsley, produce, salmon, start, thyme, water, weight.

Good - chance, condition, day, deal, example, faith, fortune, friend, health, idea, job, life, luck, man, news, night, part, performance, place, position, practice, quality, reason, sense, service, shape, start, thing, time, use, value, way, work.

Language tends to change in time and space. These universal characteristics of language are permanent interest of scholarship. The most important function of any language is to carry the meaning. But as we know not only the sound-form but also the meaning of the word is changed in the course of historical development of a language. It happened under the influence of many factors.

Change of meaning is affected through association between the existing meaning and the new one. This association is generally based on the similarity or the contiguity of meanings. Due to numeral changes of meaning such a phenomenon as multiplicity of word meanings or polysemy appeared.

In my investigation I touched upon the problem of polysemy in diachronic and synchronic dimensions. Diachronic approach considers polysemy as historical change in the semantic structure of the word resulting in new meanings being added to the ones already existing and in the rearrangement of these meanings in its semantic structure. While synchronic one understands it as a co-existence of the various meanings of the same word at a certain historical period and the arrangement of these meanings in the semantic structure of the word. As the semantic structure is never static the relationship between the diachronic and synchronic evaluation of individual meanings of the same word may be different in different periods of the historical development of language. Diachronic and synchronic ties are closely interconnected as the new meanings are understood thanks to their motivation by the older meanings.

Polysemy is characteristic of most words in many languages. All the lexical and lexico-grammatical variants of the word taken together form its semantic structure or semantic paradigm. The phenomenon of polysemy was broadly investigated in the historical development of the language. The word “polysemy” comes from Latin, but the roots of the concept of polysemy lie in Greek philosophy.

Polysemy is inherent in the very nature of words and concepts as every object and every notion has many features and a concept reflected in a word always contains a generalization of several traits of the object. Some of these traits or components of meaning are common with other objects. Hence the possibility of using the same name in secondary nomination for objects possessing common features which are sometimes only implied in the original meaning.

Most grammatical forms are polysemantic. It is sometimes maintained that the case of grammatical polysemy can be observed in various structural meanings inherent in the given form, one of them being always invariable, found in any context of the use of the form. The semantic structure of polysemantic words is not homogeneous as far as the status of individual meaning is concerned. Some meanings are representatives of the word in isolation, others are perceived only in certain contexts. Context is a minimal stretch of speech necessary to determine individual meanings.

In conclusion, I can say that the problem of polysemy may cause difficulties during the translation or communication. To overcome them pupils need to see and practice words in context, since it is the context that allows them to understand the meaning of the word.

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VODOROD ISHLAB CHIQARISH JARAYONINI AVTOMATLASHTIRISH MASALASI

Annotatsiya. Maqolada vodorod ishlab chiqarish jarayonini avtomatlashtirish masalasi bo'yicha ma'lumotlar keltirilgan. Jarayonni avtomatlashtirishning turli usullari, kamchiliklar va afzalliklar tahlil qilindi.

Kalit so'zlar. Avtomatlashtirish, vodorod ishlab chiqarish, suv elektrolizi, piroliz, elektr energiyasi, korroziya.

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THE PROBLEM OF AUTOMATING THE HYDROGEN PRODUCTION PROCESS

Abstract. The article provides information on the automation of the hydrogen production process. Various methods of process automation, disadvantages and advantages were analyzed.

Keywords. Automation, hydrogen production, electrolysis of water, pyrolysis, electrical energy, corrosion.

Energiya almashinuvi butun dunyo bo'ylab o'z ta'sirini o'tkazmoqda. Qayta tiklanadigan energiyaning yuqori ulushi va atrof-muhitning keskin chegaralari elektr tarmog'ini barqarorlashtirish uchun zarur bo'lgan qazilma o'simliklarning yanada moslashuvchan ishlashini ta'minlaydi. Evropadagi o'zgarishlar 2000-yillarning boshlarida shamol energiyasini ishlab chiqarishni ko'paytirishning

ta'sirini ko'rsatdi. shamol energetikasining yuqori ulushiga ega bo'lgan joylarda tarmoqni barqarorlashtirish choralari zarur edi. Sifatida foto-voltaik (PV) texnologiyasi rivojlandi va o'n yil o'tgach yanada keng tarqaldi, RfG (generatorlar uchun talablar) kabi qat'iy va aniq belgilangan qoidalar an'anaviy elektr generatorlari uchun energiyani tarmoqqa etkazib berish uchun zarur bo'ldi.

Vodorod energiya tashuvchisi sifatida bir nechta afzalliklarga ega, u shamol yoki PV kabi ortiqcha qayta tiklanadigan energiyadan foydalangan holda nisbatan yuqori samaradorlik bilan ishlab chiqarilishi mumkin va kerakli vaqtda yana elektr energiyasiga aylantirilishi mumkin. Mavjud kombinatsiyalangan tsikli gaz turbinasi (CCGT) zavodlari vodorod yoki vodorod aralashmalari bilan yoqilg'idan foydalanish uchun aylantirilishi mumkin. Yangi CCGT zavodlari odatda texnologiyani kelajakda isbotlash uchun "vodorod tayyor" sifatida quriladi.

Vodorod to'g'ridan-to'g'ri yonilg'i xujayralari yordamida elektr energiyasiga aylantirilishi yoki xavfsiz va oson ishlov berish uchun metanol, ammiak yoki suyuq organik vodorod tashuvchilarda (LOHC) saqlanishi mumkin. Shunga qaramay, masalan, ishlab chiqaruvchi sohalarda vodorodga talab mavjud po'lat ishlab chiqarish yashil vodorod yordamida ekologik toza bo'lishi mumkin. Vodorod Haber-Bosch-jarayonining rivojlanishi bilan bir asr davomida kimyo va neft-kimyo sanoatida yangi emas, ishlatilgan va ishlab chiqarilgan. Hatto ilgari vodorod ko'mirni gazlashtirish orqali olingan. Qayta tiklanadigan energiyadan yashil vodorod suv elektrolizatorlari yordamida hosil bo'ladi. Hozirgi vaqtda elektrolizerning to'rtta turi qo'llaniladi va yanada rivojlanadi: gidroksidi, PEM, AEM va qattiq oksid, dastlabki ikkitasi bugungi kunda eng ko'p qo'llaniladiganlardir.

O'simliklar sonining ko'payishi bilan texnologiya yuqori samaradorlik, uzoqroq ishlash muddati, xavfsizligi va arzon narxlarda o'simliklarning mavjudligi bilan yuqori etuklikka rivojlanadi. Jarayonni boshqarish asboblari vodorod sanoatida hal qiluvchi rol o'ynaydi. U jarayonni boshqarish, uning xavfsizligi uchun qo'llaniladi va jarayonni yanada samaraliroq qilishga yordam beradi. Bu, ayniqsa, beqaror sharoitlarda ishlaydigan jarayonlar uchun juda muhimdir. Asboblarni ishlab chiqaruvchi elektroliz zavodlaridan turli kompaniyalar o'rtasidagi interfeyslarda vodorod oqimlarini o'lchash orqali va uni quvurlar yoki tankerlar orqali tashish paytida kombinatsiyalangan tsikli elektr stantsiyalarida qayta elektrlashtirish uchun ishlatilgunga qadar topish mumkin. Vodorod eng engil element sifatida boshqalardan ko'p jihatlari bilan farq qiladi. U yuqori o'ziga xos energiya tarkibiga ega bo'lib, nima uchun uni raketa yoqilg'isi sifatida ham ishlatish mumkinligini tushuntiradi. Bu engil, ingichka va juda tez yonuvchan. Shunday qilib, texnologik uskunalari, shu jumladan asboblari vodorod bilan xavfsiz ishlash uchun mos va mo'ljallangan bo'lishi kerak.

So'nggi yigirma yil ichida multipath Ultrasonik oqim o'lchagichlari tabiiy gazni saqlash oqimini o'lchash uchun yangi standart sifatida tashkil etildi. Ular vodorod aralashmalari bilan vodorod yoki tabiiy gaz talablariga moslashtirilishi

mumkin. Buning kaliti mos va kuzatiladigan kalibrlash usullarini ishlab chiqish va kalibrlash vositalarining mavjudligi. Coriolis oqim o'lchagichlari suyuqlikning massa oqimi va zichligini o'lchaydi. Ular suyuqlikning massasi o'lchov naychasidan o'tishidan kelib chiqadigan Koriolis kuchlaridan foydalanmoqdalar. To'g'ridan-to'g'ri massa oqimini o'lchash tufayli oqim o'lchovining kompensatsiyasi talab qilinmaydi. Zichlik jarayon uchun diagnostik o'zgaruvchi sifatida ishlatilishi mumkin. Koriolis massa oqim o'lchagichlari minimal zichlikni talab qiladi, shuning uchun ular siqilgan vodorod ilovalari uchun javob beradi. KROHNE texnologik asbobsozlik sohasida to'liq hajmdagi etkazib beruvchi sifatida vodorodni o'lchash, uni ishlab chiqarish va texnologik sohalarda turli xil qo'llanmalarda undan foydalanish bo'yicha o'nlab yillik tajribaga ega bo'ldi.

Barqaror toza yoqilg'i bugungi kunda tobora ko'proq majburiy hisoblanadi. Ishlab chiqarish saqlash, tashish va iste'mol qilishni o'z ichiga olgan qiymat zanjirining birinchi bo'g'inidir. Xavfsiz ishlov berish uchun har bir qadam nazorat qilinishi va kuzatilishi kerak.

Avtomatlashtirishning afzalligi

Ko'pgina SMR dizaynlari joyida modulli yondashuvni qo'llamoqda va yashil elektroliz uskunalari ham mahalliyashtirilgan va konteynerli shakl omillari uchun juda mos keladi. Modulli va mahalliy qurilmalarning yana bir afzalligi shundaki, u vodorod tashish ehtiyojlarini minimallashtiradi. Ba'zi yangi ishlab chiqarish ob'ektlari onlayn rejimda ishlayotgan bo'lsa-da, uskunalarini qo'shish va avtomatlashtirishni kuchaytirish orqali mavjud kulrang vodorod tizimlarini ko'k rangga aylantirish zarurati mavjud.

Vodorod ishlab chiqarishning taqsimlangan xususiyati tufayli echimlar bir qator avtomatlashtirish talablariga javob berishi kerak, shu bilan birga ajoyib ulanishni ta'minlaydi. *Raqamli platformalar va vodorod ishlab chiqarishni avtomatlashtirish usullari quyidagilarni o'z ichiga olishi kerak:*

- Qattiq dala sharoitida ishonchli deterministik nazoratni ta'minlang
- Ishdan bo'shatish uchun variantlarni taklif qiling
- Infratuzilmani kengaytirish va konvertatsiya qilish uchun kengaytiriladigan va modulli bo'ling
- Tezkor dizaynlarni qo'llab-quvvatlang
- Maydonda ochiq va birgalikda ulanishni yoqing
- Mahalliy xavfsizlikni qo'shing
- Masofaviy kirish va batafsil tahlil qilish uchun bulutli ulanish va ma'lumotlarni boshqarishni qo'shing.

Dizaynerlarga ma'lumotlarni samarali uzatish va yaxshiroq qarorlarni xabardor qilish uchun iiot qobiliyatiga ega ixcham va yuqori samarali plclar kerak. Innovatsion boshqaruv sxemalarini bajarish va eng yaxshi ishlashni ta'minlash uchun operatsion texnologiya (OT) dala uskunalarini axborot texnologiyalari (IT) bilan yaqindan birlashtirish uchun ilg'or uskunalar chekka

kontrollerlarning yoki hatto sanoat kompyuterlarining qo'shimcha hisoblash imkoniyatlariga muhtoj.

Yechim raqamli avtomatlashtirish infratuzilmasini qo'llab-quvvatlashning yagona nuqtasini ta'minlaydi, avtomatlashtirilgan vodorod ishlab chiqarish uskunalari iloji boricha tezroq ishlab chiqadi va OEM va SI sotuvchilariga talablarni osonroq bajarishga imkon beradi.

Vodorod ishlab chiqarish muammolari

Kengaytirilgan avtomatlashtirish nasoslarni yoqish/o'chirish yoki klapanlarni kerakli vaqtda ochish/yopishdan ko'proq narsani qiladi. Zamonaviy tizimlar ilg'or monitoring va bashoratli tahlillarni taqdim etishi kerak. Bu erda vodorodga xos bo'lgan bir nechta holatlar mavjud.

Korroziya monitoringi: vodorod ishlab chiqarish skidlari haddan tashqari korroziyaga olib keladigan oltingugurt bilan mahsulot oqimlariga ta'sir qilishi mumkin. Zamonaviy PLC boshqaruvlari Real vaqtda gaz tozaligini tahlil qilish, muammoli sharoitlarni aniqlash, operatorlarga maslahat berish va hatto uskunaning yaxlitligini saqlab, o'simlik xavfsizligini yaxshilash uchun avtomatik ravishda inhibitorlarni qo'shish uchun analitik asboblarga ulanishi kerak. Uskunaning degradatsiyasini kuzatish uchun ilg'or korroziyani aniqlash asboblari birlashtirilishi mumkin

-SMRni optimallashtirish: operatorlar SMR-larni maksimal samaradorlikda ishlatishni xohlashadi, lekin haddan tashqari agressiv bug ' otish bosimning oshishiga, uskunaning ishdan chiqishiga va hatto xodimlarning shikastlanishiga olib keladi. Edge kontrollerlari xavfsiz chegaralar ichida optimal ish nuqtalarini aniqlash va rejalashtirilmagan uzilishlarni oldini olish uchun bug ' in'ektsiyasini yuqoriga yoki pastga tushirish uchun mahalliy va tashqi ma'lumotlar bilan ilg'or hisob-kitoblarni amalga oshirish orqali asosiy PLC avtomatizatsiyasidan tashqariga chiqadi.

-Oqishning oldini olish: vodorod oqishi har qanday joyda o'ta xavf tug'diradi, lekin ayniqsa saqlash birliklarida. Qochqinlarni aniqlash va tizimlarni xavfsiz holatga keltirish uchun asboblari va masofadan turib I/O ni avtomatlashtirish bilan birlashtirish juda muhimdir. To'g'ri o'lchash texnologiyalari yordamida vodorod tankining astarlanish sharoitlarini kuzatish mumkin, shu bilan sizib chiqmaslik mumkin.

Xulosa qilib aytganda vodorod ishlab chiqarish dunyodagi toza energiya ehtiyojlari uchun tobora muhim rol o'ynaydi. Qisqa muddatda mavjud bo'lgan keng ko'lamli kulrang vodorod ishlab chiqarishni yangilash va ko'k usullarga aylantirish kerak, modulli ko'k ishlab chiqarish tizimlari esa kerak bo'lganda ishlab chiqiladi va joylashtiriladi. Keng ma'noda, foydalanish nuqtasida ko'proq yashil vodorod ishlab chiqarish yakuniy maqsaddir, ammo bu yondashuvni tejamkor qilish uchun texnologiya yutuqlarini qo'llash kerak.

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SHE'RIY ASARLARDA TAKROR VA UNING MAZMUNGA DAXLDORLIGI (MUHAMMAD YUSUF IJODI MISOLIDA)

Annotatsiya. Maqola iste'dodli ijodkor Muhammad Yusuf she'rlarida takrorning badiiy san'at vositasi sifatida keng qo'llanilgani va so'z takrori, misra, jumla, band takrori yoyinki tovush takrorining naqadar ahamiyatli ekanligi qisman tahlil qilingan. Muhammad Yusuf o'z ijodida badiiy san'atlardan mahorat bilan foydalangan, ayniqsa, takrorsan'atini she'rlariga ustalik bilan singdira olgan. Shoir she'riyatidatakrorningallitratsiya, assonans, anafora, epifora, qaytarish san'ati, tardi aks, musalsal, misra va band takrori turlari mavjud.

Kalit so'zlar: she'riyat, allitratsiya, assonans, anafora, epifora, qaytarish san'ati, tardi aks, musalsal, misra va band takrori.

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REPETITION IN POETRY AND ITS RELATIONSHIP TO THE CONTENT (IN THE EXAMPLE OF MUHAMMAD YUSUF'S CREATION)

Abstract. The article partially analyzes how repetition is widely used as an artistic tool in the poems of the talented creator Muhammad Yusuf, and the importance of repetition of words, verses, sentences, clauses, and the repetition of sounds. Muhammad Yusuf skillfully used artistic arts in his work, especially he masterfully incorporated the art of repetition into his poems. There are types of repetition in the poet's poetry: alliteration, assonance, anaphora, epiphora, repetition, tardi echo, musalsal, verse and stanza repetition.

Key words: poetry, alliteration, assonance, anaphora, epiphora, repetition, tardi echo, musalsal, verse and stanza repetition.

Biz adabiyot ixlosmandlari shoirlar ijodini qancha ko'p o'rgansak ham ijodkorlarning qalb tug'yonlari so'ngsiz va ko'ngil maxzanitubsiz ekanini anglayveramiz. Buyuk bir ijodkor yaratgan ummon ming-ming havaskor sho'ng'ishiga yetgulik chuqurdir. Shu bois Muhammad Yusuf ijodi ham takror o'rganilishga loyiq.

Ijodkor she'rlaridagi jilva va o'ziga xoslikni anglash uchun adabiyot vakili, ijodkor yoki ziyoli bo'lish shart emas. Oddiy kitobxon muxlis ham buni ko'ra oladi. Adib ijodini bunday yetuklikka olib keluvchi unsurlar juda ko'p. She'rlarning ohangdorligi, insonni o'ziga tortishi beqiyos mazmun vajarangdor shaklning uyg'unligidadir. Mazmun va shaklga o'zgachalik qo'shgan badiiysan'atlar ichida yetakchilik qilishga loyiq san'atlardan biri takror hisoblanadi. Muhammad Yusufgina emas, balki barcha ijodkorlarning nazmida takrorning bir qancha turlari uchraydi. Tom ma'noda takror lirikaning asoslaridan biridir. Barmoq vaznidagibo'g'inlar sonini takroridan tortib tounli va undosh tovushlar takrori, so'z, jumla, band takrori ham bu san'atning ko'rinishlaridir.

Muhammad Yusuf o'z ijodida badiiy san'atlardan mahorat bilan foydalangan, ayniqsa, takrorsan'atini she'rlariga ustalik bilan singdira olgan. Shoir she'riyatidatakrorningallitratsiya, assonans, anafora, epifora, qaytarish san'ati, tardi aks, musalsal, misra va band takrori turlari mavjud. Anafora (misralar boshida bitta so'zning takrorlanishi) bilan Epifora (misralar oxirida bitta so'zning takrorlanishi) ham mohiyatan so'z takrorining xususiy ko'rinishlaridir.

Shunga monand, mumtoz she'riyatimizdagi radif va xojib ham so'z takrorining bir turidi. Ular qat'iy o'rinda qofiyadan oldin va keyin takrorlanadi.

Bu beshafqat,
Bu beozor dunyoda
Bu shunday keng
Bu shunday tor dunyoda
Kimlar kelib
Kimlar ketar dunyoda,
Qo'ng'izning ham Vatani bor dunyoda
Nega yig'lar qirimtatar dunyoda?...

Bu she'r bandida takrorning bir necha ko'rinishlarini uchratamiz.

Dastlab she'rni o'qiganda takrorning anafora turi ko'zga yaqqol tashlanadi. Ya'ni bu ko'rsatish olmoshi aynan o'z ma'nosida 4 misra boshida 4 marta takrorlanyapti. Bundatakrorning estetik funksiyasi ishora, ko'rsatish, ajratib ko'rsatish ma'nolarini kuchaytiriyapti. Band shu qadar ohangdor, jarangli va ta'sirchanki, bunga she'riy sintaksis sabab bo'lgan. She'rdagi har ikki ketma-ket misralarda alletratsiyani ham uchratamiz. Masalan: b, sh, k, d, y undoshlari takrori. Shoir she'rlarida epifora-misra so'nggida so'z va so'z birikmalarningtakror holda qo'llanishi ham ijodkor mahoratini ochib beruvchi bir qirradir.

Ota desam bag'ri-dilim yonaverar,
Kunim yonar, oy-uyilim yonaverar,
Mozorida qo'ygan gulim yonaverar,
Tutunlarga to'lib ketgan osmonim bor.

Bu she'riy parchada takrorning gradatsiya turi ham bor. Kun-oy-yil tarzida ma'no kuchyishi sodir bo'lyapti.

Bu kabi uslubiy san'at va usullar yordamida she'r jilovlanib, ohangdorligi ortib, she'riy nutqqa xoslikni saqlab qoladi. Muhammad Yusuflikasida so'z

takrori eng ko'p uchraydigan takror turi hisoblanadi. Bu takror ijodning ta'sirchanligini, ma'no nozikliklarining yaqqol sezilishini, xalqchil va serjiloligini oshiradi. O'zbek tilining cheksiz imkoniyatlarini ko'rsatib beradi. Muhammad Yusuf she'rlarining kuyga solinib, xalq tilidan tushmasligi ham shundadir.

Muhammad Yusuf she'rlaridagi har bir tasvir, har bir chizgi jimjimadorlik, balandparvozlilikdan holi sodda, teran, xalqona so'zlar orqali berilgan. Shoir she'rlarining o'qimishlilikini ta'minlaydigan vositalar talaygina. Bu vositalar orasida takrorning o'rni beqiyosdir. Shoir takrorning barcha ko'rinishlaridan unumli foydalangan. Chunonchi, uning ijodida allitratsiya quyidagi shakllarda namoyon bo'ladi.

1. She'rning ma'lum bir misrasidagi ba'zi so'zlarda undosh tovushlar takrori:

Buramoltol bog`da sizni ko`rdim qaydanam,
Bir boqdimu bilmam nedir uzildi jondan.

“b” undoshi takrori

2. She'r misralaridagi deyarli barcha so'zlarda aynan bir undoshning takrori:

Kambag`alning kuni qursin ekan. ko`rdik,
Miskin edik, yana ikkov miskin bo`ldik.

“k” undoshi takrori

Shoir ijodida barcha unli va undosh tovushlar birdek takrorlanadi.

Suluvlarda suluv bir qiz sochim silar,
Yuragimni yo`lbarlarga yediraman.

Ijodkor o'zbek xalqi falsafasini chuqur anglagan holda tilimiz imkoniyatlaridan to'g'ri foydalanib o'z ijodida so'z takroriga keng yo'l berdi. So'z takrori misralarning turli o'rinlarida turli miqdorlarda namoyon bo'ladi. Masalan so'z takroriga asoslangan tardi aks sa'nati (mohiyati so'zlarni o'rni almashgan, teskari holda takrorlanishi) ijodkor she'rlariga o'zgacha jarangdorlik baxsh etadi.

Biz baxtli bo`lamiz hudo hohlasa, Hudo hohlamasa uchrasharmidik.

She'riy sa`nat “hohlasa – hohlamasa” so'zlari orqali aks etyapti.

Meni Laylo tushungaydir, Sen ey jonon, tushunmaysan.

Quyidagi misralar orqali esa shoir o'zining dastlabki fikridan qaytib, uni yanada kuchaytirayapti.

Boy buvamning oshi bor, Oshi to`la toshi bor.

Boy qizining biz g`arib, Qul bilan na ishi bor.

She'rda mazmun banddan bandga ko'chgan holda kuchayib ketyapti. Bu ma'no kuchayishiga, shoir bandlarda so'zlarni takrorlash yoki so'zlarning bo'lishsiz shaklini takrorlab qo'llash orqali erishgan:

Ketaman-ketaver, O`ptirmas-o`pgan-o`ptirsa ham o`pmasman, o`psam

G`arib –qul-qulga, Kambag`alni-kambag`al kabilar.

Xulosa qilib aytganda, Muhammad Yusuf soʻz takrori orqali sheʼrning gʻoyaviy maqsadini ochib beradi. Koʻp oʻrinlarda biror soʻzning takrori sheʼr sarlavhasini ham belgilab beradi.

Oh mening ortimda ovvora onam, Bir parcha yuragi ming pora onam.

Har baloni koʻrib yorugʻ dunyoda

Toshkanni koʻrmagan bechora onam.

El sevgan shoirning betakror va yoqimli ijodi adabiyotga oshno xalq qalbidan chuqur joy egallab boʻlgan. Biz koʻp yillar Muhammad Yusuf sheʼrlarini takror va takror oʻqiyveramiz.

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ADVANTAGES OF MODERNIZATION OF THE TAX SYSTEM

Abstract. In the article, the content, advantages and importance of the modernization of the tax system in Uzbekistan, description of directions, today's features and problems are considered from the point of view of the operational measures of the conceptual basis of the tax policy of the state.

Key words: tax, tax system, tax system reform, tax system modernization, taxation, principles of taxation.

It is known that modernization, modernization (French moderne - the newest, modern) means updating something, giving it a modern touch, changing it according to modern requirements. Different definitions of the concept of "modernization" are given in scientific literature, its immanent features and role in social development are highlighted. European scientists and specialists focus on revealing aspects of modernization related to scientific, technical and economic development. Since the development of Europe takes place through scientific and technical discoveries and innovations, they pay a lot of attention to this side of the problem. Recently, such an approach is visible in countries that have entered the path of development and made modernization a strategic goal. So, modernization and innovation are becoming a global reality. The future destiny of humanity, economic and international integration is based on these realities.

Based on the generalization of these considerations, the content of the concept of "tax system modernization" can be interpreted as a set of state measures related to taxes, taxation, improvement of the existing or actual conditions and situations related to the tax system based on the requirements of the time.

One of the main institutional concepts of taxation in financial science - a single feature of the concept of "tax system" still does not exist. At the same time, terms such as "tax system", "tax system", "taxation" are often used in scientific literature. The Tax Code of the Republic of Uzbekistan, the main legislative document that regulates taxation issues in the Republic of Uzbekistan, does not reveal the meaning of the concept of "tax system". At the same time, taxes are considered to be a component of the financial and economic system of influencing the economy, and they are one of the important elements of the state regulation of the economy. It is worth saying that by creating a country's tax system, the state tries to use it for certain financial and political purposes. As a result, a relatively independent direction - tax policy.

The tax policy embodies a set of economic, financial and legal measures of the state on the formation of the country's tax system in order to ensure the financial needs of the state and certain social groups of the society and to develop the country's economy at the expense of redistribution of financial resources. In this activity, the state relies on tasks specific to taxes and uses these tasks to conduct an active tax policy.

As a specific field of human activity, tax policy belongs to the category of social management system. There is an integral relationship between it and the economic base of society. On the one hand, tax policy arises in connection with economic relations, as a component of the financial policy of society, it is not free from the development and implementation of policy, and policy is determined by the economy. On the other hand, the tax policy, which was created and developed on the basis of the economic base, will have a certain independence as a component of the financial policy: its own laws and logic of development apply. Due to this, it can affect the economy and financial situation in different directions: in one case, favorable conditions for the development of the economy are created by carrying out political measures, while in others it stops.

The following factors influence the choice of a specific decision option in the field of tax policy:

- general economic situation in the country characterized by growth (decrease) rates of production;
- inflation rate;
- monetary and credit policy of the state.

The purpose of tax policy is formed under the influence of a number of factors, the most important of which is the economic and social situation in the country, the state of socio-political forces in society. In the current conditions, countries with a developed market economy are implementing tax policies to achieve the following important goals:

- participation of the state in regulating the economy and social reproduction aimed at stimulating or limiting economic activity;
- meeting the needs for sufficient financial resources for carrying out economic and social policy at all levels of government and for the fulfillment of the tasks assigned to the relevant authorities and management bodies;
- implementation of state policy on income regulation.

Tax policy formulation is based on two interrelated methodological conditions:

- use of tax payments to form the revenue part of budgets at different levels and to solve state budget tasks;
- use of tax as a method of indirect regulation of economic activity.

Practical activities for the implementation of these principles are ultimately aimed at ensuring economic growth, which is the main problem of the country.

The methods of implementation of tax policy depend on the goals that the state is trying to achieve by conducting this policy. The following methods are more common in modern world practice:

- a) changing the tax burden on taxpayers;
- b) replacing one form or method of taxation with another;
- c) changing the distribution area of one or another tax or the entire taxation system;
- d) inclusion or cancellation of tax benefits and preferences;
- e) introduction of a stratified system of tax rates.

The participation of the state in regulating the economy through tax policy is carried out with the help of tax rate, tax allowance, tax base, etc. In this, the state uses both direct and indirect tax means.

A typical example of a direct influence on the processes of promotion and regulation is through the use of tax incentives and preferences, through full or partial exemption from taxes. Full exemption from individual tax payments is usually used by the state to develop new sectors of the economy or areas of activity, to encourage investment in underdeveloped or disadvantaged regions of the country, and profit or income serves as their basis. Generally, exemption from such taxes is given for three to five years.

Unlike full tax exemption, partial tax exemption embodies a system of tax credits for a certain part of business income. This ensures selectivity and flexibility of state regulation of the economy. In particular, in such a situation, economic, financial and tax levers such as the creation of specific types of accelerated depreciation, tax rate reduced or differentiated over time against the general rules, extension and deferment of tax payment, various reserve, investment and other funds free from taxation and other tax benefits and preferences is used.

The tax rate is an important tool for the implementation of state policy in the field of income regulation. By changing it, the state can implement tax regulation by adjusting only the fixed rate without changing the entire tax legislation. In separate regions, separate industries and enterprises, tax policy for certain tax payer categories, a great effect is achieved due to differentiation of tax rates. The tax rate ensures the mobility of financial legislation, gives the state the opportunity to quickly and effectively change priorities in the policy of income regulation.

If there is no tax, it is impossible to have a tax system and processes related to its operation. Let's consider their development and interaction schematically (Figure 3).

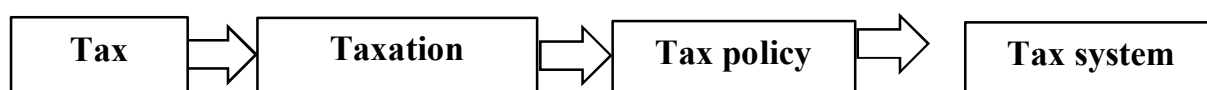


Figure 3. Concept development and interaction scheme related to taxation.

Taxes are payments that are compulsorily collected from individuals and legal entities at the discretion of the state in order to meet the state's and society's need for monetary resources in the amount and period established by law. As defined in Article 16 of the Current Tax Code, tax means a compulsory non-discriminatory payment paid to the State budget of the Republic of Uzbekistan or to the state special fund (called the budget system). Taxation is a set of measures to ensure that taxes are calculated and paid for taxable income, turnover, property, etc. based on the current tax legislation. Tax policy is an integral part of economic policy, and it is the activity of the state in the field of taxation aimed at specific goals in a certain period. It consists of the measures carried out comprehensively by the relevant authorities of the state, aimed at the introduction of taxes, the creation of a tax-related legal framework, the formation of a mechanism for the practical operation of introduced taxes and tax-free payments, and increasing their effectiveness.

In accordance with Article 149 of the Constitution of the Republic of Uzbekistan, a single tax system applies in the territory of the Republic of Uzbekistan. The right to introduce taxes belongs to the Oliy Majlis of the Republic of Uzbekistan.

The current tax system of the Republic of Uzbekistan is the main criterion for effective tax policy of the state.

It is determined that the tax system is uniform for all taxpayers in the entire territory of the Republic of Uzbekistan.

The main issue of the modernization of the tax system is to systematically research the conceptual foundations of the modernization of the tax system in the framework of the conceptual foundations of the state tax policy in the Republic of Uzbekistan, taking into account the future tasks of the socio-economic development of the country, and focusing on the "state fiscal goals" and the incentive function of taxes is to develop an improved mechanism by coordinating and harmonizing the ratio of effective implementation mechanism.

Among the priority tasks of the tax system modernization research, the following should be distinguished:

- modernization of the tax system: research of its necessity, content, genesis and transformation in the current conditions;

- clarification of the conceptual bases and conditions of the modernization of the tax system;

- study of foreign experiences of effective tax system modernization measures;

- in the current conditions, to carry out an analysis of the laws of development of the modernization of the tax system of the Republic of Uzbekistan, its systemic problems and state measures to solve them;

- methodical approaches to assessing the efficiency of the tax system, analysis of efficiency assessment indicators;

- economic modeling of the factors of tax revenue execution and development of an integrated indicator of the efficiency of the tax system;
- Justification of the scientific and methodological aspects of the concept of modernization of the tax system of New Uzbekistan;
- scientific justification of the perspectives of forming an effective model of the tax system.

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LITERARY TEXTS FOR IMPROVING READING AND WRITING SKILLS

Annotation. This article is about the importance of teaching reading, which is one of the current topics, and its importance in developing other skills such as speaking and writing.

Key words: authentic, activity, technique, literary texts, interactivity, skill.

Literary texts serve quite effectively to improve learners' reading skills and vocabulary knowledge. For example, the students who read literary texts showed more improvement in vocabulary and reading than those who read nonliterary texts.

There are also a number of studies that highlight the positive impact of the use of short stories on writing skills. For instance, Murdoch contends that low-level learners can be asked to write short dialogues or describe one of the characters in the story in order to foster their writing skills. He also asserts that by using short stories, intermediate-level language learners can write some dialogues and act them out, allowing them to augment their writing skills. As for learners with a high language proficiency level, he suggests that they can be assigned more complex writing tasks such as writing a new ending to the story. With this particular activity, learners had the opportunity to practice different registers by varying the people to whom they wrote the letters, thus enabling learners to enhance their writing competence.

As for the interview questions at colleges that investigated students' opinions related to the contribution of this technique to their reading and writing skills, students reported that this novel technique helped them improve both their reading and writing skills considerably. They pointed out the substantial impact of using short stories via computers on their creativity and desire to write more effective texts in English. Students noted that since the short stories they read formed authentic contexts for them, they could do more fruitful reading and writing activities. They further maintained that since they had the opportunity to incorporate visuals or videos captured via "Jing" into their activities and tasks, they were able to produce more creative and visually enhanced texts that would draw their friends' attention to read and make comments on them.

The following responses given by the interviewees highlight the significance of these points: In the activities, we had the opportunity to integrate visuals into our texts. This made the learning process even more enjoyable. Besides, integrating visuals into language learning enables much more retention; consequently. In line with the responses of the students, there are numerous

studies in related literature that suggest similar findings. In the majority of these studies, the substantial impact of using audio and visual aids in L2 learning and teaching is suggested as an outstanding point. Similarly, the use of short stories and computers can play an important and extensive role in fostering the reading skills (intensive and extensive reading, skimming and scanning, and speed reading) since they can be easily implemented in the area of reading skill due to providing such advantages as contextualized learning, visual aids, sound effects, self-pacing, interactivity, immediate feedback, and so forth.

In a study conducted at a special colleges present an improvement in learners' reading skill and vocabulary knowledge. There were two groups in the study: a group of students that read literary texts and a second group that read non-literary texts. The comparison between these two groups revealed that the group who read literary texts showed improvement in vocabulary and reading, whereas the second group did not show as much success in reading and vocabulary as the former group did. Yeh (2005) describes the way in which Power Point and online videos were incorporated into a poetry lesson as well as in students' assignments after the lesson in order to highlight the impact of integrating new technologies into teaching literature in language classrooms. Similarly, Lao and Krashen note that integrating short stories into computer technologies has positive effects on learners' L2 learning process. They showed the students films of most of the books that the students read, and the students responded positively to this approach. Computers can have an enormous impact on reading skills through the vast array of materials they provide for reading and in the way they present these materials. Using the Internet, learners at any language level can get access to a huge number of authentic reading texts to foster their reading skills. Computer software programs also enable reading texts to be presented via a wide combination of multimedia aids such as sound, graphics, photographs, animation, video, direct links and references to dictionaries or glossaries in order to enable better comprehension. Kledecka-Nadera further states that text manipulation programs provide various activities for language learners, and these activities encourage learners to develop an insight into the target language by helping them become actively involved in reading texts. All of these computer technologies advance learners' reading skills by allowing the target language to come alive to learners who perceive it as a distant abstraction.

Computers contribute to writing skills substantially as well because they offer various software programs that can be utilized either asynchronously or synchronously for improving writing skills. For instance, since e-mails provide learners with a stress-free environment in order to practice what they have learned in the classroom, they increase learners' motivation to write; Another major contribution of computers to writing skill development is to address 12 challenges presented by the transcription process, including handwriting or typing, spelling, capitalization, punctuation, formatting, editing, and so forth. In that sense, Dalton maintains that electronic writing tools such as word processors, word prediction

and word cueing programs, style analyzers, synthesized speech programs, and spell checkers provide both a conventional resource for composing, recording, and printing learners' writing and a vehicle via which writing can be analyzed, reviewed, edited, and improved. Similarly, Healey add that electronic tools and online dictionaries, both translating ones and monolingual ones, contribute to the writing process immensely.

Language learners can also compose very creative texts through the use of visuals, which provide opportunities for learners to construct their own learning experiences pertaining to writing skill. In that aspect, there are several studies which indicate the positive impact of pictures, graphs, maps, and tables on the recall and retention of information. Bartlett contends that learners are able to concentrate on meaning, reorganize and classify similar ideas easily, and make better use of their visual memory through the information represented spatially and visually, and therefore they feel quite motivated to write more often and improve their writing skills. Teaching reading is very important, because it helps to develop others skills: speaking and writing. This theme is very relevant, because sometimes in school teachers don't develop this skill right way, and spare a little time for it. Having done our work we come to conclusion. That reading skills are very important in learning foreign language, as they help to develop other skills. And so it's necessary to teach reading in a correct way and spare much attention. The teacher can use the different ways for developing pupil's ability to read. We viewed some of them in this article.

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$\Phi_{[0,1]}$ TO'PLAM VA UNING ASOSIY XOSSALARI

Annotatsiya. Ushbu maqolada $\Phi_{[0,1]}$ to'plam va uning asosiy xossalari ko'rib chiqilgan.

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THE SET $F_{[0,1]}$ AND ITS MAIN PROPERTIES

Annotation. This article examines the set $\Phi_{[0,1]}$ and its underlying properties.

$\Phi_{[0,1]}$ to'plam va uning asosiy xossalari.

1-ta'rif. Agar $(0, 1_0]$ da aniqlangan $\varphi(\delta)$ funksiya quyidagi

a). $\lim_{\delta \rightarrow 0} \varphi(\delta) = 0$;

b). $\varphi(\delta)$ deyarli o'suvchi;

d). $\sup_{\delta > 0} \frac{1}{\varphi(\delta)} \int_0^\delta \frac{\varphi(t)}{t} dt = A_0 < \infty$;

e). $\sup_{\delta \rightarrow 0} \int_0^{1_0} \frac{\varphi(t)}{t^2} dt = B_0 < \infty$;

shartlarni qanoatlantirsa, u holda $\varphi(\delta) \in \Phi_{[0,1]}$ deb ataymiz.

$\varphi(\delta) \in \Phi_{[0,1]}$ to'plam quyidagi xossalarga ega:

1). Agar $\varphi(\delta) \in \Phi_{[0,1]}$ bo'lsa, u holda $\frac{\varphi(t)}{t}$ deyarli o'suvchi;

2). Agar $\varphi(\delta) \in \Phi_{[0,1_0]}$ bo'lsa, u holda $\exists \alpha > 0, \beta < 1$ sonlar topilib, $\frac{\varphi(t)}{t^\alpha}$ deyarli o'suvchi, $\frac{\varphi(t)}{t^\beta}$ deyarli kamayuvchi bo'ladi;

3). Agar $\varphi(\delta) \in \Phi_{[0,1_0]}$ bo'lsa, u holda $\frac{t}{\varphi(t)} \in \Phi_{[0,1_0]}$ bo'ladi;

4). a) va b), d) va 2) shartlarning bajarilishi ushbu

$$f) \exists C > 0, 1 < \lim_{\delta \rightarrow 0} \frac{\varphi(C\delta)}{\varphi(\delta)} \leq \lim_{\delta \rightarrow 0} \frac{\varphi(C\delta)}{\varphi(\delta)} < C$$

Shartlarning bajarilishiga ekvivalent bo'ladi.

Quyidagi funksiyalar $\Phi_{[0,1_0]}$ to'plamga qarashli bo'ladi:

1). $\varphi(t) = t^\alpha \quad 0 < t < 1;$

2). $\varphi(t) = t^\alpha |\ln t|^p, \varphi(0) = 0,$ bunda $0 < \alpha < 1, p > 0;$

3). $\varphi(t) = \sum_{n=1}^{\infty} K_n t^{\delta_n},$ bunda $K_n > 0, 0 < \delta_n < 1$

$$\lim_{n \rightarrow \infty} \delta_n = \delta > 0, \quad \delta_n > \delta \quad (n = \overline{1, \infty}), \quad \sum_{n=1}^{\infty} K_n < \infty;$$

$$4). \varphi(t) = \begin{cases} t^\alpha, & \text{agar } 0 \leq t \leq \frac{1_0}{2}, \\ t^\alpha + 1, & \text{agar } \frac{1_0}{2} \leq t \leq 1_0 \text{ bo'lsa.} \end{cases}$$

Takidlaymizki, 4) misoldan ko'rinadiki $\Phi_{[0,1_0]}$ to'plamga qarashli bo'ladigan funksiyalar uzulishga ega, xatto monoton bo'lmasligi ham mumkin ekan.

1-teorema. Agar $\varphi(\delta) \in \Phi_{[0,1_0]}$ bo'lsa, u holda:

1. $\varphi_1(\delta) = \int_0^\delta \frac{\varphi(t)}{t} dt, \varphi(\delta)$ ga ekvivalent bo'ladi.

2. $c = \int_0^\delta \frac{\varphi_1(t)}{t} dt + \int_0^{1_0} \frac{\varphi_1(t)}{t^2} dt, \varphi_1(\delta)$ ga ekvivalent bo'ladi va u modul uzluksiz bo'ladi.

3. $\varphi_3(\delta) = \int_0^\delta \frac{\varphi_2(t)}{t} dt, \varphi_2(\delta)$ ga ekvivalent, modul uzluksiz bo'ladi hamda uning hosilasi $\varphi_3'(\delta), \frac{\varphi_2(\delta)}{\delta}$ ga ekvivalent bo'ladi.

Isbot. $\varphi(\delta) \in \Phi_{[0,1_0]}$ bo'lsin. U holda b) shartga asosan $\varphi_1(\delta) \leq A_\varphi \varphi(\delta)$. Ikkinchi tomondan $\frac{\varphi(\delta)}{\delta}$ deyarli kamayuvchi bo'lgani uchun $\exists C_\varphi > 0$ son topiladiki $\forall \delta_1 < \delta_2$ lar uchun

$$\frac{\varphi(\delta_1)}{\delta_1} \geq C_\varphi \frac{\varphi(\delta_2)}{\delta_2}$$

tengsizlik o'rinli bo'ladi.

Demak,

$$\varphi_1(\delta) = \int_0^\delta \frac{\varphi(t)}{t} dt \geq C_\varphi \varphi(\delta)$$

bo'ladi. Shunday qilib

$$C_{\varphi} \varphi(\delta) \leq \varphi_1(\delta) \leq A_{\varphi} \varphi(\delta),$$

ya'ni $\varphi_1(\delta) \sim \varphi(\delta)$, $\varphi_1(\delta) \in \Phi_{[0, l_0]}$ bo'ladi.

Endi ikkinchi tasdiqni isbot qilamiz. Xuddi yuqoridagi singari

$$\int_0^{\delta} \frac{\varphi_1(t)}{t} dt \geq C_{\varphi_1} \varphi_1(\delta)$$

ga ega bo'lamiz. $\varphi_1(\delta)$ – monoton o'suvchi bo'lganligi uchun $t < \xi < l_0$ lar uchun $\varphi_1(\xi) > \varphi_1(t)$

Shunday qilib

$$\delta \int_0^{\delta} \frac{\varphi_1(\xi)}{\xi^2} d\xi \geq \varphi_1(\delta) \frac{l_0 - \delta}{l_0}.$$

Bundan,

$$\varphi_2(\delta) \geq C_{\varphi_1} \varphi_1(\delta).$$

Ikkinchi tomondan $\varphi_1(\delta)$ uchun d) va e) shartlarga ko'ra

$$\varphi_2(\delta) \leq A_{\varphi_1(\delta)} + B_{\varphi_1} \varphi_1(\delta)$$

ni hosil qilamiz. Yuqoridagi tengsizliklardan

$$\varphi_2(\delta) \sim \varphi_1(\delta)$$

ekanligi kelib chiqadi.

$$\left(\frac{\varphi_2(\delta)}{\delta} \right)' = -\frac{1}{\delta^2} \int_0^{\delta} \frac{\varphi_1(t)}{t} dt < 0, (0, l_0]$$

ekanligini e'tiborga olsak, u holda $\frac{\varphi_2(\delta)}{\delta}$ ning o'suvchi ekanligiga ishonch hosil qilamiz. Demak $\varphi_2(\delta)$ - modul uzluksiz bo'lar ekan.

$\varphi_3'(\delta) = \frac{\varphi_2(\delta)}{\delta}$ va $\varphi_2(\delta) \sim \varphi_1(\delta)$ bo'lgani uchun bundan $\varphi_3(\delta) \sim \frac{\varphi_2(\delta)}{\delta}$ ekanligi kelib chiqadi. Bu esa, teoremaning o'liq isbot bo'lganligini anglatadi.

1-teoremaga asosan $\Phi_{[0, l_0]}$ to'plamning ta'rifini quyidagi ko'rinishda ham berish mumkin:

2-ta'rif. Agar $(0, l_0]$ da aniqlangan $\varphi(\delta)$ funksiya quyidagi

a). $\omega(\delta)$ – modul uzluksiz;

b). $\delta \int_{\delta}^{l_0} \frac{\omega(t)}{t(t+\delta)} dt \leq D\omega(\delta)$

d). $\omega'(\delta) \sim \frac{\varphi(\delta)}{\delta}$ shartlarni qanoatlantirsa, u holda $\varphi(\delta) \in \Phi_{[0, l_0]}$ deb

ataymiz.

1-ta'rifdagi d) va e) shartlar 2-ta'rifdagi bitta

$$\delta \int_{\delta}^{l_0} \frac{\omega(t)}{t(t+\delta)} dt \leq D\omega(\delta)$$

shartga almashtiriladi, chunki

$$\int_0^{\delta} \frac{\omega(t)}{t} dt + \delta \int_{\delta}^{l_0} \frac{\omega(t)}{t^2} dt = \delta \int_{\delta}^{l_0} \frac{\omega(t)}{t(t+\delta)} dt$$

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NAVOIYNING “SADDI ISKANDARIY” DOSTONIDA NOVELISTIK HIKOYATLAR HAQIDA

Annotatsiya. Maqolada Sharq adabiyoti misolida novella janrining xususiyatlari ko‘rib chiqiladi. Jumladan, Alisher Navoiyning “Beshlik” (“Xamsa”) dagi hikoyatlarning novelistik jihatlari tahlilini har tomonlama tahlil qilish G‘arbiy Yevropa qissasining boshida Sharq hikoyasi turgani haqidagi fikrni ilgari surishga imkon beradi.

Kalit so‘zlar: qissa, hikoya, o‘zaro ta‘sir, G‘arb, Sharq, “Beshlik”, masal, konkretlashuv.

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ABOUT THE NOVELISTIC STORIES IN NAVOI’S “SADDI ISKANDARIY” EPIC

Annotation. The article examines the features of the novel genre using the example of the literature of the East. In particular, a comprehensive analysis of the analysis of the novelistic aspects of the stories given in the “Five” (“Khamisa”) by Alisher Navoi allows us to put forward the idea that the Eastern story is at the origins of the Western European short story.

Key words: short story, story, mutual influence, West, East, “Five”, parable, specify.

G‘arb adabiyotida, uyg‘onish davrida yuzaga kelgan novella janrining nazariyasiga oid ayrim xususiyatlar Alisher Navoiy hikoyatlarida mujassam ekanligi mazkur janrning tarixini faqat Italiya va Olmon adabiyotidan emas, balki Sharq adabiyotida, jumladan o‘zbek adabiyotining shoh asarlaridan biri “Xamsa” dostonidan ham izlashga to‘g‘ri keladi. O‘zbek hikoyalari tadqiqotchisi N.Vladimirova Alisher Navoiy “Xamsa”siga kiritgan hikoyatlarining kompozitsiyasini “Dekameron” ga o‘xshash jihatlari aytadi: “Navoiy

she'riyatning shubhasiz ustunligini e'tirof etsa-da, o'zining "Xamsa" si poetik materialiga yagona mazmuniy sterjen bilan bog'liq hikoyatlarni kiritgan.

Aytish kerakki, izoh sarlavhali Navoiy hikoyatlari mashhur Florensiyalik Bokachcho novellalari arxitekturasini eslatadi. Uning ustiga nafaqat sarlavhalar balki xotimalari - hikoyaning mazmunini yakunlovchi va ba'zida pand-nasihot ottenkasiga ega bo'lgan xotimasi ham o'xshaydi. Mana shu qurilishning o'zi o'z ildizlari bilan xalq og'zaki ijodi an'alariga borib taqaladi va shu bilan birga realistik tendensiyalar rivojlanishi yo'ldan borayotgan badiiy ijoddagi yangi izlanishlar bilan ham chambarchas aloqadorlik kasb etib bormoqda",²³ deb yozsa, N.Komilov "Tafakkur karvonlari" asarida: "G'arbning dastlabki yozma obidalaridan hisoblangan "Dekameron" sharq xalqlari orasida, jumladan, Markaziy Osiyoda ham keng tarqalgan "Kalila va Dimna", "Ming bir kecha" kabi hikoyatlar va afsonalar ta'sirida bunyod etilgandir"²⁴ deb yozadi. Ko'rinadiki, Navoiyni aynan Bokochcho usulidan foydalangan deyish o'zini oqlamaydi. Navoiy uni o'qimagan ham degan taxmin ko'proq tarozi bosadi. Shoirning "Xamsa" dostonlaridagi hikoyatlar syujetida uyg'onish davri novellalariga xos xususiyatlar mavjudligini ifodalashida N. Vladimirova qarashlarida mafkuraviy yondoshuvlar ta'siri bor deb o'ylaymiz.

Mumtoz adabiyotda hikoyatlar asosan didaktik yo'nalishda bo'lib, axloq – odob, pand – nasihat, o'gitlardan iborat bo'lgan. Ammo ba'zan shunday hikoyatlar ham yozilganki, ularda yuqoridagi xususiyatlar bo'lishi bilan bir qatorda tamoman yangicha fikrlar o'rta tashlangan. Mavjud tuzum, podsholik tartiboti haqida isyonkorona xulosalar berilgan. Jang-u jadallarda ko'z ko'rib quloq eshitmagan tadbirlar qo'llangan. Haq gapni aytishdan tap tortishmagan. Bunday hikoyatlar kishilarga pand-nasihot berib o'tirmaydi. Ularning ko'ngil ko'zlarini ochadi, qalbini junbushga keltiradi. Halol pokiza yashash kerakligini o'rgatadi. Shunday hikoyatlar turiga "Ikki vafoli yor", "Mashriqda ganj topgan kishi" va shu hikoyadagi fikrni go'yo tasdiqlash maqsadida keltirilgan Iskandarning bo'sh qo'l bilan ketganligi haqidagi hikoyatlar o'zining novelistik jihatlari bilan alohida ajralib turadi.

Masalan, Navoiyning "Saddi Iskandariy" dostonida Yevropada uyg'onish davri novellalari ko'targan muammolarni, ular qo'llagan betakror uslub va usullarni o'zida namoyon qila oladigan, hech bir jihati bilan Bokachcho qahramonlari faolliklaridan qolishmaydigan hikoyatlar mavjud: "Podsho Ardasher boshqa bir shoh Ardavon bilan yovlashib qolib, urush xavfi tug'iladi. Ardavonning kuchi ko'pligi, Ardasherni uni daf etishga qurbi yetmasligi ayon bo'lib qoladi. Taslim bo'lay desa oriyati yo'l qo'ymaydi. Jang maydoniga chiqay desa o'z zaifligidan tashvishda.

Yarashaylik deb yuborgan taklifini Ardavon qabul qilmaydi. Ardasher qo'shini ichida bir sotqin bo'lib, uning yashirincha qiladigan ishlarini dushmanga

²³ N.Komilov. Tafakkur karvonlari. T., Sharq, 2011. 125-B.

²⁴ A.Navoiy. Saddi Iskandariy. T., G'ulom nomidagi adabiyot va san'at nashriyoti, 1991. 322-bet.

yetkazib turardi. Ardasher o‘yay-o‘yay bir tadbir topadi. Barcha saroy ay‘onlarini oldiga yig‘ib:

-Hech kim qochishni ixtiyor etmasin, dushman shavkatidan vahimaga tushmasin. Hozirgina menga Haq taolodan inoyat etishdi, shuning uchun ham ko‘ngil sirlarimni sizga ochay, lekin zinhor boshqalarga oshkor qilmagaysiz !- dedi. Dushman tomondagi bir qancha pahlavonlar Ardavonga nisbatan qora niyatda ekanlar. Yuborgan xatlariga ko‘ra urush boshlangach, qilgan zulmi evaziga Ardavonning boshini menga olib kelib berisharmish.

Anjuman ishtirokchilari ichida haligi sotqin ham bor edi. Maxfiy suhbat mazmunini tezda Ardavonga yozib jo‘natdi. Zo‘r dushman bu so‘zni eshitgach yuragiga qattiq qo‘rquv tushib, ne qilarini bilmay o‘z ixtiyori bilan yarashishga rozilik berdi, sulh tuzildi. Ushbu hikoyatda Ardasherining donoligi xalqning ham qon to‘kilishidan, ham dushman tomonidan talanishdan saqlab qoldi.

Novellaning mohiyatini janr sifatida aniqlashga urinishlar ko‘p bo‘lgan. Nazariyotchilar ko‘pincha Gyotening fikrini keltiradilar. “Nemis olimlarining suhbatlarida personajlardan biri voqeaning qiziqarliligi uning yangiligida, odatda faqat yangi narsagina muhim tuyiladi, zero boshqa narsalarga bog‘liq bo‘lmagan holatda kishini hayron qoldiradi va hissiyotlarimizni yengil qitiqlab ongimizni tinch qo‘yib, tasavvurimizni bir lahza harakatga keltiradi”, deb aytadi. Bayon etilgan fikrlar novellaning asosiy belgisi – uning yangilik ifoda etishiga ishora qilyapti. Albatta, Ardasher tutgan yo‘l, qabul qilgan qaror yangilik, u shunday qarorki, hali hech kim uni qo‘llamagan, hech bir kitobda qayd etilmagan.

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**NOFILOLOGIK TA'LIM TALABALARINING IMLOVIY
SAVODXONLIGINI SHAKLLANTIRISHDA TARJIMA
ASARLARINING LINGVISTIK VA ILMIY AHAMIYATI**

Annotatsiya. Mazkur maqolada bugungi kun o'zbek adabiyotining dolzarb muammosi tarjimachilik, uning imlo va uslubiy savodxonlikka ta'siri haqida so'z yuritiladi. Tarjimachilikning asosiy tendensiyalaridan biri bo'lgan til grammatikasining turli xalqlar tiliga oid qonun - qoidalar bilan bog'liqligi o'rganilgan.

Kalit so'zlar: Tarjima, tarjimashunoslik, sotsiolingvistika, Averchenko, "O'tkan kunlar", muammo, problema.

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**LINGUISTIC AND SCIENTIFIC SIGNIFICANCE OF TRANSLATED
WORKS IN FORMING SPELLING LITERACY OF NON-PHILOLOGY
STUDENTS**

Abstract. This article talks about the current problem of today's Uzbek literature- translation, its impact on spelling and stylistic literacy.

Keys words: Translation, translation studies, sociolinguistics, Averchenko, problem.

Kirish. Badiiy asar o'zining poetikasi va unda ko'tarilgan problemaning dolzarbligi bilan belgilanadi. Asarda berilgan problemaning ahamiyati birgina xalq yoki bitta jamiyatning asosiy tendensiyasini belgilab bermaydi. Yozuvchi tomonidan tasvirlangan har bir jihat- muammo, kompozitsiya va konfliktlar ummumilliylik kasb etadi. Shuning uchun o'zbek o'quvchisi Oskar Uayldning qahramonlari bilan "suhbatlashgan"da uning dardi bilan yashaydi, ingliz esa Kumushning dilbarligidan hayratlanadi. Bunda asosiy jihat tarjimonning mahorati bilan o'lchanadi.

Tarjima asarlar u xoh badiiy, xoh ilmiy bo'lsin, avvalo, tarjimonning badiiy saviyasini ochiqalaydi. Boisi badiiy jihatdan eng yuksak asarlar ham, tarjimon qalami ostida "ranglar jilo"sini yo'qotishi mumkin. Tarjimondan bir asarni boshqa tilda qayta "yaratishi" uchun faqatgina o'sha tilni bilish imkoniyatining yuqori ekanligini o'zi yetarli omil bo'la olmaydi. Zero ikki tilli lug'atlar juda mukammal tuzilgan bo'lsa ham, badiiy asarning badiiy pafosini ochib bera olmasligi, ilmiylikni mutlaqo noto'g'ri talqin qilinishiga olib kelishi mumkin.

Adabiyotlar tahlili va metodlari. Hozirgi adabiyotshunoslikda tarjimaning bir necha turi mavjud bo'lib, tarjima mazmuniga ko'ra quyidagi turlarga bo'lingan:

- badiiy tarjima- badiiy asarlar tarjimasi;
- ilmiy tarjima- ilmiy matn, asarlar tarjimasi
- publitsistik tarjima- siyosiy-publitsistik asarlar tarjimasi
- rasmiy tarjima-rasmiy idora hujjatlar tarjimasi.²⁵

Barcha tarjima turlarida orginallikni saqlash biroz mushkul vazifa. Shunday ekan, so'zlarni to'g'ri tanlash yoxud atamalar imlosiga e'tiborli bo'lish alohida ahamiyat kasb etadi.

Tarjimaning asosiy sistemaviy birligi sifatida nutqning ham, tilning ham birliklari beriladi. Biroq bu fikrda biroz g'alizlik bordek. Xususan, tarjima birliklari o'zgaruvchandir, ayrim o'rinlarda til birligining yolg'iz o'zi ko'zlangan maqsadni bera oladi. Ya'ni, bitta so'z bir necha so'zni o'rniga bimalol qo'llanishi mumkin:

barrel o'q otar qurolning bir qismi - stvol²⁶

Tarjimachilikning asosiy muammolaridan biri va imlo xatolarga yuzaga keltirayotgan muammolardan biri tillarning Grammatik qoidalarining turlichaligidir. Grammatik tafovutlarning mavjudligi imlo savodxonligiga juda katta salbiy ta'sir ko'rsatayotgan omillardan biridir.

Har bir tarjimon, avvalo, badiiy asar kompozitsasini orginal tilda o'qib-anglab olish bilan birga tarjima nazariyasiga oid bilimlar haqida ko'nikma shakllantirib olmog'i darkor. Sababi tarjimashunoslik qiyosiy tilshunoslikdan tubdan farq qiladi. Qiyosiy tilshunoslikning va tarjima nazariyasining o'rganish obyekti bir-biriga juda yaqin, ammo tarjima nazariyasida so'zlarning ma'no birliklari asosiy manba hisoblansa, qiyosiy tilshunoslikda so'zlarning semantik aspekti ikkinchi darajali ahamiyat kasb etadi.

Tarjimachilik lingvistika bilan juda yaqin aniqroq qilib aytganda, uzviy bog'liq sohalardir. Tarjima nazariyasi tilshunoslikning yetakchi sohalaridan biri hisoblangan sotsiolingvistika bilan uzviy bog'liq²⁷. Lekin sotsiolingivistikaning asosiy predmetlaridan- tilning jamiyatdagi turli darajadagi o'zgarishlar, neologizmlar, sotsial chegaralangan so'zlarning semantik yangiliklaridan keng ko'lamda foydalanadi.

Tarjimashunoslik bo'yicha tahlillar o'rganilganda, tarjimaga faqatgina zaruriyat deb qarash holati mavjudligi kuzatildi. Biroq tarjima faqatgina ehtiyoj yuzasidan uchun emas, badiiy san'at vositasi deb qarash maqsadga muvofiq. Shunday ekan, til bilish- tarjimaning eng asosiy bosqichi deb hisoblanadi.

Muhokama va natijalar. Tarjima qilish bo'yicha adabiyotshunoslikda xil qarash ilgari suriladi: birinchi tarjimonlar hamma narsani boshqa tilga hech qanday qiyinchiliklarsiz o'girishi mumkin, ikkinchi toifa esa bu masala yuzasidan

²⁵ Ochilov E. Badiiy tarjima masalalari.- Toshkent. 4- bet

²⁶ Isakova Sh. Tarjima nazariyasi o'quv qo'llanma.- Qo'qon. 2020. 35- bet

²⁷ G'ofurov I. va b. Tarjima nazariyasi –Toshkent. 112-b.

“Adabiyot- hayotning in’ikosi”, deb qarashib, “badiiy adabiyot ham hayotdek xilma- xilligiga asoslanadi” degan fikrni bildirishadi. Asar tarjimasida madaniyatlarning turlichaligi ham badiiy tarjimaning imkoniyati faqat lingvistik qoidalargagina bo‘ysunmasligini ko‘rsatadi.

Tarjima jarayonida shunday so‘zlar ham borki, ularni aynan butun semalari bilan boshqa tilga o‘girish mutarjimdan katta mahorat talab etadi. Chunonchi birgina rus yozuvchisi Arkadiy Averchenkning “Жвачка (Saqich)” hikoyasining ushbu jumlasida tarjimonning mahorati juda ham katta rol o‘ynagan: “Чехов был поэтом сумерек, изобразителем безвольной интеллигенции...” – “Чехов qorong‘ulik shoiri, irodasiz ziyolilar kuychisi...” Aslida, aynan tarjima lug‘atlarda “сумерки- choshgoh”, “поэт- shoir”, “изобретатель-ixtirochi” kabi izohlangan. Endi bu so‘zlarni o‘z holicha ifodalaganda hikoya yozuvchisining maqsadi o‘zbekzabon o‘quvchi uchun mavhumiy tushuncha anglatishi mumkin. Shuningdek, bu mushohada badiiy asar nomlarida ham yaqqol namoyon bo‘ladi.

“O‘tkan kunlar” romani nomi ingliz tilida “o‘tgan” degan so‘z “past” so‘zi bilan ifodalanadi, biroq “o‘tgan kun” “last day” deb so‘zma- so‘z tarjima qilinadi. Tarjimada esa “Bygone days” tarzida berilgan. Bu tarjimonning xatosi yoki lingvistik g‘alazlik deyish mutlaqo noo‘rin. Boisi har bir so‘z o‘zining badiiy pafosiga egadir.

Aslida, lingvistik qoidalar tartibga, maqsadni aniq ifodalashga yoki omma uchun tushunarlikka asos bo‘lib xizmat qiladi. Lekin tarjima asarlarda tilshunoslik qonun- qoidalariga bo‘ysunish badiiy asar qimmatini tushishiga olib kelishi mumkin. Mazkur jihat bir qarashda imlo savodxonligiga yoki so‘zlarni uslubiy noo‘rin qo‘llashga olib kelishga sabab vositasini bajaradigandek tuyulishi mumkin. Ta’kidlash kerakki, til va adabiyot chambarchas bog‘liq. Shu asosida imlo savodxonligini oshirishda yuksak mas’uliyat yana tarjimon zimmasiga yuklanadi. Barcha tarjima turlarida orginallikni saqlash biroz mushkul vazifa. Shunday ekan, so‘zlarni to‘g‘ri tanlash yoxud atamalar imlosiga e’tiborli bo‘lish alohida ahamiyat kasb etadi. Xususan, “ягода” so‘zini ayrim tarjimonlar “reza mevalar”, boshqa tur tarjimonlar “rezavor mevalar” deb tarjima qilgan. Bu o‘quvchi uchun noqulayliklar yuzaga keltirishi tabiiy. Aslida “reza” so‘zi “mayda, uncha katta bo‘lmagan” ma’nolarini beradi. “Rezavor” so‘zining ham ma’nosi “mayda”, semasini o‘zida aks ettirgan. Ahamiyatlisi shuki, o‘zbek tili qoidalarida “reza” so‘zi mevaga nisbatan qo‘llash noo‘rin. Sababi, so‘z tarkibidagi “vor” grammatik birligida asosiy ma’no ifodalalovchi jihat mavjud. Grammatik jihatdan ham tarjimachilikdagi kamchiliklar imlo va uslubiy savodxonlikka ta’sir qiladi.

Chunonchi turk tilida “yurt” so‘zi mavjud bo‘lib, unga kelishiklar qo‘shilganda, turk tili grammatikasi bo‘yicha “yurda” shakliga o‘zgaradi. Yana bir kelishik shakli qo‘shilganda, “yurta” tarzida ifodalanadi. Mazmunan ham turlicha ma’no anglatadi. Bu jihat o‘zbekchalashtirilayotganda alohida ahamiyat kasb etilishi lozim. Tarjimada har bir tilning morfologik jihatini inobatga olish

“yangilanayotgan yoki qayta jonlanayotgan” asarning badiiy saviyasini ochishda, imloviy savodxonligini shakllantirishda muhim omil bo‘lib xizmat qiladi.

Qaysi xalq tili bo‘lishidan qat’iy nazar o‘sha tilning madaniyatini, qadriyatlarini ifodalovchi so‘zlar mavjud. Bunday so‘zlarni tarjimada asl holicha saqlab qolish maqsadga muvofiq hisoblanadi. Masalan, “Holli”, “Paxsa”, “Blinita” kabilar

Xulosa va takliflar. Xulosa o‘rnida shuni aytish mumkinki, ijtimoiy tarmoqlarda, kitobxonlik jamiyatlarida tarjimonlarning ishida kuzatilyaptiki, adabiy uslublar doirasida so‘zlarning ma’no atkalariga e’tiborsizlik yoki chalkashliklarga umuman ahamiyat bermaslik. Bu qaysidir ma’noda uslubiy va imlo savodsizligiga olib kelmoqda. Ma’lumki, “o‘zbekcha”lashtirilayotgan asarlarning 60% rus tilidan o‘giriladi²⁸, hattoki Yevropa adabiyot namunalari ham. Shuningdek, badiiy asar mazmunini to‘la ochib berish elektron tarjima orqali ham bajarilmoqda. Bu ulkan yo‘qotish hisoblanadi. Shularni hisobga olib, tarjimashunoslarning ulkan va mukammal jamoasini shakllantirish o‘zbek adabiyotining asosiy muammosidir.

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SALITSIL KISLOTASI VA UNING DORIVORLIK XUSUSIYATI

Annotatsiya. Ushbu maqolada salitsil kislotaning kimyoviy va fizik xossalari, dorivorlik xususiyatlari, salitsil kislota saqlagan dorivor preparatlar va ularning ta'sir mexanizmlari, salitsil kislotasining tabiatda tarqalishi haqida bayon etilgan.

Kalit so'zlar: salitsil kislota, metil salitsilat, fenil salitsilat, natriy salitsilat, asetil salitsil kislota, para-amino salitsil kislota, meta-amino salitsil kislota.

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SALICYLIC ACID AND ITS MEDICINAL PROPERTIES

Abstract. The article describes the chemical and physical properties of salicylic acid, medicinal properties, medications containing salicylic acid and their mechanisms of action, the distribution of salicylic acid in nature.

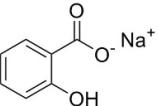
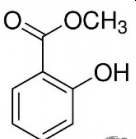
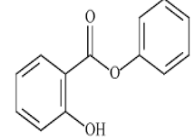
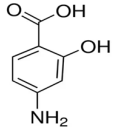
Keywords: salicylic acid, methyl salicylate, phenyl salicylate, sodium salicylate, acetyl salicylic acid, para amino salicylic acid, meta amino salicylic acid.

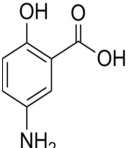
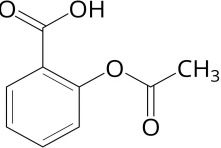
Salitsil kislota fenol kislotalarning tipik namoyandasidir. Uning kimyoviy nomi gidroksibenzoy kislota bo'lib 3 ta izomer gidroksibenzoy kislotalar (o-,m-

,p-) ning biridir. U rangsiz, kristall modda. Suyuqlanish harorati 159 °C, qaynash harorati esa 211 °C. Suvda oz, organik erituvchilarda yaxshi eriydi. Salitsil kislotasi β-gidroksi kislotadir. Molekulaning gidroksi qismi kislotada qismidan 2 ta C atomi bilan ajralib turadi, α-gidroksi kislotadan farqli o'laroq, ular bitta C atomi bilan ajralib turadi. Ushbu tuzilma muhim ahamiyatga ega, chunki u salitsil kislotasi yog'ida eriydi. Shuning uchun terining teshiklariga kirib boradi. α-gidroksi kislotalar suvda eriydi, β-gidroksi kislotalar esa yog'da eriydi.

Salitsil kislotada antiseptik xossaga ega. Shuning uchun undan mevalar oziq-ovqat mahsulotlari, vinolar va shu singari mahsulotlarni konservalashda foydalaniladi. U, shuningdek, revmatizmni davolash va isitmani tushirish xossasiga ham egaligi bilan ahamiyatli. Ammo salitsil kislotada, ovqat hazm qilish organlari shilliq pardasiga zararli ta'sir ko'rsatadi, yara hosil qiladi. Revmatizmni davolash va isitmani tushirish maqsadida salitsil kislotaning boshqa bir hosilalari, tuzlari, efirlari ishlatiladi. Quyidagi jadvalda salitsil kislotasi saqlovchi ayrim dori vositalarining tarkibi va ta'sir etishi keltirilgan. (1-jadval).

1-jadval. Salitsil kislotasi saqlovchi dori vositalari

T/r	Modda nomi	Tuzilishi	Foydali xususiyatlari	Zararli xususiyatlari
1	Natriy salitsilat		Isitma tushiruvchi, yallig'lanishga qarshi	eshitish va ko'rishning pasayishi, diplopiya, zaiflik, tashvish, tushunarsiz nutq, gallyutsinatsiyalar, konvulsiyalar. Oshqozon-ichak traktidan: ko'ngil aynishi, qusish, diareya, qorin og'rig'i, anoreksiya. Boshqalar: terlashning kuchayishi, anafilaktik reaksiyalar (ko'z qovoqlari, lablar, til, halqum, yuzning shishishi), allergik teri reaksiyalari.
2	Metil salitsilat		Muskullarda og'riq qoldiruvchi, revmatizmni davolovchi sifatida	Qo'llash joyida tirnash xususiyati, allergik teri reaksiyasi
3	Fenilsalitsilat (salol)		Ichak kasalliklari (kolit, enterokolit) va siydik yo'llari (sistit, pielit, pielonefrit)ni davolashda va dezinfeksiyalovchi vosita sifatida	Allergik reaksiyalar keltirib chiqarishi mumkin
4	PASK (para-amino salitsil kislotasi)		Sil kasalligini davolovchi vosita	ayrim hollarda allergik reaksiyalar kuzatilishi mumkin

	MASK (meta-amino salitsil kislotasi)		surunkali kolitni davolash uchun asosiy xomashyo	tirik organizmlardagi metabolism jarayoniga salbiy ta'sir etuvchi zaharli modda
5	Asetil salitsilat (aspirin)		teridagi buzilishlarda, saraton va shamollashda qo'llaniluvchi vosita	uzoq vaqt aspirinni qabul qilish oshqozondan qon ketishga sabab bo'ladi

Natriy salitsilat (salitsil kislotasining natriyli tuzi)-tibbiyotda isitmani tushiruvchi hamda yallig'lanishga qarshi qo'llaniluvchi vosita sifatida ishlatiladi. U suvda yaxshi eriydi, ovqat hazm qilish sistemasining shilliq pardalariga kuchli zararli ta'sir etmaydi. Shuning uchun Natriy salitsilat eritma holda yoki qo'sh tuzlar (kofein+natriy salitsilat) ko'rinishida ichishga tavsiya etiladi. **Metil salitsilat** (salitsil kislotaning karboksil guruh hisobiga hosil qilgan murakkab efiri)- bu modda atirgul, zira kabi xushbo'y hidli ko'plab o'simliklar efir moylari tarkibida uchraydi. Asosan, sintez yo'li bilan, salitsil kislotani metillab olinadi. U moysimon suyuqlik bo'lib o'ziga xos kuchli hidga ega. Metilsalitsilat tibbiyotda sof holda hamda surtma moylar tarkibiga qo'shilgan holda muskullardagi og'riqni qoldiruvchi, revmatizmni davolovchi dorivor vosita sifatida ishlatiladi.

Fenilsalitsilat yoki salol (salitsil kislotaning karboksil guruh hisobiga hosil qilgan murakkab efiri)-suvda yomon eriydigan kristall modda. Salol erkin holdagi fenol gidroksi guruhiga ega bo'lgani sababli uning spirti eritmasiga temir(III)-xlorid ta'sir ettirilganda fenol gidroksili tutgan birikmalarga xos bo'lgan binafsha rangli birikma hopsil bo'lganligini ko'rishimiz mumkin. Salol tibbiyotda ayrim ichak kasalliklarini davolashda dezinfeksiyalovchi vosita sifatida ishlatiladi. Uning dezinfeksiyalovchi ta'siri gidrolizlanish natijasida hosil bo'ladigan salitsil kislota va fenol bilan bog'liq. Salol me'daning kislotali suyuqligi ta'sirida juda sekin gidrolizlanadi, gidroliz asosan ichakda sodir bo'ladi. Shu tufayli me'daning kislotali suyuqligiga turg'un bo'lmagan dori moddalarning yuzasi salol bilan qoplanadi (kapsulalar). Bunday dori shakllari me'dadan o'zgarishsiz o'tib, o'z ta'sirini ichakda ko'rsatadi. Salitsil kislotaning tibbiyotda qo'llaniladigan hosilalaridan yana biri p-amino salitsil kislota (PASK)dir. PASK tibbiyotda sil kasalligini davolashda keng qo'llaniladigan dorivor vositalardan biridir. U sil kasalligini davolovchi ta'siri uning mikroorganizmlarning normal yashashi uchun zarur bo'lgan foli kislotasi sintezi uchun xomashyo hisoblangan p-amino benzol kislotaning antogonisti ekanligidan tushunish mumkin. p-aminosalitsil kislota-PASK ning izomeri m-aminosalitsil kislota –MASK tirik organizmlardagi metabolism jarayoniga salbiy ta'sir etuvchi zaharli modda hisoblanadi.

Salitsil kislotasi ham aromatik kislotalarning, ham fenollarning xossalarini nomoyon qilganligi uchun aromatik kislota sifatida tuzlar (natriy salitsilat) va murakkab efirlar (metilsalitsilat, fenilsalitsilat) hosil qiladi. U fenol gidroksili

hisobiga ham murakkab efirlar hosil qilishi mumkin, masalan atsetilsalitsil kislota - aspirin($C_9H_8O_4$). Atsetilsalitsil kislota yoki aspirin – salitsil kislotaning fenol gidroksili hisobiga hosil qilgan murakkab efiridir. Atsetilsalitsil kislota suvda yomon eriydigan, nordon ta'mga ega bo'lgan kristal modda. Atsetilsalitsil kislota tarkibida bir vaqtning o'zida ham gidroksil (-OH), ham karboksil (-COOH) guruhlar tutganligi uchun bir muncha kuchliroq kislotali xossani namoyon qiladi. Bu esa bemorlar tomonidan aspirin ichilganda, aspirin- $C_9H_8O_4$ oshqozonning shilliq pardasiga salbiy ta'sir ko'rsatadi. Shuning uchun atsetilsalitsilatni muntazam ichishga tavsiya etilmaydi, ayniqsa, bolalarga umuman tavsiya etilmaydi.

Uzoq muddat aspirin qabul qilinganda, saratondan o'lim holati uni qabul qilinmagan holatga nisbatan kamida 25 foizga kamaygani isbotlangan. Oxford Universitetining Professor Peter Rothwell va hamkasblari tomonidan aspirin qabul qilishdan keyin saraton bilan, ayniqsa, ichak saratoni bilan og'rishning juda past darajada bo'lishi aniqlangan. Ularning oldingi izlanishlariga ko'ra, saratonga qarshi himoyani kamida 10 yil davomida aspirinni uzluksiz qabul qilib borish bilan hosil qilingan.

Insonlar aspirinni har kuni yurak xastaligi uchun qabul qiladi. Mutaxassislarning aytishicha, aspirin insonning yurak xuruji va insult bo'lish ehtimolini qisqartirsa ham, sog'lom odamni yurak kasalliklari bilan og'rishidan himoya qilishi uncha yuqori emas. Shu bilan birga, uzoq vaqt aspirinni qabul qilish oshqozondan qon ketishga sabab bo'lishi mumkin.

Ta'kidlaganimizdek, aspirin saraton kasalligini oldini olish mumkin. Ammo o'simta hujayralarining evolyutsion salohiyatini oshiradi. Shu tariqa so'ngi dori vositasi ta'siriga uchramaydigan o'sma hujayralari bilan taqqoslaganda mutatsiyalashadi, ya'ni u tufayli dori vositalariga chidamli bo'lgan saraton hujayralari ulushi ortadi. Eng muhimi shuki, ushbu dori vositasini to'g'ri qabul qilishni bilish lozim. Avvalo, shifokor bilan maslahatlashib, qay tartibda va qancha miqdorda iste'mol qilishni so'rab olish lozim. Uning tarkibida kofein bo'lganligi sababli choy, kofe, Coca-Cola lar bilan ichish mumkin emas. Uni bir stakan mineral, oddiy suv yoki sut bilan ichgan ma'qul. U suvda tez eriydi va ta'siri tezlashadi. Salitsil kislotaning tabiiy manbasi sifatida tol daraxti po'stlog'ini va shu turdagi o'simliklarni misol qilib keltirishimiz mumkin hamda uni olishda ushbu tabiiy manbalaridan foydalanish kelajakda iqtisodiy-ekologik tarafdin maqsadga muvofiqdir.

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**IQTISODIY AXBOROTLARNI JADVAL REDAKTORI
VOSITALARIDAN FOYDALANGAN HOLDA QAYTA ISHLASH
DASTURLARI**

Annotasiya. Ushbu ilmiy publisistik maqolada iqtisodiy axborotlar, iqtisodiy masalalarni kompyuterlar yordamida yechish bosqichlari, iqtisodiy masalalar turlari va axborot tizimi yordamida ishlash

Kalit so'zlar: Iqtisodiy axborot tizim, Malumotlarning integratsiyalashtirish, Malumotlarning yaxlitligi, Malumotlarning aloqadorligi, Matematik taminot, Dasturiy taminot, Axborot taminoti, Lingvistik taminot, Tashkiliy taminot

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**PROGRAMS FOR PROCESSING ECONOMIC INFORMATION USING
TABLE EDITOR TOOLS**

Abstract. In this scientific journalistic article, economic information, stages of solving economic problems with the help of computers, types of economic problems and working with the help of an information system

Key words: Economic information system, Data integration, Data integrity, Data relevance, Mathematical data, Software data, Information data, Linguistic data, Organizational data.

Iqtisodiy axborot tizimi - bu professional faoliyatda axborot jarayonlarini avtomatlashtirishga mo'ljallangan texnik dasturiy va tashkiliy choratadbirlar majmui. Avtomatlashtirilgan axborot tizimi kasbiy faoliyat jarayonida ma'lumotlarni qayta ishlash uchun ba'zi axborot texnologiyalarini joriy qilishni ta'minlaydi. Iqtisodiy ob'ektni boshqarish samaradorligi va sifatini oshirish,

shuningdek korxonaning iqtisodiy faoliyatini tahlil qilish uchun iqtisodiy axborotni tayyorlash, olish, qayta ishlash, uzatish, hisobga olish, nazorat qilish uchun zamonaviy axborot texnologiyalaridan foydalanishga asoslangan keng qamrovli axborot tizimini yaratish kerak. Kurs loyihasining maqsadi - (ulgurji savdo) iqtisodiy ma'lumotlarni qayta ishlash tizimini avtomatlashtirish.

Ushbu maqsadga erishish uchun quyidagi vazifalarni hal etish talab etiladi:

- *Axborotni qayta ishlashning avtomatlashtirilgan tizimining maqsadini aniqlash;*

- *Axborotni qayta ishlashning iqtisodiy tizimlari talablari va tuzilishini ko'rib chiqish*

- *Ob'ektning umumiy tuzilishini aniqlash;*

- *Ma'lumotlar bazasini yaratish;*

- *Domen modelini tavsiflash.*

Avtomatlashtirilgan axborotni qayta ishlash tizimining maqsadi - boshqarish tizimlarini avtomatlashtirish masalalarini ko'rib chiqishda, birinchi navbatda, avtomatlashtirishni aniqlashtirishimiz kerak, ya'ni avtomatlashtirish ob'ektlarini aniqlab olishimiz kerak. Avtomatlashtirish ob'ektlarini aniqlash uchun korxonaning ishlash jarayonini tahlil qilish, tahlil natijasida boshqaruv tizimida ma'lumotlarni qayta ishlash jarayonining tavsifi olingandan so'ng bu jarayon elementlari aniqlanadi. Har qanday boshqaruv tizimi vazifasini hal qilishda axborotni qayta ishlash jarayonini tahlil qilish, unda kiritilgan ma'lumotni ma'lum bir natijaga qayta ishlashning aniq mexanizmini amalga oshirishni o'z ichiga olgan va mansabdor shaxslar tomonidan individual ravishda amalga oshiriladigan o'zaro bog'liq bo'lgan uchta turdagi axborotni ajratib olishga imkon beradi. Insonning kundalik mehnat faoliyati tashqi muhit togrisidagi axborotlarni qabul qilish va toplash, turli masalalarni echish uchun zarur bolgan ma'lumotlarni aniqlash, qayta ishlash kabi amallarni bajarish bilan bogliq boladi. Shu sababli, ham yuqoridagi amallar majmuasi, ularni tatbiq etish usullarini vositalari axborot tizimlarini (AT) yaratish uchun asos bolib xizmat qiladi. Axborot tizimlarining asosiy maqsadi foydalanuvchilarni tegishli sohaga taaluqli bolgan axborot bilan taminlashiga qaratilgan. EHMlarning yaratilishi natijasida avtomatlashtirilgan axborot tizimlarini (AAT) hosil qilish imkoniyatlari paydo boldi. Hozirgi kunda AATning rivojlanishi ikki yonalishda olib borilmoqda.

Birinchi yonalish – avtonom fayllar asosida axborot tizimlarini hosil qilish. Bunday ATning imkoniyat doiralari chegaralangan va oddiy tuzilishiga ega. Ular avtonom fayllar toplamini qayta ishlash hamda hujjatlarni chiqarish amallarini bajaradigan dasturlar majmuasidan tashkil topadi.

Bunday tizimlar quyidagi kamchiliklarga ega:

- *malumotlarning takrorlanishi;*

- *fayllarni yuritish murakkabligi;*

- *fayllar bilan birgalikda ishlash qiyinligi;*

- *dasturlarning malumotlarga bogliqligi va boshqalar*

Ikkinchi yonalish - ma'lumotlar bazasini hosil qilish. Ma'lumotlar bazasi asosida hosil qilingan AT foydalanuvchilar majmuasiga xizmat krsatadi va yuqorida krsatilgan tizimlar juda keng tarqalmoqda. AATning faoliyati axborotlarni toplash va qayta ishlash bilan bogliq. Tizimga kiritilayotgan va foydalanuvchiga berilayotgan axborotlar hujjatlar korinishda shakllanadi. Shu sababali ham hujjat moddiy obekt hisoblanadi va malum bir tartib asosida rasmiylashtirilgan axborotlar toplanidan iborat boladi. AATda axborot manbai sifatida odamlar va texnik vositalar hisoblansa, istemolchi sifatida turli foydalanuvchilarni uch guruhga ajratish mumkin: tizimning mamuriyati, dasturchilar va oxirgi istemolchilar. Foydalanuvchilarning AAT ga murojaati talab asosida amalga oshiriladi. Talab-mavsumlashtirilgan xabar bolib, unda tegishli ma'lumotlarni qidirish shartlari va ular ustidan bajarilishi lozim bolgan vazifalar krsatiladi. Talablarni qabul qilish va kiritish, krsatilgan amallarni bajarish, tegishli ma'lumotlarni tayyorlash va hujjat korinishda foydalanuvchiga taqdim qilish har qanday AAT ish faoliyatining asosiy bosqichlari hisoblanadi. Hozirgi kunda AATlar inson faoliyatining turli sohalarida, masalan, xalq xojaligi tarmoqlarini boshqarishda, ilmiy-tadqiqot ishlarini boshqarishda, marif sohasida loyihalashtirishda qollanilmoqda. Bunda quyidagi ikki usulning biridan foydalaniladi: AATdan avtonom foydalanish. Bunda AAT boshqa tizim tarkibiga kirmaydi, balki mustaqil faoliyat krsatadi. Bunga, masalan, tayyora va temir yol chiptalarini sotish tizimlari («Sirena», «Ekspress»), talab boyicha tegishli hujjatlarni tayyorlovchi axborot - qidirish tizimlari va boshqalar misol boladi. AAT dan yuqori darajali boshqarish tizimining tarkibiy qismi sifatida foydalanish. Bunda hosil qilingan chiquvchi ma'lumotlardan tizimning boshqa elementlari faoliyatida ham qollaniladi. Bunday AATga, masalan, axborot - oqitish tizimlari, loyihalashtirishning avtomatlashtirilgan tizimlari, avtomatlashtirilgan boshqarish tizimlari misol boladi. Hujjatli axborot qidirish tizimi (XAQT) hujjatlashtirilgan ma'lumotlarni saqlash va qayta ishlashni amalga oshiradi. Kutubxona faoliyatining avtomatlashtirilgan tizimi XAQT ga misol boladi. Faktografik axborot qidirish tizimi (FAQT) raqmli va mantli ma'lumotlarni saqlashda va qayta ishlashda qollaniladi. Tashkil qilinayotgan AATning asosiy qismi FAQT turidagi tizimga misol boladi. Ma'lumotlarni ishlash usuliga kora AAT ikki qismga: *axborot -malumotnoma tizimi (AMT) va ma'lumotlarni ishlashning avtomatlashtirilgan tizimi (MIAT)ga bolinadi.*

Iqtisodiy axborotlarni qayta ishlash bazasini tashkil qilish tamoyillari.

Iqtisodiy axborot - bu iqtisodiy jarayonlarning holati va borishini aks ettiradigan o'zgartirilgan va qayta ishlangan ma'lumotlar to'plami. Axborotga bolgan talablarning turli-tumanligi, masalalar kolamining tobora ortib borishi va boshqalar zamonaviy ATlari oldiga bir qator talablar qoymoqda. Bunday talablar jumlasiga quyidagilar kiradi: Iqtisodiy axborotlarni qayta ishlash bazasining aniqligi. Malumki, ma'lumotlar bazasi tegishli sohaning axborot modelini tashkil qiladi. Shu sababli ham MB da saqlanayotgan axborotlar obektlarning holati, xususiyati va ular ortasida aloqalarni toliq va aniq ifodalash lozim. Aks holda

tashkil qilingan MB xatarli bolishi va zarar keltirishi mumkin. Tezkorlik va unumdorlik. Tizimning tezkorligi qoyilgan talabga javob berish vaqti bilan aniqlanadi. Bunda nafaqat EHM ning tezkorligini, balki malumotlarning joylanishi, izlash usullari, talabning qiyinligini va boshqa olimlarni ham hisobga olish zarur. Tizimning unumdorligi esa vaqt birligi ichida bajarilgan talablarning miqdori orqali aniqlanadi. MBdan foydalanishning odiyligi va qulayligi. Bu talab tizimdan foydalanuvchi barcha istemolchilar tomonidan qoyiladi. Shu sababli ham MB dan foydalanishning oson, sodda va qulay usullarini yaratish muhim ahamiyatga ega. Malumotlarni himoyalash. Tizim malumotlar bazasida saqlanilayotgan axborot va dasturlarni tashqi tasirlardan, begona foydalanuvchilardan himoyalashni taminlashi lozim. Tizimning rivojlanishi. Tizim tarkibi doimo yangi elementlar, dasturlar bilan taxminlanishi, axborot massivlari ozgartirilishi va yangilanib borishi zarur.

Yuqorida keltirilgan talablarga javob beradigan MB quydagi tamoyillarga asoslangan holda tashkil qilinishi mumkin:

Malumotlarning integratsiyalashtirish tamoyili. Bu tamoyilning mohiyatiga kora ozaro boglanmagan axborotlar yagona malumotlar bazasiga birlashtiriladi. Buning natijasida malumotlar foydalanuvchi va uning amaliy dasturlariga axborot massivlari korinishida taqdim etiladi. Axborat massivlaridan foydalanilganda kerakli malumotlarni qidirish, qayta ishlash jarayonlarini boshqarish osonlashadi, malumotlarning ortiqchaligi kamayadi, MBni yuritish yengillashadi.

Malumotlarning yaxlitligi tamoyili. Bu tamoyil orqali MBda saqlanayotgan axborotlarning aniqligi ortadi, yani ularning xususiyatlari va tavsifnomalari tegishli soha obektlari toliq ifodalaniladi. Malumotlarning yaxlitligi notogri axborotni kiritish yoki uning malum bir qismini xotiradan ochirib tashlash natijasida buzilishi mumkin. Shuning uchun ham kiritilayotgan axborotlarni nazorat qilish, saqlanayotgan malumotlarni doimo tekshirish, maxsus tizim yordamida tiklash va boshqa tadbirlar orqali MB ning yaxlitligini taxminlash mumkin.

Malumotlarning aloqadorligi tamoyili. Bu tamoyilning mohiyatiga kora MBdagi barcha axborotlar ozaro boglangan bolib, obektlar ortasidagi munosabatlarni ifodalaydi. Axborot turlari va ular ortasidagi munosabatlar majmuasi malumotlarning mantiqiy tuzilishini tashkil qiladi.

Malumotlarning yetarli bolish tamoyili. Bu tamoyilning mohiyatiga kora, tegishli axborotlar MBda yagona nusxa saqlanadi va ular istalgan masalani yechish uchun ozaro boglanadi hamda yetarli boladi. Masalan, avtonom fayllardan iborat bolgan AATda bazi bir axborotlar takrorlansa, MB da esa ularning takrorlanishi butunlay barham topadi.

MBni boshqarishini markazlashtirish tamoyili. Bu tamoyilga kora malumotlarni boshqarishning barcha funktsiyalari yagona boshqarish dasturi-malumotlar bazasini boshqarish tizimi (MBBT)ga beriladi. Bu tamoyilga rioya

qilish asosida ATdan foydalanishning samaradorligi barcha jarayonlar MBBT orqali amalga oshiriladi.

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BUXGALTERIYA HISOBIDA AXBOROT TIZIMLARI VA TEKNOLOGIYALARINI QO'LLASH

Annotatsiya. Iqtisodiyotni boshqarishdagi o'zgarishlar, bozor munosabatlariga o'tish buxgalteriya hisobini tashkil qilish va olib borishga katta ta'sir ko'rsatadi. Hisobning xalqaro tizimlariga o'tishi amalga oshirilmogda, bu uning uslubiyotining yangi shakllarini ishlab chiqishning talab qiladi. Buxgalteriya hisobining axborot tizimi va uni kompyuterda ishlab chiqishni tashkil qilishning an'anaviy shakllari katta katta o'zgarishlarga uchragan.

Kalit so'zlar: korxonada, avtomatlashtirilgan, ichki aloqalar, tashqi aloqalar, hisoblash texnikasi, buxgalteriya.

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APPLICATION OF INFORMATION SYSTEMS AND TECHNOLOGIES IN ACCOUNTING

Abstract. Changes in economic management, the transition to market relations have a great impact on the organization and conduct of accounting. The transition to international accounting systems is underway, which requires the development of new forms of its methodology. The traditional forms of organizing the information system of accounting and its computer development have undergone major changes.

Key words: enterprise, automated, internal relations, external relations, computer technology, accounting.

Hisobchidan korxonada moliyaviy holatining ob'ektiv baholarini bilish, moliyaviy tahlil usullarini egallash, qimmatli kog'ozlar bilan ishlashni bilish, bozor sharoitlarida pul mablag'lari investitsiyalarini asoslash va boshqalar talab qilinadi.

Buxgalteriya hisobining axborotli tizimlari an'anaviy ravishda vazifalarning quyidagi majmualarini o'z ichiga oladi: asosiy vositalar hisobi,

moddiy boyliklar hisobi, mehnat va ish xaki (maosh) hisobi, tayyor mahsulotlar hisobi, moliyaviy hisoblash operatsiyalarining hisobi, ishlab chiqarish xarajatlari hisobi, yig'ma hisob va hisobotlar tuzish. Shaxsiy kompyuterlar bazasida avtomashtirilgan ish joylarining tashkil qilinishi, korxonalarda maxalliy hisoblash tarmoo'larini yaratish, axborot bazasini tashkil qilish va iqtisodiy vazifalar majmuasini shakllantirishda yangi talablarni ilgari surdi. Ma'lumotlarning taqsimlangan bazalari tizimini yaratish, turli foydalanuvchilar o'rtasida axborotlarni almashtirish, kompyuterda boshlang'ich xujjatlarni avtomatik shakllantirishning imkoniyatlari paydo bo'ldi. Buxgalteriya hisobi majmualari murakkab ichki va tashqi aloqalarga ega.

Ichki aloqalar buxgalteriya hisobining ayrim vazifalari, majmualari va uchastkalarining axborotli o'zaro hamkorliklarini.

Tashqi aloqalar - boshqaruvning o'zga vazifalarini amalga oshiruvchi boshqa bo'linmalari hamda tashqi tashkilotlar bilan o'zaro hamkorligini aks ettiradi.

Buxgalteriya vazifalarini echishni AAT lar asosida tashkil qilish: birlamchi buxgalteriya hujjatlarini tuzish paytida boshlab yakuniy moliyaviy hisobotni tuzish bilan yakunlanuvchi operatsiyalarning yig'indisidir. Hozirgi bosqichda buxgalteriya vazifalarini axborot texnologiyasi asosida markazlashtirilgan holda ishlab chiqish asosiy rol o'ynaydi:

- foydalanuvchining ish joyida o'rnatilgan kompyuterlarni qo'llash, bu erda vazifalarni echish hisobchi tomonidan bevosita uning ish joyida bajariladi;

- korxonaning turli xildagi bo'linmalari iqtisodiy vazifalarini integratsiyalangan holda ishlab chiqilishini ta'minlovchi ma'o'aliy va ko'p bosqichli hisoblash tarmoqlarini shakllantirish.

- hisoblash texnikasida bajariladigan buxgalteriya hisoblar tarkibini ancha ko'paytirish;

- har xil hisoblash bo'linmalari uchun korxonaning yagona taqsimlangan ma'lumotlar bazasini yaratish;

- birlamchi buxgalteriya hujjatlarini mashinada shakllantirish imkoniyatlari, bu qog'ozsiz texnologiyalarga o'tishni ta'minlaydi va hujjatlarni yig'ish va ro'yxatga olish bo'yicha operatsiyalar meo'nat talabligi darajasini kamaytiradi;

- buxgalteriya vaziflari majmualarini echishni integratsiyalash;

- dialogli usulda amalga oshirish yo'li bilan axborot xizmat ko'rsatishni tashkil qilish imkoniyati.

Texnologik jarayonning barcha operatsiyalari ShK da bitta ish joyida va uning tuzilishiga ko'ra izchillik bilan bajariladi. Shunda bajariladigan texnologik jarayonida quyidagi uchta jarayoni:

Tayyorlov bosqichi dastur va ma'lumotlar bazasini ishga tayyorlash bilan bosliq. Hisobchi mashinaga korxonaning ma'lumotnomaviy ma'lumotlarni kiritadi, buxgalteriya schyotlarining rejasi va namunaviy buxgalteriya yozuvlarining tartibiga tuzatishlar kiritadi.

Boshlang'ich bosqichi birlamchi hujjatlarni yig'ish va ro'yxatga olish bilan bog'liq. Avval ta'kidlaganidek hujjatlarni qo'lda yoki avtomatlashtirilgan usulda shakllantirish mumkin. Hujjatlarni kiritish dasturi quyidagi vazifalarni bajarishni ko'zda tutadi:

- kiritilgan hujjatlarga noyob nomer berish, ko'chirmaning sana shva boshqa alomatlari bilan registrini tuzish;
- kiritilgan hujjatlarga ma'lumotnomaviy va shartli doimiy alomatlarni avtomatik kiritish;
- xo'jalik operatsiyalarning qayd etish daftarida buxgalteriya yozuvlarini avtomatik bajarish;
- noto'g'ri hujjatlarni chiqarib tashlash;
- noto'g'ri hujjatlarni nazorat qili shva tuzatish kiritish;
- birlamchi hujjatlarni bosib chiqarish.

Asosiy bosqich ishning tugallovchi bosqichi bo'ladi va har xil hisobot shakllarini olish bilan bog'liq. Uni bajarish uchun «moddiy boyliklarning qaydnomasi», «Aylanish qaydnomasi» va «Hisobotlar» menyusi modulidan foydalaniladi. Ko'pgina firmalar dasturlarni ikki variantda: mao'alliy va tarmoqli ishlab chiqaradilar. Ta'kidlash kerakki, tarmoqli variantlar ancha murakkab va qimmat. Buxgalteriya vazifalari ana'anaviy majmuasining tarkibi yangi boshqaruv, savdo va tao'liliy modullarini yaratilishi hisobiga kengaytirilishi mumkin. Bunda asosiy tamoyillarga rioya qilish zarur – ADP lar o'zaro axborotli bog'langan bo'lishlari kerak. Bu faqat ADPlarning butun majmuasini bitta firmadan xarid qilingandagina mumkin. Kichik korxonalarda BX AT yaratishda ShK dan keng foydalanish hisobchining ish joyida axborotlarni ishlab chiqish, saqlash va uzatish bo'yicha barcha tadbirlarni avtomatlashtirishga imkon beradi. Bunday BX AT larni yaratishda bir nechta yondoshishlar mavjud.

Birinchi yondoshishda faqat moliyaviy hisobni avtomatlashtiruvchi tizim yaratiladi. Bunday BX AT – minihisobxonalar sinfiga kiradi. +oida bo'yicha, bu tizimda buxgalteriya hisobi bitta odam – hisobchi tomonidan olib boriladi.

Ikkinchi yondashishda – moliyaviy hisobdan tashqarii qisman boshqaruv tizimi ham o'ar tomonlama avtomatlashtiriladi. Bu holda buxgalteriya hisobini ikkita odam: hisobchi va uning yordamchisi yoki kirishni cheklash yo'li bilan bitta ish joyi o'rnida yoki ikkita ish joylarida olib boriladi.

Moliyaviy va boshqaruv hisobini zamonaviy kompyuter texnologiyalari asosida avtomatlashtirish uchinchi yondoshishda erishiladi. Bunday tizimda ishlab chiqilayotgan axborotlarning katta o'ajmlarida ko'p foydalanuvchanlik usulidan foydalaniladi. Unda bir nechta ShKlar mao'alliy tarmoqqa birlashtiriladi. Kichik va o'rta korxonalaridagi moliyaviy va boshqaruv hisobini qarab oluvchi buxgalteriya hisobini avtomatlashtirish uchun dasturiy majmua ikkita moduldan tashkil topadi.

Boshqaruv hisobining moduli. Tovar-moddiy boyliklari va arzon hamda tez eskiruvchan mollarning hisobi, tayyor mahsulotlarning hisobi, ish o'aqi bo'yicha hisob –kitoblar bo'limlari uchun so'mdagi va miqdoriy aks ettirilgandagi hisobni

olib borishga imkon beradi. Moliyaviy hisobning moduli buxgalteriya hisobining barcha schyotlari bo'yicha hisob olib borishga imkon beradi. Tao'liliy registrlar va yakuniy hisob registrarlari uning asosiy hisob registrlaridan bo'ladi. Modullar o'rtasidagi aloqani xo'jalik operatsiyalarining qayd daftari orqali amalga oshiriladi.

Belgilanishi bo'yicha ma'lumotnomalar beshta guruhga bo'linadilar:

- buxgalteriya yozuvlari bilan bog'liq ma'lumotnomalar (schyotlar rejasi, provodkalar);
- taxliliy hisob bilan bog'liq ma'lumotnomalar (korxonalar ob'ektlari, bo'linmalar);

Tuzilishi bo'yicha ma'lumotnomalar oddiy va murakkablarga bo'linadi.

Oddiy ma'lumotnomalar andozaviy tuzilishga ega: kod, nom, qo'shimcha ma'lumotlar schyot bo'yicha xizmatlar. Murakkab ma'lumotnomalar o'z ichiga ma'lumotlarning kiritilganligining ikkita va undan ortiq bosqichlarini oladi. U yozuvlarning katta miqdorini ekranda joylashtirib bo'lmaydigan katta o'ajmdagi ma'lumotlar bilan ishlash uchun mo'ljallangan. Dastlabki axborot bazaga birlamchi hujjatlardan kiritiladi. Avtomatlashtirish uchun hisob bo'yicha andozaviy birlamchi hujjatlardan foydalaniladi. Hozirgi bosqichda buxgalteriya vazifalarini axborot texnologiyasi asosida markazlashtirilgan holda ishlab chiqish asosiy rolni o'ynaydi:

- foydalanuvchining ish joyida o'rnatilgan kompyuterlarni qo'llash, bu erda vazifalarni echish hisobchi tomonidan bevosita uning ish joyida bajariladi;
- korxonalar, tashkilot, firmaning turli xildagi bo'linmalari iqtisodiy vazifalarini integrallangan holda ishlab chiqarilishi ta'minlovchi maxalliy va ko'p bosqichli tarmoqlarini shakllantirish;
- har xil bo'linmalar uchun korxonaning yagona taksimlangan axborotlar bazasini yaratish;
- hisoblash texnikasi bajaraadigan buxgalteriya hisoblashlar tarkibini ancha ko'paytirish;

Birlamchi buxgalteriya xujjatlarini mashinada shakllantirish imkoniyatlari, bu qog'ozsiz texnologiyalarga o'tishni ta'minlaydi va hujjatlarni iyg'ish va ro'yxatga olish bo'yicha operatsiyalar mehnat talabligi darajasini kamaytirish.

Texnologik jarayonning barcha operatsiyalari personal kompyuterda bitta ish joyida va unig tuzilishiga ko'ra izchillik bilan bajariladi. Buxgalteriya tizimida ishlatiladigan dasturiy ta'minotlar: "Bir.uz"-buxgalteriya, "1S:Buxgalteriya", UzASBO, "Parus", "Intellekt-Servis", "Infosoft", "Xakers-Dizayn" va boshqalar.

Ko'pgina firmalar dasturlarni ikki variantda: maxalliy va tarmokli ishlab chiqaradilar. Ta'kidlash kerakki, tarmoqli variantlar ancha murakkab va qimmat, "Mijoz-server" yangi texnologiyasini amalga oshirishni, maxsus uskunlar va operatsion tizimlarni, hamda hisoblash tarmog'iga xizmat ko'rsatuvchi mutaxassislar shtatini mavjudligini talab qiladi.

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AXBOROT KOMMUNIKATSIYA TEXNOLOGIYALARINING BUXGALTERIYA SOHASIDAGI O'RNI

Annotatsiya. Axborot kommunikatsiya texnologiyalari, buxgalteriya sohasida o'z o'rniga ega bo'lgan muhim soha hisoblanadi. Ular, ma'lumotlarni almashish, saqlash, va qo'llab-quvvatlash jarayonlarini avtomatlashtirish orqali, buxgalteriya operatsiyalarini osonlashtiradi va boshqaruvini yaxshilaydi.

Kalit so'zlar: Hisob-kitob, dasturlar, moliyaviy, hisob-fakturalar, daromad, xarajatlar, texnologiyalar, kommunikatsiya.

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THE ROLE OF INFORMATION COMMUNICATION TECHNOLOGIES IN THE FIELD OF ACCOUNTING

Abstract. Information and communication technologies are an important field that has its place in accounting. They simplify and improve accounting operations by automating data sharing, storage, and support processes.

Keywords: Billing, programs, financial, invoices, income, expenses, technologies, communication.

Hisob-kitob dasturlari, ma'lumotlar oqimini avtomatlashtirish va to'plamlashning asosiy vositalaridir. Bu dasturlar, xaridorlar bilan o'zaro aloqani osonlashtirish, hisob-kitob jarayonlarini avtomatlashtirish, daromad va xarajatlarni kuzatish, hisobotchilar va boshqa huquqiy strukturaga ma'lumotlar taqsimlash imkoniyatlarini taqdim etadi. Hisob-kitob dasturlari yirik kompaniyalardan kichik bizneslarga qadar har xil turlardagi korxonalar va tadbirkorlar uchun juda muhimdir. Bu dasturlar, moliyaviy hisobotlarni tuzish, hisob-kitob jarayonlarini avtomatlashtirish, pul mablag'larini boshqarish, xaridorlar bilan o'zaro aloqani osonlashtirish va hokazolarni yuzaga chiqarish uchun juda foydali bo'lib keladi. Ular, barcha moliyaviy ma'lumotlarni bir qatorda to'plab, ma'lumotlarni tahlil qilish va hisob-kitob jarayonlarini yaxshilash

imkonini beradi. Buning natijasida, korxonalar va tadbirkorlar ma'lumotlarga qiziqishadi va moliyaviy boshqaruvni samaraliroq qilishadi.

Elektron xujjat almashuvi: Elektron hujjatlar, ma'lumotlarni o'zaro almashish va uni saqlashda ko'proq osonliklar ta'minlaydi. Bu xujjatlar, elektron hisob-fakturalar, qabul qilingan tovarlar ro'yxati, elektron qaydnomalar va boshqalar bo'lishi mumkin. Elektron xujjatlar, tadbirkorlar uchun amalga oshirish oson, tez va ishonchli bo'lgan ma'lumot almashish va saqlash usullaridan biridir. Elektron xujjatlar, qo'llanuvchi va sotuvchi o'rtasidagi muomalalar uchun xizmat qiladi va ularning ma'lumot almashish jarayonini osonlashtiradi. Bu elektron xujjatlar o'z ichiga quyidagi turlarni o'z ichiga oladi:

1. **Elektron hisob-fakturalar:** Elektron hisob-fakturalar, sotish va sotib olish jarayonlarida ishlab chiqilgan tovarlar yoki xizmatlar uchun pul mablag'larini hisobga olishning oson usuli bo'ladi. Ular ma'lumot almashishni osonlashtiradi va qo'llanuvchilar bilan sotuvchilar o'rtasidagi tartibni yaxshilaydi.

2. **Qabul qilingan tovarlar ro'yxati:** Elektron xujjatlar tadbirkorlar uchun qabul qilingan tovarlar ro'yxatini o'rganishni osonlashtiradi. Bu, sotib olingan tovarlar va xizmatlar haqida ma'lumotlarni o'z ichiga oladi va ularni to'g'risida hisobotlarni yaratishda yordam beradi.

3. **Elektron qaydnomalar:** Elektron qaydnomalar, korxonalar yoki tadbirkorlarning faoliyatini muhokama qilish va ma'lumotlarni o'z ichiga olgan elektron dasturdir. Ular pul mablag'larini hisobga olish, xarajatlarni yozish va boshqa moliyaviy operatsiyalarni amalga oshirishga yordam beradi.

Mobil ilovalar va bulut hisob-kitob: Mobil ilovalar va bulut hisob-kitob xizmatlari, buxgalterlarga iste'mol qilishlari uchun yolg'on va qulay xizmatlarni taqdim etadi. Ular, ma'lumotlarga doimiy murojaat, hisobotlar yaratish, hisobotlarni ko'rish va boshqa amallarni bajarish imkoniyatlarini taqdim etadi. Shuningdek buxgalterlarga iste'mol qilishlari uchun juda qulay va samarali xizmatlarni taqdim etadi. Bu xizmatlar, hisob-kitob operatsiyalarini har doim va har qachonker, istalgan joyda, istalgan qurilma orqali bajarish imkonini beradi. Quyidagi katta xizmatlarni taqdim etadi:

1. **Ma'lumotlarga doimiy murojaat:** Mobil ilovalar va bulut hisob-kitob xizmatlari, buxgalterlarga kompaniya ma'lumotlariga doimiy murojaat imkonini beradi. Bu, ma'lumotlarni to'plab, saqlab qolish, xarajatlar, daromadlar, debitor va kreditorlar ro'yxati, hisobotlar va boshqalar kabi ma'lumotlarga dastlabki murojaat imkonini beradi.

2. **Hisobotlar yaratish:** Bu xizmatlar, buxgalterlarga hisobotlar yaratish va ularni ijro etish imkonini beradi. Mobil ilovalar va bulut hisob-kitob xizmatlari, har qanday sahifa yoki qurilma orqali hisobotlar yaratish, ularni PDF yoki Excel formatlarida eksport qilish imkonini beradi.

3. **Hisobotlarni ko'rish:** Bu xizmatlar, buxgalterlarga hisobotlarni ko'rish va ularga murojaat imkonini beradi. Ular, mobil ilovalar yoki veb-platformalar orqali foydalanuvchilarga qulaylik, har doim va har qachonker, hisobotlarni ko'rish imkonini beradi.

4. Mobil qurilma yoki veb-platforma orqali bajarish: Mobil ilovalar va bulut hisob-kitob xizmatlari, buxgalterlarga ma'lumotlar bilan ishlash imkonini beradi. Bu, ularning hisob-kitob jarayonlarini boshqarish, to'g'ri moliyaviy boshqaruvni amalga oshirish va ma'lumotlarni qabul qilish uchun qulay vosita bo'ladi.

Amaliyotli ma'lumotlar analitikasi: buxgalterlarga ma'lumotlarni tahlil qilish, statistik ma'lumotlarni ko'rsatish va kengaytirilgan ma'lumotlar analizlarini taqdim etish imkoniyatlarini beradi. Bu texnologiyalar, kompaniyalar uchun qarorlar olishda asosiy qo'llanmani taqdim etadi. Ularning asosiy imkoniyatlari quyidagicha:

1. Ma'lumotlar tahlili: Bu texnologiyalar, kompaniya ma'lumotlaridan aniq va yorqin tahlillar olish imkonini beradi. Bu tahlillar, daromad va xarajatlar, mijozlar va sotishlar, xaridorlar va boshqa moliyaviy ma'lumotlar to'g'risidagi oqimlarni tushunishga yordam beradi.

2. Statistik ma'lumotlarni ko'rsatish: Amaliyotli ma'lumotlar analitikasi, kompaniya ma'lumotlarini statistik ma'lumotlar ko'rinishida ko'rsatish imkonini beradi. Bu statistik ma'lumotlar, daromadning va xarajatlarning yillik, choraklik, soatlik yoki boshqa ko'rinishlarda o'zgarishi, mijozlar tomonidan sotilgan maxsulotlar, xizmatlar va boshqalar kabi ko'rinishlarni o'z ichiga oladi.

3. Kengaytirilgan ma'lumotlar analizi: Bu texnologiyalar, kengaytirilgan ma'lumotlar analizi yordamida kompaniya ma'lumotlaridan yorqin tahlillar olish imkonini beradi. Ular, moliyaviy kutiladigan natijalarni olishga yordam beradi, masalan, daromad va xarajatlarning tendensiyalari, mijozlar tomonidan tanlangan maxsulotlar, xizmatlar yoki hududlar, kabi tahlillarni olish.

4. Prognostik analitika: Amaliyotli ma'lumotlar analitikasi, kompaniya uchun kutilgan kelajak xulosa va proqnozlar olish imkonini beradi. Bu proqnozlar, daromad va xarajatlarning kelajak tendensiyalari, mijozlar va xizmatlarning talablariga oid ma'lumotlar, xaridorlar va sotishlar kabi muhim faktorlar bo'yicha taqdim etilishi mumkin.

Axborot kommunikatsiya texnologiyalari buxgalteriya sohasidagi o'rniga doimiy ravishda chet el olimlarining diqqatini jalb etadi. Ularning fikrlari quyidagicha bo'lishi mumkin:

1. Osonlik va samarali boshqaruv: axborot kommunikatsiya texnologiyalarining buxgalteriya sohasida kiritilishi bilan, hisob-kitob jarayonlarini osonlashtirish, ma'lumotlarni tez va samarali ravishda qayta ishlash imkoniyatlarini ta'minlashining muhimligini ta'kidlaydilar. Bu texnologiyalar, kompaniyalar uchun to'g'ri va aktual ma'lumotlarga tez murojaat imkonini beradi, shuningdek, moliyaviy boshqaruvni yaxshilaydi.

2. Ma'lumotlarning xavfsizligi: axborot kommunikatsiya texnologiyalarining buxgalteriya sohasidagi o'rni haqida o'ylashda ma'lumotlarning xavfsizligi va maxfiyligi mavzusiga katta e'tibor beradilar. Ularning fikrlariga ko'ra, bu texnologiyalar kompaniya ma'lumotlarini himoyalash, xavfsizlik sohasida yangiliklar bilan harakat qilish, shifrlangan

murojaat va axborot o'tkazmalarini ta'minlash imkoniyatlarini taqdim etishi lozim.

3. Ko'pfunksiyali xizmatlar: axborot kommunikatsiya texnologiyalarining buxgalteriya sohasidagi o'rniga taalluqli xizmatlar to'g'risida fikrlarini ifodalaydilar. Ularning fikrlariga ko'ra, bu texnologiyalar ko'pfunksiyali bo'lishi lozim va buxgalterlarga ma'lumotlarni avtomatik tarzda to'plab qo'lish, ma'lumotlarni tahlil qilish, hisobotlar yaratish va ma'lumotlarni ko'rsatish kabi keng imkoniyatlar taqdim etishi kerak.

4. Tarmoqaro integratsiya: axborot kommunikatsiya texnologiyalarining buxgalteriya sohasidagi o'rni haqida, tarmoqaro integratsiya va aloqa o'zgaruvchanligining muhimligini ko'rsatishadi. Ularning fikrlariga ko'ra, bu texnologiyalar kompaniya ichidagi barcha tizimlar bilan integratsiyalash va ma'lumotlar almashishni osonlashtirish lozim. Bu, barcha departamentlar o'rtasidagi ma'lumot almashish va o'zgartirishni yaxshilaydi va ish samaradorligini oshiradi.

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IQTISODIY AXBOROTLARNI QAYTA ISHLASH BAZASINING TARKIBI VA UNI TASHKIL ETISH BOSQICHLARI

Annotatsiya. Respublikamizda axborotlashtirish keng yo'lga qo'yilishi bilan undagi xar bir fuqoroga kerakli paytda, kerakli miqdorda, kerakli sifatda olish imkoniyatlari ochilmoqda. Respublikamizdagi viloyatlar, shaxarlar, tumanlarga qarashli korxonalar, tashkilotlar va muassasalar zamonaviy kompyuter texnikalari bilan jixozlanib, ular maxsus qurilmalar (teleforin tarmog'i, modem va boshqalar) yordamida axborotlarni uzatish va qabul qilish imkoniyatiga yega bo'lmoqda.

Kalit so'zlar: texnik taminot, matematik taminot, dasturiy taminot, axborot taminoti, tashkiliy taminot, ichki omillar, tashqi omillar.

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THE COMPOSITION OF THE ECONOMIC INFORMATION PROCESSING BASE AND THE STAGES OF ITS ORGANIZATION

Abstract. With the widespread introduction of information in our republic, every citizen in it has the opportunity to receive it at the right time, in the right amount, and in the right quality. Enterprises, organizations and institutions belonging to regions, cities, districts of our republic are equipped with modern computer equipment, they are able to transmit and receive information with the help of special devices (telephone network, modem, etc.).

Key words: technical factor, mathematical factor, software factor, information supply, organizational factor, internal factors, external factors.

ATning tarkibiy elementlari unga yuklatilgan vazifalar va yechiladigan masalalarning xususiyati orqali aniqlanadi. Shunga kora malumotlar bazasining asosiy vazifalari quyidagilardan iborat: -axborotlarni saqlash va himoyalash; -axborotlarni doimo ozgartirish (yangilash, yangi malumotlarni kiritish, ortiqcha malumotlarni ochirish va x.k.) -foydalanuvchi va amaliy dasturlar talablariga kora

malumotlarni izlash va tanlash; -aniqlangan malumotlarni qayta ishlash va tegishli usulda natijaviy axborotlarni chiqarish va boshqalar. Yuqorida korsatilgandek, axborotlar malumotlar bazasida saqlanadi. MB - amaliy dasturlarga bogliq bolmagan holda malum bir tartib asosida ozaro boglangan malumotlar toplamidir. Har qanday malumot fayli kabi, MB ham yozuvlardan tashkil topadi. Yozuvlar esa oz navbatida maydonchalardan hosil qilinadi. Yozuv tezkor va tashqi xotiralar ortasida malumotlar almashish jarayonning eng kichik olchov birligi bolsa, maydoncha - malumotlarni qayta ishlashdagi eng kichik birlik hisoblanadi. MBni tashkil qilish oddiy fayllarni tashkil qilishdan quyidagi ikkita xususiyatiga kora farqlanadi:

- yozuv maydonlarining ifodalanishi malumotlar bilan birgalikda saqlanadi;
- malumotlarni qidirishda maxsus usullardan foydalaniladi.

Operatsion tizimning muhitida faoliyat korsatayotgan MB bilan turli amallarni bajarish mumkin emas. Shu sababli ham operatsion tizim asosida ishlaydigan maxsus amaliy dasturlar majmuasi yaratilgan. Bu majmua malumotlar bazasini boshqarish tizimi deb yuritiladi. MBBT - malumotlar bazasini hosil qilish, uni yuritish va foydalanish uchun moljallangan dasturlar va til vositalarining toplami.

MBBTning asosiy qismini boshqarish dasturi tashkil qiladi. Bu dastur MB bilan muloqatni o'rnatishga bogliq bolgan barcha jarayonlarni avtomatlashtiradi. MBBT ishga tushishi bilan uning boshqarish dasturi doimo asosiy xotirada boladi va talablarni qayta ishlashni tashkil qiladi, ularning bajarilish tartibini taminlaydi, amaliy dasturlar va operatsion tizim ortasidagi aloqalarni o'rnatadi. MB dan tegishli amallarni bajarish jarayonlarini nazorat qiladi va boshqalar. MBga kelayotgan talablarni parallel bajarishni tashkil qilish boshqarish dasturining asosiy funktsiyasi hisoblanadi.

MBBTning boshqa qismini malumotlarni qayta ishlash dasturlarining toplami tashkil qiladi. Bu toplamga tarjimonlar (translyatorlar), talab va dasturlash tillari, muharrirlar, servis dasturlari va boshqalar kiradi.

Shunday qilib, malumotlar banki bir necha malumotlar bazasi, boshqarish va amaliy dasturlardan tashkil topadi. Bu elementar AT ga yuklatilgan vazifalarni bajarishda asosiy rol oynaydi. Shu bilan birga, ATning samarali faoliyati uning taminlovchi elementlariga ham bogliqdir. Bu taminot tarkibiga quyidagi elementlar kiradi.

Texnik taminot MB va foydalanuvchilarning ish faoliyatini avtomatlashtirish imkoniyatini yaratadigan texnik vositalardan tashkil topadi. Bunday vositalar jumlasiga EHM, tashqi qurilmalar, axborotni tashish, uzatish vositalari, aloqa tarmoqlari, abonent punktlari va boshqalar kiradi.

Matematik taminot - funktsional masalalarni echish va MBni boshqarish usullari, matematik modellar va algoritmlar toplamidan tashkil topadi.

Dasturiy taminot - MBning faoliyatini amalga oshirish dasturlari va turli xil qoshimcha vazifalarni bajarish uchun moljallangan servis dasturlarning toplamidan iborat bo'ladi.

Axborot taminoti - ma'lumotlarni turkumlash va ixchamlashtirish, ifodalash va taqdim etish tizimlaridan tashkil topadi.

Lingvistik taminot - MBBTda foydalaniladigan tillar, lugatlar majmuasi orqali tashkil qilinadi.

Tashkiliy taminot -MBning kundalik faoliyatini ifodalovchi rasmiy hujjatlar, meyoriy korsatmalar to'plamidan iborat bo'ladi.

Insonning iqsodiy, yekologik, siyosiy va boshqa soxalarda fikirlash doirasining kengayishi axborotli muxitning sifat va miqdor jixatdan o'zgarishi, yangi xusiyatga yega bbo'lgan axborotli muxitning kelib chiqishiga sabab bo'lmoqda. Demak axborotlashtirish vaqtinchalik tadbir' yemas, rivojlanishning zarur vositasidir va axborotli muxitning hozirgi rivojlanish darajasidagi holatini informatikasiz qo'llab bo'lmaydi. Axbortlarni tez, sifatli yg'ish saqlash, qayta ishlash va uzatish kabi vazifalarni bajarishda hisoblash texnikasining xizmati beqiyos yekaniga ishonch hosil qilmoqda. Iqsodiyotning boshqarishdagi o'zgarishlar, bozor munossabatlarga o'tish buxgalteriya xisobini tashkil qilish va olib berishga katta ta'sir ko'rsatadi. Xisobning xalqaro tizimlarga o'tishi amalga oshirilmogda bu uning uslubiyatini yangi shakillarini ishlab chiqarishni talab qilad. Buxgalteriya xisobining axborot tizimi va uning kompyuterda ishlab chiqarishning tashkil qilishning ananaviy shakillari katta o'zgarishlarga uchragan. Xisobchidan korxonada moliyaviy xolatining ob'ektiv baholarini bilish, moliyaviy taxlil usullarini yegallash, qimmatli qog'ozlar bilan ishlashni bilish bozor jarayonlarida pul mablag'lar investitsiyalarini asoslash va boshqalar talab qilinadi.

Axborot texnologiyasining rivojlanish tarixi Axborot texnologiyasining vujudga kelishi va rivojlanishini belgilovchi ichki va tashqi omillar mavjud bo'lib, ular quyidagilar: Ichki omillar Tashqi omillar.

Ichki omillar- bu axborotni poydo bo'lish turlari, xosalari, axborotlar bilan turli amallarni bajarish, uni jamlash uzatish, saqlash va h.k.

Tashqi omillar – bu axborot texnologiyasining texnika – uskunaviy vositalari orqali axborot bilan turli vazifalarni amalga oshirishni bildiradi.

Axborot texnologiyalari jamiyat axborot resurslaridan oqilona foydalanishning yeng muhim omillaridan biri bo'lib, hozirgi vaqtga qadar bir necha bosqichlarni bosib o'tdi.

1 – bosqich. XIX asirning 2 – yarmigacha davom yetgan. Bu bosqichda «qo'llik» axborot texnologiyalari taraqqiy yetgan. Uning vositasi pero, siyoxdon, kitob. Kommunikatsiya ya'ni aloqa odamdan – odamga yoki pochta orqali xat vositasida amalga oshirilgan.

2 - bosqich. XIX asirning oxiri, unda «mexanik» texnologiya rivoj topgan. Uning asosiy vositasi yozuv mashinkasi, arifmometr kabilardan iborat.

3–bosqich. XX asirning boshlariga mansub bo'lib, «yelektromexanik» texnologiyalar bilan farq qiladi. Uning asosiy vositasi sifatida telegraf va telefonlardan foydalanilgan. Bu bosqichda axborot texnologiyasining maqsadi

ham o'zgard. Unda asosiy urg'u axborotni tasvirlash shaklidan uning mazmunini shakllantirishga ko'chiriladi.

4–bosqich. XX asir o'rtalariga to'g'ri kelib, «yelektron» texnologiyalar qo'llanilishi bilan belgilanadi. Bu texnologiyaning asosiy vositasi YEXM lar va ularning asosida tashkil yetiladigan avtomatlashtirilgan boshqarish tizimlari va axborot izlash tizimlaridir.

5–bosqich. XX asirning oxiriga to'g'ri keladi. Bu bosqichda kompyuter texnologiyalari taraqqiy yetdi. Ularning asosiy vositasi turli maqsadlarga mo'ljallangan turli dasturiy vositalarga ega bo'lgan shaxsiy kompyuterlardir. Bu bosqichda kundalik turmush, madaniyat va boshqa sohalarga mo'ljallangan texnik vositalarning o'zgarishi ro'y berdi. Lokal va global kompyuter tarmoqlari ishlatila boshlandi.

Axborot texnologiyalarini keng qo'llamasdan turib dunyoning zamonaviy rivojlanishi mumkin emas. Ular insoniyat jamiyatining barcha jabhalarida, jumladan, iqtisodiy sohada muhim rol o'ynaydi.

Axborot texnologiyalari yordamida bir qator vazifalar hal qilinadi. Ular iqtisodiyotning raqobatbardoshligini oshirish, shuningdek, uning jahon iqtisodiyotiga integratsiyalashuv imkoniyatlarini kengaytirish imkonini beradi. Va bu minglab korxonalar, millionlab soliq to'lovchilar, aktsiyadorlar reestri va birja kotirovkalari haqida gapirmasa ham bo'ladi! Bularning barchasi eng yaxshi qaror qabul qilish uchun qayta ishlanishi, baholanishi va xulosalar chiqarilishi kerak bo'lgan katta axborot oqimlarini ifodalaydi. Bunday ish zamonaviy iqtisodchiga ishonib topshirilgan. Shuning uchun ham bunday mutaxassis an'anaviy bilimlardan tashqari bank ishi, menejment asoslari va tashqi iqtisodiy faoliyat, soliq vama'muriy boshqaruv uchun siz axborot tizimlarini qurish imkoniyatiga ega bo'lishingiz kerak.

Bugungi kunda bunday ma'lumotlarni qayta ishlash turli usullar va g'oyalarga ega mustaqil sohadir. Bundan tashqari, ushbu jarayonning alohida elementlari yuqori o'zaro bog'liqlik va yaxshi tashkiliy darajaga erishdi. Bu esa barcha axborotni qayta ishlash vositalarini "iqtisodiy axborot tizimi" (EIS) deb ataladigan muayyan iqtisodiy ob'ektda birlashtirish imkonini beradi. XX asrning 50-yillarida. Birinchi kompyuterlar ishlab chiqilgan va joriy qilingan. Ular ta'sirchan hajmdagi ma'lumotlarni qayta ishlash zarurati bo'lgan individual iqtisodiy muammolarni hal qilish uchun mo'ljallangan edi. Bu, masalan, statistik hisobotlarni tayyorlash, ish haqi va boshqalar bilan bog'liq. Bundan tashqari, kompyuter operatorlari turli xil optimallashtirish hisob-kitoblarini amalga oshirdilar. Bunga transport muammolarini hal qilish misol bo'la oladi.

O'n yil o'tgach, korxonalar boshqaruvi sohasida kompleks avtomatlashtirishni yaratish, shuningdek, mavjud ma'lumotlar bazalari asosida ma'lumotlarni olish integratsiyasini yaratish g'oyasi tug'ildi. Bunday tizimlarni joriy etish faqat 20-asrning 70-yillarida, 3-avlod "aqli mashinalar" yaratilgandan keyin mumkin bo'ldi. Ushbu kompyuterlar yordamida taqsimlangan terminal tarmog'iga ega kompyuter tizimlari yaratila boshlandi. Biroq, bunday mashinalarning

ishonchliligi va tezligi etarli emas edi, bu esa ularni oshirishga imkon beradigan asosiy vositaga aylanishga imkon bermadi. korxonalar samaradorligi.

80-yillarda shaxsiy kompyuterlarni joriy etish jarayoni boshlandi. Boshqaruv xodimlari ulardan foydalana boshladilar. Shu bilan birga, ko'p sonli avtomatlashtirilgan ish stantsiyalari (AWP) yaratildi. Biroq, EISning bu tarqalishi ushbu vositaning mahalliy amalga oshirilishi edi. Shuning uchun ham olib borilayotgan ishlar korxonada samaradorligini oshirish uchun boshqaruv funktsiyalarini birlashtirishga imkon bermadi.

XX asrning 90-yillarida telekommunikatsiyalar rivojlana boshladi. Bu jarayon global va moslashuvchan lokal tarmoqlarni yaratishga olib keldi, bu esa hisoblash muammolarini hal qilishga imkon beradi. Aynan ularning paydo bo'lishi bilan korporativ iqtisodiy axborot tizimlarini ishlab chiqish va yanada joriy qilish mumkin bo'ldi. Ular 70-yillarning murakkab avtomatlashtirish imkoniyatlarini 80-yillarda joriy qilingan mahalliy ishlanmalar bilan birlashtirdi. Bugungi kunda iqtisodiy axborot tizimlaridan foydalanish korxonadagi boshqaruv xodimlari faoliyatini bog'lash imkonini beradi, barcha xodimlarning jamoaviy mehnat qilish imkoniyatini beradi. Shu bilan birga, boshqaruv qarorlarini qabul qiladigan menejerlar mavjud ma'lumotlarga asoslanib, o'z ishining asosiy tamoyillarini qayta ko'rib chiqishlari mumkin.

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OLIY TA'LIM MUASSASASI KADRLARINI BOSHQARISH TIZIMI

Annotatsiya. Hozirgi davrda oliy ta'lim muassasalarida xodimlar ko'payib borayotgani va ularning mehnat faoliyatini rag'batlantirishda nohaqliklar kelib chiqmasligi uchun ularning ma'lumotlar bazasini shakllantirish va tartibga solishga qaratilgan dasturiy mahsulot loyihasi ishlab chiqildi.

Kalit so'zlar: kadrlar bo'limi, ishchi xodimlar, ma'lumotlar bazasi, administrator.

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PERSONNEL MANAGEMENT SYSTEM OF HIGHER EDUCATION INSTITUTION

Annotation. A software product project has been developed to shape and organize the database of higher education institutions in order to increase the number of employees and prevent unfairness in motivating their work.

Keywords: human resources department, staff, database, administrator.

Oliy ta'lim muassasida kadrlarni boshqarishning sifat ko'rsatkichlari bo'yicha jahon andozalari darajasiga ko'tarish, zamonaviy pedagogik va axborot texnologiyalarini yurtimizda keng joriy etish dolzarb uslubiy masalalardan hisoblanadi.

Hozirgi davrda axborotlarning haddan tashqari ko'pligi bu axborotlarni saqlashda, qayta ishlashda, hamda har xil turdagi masalalarni yechishda hisoblash texnikasidan keng foydalanishni va axborot tizimlarini yaratishni talab qiladi. Axborot tizimi, axborotni to'plash, saqlash va qayta ishlash uchun keng imkoniyatli maqsadlarda samarali foydalanish uchun xizmat qiladi.

Zamonaviy axborotlar tizimi, ma'lumotlar integrasiyasi konsepsiyasiga asoslangan katta hajmdagi ma'lumotlarni saqlash bilan tavsiflanadi va ko'p sondagi foydalanuvchilarning turli xildagi talablariga javob berishi kerak bo'ladi.

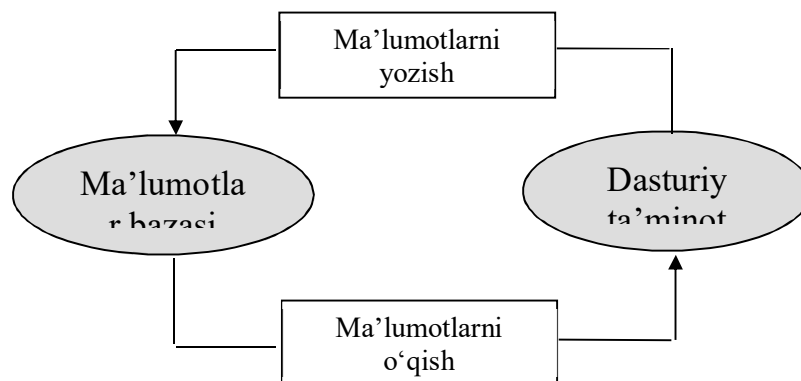
Ta'lim muassasalarida kadrlar faoliyatini to'g'ri tashkil qilish va ularni kasbiy faoliyatga amaliy yordam beruvchi dasturiy tizim yaratish talab etiladi. Shuning uchun, o'quv muassasasining ta'lim yo'nalishlari va bo'limlari bo'yicha ma'lumotlar bazasini yaratish, hamda unga ko'ra kadrlarni yagona vaqt me'yorlari asosida avtomatik tarzda hisoblash, ma'lumotlarini tahrirlash va uni taqsimotini amalga oshirish uchun dasturiy tizim yaratish dolzarb masala hisoblanadi.

Ushbu dasturiy tizimni yaratish bosqichlari quyidagilardan iborat:

- Oliy ta'lim muassasidagi kadrlar bazasini yaratish;
- Ma'lumotlar bazasini tahrirlash tizimini yaratish;
- Dasturiy ta'minotdan foydalanish uchun ko'rsatma tayyorlash;
- Dasturiy ta'minotni sinovdan o'tkazish;

Kadrlar haqida to'liq ma'lumot va ular orasida o'zaro muloqotni amalga oshirish dasturiy ta'minotidan o'quv muassasa server tarmog'iga joylashtirilgan holda foydalaniladi. Bunda lokal yoki global tarmoq texnologiyasining ixtiyoriy biridan foydalanish mumkin. Dasturiy ta'minot tarmoqqa o'rnatilganda unga tarmoq manzili beriladi.

Ma'lumotlar bazasini yaratish quyidagi loyihaga asoslanadi:



1- rasm. Dasturiy ta'minot va ma'lumotlar bazasining o'zaro aloqadorligi

Dasturiy ta'minotdan foydalanishda har doim tashkil etilgan yagona ma'lumotlar bazasiga murojaat qilinadi. Shuning uchun barcha foydalanuvchilar bitta ma'lumotlar bazasini shakllantiradilar.

Tizimning qismlari bo'lgan ma'lumotlar bazasi va dasturiy ta'minotni alohida –alohida server kompyuterlariga o'rnatish ham mumkin. Bunda dasturning ma'lumotlar bazasiga bog'lanish qismidagi parametrlar qiymatini tahrirlash zarur, ya'ni ma'lumotlar bazasi joylashgan server-kompyuterning tarmoqdagi manzili (yoki nomi), ma'lumotlar bazasiga kirish huquqi berilgan ma'lumotlar bazasini boshqarish tizimining foydalanuvchisi nomi va paroli hamda ma'lumotlar bazasini nomi ko'rsatiladi.

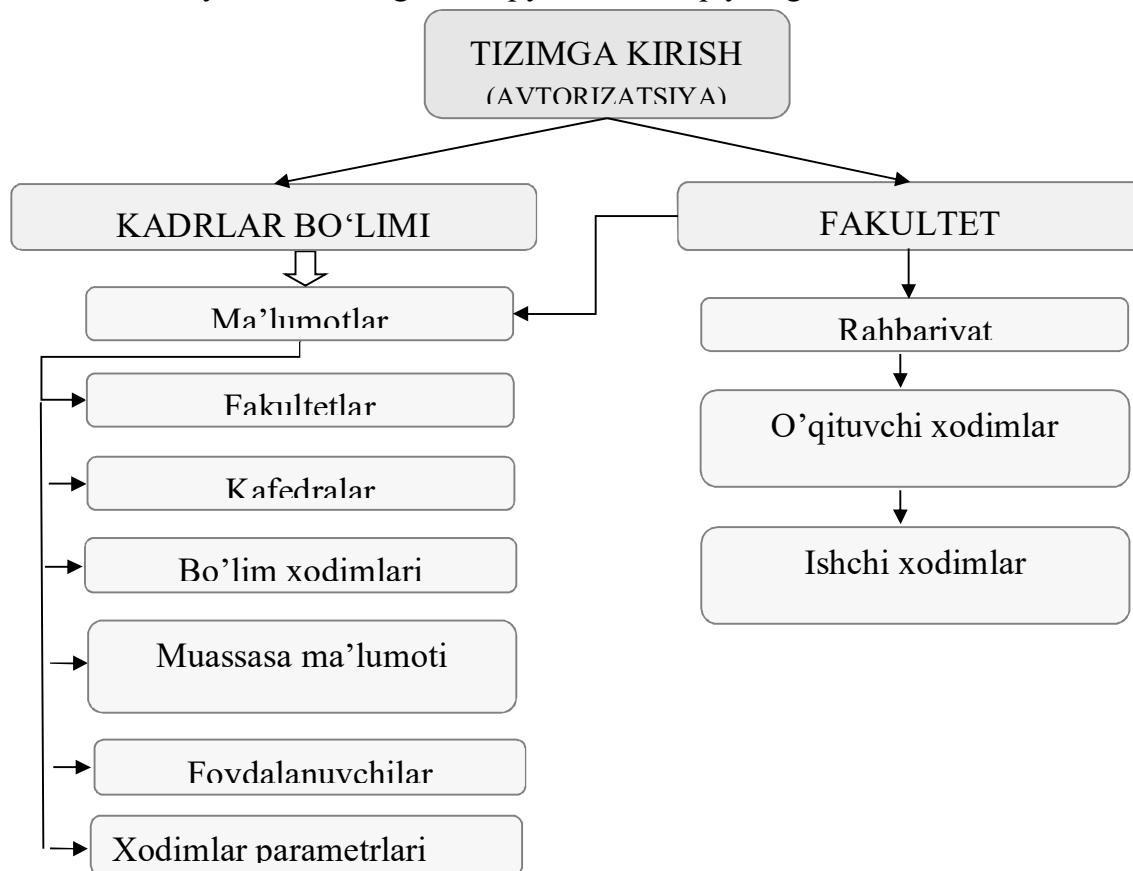
Dasturiy ta'minot foydalanuvchilari quyidagi turlarga bo'linadi:

- Administrator – tizim ichida barcha ma'lumotlarni nazorat qilish huquqiga ega;

- Kadrlar bo'limi – tizimdagi umumiy ma'lumotlarni tahrirlash huquqiga ega foydalanuvchilar;

- Foydalanuvchilar – tizimdagi o'ziga tegishli ma'lumotlarni ko'rish va to'ldirish;

Dasturiy ta'minotning mantiqiy tuzilmasi quyidagicha tashkil etiladi:



2- rasm. Dasturiy ta'minot mantiqiy strukturasi

Tizimda hech bir foydalanuvchi o'zga foydalanuvchilar ma'lumotlariga dahl qila olmaydilar va o'ziga tegishli bo'lmagan ma'lumotlarni tahrirlash imkoniga ega bo'lmaydilar. Umumiy ma'lumotlarini barcha foydalanuvchilar ko'rish huquqiga ega.

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TA'LIM SOHASIDA MA'LUMOTLAR BAZASINI QO'LLANISHI

Anotatsiya. Maqolada ma'lumotlar bazasi tushunchasi ko'rib chiqiladi. Ma'lumotlar bazasini qo'llashning asosiy yo'nalishlari haqida qisqacha ma'lumot berilgan. O'quv jarayoni samaradorligini ta'minlash uchun ta'lim sohasida ma'lumotlar bazalaridan foydalanish masalalari ko'rib chiqiladi.

Kalit so'zlar: ma'lumotlar bazasi, ma'lumotlar bazasini boshqarish tizimi, ob'ekt, predmet sohasi, ta'lim.

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USE OF DATABASES IN THE FIELD OF EDUCATION

Abstract. The article deals with the concept of database. Brief information on the main areas of database application is given. To ensure the effectiveness of the educational process, the issues of using databases in the field of education are considered.

Key words: database, database management system, object, subject area, education.

Insoniyat yaralibdiki, uning atrofini boqliqdagi jamiki narsalar o'rab oladi. Ammo atrofimizdagi hamma narsani tasvirlash va tasniflash tavsiya etilmaydi. Ob'ektlarni tasvirlashga urinayotganda, ma'lum bir mavzuni tasvirlash uchun qanchalik tafsilotlar kerakligi haqida ko'plab savollar tug'iladi.

Ob'ekt - muayyan xususiyatlarga ega bo'lgan, harakat yo'naltirilgan ob'ekt yoki kategoriya.

Ma'lumotlar bazasiga saqlash birligi haqidagi ma'lumotlarni kiritishdan oldin, oldimizda qanday borligini va uning xususiyatlarini qanday o'zgartirishi mumkinligini bilib olishingiz kerak. Bundan xulosa qilishimiz mumkinki, inson atrofidagi dunyoga yoki boshqacha aytganda, ob'ektlarning yopiq tizimiga, ya'ni predmet soxa (dasturiy ta'minot).

Bir xil turdagi ob'ektlar haqidagi ma'lumotlarni saqlash uchun ma'lumotlar bazalari qo'llaniladi. Ma'lumotlar bazasi - bu ob'ektlar haqida katta hajmdagi ma'lumotlarni saqlash imkonini beruvchi dasturiy tizim. Ma'lumotlar bazasi ma'lumotlarga kirishni va kerakli ma'lumotlarni topishni ham osonlashtiradi.

Ma'lumotlar bazalarining ilovalari

Telefon ma'lumotnomasi yoki kutubxonadagi kitoblar ro'yxati ma'lumotlar bazasiga juda oddiy misoldir. Ma'lumotlar raqamlar va matnlardan tortib grafik va multimediyagacha bo'lgan turli formatlarda saqlanishi mumkin.

Ma'lumotlar bazalari hokimiyat va boshqaruv sohasida hujjatli shaklda, sanoat, qishloq xo'jaligi, qurilish sohaslarida qo'llanilishi mumkin.. Ma'lumotlar bazalari ijtimoiy ma'lumotlarni saqlashda keng qo'llaniladi: ma'lumotnomalar, ta'lim muassasalari, samolyot va poezdlar jadvali, tashkilot xodimlarining shaxsiy ma'lumotlari va boshqalar.

Yer resurslari, suv zahiralari, biologik resurslar, ikkilamchi resurslar, chiqindilar, ekologik vaziyat haqidagi ma'lumotlar va boshqalar to'g'risidagi ma'lumotlarni saqlaydigan resurs ma'lumotlar bazalari mavjud. San'at va madaniyat sohasida ham ma'lumotlar bazalari o'z yo'lini topdi. Masalan, maqolalar yaratish, saqlash va tahrirlash imkoniyatiga ega bo'lgan jahon badiiy madaniyatiga oid ma'lumotlar bazasi ishlab chiqilgan. Bularning barchasi ma'lumotlar bazalari uchun asosiy ilovalardir.

OTM uchun o'quv jurnalidan foydalanish muhimdir. Unda talabalar haqidagi to'liq ma'lumotlar (ismi, tug'ilgan sanasi, manzili,...) va darslar ro'yxati (bajarilayotgan ishlar, fanlar va h.k.) saqlanishi mumkin. Bunday ma'lumotlar bazalarini yaratish uchun ma'lumotlar bazasini boshqarish tizimlari (MBBT) qo'llaniladi. MBBT - bu ma'lumotlar bazasi va foydalanuvchi o'rtasidagi o'zaro aloqani tashkil qilish uchun mo'ljallangan apparat va dasturiy vositalar to'plami. Bunday tizimlarda ma'lumotlar bazasi bilan ishlash uchun zarur bo'lgan jarayonlar avtomatlashtirilgan.

MBBT yordamida samarali ta'lim jarayonini ta'minlash muammosini hal qilishda biz ma'lumotlarni qidirish va qayta ishlashga qodir bo'lgan axborot tizimlarini (AT) yaratish zaruriyatiga duch keldik. ATning ikkita asosiy turi mavjud: axborot qidirish tizimlari va ma'lumotlarni qayta ishlash tizimlari. Axborot-qidiruv tizimlari qidiruv mezoniga mos keladigan saqlangan ma'lumotlarning kichik to'plamlarini o'rganishga qaratilgan. Bunda foydalanuvchini axborotni qayta ishlash emas, balki axborotning o'zi qiziqtiradi.

Unda o'qituvchi tomonidan ishlagan soatlar soni, ish haqi, nafaqalarni hisoblash, ish vaqtining sarhisobi va boshqalar to'g'risidagi ma'lumotlar mavjud.

MBBT yordamida ta'lim muassasasining kutubxona fondi katalogini ham ishlab chiqish mumkin. Bu kutubxona xodimlarining kerakli adabiyotlarga buyurtma berish va berish uchun hujjatlarni tayyorlashda, o'qituvchilar va talabalarining zarur yoki tegishli materialni izlashda, shuningdek, ma'lum bir mezon (muallif, nashr etilgan yili va boshqalar) bo'yicha izlashda ishini soddalashtiradi. va boshqalar.

Ma'lumotlar bazasidan ta'lim sohasida foydalanishning yana bir misoli, sinflarning o'quv yuklamalari haqidagi ma'lumotlarni o'z ichiga olgan ma'lumotlar bazasidir. Bunday ma'lumotlar bazasida darslar o'tkaziladigan o'quv xonalari ko'rsatilgan holda talabalarning dars jadvali haqidagi ma'lumotlar saqlanadi. Bunday ma'lumotlar bazasidan foydalanish jadvalni iloji boricha tezroq tuzish va kerak bo'lganda o'zgartirishlar kiritish imkonini beradi.

Acces ilovalarining yuqoridagi barcha misollari mas'uliyati uskunaning ishlashi va ishga tushirilishini ta'minlashdan iborat bo'lmagan foydalanuvchilar uchun mo'ljallangan. Ikkinchisi bilan professional tayyorgarlikdan o'tgan odamlar - axborot texnologiyalari muhandislari yoki ta'lim muassasasining tizim ma'murlari shug'ullanadi. Muhandislar ma'lum bir maktab bo'limida mavjud bo'lgan barcha jihozlarni, ushbu uskunaning texnik holati, uning inventar raqamlari, texnik tavsiflari va boshqalar to'g'risidagi ma'lumotlarni hisobga olishlari kerak. Kompyuter va boshqa vositalarni tizimlashtirish va samarali ishlatish uchun siz ushbu ma'lumotlarni saqlaydigan ma'lumotlar bazasidan foydalanishingiz mumkin.

Ma'lumotlar bazasidan foydalangan holda ma'mur ushbu xodim tomonidan talab qilinadigan berilgan texnik xususiyatlar bo'yicha ma'lumotlar bazasini yaratishi mumkin. Shunday qilib, masalan, so'rovlar yordamida ma'mur ma'lum bir qidirish mezonini bo'yicha (masalan, inventar raqami yoki sinfning joylashuvi bo'yicha) kerakli saqlash birligini topishi mumkin. Ma'lumotlar bazasi so'rovni qayta ishlagandan so'ng, ushbu so'rovni qondiradigan barcha saqlash birliklarini ushbu ob'ektlar to'g'risidagi ma'lumotlar bazasida mavjud bo'lgan ma'lumotlar bilan ko'rsatishi mumkin.

Bu vazifani tugma shakllari yordamida oson hal qilish mumkin, bu esa yaratilgan ma'lumotlar bazasining barcha funktsiyalaridan MBBT funksional imkoniyatlarini cheklamasdan to'liq foydalanish imkonini beradi. Qo'shimcha boshqaruv tugmalari ham foydalanuvchiga ma'lumotlar bazasidan so'rovlarni dasturlash va MBBT vositalariga murojaat qilmasdan foydalanishda yordam berishi mumkin.

1-maydon nomi	2-maydon nomi	3-maydon nomi	...	N-maydon nomi
Yozuv	Yozuv	Yozuv	Yozuv	Yozuv

MBBT yordamida faqat kompyuter xotira bloklariga xizmat ko'rsatuvchi texnik xodimlar uchun mo'ljallangan ma'lumotlar bazasini yaratish ham mumkin. Bunday ma'lumotlar bazasini yaratish jihozlarga texnik xizmat ko'rsatishni soddalashtirishi mumkin, ular uchun ta'lim muassasasining muhandislik

xodimlari mas'uldirlar, shu jumladan saqlash birliklari haqida to'liq tushunchaga ega bo'lish uchun.

Asosan, MBBT muhandislar va tashkilotning boshqa xodimlarining ishini soddalashtirishga qaratilgan bo'lishi mumkin. Ma'lumotlar bazasi yordamida siz mavjud texnik jihozlardan samarali foydalanish, ularning texnik jihozlari haqidagi ma'lumotlardan foydalangan holda sinflarda darslarni tarqatish va belgilangan mezonlar bo'yicha ofis tanlash jarayonini avtomatlashtirish, bolalarning davomatini nazorat qilish, dars jadvallarini tuzish. ham talabalar, ham professor-o'qituvchilar.

Xulosa

Ma'lumotlar bazalari ta'lim muassasalari xodimlarining ishini soddalashtirishga imkon beradi: xizmat ko'rsatuvchi xodimlardan tortib yuqori boshqaruvgacha. Ma'lumotlar bazasi inson faoliyatining deyarli barcha sohalarida qo'llanilishi mumkin, bu ham o'qituvchilar, ham talabalar uchun qulaydir.

Ma'lumotlar bazasidan shaxsiy maqsadlarda foydalanishi mumkin bo'lgan odamlar doirasini kengaytiradigan, yaratilayotgan ma'lumotlar bazasi vositalari bilan aloqani minimal darajaga tushirishi mumkin bo'lgan funktsiya tufayli shaxsiy kompyuter ko'nikmalariga ega bo'lgan har bir kishi foydalanishi mumkin.

Muhim afzallik shundaki, ma'lumotlar bazasini bitta kompyuterdan boshlash shart emas. Agar ma'lumotlar bazasi ishga tushirilgan qurilmaga kerakli dasturiy ta'minot o'rnatilgan bo'lsa (agar bunday o'rnatish zarur bo'lsa), u holda siz muassasadan tashqarida, masalan, uyda hujjatlar yoki boshqa ma'lumotlar bilan ishlashingiz mumkin.

MBBT axborotni unga kirish imkoni bo'lmagan foydalanuvchilardan himoya qiladi, bu fayllarni kompyuterda saqlashdan shubhasiz afzallik hisoblanadi. Shuningdek, siz har bir foydalanuvchi guruhining huquqlari va imkoniyatlarini farqlashingiz va faqat ma'lumotlarni ko'rsatishingiz va faqat ma'lumotlar bazasi ma'muriyati tomonidan ruxsat etilgan funktsiyalarni faollashtirishingiz mumkin.

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AXBOROT-KOMMUNIKATSIYA TEXNOLOGIYALARINI RIVOJLANTIRISH CHORA-TADBIRLARI TO'G'RISIDAGI QARORLAR MOHIYATI

Annotatsiya. Ushbu maqolada axborot-kommunikatsiya texnologiyalarini rivojlantirish chora-tadbirlari to'g'risidagi qarorlar mohiyati haqida so'z yuritilgan.

Kalit so'zlar: Axborot-kommunikatsiya texnologiyalari, Elektron hukumat, Axborot xavfsizligini ta'minlash, O'zbekiston Respublikasi Axborot texnologiyalari, Axborot texnologiyalari va kommunikatsiyalarini rivojlantirish.

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NATURE OF DECISIONS ON MEASURES FOR THE DEVELOPMENT OF INFORMATION AND COMMUNICATION TECHNOLOGIES

Abstract. This article talks about the nature of decisions on the development of information and communication technologies.

Keywords: Information and communication technologies, Electronic government, Ensuring information security, Information technologies of the Republic of Uzbekistan, Development of information technologies and communications.

O'zbekiston Respublikasi Prezidentining "Yangi O'zbekiston ma'muriy islohotlarini amalga oshirish chora-tadbirlari to'g'risida" gi 2022-yil 24-dekabrda PF-269-son Farmoni bilan Vazirlar Mahkamasi tizimida Raqamli texnologiyalar vazirligi tashkil etilgan. Vazirlik faoliyatining asosiy vazifalari va yo'nalishlari quyidagilardan iborat: axborot texnologiyalari va kommunikatsiyalar sohasida, "elektron hukumat"ni joriy etishda yagona davlat siyosati amalga oshirilishini ta'minlash, axborot texnologiyalarini rivojlantirishning jahon darajasidan kelib chiqqan holda milliy axborot-kommunikatsiya tizimini tatbiq etish va rivojlantirish yuzasidan kompleks

dasturlarni ishlab chiqish va amalga oshirish; telekommunikatsiya infratuzilmasini yanada rivojlantirish va modernizatsiya qilish, shu jumladan, Internet tarmog‘iga keng polosali ulanishni kengaytirish, telefon aloqasi, televideniye va radioeshittirishning raqamli tizimlariga to‘liq o‘tishni ta‘minlash, aloqa va telekommunikatsiyalar sohasidagi faoliyatni, shuningdek, radiochastotali spektrdan foydalanishni davlat yo‘li bilan boshqarish, litsenziyalash va nazorat qilish borasidagi funksiyalarni amalga oshirish;

“Elektron hukumat”ni tatbiq etish, vazirliklar, idoralar, kompaniyalar va uyushmalarning, mahalliy davlat hokimiyati organlarining axborotlashtirish va interaktiv davlat xizmatlarini takomillashtirish borasidagi faoliyatini idoralararo muvofiqlashtirish, monitoring qilish, baholash va nazorat qilish bo‘yicha davlat dasturlarining amalga oshirilishini ta‘minlash, shuningdek, davlat axborot resurslari hamda ma‘lumot bazalarini shakllantirish, saqlash va foydalanishning yagona tizimini vujudga keltirish, idoralararo axborot tizimlarini yaratish va boshqarish;

Internet tarmog‘ining milliy segmenti yanada shakllantirilishini ta‘minlash, mamlakatimizning turli yo‘nalishlardagi zamonaviy veb-resurslarini, shu jumladan, aholining, xususan, yosh avlodning axborotga bo‘lgan va intellektual talab-ehtiyojlarini qondirish maqsadida tarmoq resurslarini rivojlantirish uchun zarur texnik va qulay shart-sharoitlarni yaratish; raqobatdosh dasturiy mahsulotlarning mamlakatimizda ishlab chiqarilishini va ichki bozorini hamda ularga ko‘rsatiladigan xizmatlarni rivojlantirishga ko‘maklashish va uning muvofiqlashtirilishini ta‘minlash, iqtisodiyotning real sektori tarmoqlarida va iste‘molchilarda zamonaviy dasturiy mahsulotlar, axborot tizimlari va axborot resurslarini joriy etish;

Axborot xavfsizligini ta‘minlash va kommunikatsiya tarmoqlari, dasturiy mahsulotlar, axborot tizimlari va resurslarini himoya qilishning zamonaviy texnologiyalarini tatbiq etish chora-tadbirlarini amalga oshirish, axborot resurslarini himoya qilish bo‘yicha texnik infratuzilmani yanada rivojlantirish; zamonaviy kommunikatsiya vositalari sohasida ilmiy tadqiqotlar va ishlanmalarni, kadrlarni tayyorlash, qayta tayyorlash va malakasini oshirishni tashkil qilish, dasturiy mahsulotlar, axborot tizimlari va ma‘lumotlar bazalarini ishlab chiqish va tatbiq etish, axborot xavfsizligini ta‘minlash va axborot-kommunikatsiya texnologiyalarining boshqa sohalarida shunday ishlarni tashkil etish; aloqa, axborot texnologiyalari va kommunikatsiyalar sohasida xalqaro hamkorlikni yo‘lga qo‘yish, ustuvor loyihalarni amalga oshirish, radiochastotalik spektrdan samarali foydalanish uchun hamda vazirlik faoliyati doirasiga kiruvchi boshqa yo‘nalishlar bo‘yicha xorijiy investitsiyalarni jalb etish.

O‘zbekiston Respublikasi Prezidentining «O‘zbekiston Respublikasi Aloqa, axborotlashtirish va telekommunikatsiyalar texnologiyalari davlat qo‘mitasi faoliyatini tashkil etish to‘g‘risida» 2012-yil 23 oktabrdagi PQ-1836-son qaroriga muvofiq, shuningdek iqtisodiyot tarmoqlarida axborot-kommunikatsiya texnologiyalarini joriy etish va ulardan foydalanish

jarayonlarida Axborot-kommunikatsiya texnologiyalarini rivojlantirish jamg'armasining rolini oshirish va ishtiroki ko'lamlarini kengaytirish maqsadida Vazirlar Mahkamasining 2012-yil 19-dekabrda «Axborot-kommunikatsiya texnologiyalarini rivojlantirish jamg'armasini yanada rivojlantirish va uning mablag'laridan samarali foydalanish to'g'risida»gi qarori imzolangan.

Mazkur qaror bilan Axborot-kommunikatsiya texnologiyalarini rivojlantirish jamg'armasi to'g'risidagi nizom 1-ilovaga muvofiq;

Axborot-kommunikatsiya texnologiyalarini rivojlantirish jamg'armasi boshqaruvi apparati tuzilmasi 2-ilovaga muvofiq;

Axborot-kommunikatsiya texnologiyalarini rivojlantirish jamg'armasi Kengashi tarkibi 3-ilovaga muvofiq tasdiqlangan. Quyidagilar Jamg'armaning vazifalari va faoliyatining asosiy yo'nalishlari hisoblanadi:

a) ushbu Nizomning 4-bandida ko'rsatilgan manbalardan tushgan mablag'larni jamlash;

b) Jamg'arma hisob raqamlarida jamlangan mablag'lardan:

- davlat boshqaruvi organlari va mahalliy davlat hokimiyati organlarining idoralararo integratsiyalashtirilgan axborot tizimlarini joriy etishni, ma'lumotlar uzatishning idoralararo tarmoqlarini tashkil etishni, «Elektron Hukumat» tizimlarini va davlat buyurtmasi doirasida amalga oshiriladigan qidirish tizimlarining milliy segmentini shakllantirish bo'yicha loyihalarni ishlab chiqish, amalga oshirish va kuzatib borishni;

- xalqaro standartlarga muvofiq va mamlakatni ijtimoiy-iqtisodiy rivojlantirishning uzoq muddatli istiqbollari hisobga olgan holda aloqa, televideniye va radioeshittirish sohasida telekommunikatsiya tarmoqlari va tizimlarini rivojlantirish va modernizatsiya qilishni;

Internet tarmog'ining milliy segmentini shakllantirishni, turli yo'nalishdagi zamonaviy mahalliy axborot resurslarini, shu jumladan aholining, ayniqsa yosh avlodning axborotga bo'lgan va intellektual ehtiyojlarini qondirish uchun tarmoq resurslarini shakllantirishni;

✚ davlat axborot resurslari va ma'lumotlar bazasini shakllantirish, saqlash va ulardan foydalanishning yagona tizimini ishlab chiqish, amalga oshirish va kuzatib borishni;

✚ ma'lumotlar uzatish tarmoqlarini va axborot-kommunikatsiya texnologiyalarini rivojlantirish sohasida ustuvor loyihalarni amalga oshirishni, normativ-huquqiy hujjatlar, ilmiy-tadqiqot ishlari va dasturlarni ishlab chiqish, shuningdek ushbu sohada loyihalarni tayyorlash uchun tadqiqotlar o'tkazishni;

✚ aloqa, axborot-kommunikatsiya texnologiyalari, respublikaning butun hududida ma'lumotlarni uzatish milliy va xalqaro axborot tarmoqlaridan yuqori tezlikda foydalanish sohasida xizmatlarning yangi turlarini ishlab chiqish va joriy etishni;

✚ aloqa, kompyuter va tarmoqli texnologiyalar, dasturlashtirish va elektron ma'lumotlar bazasini yaratish sohasida mutaxassislar tayyorlash va

ularni qayta tayyorlash tizimini rivojlantirishni, shuningdek kompyuter va axborot texnologiyalaridan keng foydalanishga asoslangan o'qitish tizimini;

O'zbekiston Respublikasi Axborot texnologiyalari va kommunikatsiyalarini rivojlantirish vazirligi hamda Aloqa, axborotlashtirish va telekommunikatsiya texnologiyalari sohasida nazorat bo'yicha davlat inspeksiyasi apparati faoliyatini xodimlarni qo'shimcha ravishda moddiy rag'batlantirish va moddiy-texnika bazani mustahkamlash yuzasidan; (O'zR VM 27.06.2015-y. 171-son Qarori tahriridagi xatboshi)

Axborot texnologiyalari va kommunikatsiyalarini rivojlantirish vazirligi tizimiga kiruvchi telekommunikatsiya va axborot tizimlari ustidan boshqarish va nazorat qilish organlarini, shuningdek aloqa obyektlari davlat kadastri xizmatlari, elektron raqamli imzolar kalitlarini ro'yxatdan o'tkazish markazlari faoliyatini, terminologiya va lug'atlarni, standartlashtirish bo'yicha bazaviy tashkilotlarni va bazaviy metrologik xizmatni, shuningdek axborotlashtirishni joriy etish va rivojlantirish bo'yicha mustaqil daromad manbaiga ega bo'lmagan xizmatlarni rivojlantirishga ko'maklashishni; (O'zR VM 27.06.2015-y. 171-son Qarori tahriridagi xatboshi)

Respublika axborot-kutubxona markazining faoliyatini;

✚ axborot va pochta xavfsizligi, telekommunikatsiya tarmoqlari tizimini, axborot tizimlari va resurslarini himoya qilish texnologiyalarini joriy etishni, zamonaviy talablar va standartlarga muvofiq axborot va pochta xavfsizligini ta'minlash bo'yicha texnik infratuzilmani rivojlantirishni;

✚ tanlov asosida tanlab olinadigan aloqa, axborotlashtirish va telekommunikatsiya texnologiyalari sohasini rekonstruksiya qilish, ularni rivojlantirish va kompyuterlashtirish bo'yicha loyihalarni amalga oshirishni;

✚ efirga ruxsat berilmagan chiqishlarning va davlat tuzilmalari radio vositalariga to'sqinlik qilishning oldini olish maqsadida radio chastota spektridan foydalanish ustidan davlat nazorati uchun maxsus nazorat-o'lchov texnikasi sotib olish xarajatlarini qisman qoplashni;

✚ axborot-kommunikatsiya texnologiyalarining sifatli vositalarini va mahalliy dasturiy mahsulotlarni, shu jumladan, ijtimoiy-ko'ngilochar va ta'lim yo'nalishidagi dasturiy mahsulotlarni ishlab chiqarish infratuzilmasini rivojlantirishni;

✚ qishloq joylarda xizmatlar ko'rsatuvchi aloqa, radioeshittirish va televideniye tashkilotlariga vaqtincha moliyaviy yordam berishni;

✚ O'zbekiston Respublikasining qishloqlari va chekka aholi punktlarining telekommunikatsiya infratuzilmasini maqsadli qayta jihozlash va yanada rivojlantirishni;

✚ operatorlar va provayderlar tomonidan ko'rsatiladigan universal aloqa xizmatlarini rivojlantirishni;

✚ dasturlashtirish, tizimli ma'muriyatchilik, kompyuter dizayni, animatsiyalar va axborot texnologiyalarining boshqa yo'nalishlari bo'yicha tanlovlar, musobaqalar va bellashuvlar o'tkazish yo'li bilan axborot-

kommunikatsiya texnologiyalari sohasida mutaxassislar faoliyatini rag'batlantirishni;

Litsenziyalar berilganligi, abonent raqamidan foydalanganlik uchun mobil aloqa operatorlari tomonidan to'lanadigan to'lov, aloqa sohasida faoliyatni amalga oshiruvchi yuridik shaxslardan olingan jarima sanksiyalarining undirishdan tushgan mablag'lar summasining 5 foizi miqdorida davlat boji O'zbekiston Milliy kutubxonasi huzuridagi byudjetdan tashqari Axborot-kutubxona muassasalarini rivojlantirish jamg'armasiga ajratilishi bo'yicha xarajatlarni moliyalashtirishda foydalanish.

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TIL O'RGANISHNI SAMARALI BOSQICHGA OLIB CHIQISH

Annotatsiya. Ushbu maqolada til o'rganish bo'yicha qanday metodlardan foydalanish kerakligi va bugungi kunda eng samarali ta'lim tizimi dunyo bo'ylab qanday shaklda olib borilayotganligi shu usullardan foydalanish haqida fikr yuritilgan.

Kalit so'zlar: til o'rganish, strategiya, dolzarb muammolar, chet tillari, booknome, imkoniyat, ko'nikma, imtihonlar, grammatika, metod.

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BRINGING LANGUAGE LEARNING TO AN EFFECTIVE STAGE

Annotation: this article discusses what methods to use in language learning and how to use these methods in the most effective educational system around the world today.

Kirish: Nafaqat rus tili, balki boshqa tillarni o'rganishda taqdim etilgan metodlar ma'noli bo'lishi va mavzular bir biri bilan bog'langan bo'lishi va albatta o'quvchi tushuna oladigan darajada sodda bo'lishi zarur. Aynan men o'qib yurgan davrlarda ham rus tili darsliklarning mavzulari har xilligi va notanish terminlarni tushunish men uchun ancha mashaqqatli ish edi. Darslarning xafta davomida o'tiladigan rus tili darslari juda kamligi va bu davrda o'tilgan narsalarni unutib yuborish holatlari aynan menda ham bo'lgan.

Til o'rganishni erta kechi bo'lmaydi. Inson biror bir tilni tushinishda lug'atlardan foydalanadi va ushbu lug'atlarni maksimal darajada yodlashga harakat qiladi. Bunda o'rganilgan so'zlarni amaliyotda qo'llamasa tezlik bilan unutilib ketishi mumkin. Bunda olingan bilimlar va ko'nikmalarni mustahkamlash uchun jumboq o'yinlardan foydalanish usuli ham sezilarli foydasini ko'rsatadi. Bu oz muncha mushkulday ko'rinishi mumkin. Ammo sezilarli darajada foyda ko'rsatadigan usullardan biridir. Bundan tashqari insonlar o'z farzandlari yoki o'zlari til o'rganuvchi bo'lsalar shu tilda xato bo'lsada gapirishga harakat qilishlari zarur, yosh bolalarga esa shu tilda gapirishga majbur qilishlari kerak. Umumiy olganda til o'rganiishdagi eng qisqa yo'l bu muloqot ekanligi hammaga ma'lum. Chunki bu o'rganilgan tilni amaliyotda qo'llash degani. Bu insondan katta mashaqqat talab etadi. Chunki orada ikkilanishlar,

tutluqib qolish, soʻz boyligining yetishmasligi kabi bir qancha muammolar bor. Bu muammolarga har bir til oʻrganuvchi yoʻliqqan. Koʻpgina olimlar tomonidan tilni 0 dan oʻrganuvchilarga ilk oylarida gapirishga urunmasliklarini tavsiya qilib oʻtganlar. Xoʻsh nega ilk oylarda ular gapirmasligi kerak? Olimlarning fikriga koʻra ular gapirishning oʻrniga koʻproq oʻqishni tavsiya etadilar. Bu bilan til oʻrganuvchi shu tilda oʻqish imkoniyatlari oshadi hamda grammatik tarafdin xatolari kamaydi. Yangi soʻzlar yodlash orqali emas balki til boʻyicha yetarli soʻz boyligiga ega boʻlishi va gapirish qobiliyatiga ega boʻlgandagina gapira boshlashadi. Bunda koʻpincha ularga oson va sodda matnlarni tanlashni maslahat berishadi.

Chet tilidagi insholar va hikoya, kitoblarni koʻproq mutolaa qilish orqali ham insonlar soʻz boyligini oshirishlari va shu tilda maʼlum bir darajada oʻzlashtirishlari mumkin. Hozirda esa jahon standartlariga javob beradigan va asosiysi oʻquvchining yodida qoladigan dars uslublari oʻyinlar va til oʻrganuvchilar uchun esa qoʻshiq va kinolar samarali deya aytilmoqda va bu usul haqiqatdan ham oʻz samarasini berib kelmoqda. Chet tilida muloqot bu eng samarali va qisqa usullardan biridir. Muloqot davomida inson oʻzi bilgan chet tili soʻzlarini maksimal darajada qoʻllashga harakat qiladi. Muloqot til oʻrganuvchining soʻz boyligini yanada mustahkamlab beradi.

Xulosa: Hozirgi kunda chet tilini biluvchi yoshlarga ham imkoniyatlar talaygina. Ular nafqar oʻzbekistondagi balki koʻplab chet el davlati grantlarini yutib olishlari mumkin. Bundan tashqari ular magistratura va doktorontura bosqichlarini chet davlatlarida oʻqib kelish imkoniyatini qoʻlga kiritadilar. Bu yoshlar uchun juda katta imkoniyatlar eshigini ochib beradi. Oʻquvchi mana shu imkoniyatlarni qoʻlga kiritishi uchun ham til oʻrganmogʻi lozimdir. Xalqimizda aytganidek “til bilgan el biladi”²⁹ chunki chet tilini oʻrganayotgan inson dunyoqarashi oʻzgaradi, ikkita tilde fikrlay olish qobiliyati oshadi, zehni baland boʻladi. Ayni damda til oʻrganuvchilarning imkoniyatlari son-sanoqsiz ekanligini hisobga oladigan boʻlsak yoshlar koʻproq chet tillarini oʻrganishga harakat qilmogʻi lozimdir.

Foydalanilgan adabiyotlar:

- 1 Jalolov “chet tilini oʻqitish metodikasi”, Toshkent-2012
- 2 “xorojij tillarni oʻrganish nega muhim” (t.mecyberlinka.ru)
- 3 “yurtimizda chet tillarini oʻrganishning tarixi-ijtimoiy asoslari” (t.mejdpu.uz)

²⁹ Oʻzbek xalq maqoli

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BRINGING LANGUAGE LEARNING TO AN EFFECTIVE STAGE

Annotation: this article discusses what methods to use in language learning and how to use these methods in the most effective educational system around the world today.

Key words: language learning, strategy, current problems, foreign languages, booknome, opportunity, skill, exams, grammar, method.

Kirish: Nafaqat rus tili, balki boshqa tillarni o'rganishda taqdim etilgan metodlar ma'noli bo'lishi va mavzular bir biri bilan bog'langan bo'lishi va albatta o'quvchi tushuna oladigan darajada sodda bo'lishi zarur. Aynan men o'qib yurgan davrlarda ham rus tili darsliklarning mavzulari har xilligi va notanish terminlarni tushunish men uchun ancha mashaqqatli ish edi. Darslarning xafta davomida o'tiladigan rus tili darslari juda kamligi va bu davrda o'tilgan narsalarni unutib yuborish holatlari aynan menda ham bo'lgan.

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Foydalanilgan adabiyotlar:

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- 2 "xorajiy tillarni o'rganish nega muhim" (t.mecyberlinka.ru)
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³⁰ O'zbek xalq maqoli

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O'TKIR HOSHIMOV "DUNYONING ISHLARI" ASARIDA "ONA" OBRAZI TALQINI

Annotatsiya: ushbu maqolada O'tkir Hoshimovning "Dunyoning ishlari" asaridagi ona obrazi talqini va obrazdagi o'ziga hos jihatlari haqida fikr yuritiladi

Kalit so'zlar: onalar, mehr, jannat, tarbiya, quvonch, hayot, muhabbat, dunyoning ishlari, tasavvur, alla, ayol, farzand, asarlar, ona vatan.

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INTERPETATION OF THE IMAGE OF THE MOTHER IN OTKIR HASHIMOV'S "SUCH IS LIFE"

Abstract. This article discusses the interpretation of the image of the mother in the "Such is life" by Utkir Hashimov and the specific aspects of the image

Key words: mothers, kindness, paradise, education, joy, life, such is love, imagination, women, children, works, homeland.

Kirish: Inson yaralishi bilan Alloh unga ota-onasini in'om etadi. Har bir insonning kamolotida, voyaga yetishida, tarbiyasida onalarning hissasi kattadir. Onaning muhabbati bolaning hayotida ahamiyati katta. Bola voyaga yetgunga qadar ona uning suyanchi, himoyachisi hisoblanadi. Shu sababli ham buyuk asarlarning kattagina qismi aynan onalarga, ayollarga bag'ishlangan. Mana shunday asarlar sirasiga o'zbek adabiyotida yaratilgan "dunyoning ishlari" asarida ham onalar obrazini yanada go'zal so'zlar orqali yoritib berilgandir. O'tkir Hoshimov ushbu qissasida ona qiyofasi son sanoqsiz jilolari bilan tasavvuringizda namoyon bo'ladi. Muallid har bir hikoyasi yakunlanishi bilanoq ushbu hikoyaga kichik parchalar qoldirib ketadi. Masalan "yulduzlar to'la osmonga tikilaman. Ehtimol, osmondagi eng yorug' yulduzlar onalarning jonidir"³¹, "ilgari bir haqiqatni bilardim. Ona uchun bolaning katta-kichigi bo'lmaydi", "onalar farzandlari hamisha birga bo'lishini istaydi" va shu kabilar. Onaning bolaga aytgan allalari ham unutilmasdir. Onaning farzandlariga, oilasiga berayotgan mehri ham beminnatdir. O'tkir Hoshimovning "urushning so'nggi qurboni "

³¹ Hoshimov O'. Dunyoning ishlari.Qissa – Toshkent.: O'qituvchi .2018.

asarining mazmunida ham aynan ona timsoli yotadi. Umaman onalarga bag'ishlagan asarlar o'zbek adabiyotida ham jahon adabiyotida ham juda ko'plab uchraydi. Ona haqida yozilgan eng tasirli asarlardan yana biri bu "ufq" trilogiyasidagi "qochoq" romanidir. Bu asarning tasirli joyi shundaki ona o'z farzandini hatto otasidan bekitib g'amho'rlik qilishidir. Ona umrining ohirigacha farzandi uchun yashadi. Uni boqdi songgi nafasigacha bolasidan or qilmadi, o'limiga qadar mehr berdi. Onaning mehri shu darajada kuchli mahirat bilan tasvirlangan. Ona aytgan alla dunyoning qaysi tilida aytilmasin bir xil jaranglaydi, bir hil mazmun va mehrga ega. Ona mehr ko'rsatguvchi zotdir. Bola kimdan mehr topsa o'sha insonni ona deb ataydi. Onalar bolalarini ajratmaydilar. Ular ko'chadagi begona bolalarga ham mehr bera oladigan darajada bag'rikeng va mehrli insonlardir. Rivoyatlarda aytilgandek bolalari uchun ikki ko'zidan ham kechgan zotdir. Onalarning hammasi bir xil, hammasi ko'ngilchan, farzandi uchun hamma narsaga tayyor, biroz qattiqqo'llik qilsada farzandini tarbiyasi uchun qiladi. Afsuski buni farzandlar kech tushunishadi. Onaning vazifasi faqat mehr berish bo'libgina qolmay tarbiya berish hamdir. Shu sababli bazi o'rinlarda qattiqqo'lligi seziladi. Jamiyatimizdagi "ona tili", "ona vatan" tushunchalarining bong urushi ham aynan shundandir. Onasi bor inson kambag'al hisoblanmaydi. U dunyodagi eng baxtli inson deya ta'riflanadi. Onalar duosi hamishajobat bo'lguvchidir. Shu sababli ham uzoq safarlarda yoshi ulug' onaxonlarimiz duosi bilan yo'lga o'tlanamiz. Ular duosi ila hamma ishimiz o'ngidan keladi. Ular farzandlarning hayotidagi "unutilmas qahramonlar"dir. Ular qahramonlik ko'rsatib butun umrini farzandlariga bag'ishlashadi. Ular berayotgan hamma narsa beminnat. Ular berayotgan mehr bebaho, ular berayotgan tarbiya bebahodir. Onalarimiz ozgina yutuqlarimizdan juda katta quvonch olishadi.

Xulosa: xulosa o'rnida shuni aytishimiz mumkinki, onalarimiz berayotgan issiq tafti, ular berayotgan mehri har qanday narsadan ustundur. Farzandlarining kichik yutuqlaridan ham bir olam quvonch oladi, fahrlanadi. Shunday ekan farzandlar ham shunga munosib javob qaytarmog'i darkordir.

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TA'LIM JARAYONI UCHUN MOBIL ILOVALAR YARATISHDA FOYDALANILADIGAN MOBIL TA'IM TEXNOLOGIYALARI

Annonatsiya. Ushbu maqolada ta'lim jarayonida mobil texnologiyalardan foydanish, ta'lim jarayoni ishtirokchilarining mobil mobil ilovalarga bo'lgan shtiyoji sababli mobil ilovalarning ta'limdagi o'rni va mobil ilova yaratuvchi texnologiyalar haqida yorotilgan.

Kalit so'zlar: mobil texnologiyalar, Flutter, Dart, Java, JavaScript, Android, iOS.

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MOBILE LEARNING TECHNOLOGIES USED IN CREATING MOBILE APPLICATIONS FOR THE EDUCATIONAL PROCESS

Annotation. This article describes the use of mobile technologies in the educational process, the role of mobile applications in education and the technologies that create mobile applications due to the preference of the participants of the educational process for mobile applications.

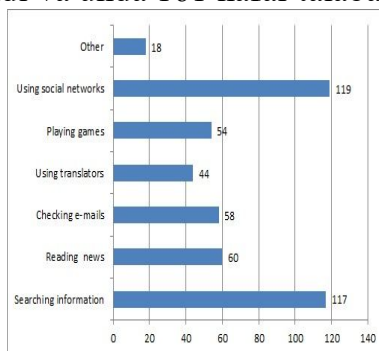
Keywords: mobile technologies, Flutter, Dart, Java, JavaScript, Android, iOS.

Kirish. Kompyuter texnologiyalarini hayotimizning har bir sohasiga kirib kelishi ish unumdorligini oshirish bilan bir qatorda sifat va samaradorlikni oshishiga olib keldi, ayniqsa ta'im sohasida. IT texnologiyalaridan foydalangan holda o'quv jarayonini takomillashtirish bugungi kunda butun dunyoda ommalashib bormoqda. Shuningdek, Mobil texnologiyalarning jadal rivojlanishi ularning ta'im jarayoniga yanada kengroq jalb etilishini ta'minlamoqda.[1] Kompyuterlar va mobil texnologiyalar yordamida o'qitish masalalari ko'plab olimlarni: pedagoglarni va IT mutaxassislarini qiziqtiradi. Iqtisodiyot bozorida mutaxassislarning raqobatbardoshligi ko'p jihatdan ularning bilim sifatiga bog'liq.

Materiallar va uslublar. Ta'im sohasida mobil qurilmalardan foydalanishning o'sishini va ularning ta'im jarayonida o'ynagan rolini ko'rsatadi. Bu tahlil quyidagi ko'rsatkichlarga e'tibor beradi:

Mobil qurilmalar iste'molining o'sish darajasi. Ommaviy axborot ma'umotlariga ko'rara, mobil qurilmalar iste'moli dunyodagi ta'im sohasida tez-tez o'smoqda. Bu, o'quvchilar, o'qituvchilar va mas'uliyat tashkilotlar o'rtasida o'rganish va ma'umot almashish uchun mobil qurilmalardan foydalanishni ko'paytirishda ko'rinadi[2].

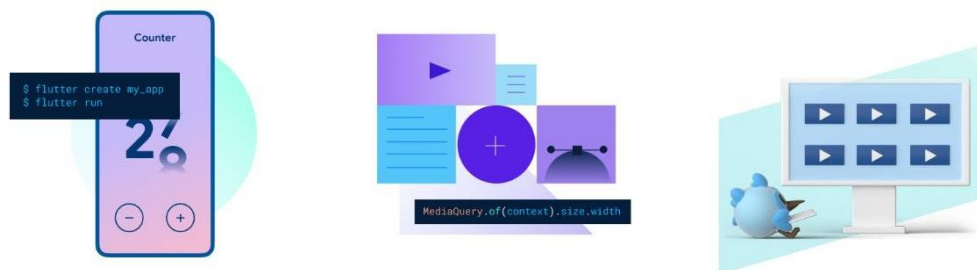
Riga Texnika Universitetining Kompyuter fanlari va axborot texnologiyalari fakultetining 1-kurs talabarlari o'rtasida "Kompyuter tizimlari, avtomatlashtirish va kompyuter injiniringi", "Axborot texnologiyalari" va "Intellectual robot tizimlari" bo'yicha to'rtta o'quv dasturini o'z ichiga olgan so'rovnoma o'tkazildi. o'quv jarayonida mobil texnologiyalardan foydalanish. So'rov 2018-yilda o'tkazildi va unda 161 nafar talaba ishtirok etdi[5](1-rasm).



1-rasm. Ko'p ishlatiladigan mobil qurilma xususiyatlari

Keling, siz bilan mobil ilovalar yaratuvchi texnologiyalar bilan tanishib chiqaylik.

Flutter texnologiyasi. Flutter - bu mobil ilovalarni yaratish uchun Google-ning bepul va ochiq manbali UI tizimi. 2017-yilda chiqarilgan Flutter dasturchilarga bitta kod bazasi va dasturlash tili bilan mobil ilovalar yaratish imkonini beradi. Bu imkoniyat iOS va Android ilovalarini sodda va tezroq yaratish imkonini beradi. Flutter tizimi yordamida mobil ilovalarni yaratuvchi dasturchilar buni Dart deb nomlangan dasturlash tilidan foydalanadilar. JavaScript kabi sintaksisga ega bo'lgan Dart - bu asosiy dasturlash tili bo'ib, u front-end ishlab chiqishga qaratilgan. Flutter yangi platformalararo texnologiyabo'sada, tobora ko'proq kompaniyalar Flutterni Xamarin, Sordova va Reast Native kabi texnologiya o'rniga tanladilar[6](2-rasm).



2-rasm. Flutter texnologiyasi

Rivojlanish guruhlari Flutterni tanlashining asosiy sabablaridan ba'zilari:
O'rganish oson. Flutter ishlab chiquvchilarga OEM vidjetlariga kirish yoki ko'p kodlardan foydalanmasdan mahalliy mobil ilovalarni yaratish imkonini beradi. Bu, Flutterning ayniqsa jozibali foydalanuvchi interfeysiga qo'shimcha ravishda, mobil ilova yaratish jarayonini ancha soddalashtiradi[7].

Ajoyib ijro. Foydalanuvchilarning ta'kidlashicha, Flutter ilovasi va mahalliy mobil ilova o'rtasidagi farqni sezish qiyin.

Xarajatni qoplaydigan. Xuddi shu kod bazasiga ega iOS va Android ilovalarini yaratish, aslida, bittasining narxiga ikkita ilova yaratishdir. Turli IDElarda mavjud. Ishlab chiquvchilar Flutterda o'z kodlarini tahrirlash uchun Android Studio va VS Sode o'rtasida tanlov qilishlari mumkin[8] (2-rasm).

Java qati'y va statik tipizatsiyaga ega bo'lgan va obyektga yo'naltirilgan umumiy maqsaddagi dasturlash tilidir. Avvaliga Sun Microsystems tomonidan ishlab chiqilgan, keyinchalik Oracle kompaniyasi tarafidan sotib olingan.

Java obyektga yo'naltirilgan dasturlash (OOP — Object Oriented Programming) tili va u C++ ga ancha o'xshash. Eng ko'p yo'l qo'yildigan xatolarga sabab bo'luvchi qismlari olib tashlanib, Java dasturlash tili ancha soddalashtirildi.

Java kod yozilgan fayllar (*.java bilan nihoyalanuvchi) kompilatsiyadan keyin bayt kod (bytecode) ga o'tadi va bu bayt kod Java Virtual Mashinasi JVM tomonidan o'qib yurgizdiriladi.

Java SE (Java Standart Edition) — serverda, shaxsiy kompyuterda desktoplarda ishlovchi dasturlar, appletlar yaratish uchun ishlatiladi[6]. Bu texnologiya yordamida yaratilgan dasturlar deyarli barcha operatsion tizimlarda ishlay oladi (Windows NT, Macintosh, Linux va Solaris). Shu bilan birga JavaSE boshqa Java turlarining asosi hisoblanadi. JVM (Java Virtual mashinasi) JVM ning vazifasi tarjimonlik ya'ni, dastlab biz yozgan *.java fayl kompilyator yordamida bayt kod ga o'giriladi va JVM yordamida esa mashina tiliga aylantiriladi

Dart - Google kompaniyasi tomonidan, umumiy qo'lanish uchun yaratilgan dasturlash tilidir. U asosan veb dasturlar yaratish uchun mo'jallangan bo'ib (ham mijoz, ham server tomon uchun), shu bilan birga mobil ilovalar ham yaratish mumkin.

Xulosa. Hozirda maktablar, kitoblar va kompyuterlar yetishmaydigan joylarda ham mobil texnologiyalardan keng foydalanilmoqda. Mobil telefonlar narxi doimiy ravishda pasayib bormoqda, shuning uchun ko'p odamlar, hatto eng qashshoq hududlarda ham bunday qurilmalarni sotib olish va ulardan qanday foydalanishni bilish imkoniyatiga ega. Ko'payib borayotgan loyihalar mobil texnologiyalar sifatli ta'lim olish imkoniyatidan mahrum bo'lgan talabalar uchun ajoyib o'quv vositasi ekanligini ko'rsatmoqda. Shunday qilib, Mobil texnologiya o'quv natijalarini baholash jarayonini tezlashtiradi va o'quvchilar va o'qituvchilarga taraqqiyotni tez kuzatish imkoniyatini beradi. O'tkazilgan

statistikalar va kuzatishlar shuni ko'rsatadiki, mobil ilovalarni ta'lim jarayonida qo'llash ta'limda sifat va samaradorlikni oshishiga olib kelmoqda.

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ECONOMIC IMPORTANCE OF INSURANCE

Abstract. This article provides information about insurance, its application and types. Also, the essence of the insurance market of Uzbekistan and the law "On Insurance Activities" adopted in our republic is explained.

Key words: Insurance, compulsory auto insurance, voluntary auto insurance, property insurance, travel insurance, insurance market, compulsory and voluntary insurance, "Insurance activities on" law.

As the national insurance market of our country is developing day by day, we can say that the role of the state is very important in this. Today, the main financial goal of our state is the stable development of the economy, increasing the efficiency of social production and ensuring the level of well-being of society members.. In addition, in the course of reforms to further liberalize the economy in our country under the leadership of President Shavkat Mirziyoyev, special attention is paid to the development of the banking and financial system, leasing, auditing, insurance, engineering and other structures., the role and importance of insurance activities in creating favorable conditions for business entities is considered very high.

Insurance - the establishment of targeted funds for the compensation of damages caused by natural disasters (earthquakes, floods, fires, etc.), various accidents and payment of other compensations, and from is a system of economic relations related to the use. The insurance system is an integral part of the economy, on the one hand, it provides social and economic guarantee, and on the other hand, it warns against various insurance risks through the mechanisms of voluntary contractual obligations and tariffs. includes protection of the interests of its clients as part of its services. At various stages of socio-economic development, insurance was a reliable means of protecting the interests of citizens. The insurance fund is an important and unique link of the national economy reserve fund, it provides financial protection of the national economy from various accidents.

In Uzbekistan, there are types of insurance according to the needs of a person. Including: mandatory auto insurance, optional auto insurance, property insurance, life insurance, travel insurance, medical insurance, mortgage insurance, etc. In addition, insurance is carried out in mandatory and voluntary forms.. Compulsory insurance itself is divided into compulsory and compulsory state insurance. Both of them are introduced in accordance with legislation. In Uzbekistan, the types of compulsory insurance for passengers of public road,

water, air, railway transport, civil liability of vehicle owners and others are established. Military personnel of the Ministries of Defense, Internal Affairs, Emergency Situations, National Security Service, State Border Guard, State Customs, State Tax Committees of the Republic of Uzbekistan are covered by compulsory state insurance and insurance for such types of insurance the fee (reward) is paid from the state budget.

Voluntary insurance types are carried out based on the mutual agreement of the parties participating in insurance relations and a written contract, the amount of insurance liability (insurance price), the amount of insurance premium (premium), in the event of an insurance event, until The sum of paid insurance money (insurance coverage, compensation) - the terms of the contract are agreed between the insurer and the insured parties.

The main indicators of the activity of insurance organizations in the republic of Uzbekistan for 2020-2021

	2020 –year (thousand)	2021 –year (thousand)	Share (%) 2020	Share (%) 2021
Total number of concluded contracts	5941.1	6841.1	—	—
Optional insurance	2503.2	2964.2	42.1	43.3
Compulsory insurance	3437.9	3877.1	57.9	56.7

We can see in the table above that the total number of voluntary and compulsory insurance contracts of republican insurance organizations for 2020 and 2021 and their corresponding shares (percentage) are described. the amount of insurance is significantly lower than the amount of compulsory insurance. We can take several reasons as the main reason for this. For example, gradual reforms of the insurance market are being carried out in Uzbekistan, that is, to developed countries relatively speaking, there was not much time before the insurance market appeared and developed in Uzbekistan. In addition, the majority of the population does not have sufficient literacy about insurance, its usefulness and its content. We can explain it because the concept (term) of insurance is a new concept for people in a field other than the economy, and it takes some time for the population to understand the meaning of the word. For this reason, in 2020 and 2021, the amount of voluntary insurance contracts was 16 and 13 percent less compared to mandatory insurance contracts. There is no exaggeration. Because the more individuals and legal entities voluntarily insure themselves, firstly, they reduce the risk they bear to a certain extent, and secondly, they contribute to the development of the country's economy. they did.

A new edition of the Law on Insurance Activities of the Republic of Uzbekistan was announced. This Law is based on experienced national practice and international principles in the field of insurance and includes 10 chapters and 72 articles. In particular, the new version of the Law on Insurance Activities, the

Strategy of Actions on the Five Priority Areas of the Development of the Republic of Uzbekistan in 2017-2021, and the Order of the President of the Republic of Uzbekistan dated August 2, 2019 PQ-4412 it should be noted that it was developed and adopted in accordance with the decision no. The main purpose of the development of the law is to define the rules of action at the legal level and to create a single mechanism for managing relations in the field of insurance activity. is considered The Law on Insurance Activities was signed by the President of the Republic of Uzbekistan on November 23, 2021 and entered into force on February 25, 2022.

Conclusion: In conclusion, we can say that insurance is an important means of social protection, and it is also an important factor for the economic development of the state. Insurance is a great solution for them. Otherwise, if an enterprise or a citizen is not insured when faced with a crisis, it will be very difficult for them to get out of this situation. Insurance activity is developing in Uzbekistan as well as in the developed countries of the world. For this, a number of systematic reforms are being made and conditions are being created.

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THE ROLE OF MATHEMATICS IN THE DEVELOPMENT OF THE TOURISM INDUSTRY

Abstract. Today, tourism is considered one of the important sources for the development of countries. The use of mathematics in tourism is essential for achieving high efficiency in these processes. In this work, the role and necessity of mathematics in the development of the tourism industry is shown. In addition, it is possible to see the use of mathematical methods in solving the problematic issues that arise in tourism use.

Keywords: tourism development, mathematical modeling, demand and supply, market research, price-setting strategies, dynamic pricing, regression analysis, cluster analysis, data mining, price elasticity of demand, competitor analysis, revenue management.

Introduction. Tourism is an important area for the economy of many countries, contributing significantly to GDP and employment. However, developing and managing it requires a deep understanding of various factors such as market trends, consumer behaviors, and resource allocation. In solving these issues, mathematics plays a crucial role by providing necessary tools for analysis, forecasting, and optimization. Currently, the importance of mathematics in tourism development and its application in market research, price strategy, and resource management is evident [1].

Research methodology. Firstly, mathematics in market research. Understanding the market is one of the crucial aspects for tourism development where mathematics plays a pivotal role. Analyzing consumer preferences, desires, and goals is essential for creating effective marketing campaigns and product offerings. Mathematics offers various tools for analyzing large datasets to identify important insights and make predictions. Understanding consumer behavior and market trends usually involves methods such as regression analysis, cluster analysis, and data mining.

For example, regression analysis can help in understanding the relationship between price and demand for a specific tourism product or destination. This information can assist businesses in optimizing price strategies to maximize revenue. Cluster analysis can be used to segment consumers based on their

preferences, enabling businesses to tailor marketing efforts to different market segments. Data mining techniques can be used to identify hidden patterns in consumer behaviors, assisting businesses in creating targeted marketing campaigns based on consumer preferences [1,2]. To illustrate the use of mathematics in understanding tourism markets, let's consider a hypothetical example using regression analysis.

Example. The travel company is planning to introduce a new tour package in a popular destination. They want to understand how prices will impact demand for this package, so they can set the price at the maximum level to increase their revenue.

Regression Analysis: The company collects data on the price of tour packages and the number of corresponding bookings over the past years. They use regression analysis to model the relationships between price and demand.

Let's assume the data looks like this:

Price (USA DOLLARS)	Orders from the booking platform
100	50
150	40
200	30
250	20
300	10

Using regression analysis, it is possible to customize a linear regression model to evaluate demand as a price function for the company. In regression analysis, the goal is to find the line that best fits the data points. This line is expressed with the equation:

$$\text{Demand} = \beta_0 + \beta_1 \times \text{Price}$$

Where:

- β_0 - intercept (the expected demand when the price is zero)
- β_1 - slope (the change in demand for a one-unit change in price)

The values of β_0 and β_1 are determined based on the data using statistical methods. The most widely used method is the ordinary least squares method, which minimizes the sum of the squared differences between the actual values and the values predicted by the model [4].

In our example, the estimated regression model is:

$$\text{Demand} = 70 + 0.2 \times \text{Price}$$

These values are obtained using the ordinary least squares method. The process determines the intercept by calculating β_0 and β_1 , the actual demand values, and minimizes the sum of the squared differences between the actual values and the values predicted by the regression model. Special calculations are usually carried out using complex mathematics and often with statistical software.

Thus, by utilizing this model, it is possible to estimate the demand at various price points in the company and identify the optimal price increase that will maximize revenue by showing that the demand decreases by 0.2 for each 1

dollar increase in the price. This information helps in determining the price that maximizes revenue by considering factors such as competitors' prices and customer opinions.

From a business perspective, mathematics is essential in determining price strategies. Mathematics plays a critical role in tourism development, particularly in pricing strategy. Pricing decisions in tourism are complex, taking into account factors such as demand elasticity, competitor pricing, and cost structure. Mathematics helps analyze these factors and provides tools to develop an optimal pricing strategy [2].

For example, in tourism, dynamic pricing strategies, such as maximizing revenue, are widely used. Mathematics is employed to develop algorithms that adjust prices based on factors such as the change in demand, competitor pricing, and other variables. These algorithms not only contribute to ensuring price competitiveness for businesses but also aid in optimizing pricing strategies to increase revenue.

To illustrate the use of mathematics in determining price strategies in tourism based on dynamic pricing, let's consider a hypothetical example.

Example: It seems like you are asking about developing a dynamic pricing algorithm for hotel rooms to maximize revenue. You can use data on room demand, competitor prices, and other relevant factors to create a pricing algorithm that adjusts room rates based on changes in demand and competitor prices. This dynamic pricing algorithm will allow you to optimize room rates based on changes in demand and competitor prices.

1. Define the base price for each room type.
2. Monitor the demand and competitors' prices for the rooms.
3. Adjust room prices dynamically based on demand and competitors' prices.

For instance, if demand is high and competitors' prices are also high, the hotel can increase room prices to benefit from high demand. Conversely, if demand is low and competitors' prices are also low, the hotel can decrease room prices to attract more customers.

Mathematical model: Let's assume that the hotel determines room prices using the following mathematical model:

$$\text{Room price} = \text{Base price} \times \text{Demand factor} \times \text{Competitor factor}$$

Here:

- Base price - the price set for the type of room.
- Demand factor - a factor that adjusts the room price based on demand. For example, if demand is high, the demand factor can be greater than 1, indicating an increase in room prices.
- Competitor factor - a factor that adjusts the room price based on competitors' prices. For example, if competitors' prices are high, the competitor factor can be greater than 1, indicating an increase in room prices.

Using this model, the hotel can dynamically determine room prices based on maximizing revenue while taking into account demand and competitors' prices. This demonstrates how mathematical models, especially dynamic pricing algorithms, can be utilized in optimizing pricing strategies for revenue in the tourism industry [3].

Thirdly, managing resources through mathematics. Effective resource management is essential for sustainable development in tourism. Mathematics plays a crucial role in allocating resources, planning possibilities, and managing inventory. Utilizing mathematical models, businesses can optimize allocation of resources such as hotel rooms, airline ticket sales, and tour packages, ensuring efficient and effective utilization of these resources.

For example, utilizing mathematical models to forecast demand for a specific direction or touristic product can help tailor businesses' capabilities accordingly. This information facilitates advanced booking and reduced wastage of resources, leading to higher profitability and meeting customer needs.

Conclusion. In conclusion, mathematics plays a significant role in advancing the tourism industry. It helps to analyze market trends, forecast consumer behavior, and optimize pricing strategies and resource allocation. By using mathematical methods, tourism enterprises are able to develop more purposeful marketing activities, improve pricing strategies and ensure efficient allocation of resources that contribute to sustainable growth and development. Also the possibility of calculating the number of users of e-tourism product using mathematical methods in numerical form special attention was paid to the promotion of tourism services.

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THE ISSUE OF OPTIMAL USE OF ENTERPRISE TOOLS

Annotation. In this work if the processing time for each detail on each machine is clear, the working time fund of the machines, and the profit from the finished products are determined, the goal of solving the problem is to find the optimal work plan of the tools.

Key words: Industrial enterprises, product, maximum, optimal plan, tools.

Industrial enterprises have several tools and equipment. them It can be divided into 2 types.

1). If only one operation can be performed on instruments, they are said to be non-interchangeable instruments.

2). If several types of operations are performed on tools, they are called interchangeable tools.

In the first type of tools, the detail is processed sequentially. If the processing time for each detail on each machine tool, the working time fund of the machines, and the profit from the finished products are determined, the goal of solving the problem is to find the optimal work plan of the tools. In other words, what type of part and how much should be produced in order to maximize the profit from them.

Enter the following characters.

j – types of products;

C_j – j profit from a retail unit;

a_{ji} – i the cost of time spent processing from a type of tool to a type of product unit; j

A_j – i type tool working time fund;

X_j – the number of types of products produced in the optimal plan. j

Economic-mathematical model.

$$F = \sum C_{jj} * X_j = \max$$

The profit from the products should be the maximum.

1) j - i the condition that the time spent on the production of the product on the tool does not exceed the percentage of the working time of the tool

$$\sum a_{ij} * x_j < A_i$$

2) $X_j > 0$

The model seen above does not fully determine the optimal option for the use of production capacity in the enterprise. Therefore, the production program in

several options, for example, taking into account the implementation of the annual plan of the enterprise, without changing the structure of the plan, maximum product production, production according to its full range of products, full use of equipment, taking into account such things as the implementation of the maximum profit program, the enterprise will use its production capacity wisely.

In industrial enterprises, sometimes machines, automatic lines, or a certain group of tools may be involved in the production of products. For example, in the production of a part, several interchangeable machines are used. The labor productivity of these equipments, the time it takes to produce the product, and the cost may be different. Therefore, at this time, it is necessary to mathematically express the problem of distribution of production with optimal use of equipment.

Economic setting of the issue. There are several different tools. Each type of tool can produce several types of products. That is, the time fund for each type of tool is known. The production cost of each detail is also clear.

It is necessary to divide the parts for processing in the means of production in such a way that the amount of total expenses is minimal. Let's formalize the issue.

j - detail type number;

A_i - i working time fund of type tool;

L_{ij} - j norm of time cost of processing a type of detail in a tool of the number i per unit;

B_j - j type detail processing plan;

C_{ij} - i costs for the production of one type of product in a type of tool; j

X_{ij} - i which produces from the type tool j .

Economic-mathematical model.

Objective: Minimize total machining costs

$$F = \sum \sum C_{ij} * X_{ij} \rightarrow \min$$

1) When processing details, i the time cost of the type of tool should not exceed the working time fund of this tool

$$\sum L_{ij} * X_{ij} \leq A_i$$

2) The number of parts processed in all types of tools should be equal to the production plan

$$\sum X_{ij} = B_j$$

3) $X_{ij} > 0$.

Summary. By creating an economic-mathematical model of the given problem, the total cost of processing i the details, provided that the time cost of the type of tool when processing the details does not exceed the working time fund of this tool, and the number of details processed in all types of tools is equal to the production plan. it will be possible to determine the minimum amount of.

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TARMOQLI REJALASHTIRISH VA BOSHQARISH USULLARINI IQTISODIYOTGA TADBIQI

Annotatsiya. Ushbu ish bir tarmoqni tijorat ma'lumotlarini olinib, bu ma'lumotlardan foydalanib rejalashtirilgan ishlar kompleksini bajarish jarayoni o'rganilgan va bu jarayonni belgilangan muddatdan oshib ketmaslik uchun kretik yo'llar aniqlangan.

Kalit so'zlar: Rejalashtirish, boshqarish, tarmoq, tarmoqli grafik, ish, voqea, to'la yo'l, kretik yo'l.

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APPLICATION OF NETWORK PLANNING AND MANAGEMENT METHODS TO THE ECONOMY

Abstract. This paper examines the process of carrying out a set of planned works using this information and identifies critical ways to avoid exceeding the deadlines of this process.

Keywords: Planning, control, network, network graph, work, event, full path, critical path.

Rejalashtirish va boshqarish sohasida masalalarning xilma-xilligi va o'zaro bir-biriga bog'liqligi ilmiy asoslangan tizim bo'yicha rejali boshqarish ishlarini bajarilishini nazorat qilishni taqozo etadi. Bunday maqsadlar uchun keyingi yillarda tarmoqli rejalashtirish usuli va modellari kabi vositalardan samarali foydalanmoqda hamda qayd etilgan fikrlar negizida tarmoqli rejalashtirish va boshqarish tizimi yaratildi va qo'llanilmoqda. Bunday tizimlar murakkab obyektlar, o'zaro bog'langan ishlar, operatsiyalar, mavzular, ishlanmalar kabi ko'plab ijrochilar faoliyatini aniq koordinasiya qilishni talab qiladi.

Tarmoqli rejalashtirish va boshqarish usulining asosiy rejaviy xujjati bo'lib, tarmoqli grafik hisoblanadi. O'z navbatida tarmoqli grafik ikki element, ya'ni ish

va voqea yordamida quriladi. Ish ikkita doirachani tutashtiruvchi yo‘nalish bilan tasvirlanadi. Har bir voqeaga ma’lum i raqam yoziladi (beriladi), shuning uchun ikkita i va j voqealarni tutashtiruvchi har bir ishni (i, j) ish deb o‘qiladi, hamisha $i < j$. Har bir ishga t_{ij} -davomiylik muddati yoziladi. Bajarilishi uchun resurslarni talab etmaydigan hamda ikki va undan ziyod ishlar o‘rtasida faqat mantiqiy aloqani ifodalovchi ishga yolg‘on ish deyiladi. To‘la yo‘l deb boshlang‘ich voqeadan tortib to oxirgi voqeagacha uzluksiz ishlar ketma-ketligidan tashkil topgan yo‘lga aytiladi, masalan L_n - n -chi to‘la yo‘lni anglatadi.

Yo‘lning uzunligi deganda unda yotgan ishlarning davomiyligini yig‘indisiga aytiladi:

$$L_n = \sum t_{ij}$$

Xavfli yo‘l – bu tarmoqli grafikni eng muhim va mas’uliyatli qismi hisoblanadi, chunki bu ishlarni bajarilish muddatlarini buzilishi barcha ishlar majmuini bajarilish muddatini barbod qilib yuborishi mumkin. Shu nuqtai nazardan tegishli mas’ul shaxs shu xavfli uchastkaga butun e’tiborini qaratishi va qolgan xavfli bo‘lmagan uchastkalardan foydalanilmay turgan zahiralarni qidirib topishi hamda ularni qayta taqsimlash natijasida butun ish majmuini shiddat bilan bajarilishini ta’minlashi kerak bo‘ladi. Aks holda belgilangan ishlar majmuini ko‘rsatilgan muddatlarda bajarilishi xavf ostida qolishi mumkin. Ammo tarmoqli grafik ko‘p sonli voqea va ishlardan tashkil topsa, mazkur yuqorida zikr etilgan usul bilan kiritik yo‘lni aniqlash o‘ta mehnat talab ish bo‘ladi.

Quyidagi jadvallarda keltirilgan ma’lumotlar bo‘yicha Supermarketning tijorat faoliyatini rivojlantirish rejasining tarmoqli grafigi qurilsin hamda kritik yo‘li aniqlansin:

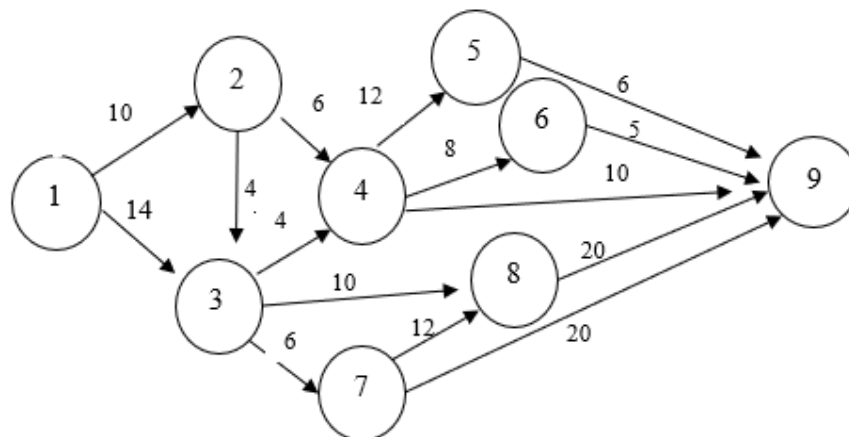
1-jadval

Supermarketning tijorat faoliyatini rivojlantirish rejasining tarmoqli grafigi

Ish (i, j)	Ishning mazmuni	Ishni davomiyligi (kunda)
1	2	3
(1,2)	Savdo jixozlarini yangi turlarini o‘rganish	10
(1,3)	Tadbirni iktisodiy asoslash, smeta tuzi shva uni kelishish	14
(2,4)	Jixozlarni chizmasini bajarish uchun texnik topshirigini ishlab chikish. Loyixa oldi chizmalarini bajarish	6
(2,3)	Jixozlarni joylashtirish loyixasini tuzish	4
(3,4)	Jixozlarga buyurtma tuzish	4
(3,7)	Ishchi loyixani ishlab chikish	6

(3,8)	Shtatlar jadvalini tasdiklash	10
(4,5)	Yangi jixozlarni joylashtirish	12
(4,6)	Jixozlarni ayrim kismalarini kushimcha xonalarga joylashtirish	8
(4,9)	Jixozlarni tula komplektligini tekshirish	10
(5,9)	Tovarlarni joylashtirish	6
(6,9)	Javobgar shaxslarni konun-koidalar bilan tanishtirish	5
(7,8)	Xodimlarni yangi reklama vositalari bilan tanishtirish	12
(7,9)	Tovarlarga yangi reklama va annotasiyalar tayyorlash	20
(8,9)	Sotuvchilarni sotuvchilik san'ati buyicha ukitish	20

1). Supermarketning tijorat faoliyatini rivojlantirish rejasining tarmoqli grafigini ko'ramiz:



2). Kritik yo'lni bevosita tarmoqli grafikdagi barcha to'la yo'llarni davomiylik muddatlarini hisoblash orqali aniqlaymiz:, ya'ni

$$L_1 = 10 + 6 + 12 + 6 = 34$$

$$L_2 = 10 + 6 + 10 = 26 \quad L_{10} = 14 + 4 + 12 + 6 = 36$$

$$L_3 = 10 + 6 + 8 + 5 = 29 \quad L_{11} = 14 + 4 + 10 = 28$$

$$L_4 = 10 + 4 + 4 + 12 + 6 = 36 \quad L_{12} = 14 + 4 + 8 + 5 = 31$$

$$L_5 = 10 + 4 + 4 + 10 = 28 \quad L_{13} = 14 + 10 + 20 = 44$$

$$L_6 = 10 + 4 + 4 + 8 + 5 = 31 \quad L_{14} = 14 + 6 + 18 + 20 = 58$$

$$L_7 = 10 + 4 + 10 + 20 = 44 \quad L_{15} = 14 + 6 + 20 = 40$$

$$L_8 = 10 + 4 + 6 + 18 + 20 = 58$$

$$L_9 = 10 + 4 + 6 + 20 = 40$$

Xulosa. Qoidaga ko'ra tarmoqli grafidagi birinchi va oxirgi voqealarni tutashiruvchi yo'llar jami 16-ta bo'lib, ulardan faqat ikkitasi to'la yo'l, ya'ni 1-

2-3-5-6-7-9 va 1-2-3-5-6-9 voqealarni tutashtiruvchi to‘la yo‘l eng xavfli (kritik) yo‘llar bo‘lib hisoblanadi va mazkur yo‘llarda zahiralarni mavjud emas. Ushbu to‘la yo‘llarda biror bir uchastkadagi ishlarni bajarilish muddatini kechiktirilishi butun ish majmuini belgilangan direktiv muddatlarda bajarilishini buzib – kechiktirib yuborishi mumkin. Shuning uchun mutaxassis – mas’ul xodim birinchidan belgilangan ishlarni o‘z vaqtida bajarilishini ta’minlashni qattiq nazorat qilishi hamda xavfli bo‘lmagan uchastkalardan zahiralarni qidirib topib va ularni havfli uchastkalarga taqsimlash natijasida ishlarni belgilangan direktiv muddatlarda bajarilishini ta’minlashga qaratilgan chora-tadbirlarni ko‘rishi shart.

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**THE PRIORITY OF THE IDEA OF PERFECTION IN THE SOCIAL -
PHILOSOPHICAL APPROACHES OF CHISHTIYA AND
NAQSHBANDIYA - MUJADDIDIYA SECTORS**

Abstract. This article discusses the doctrine of Sufism and its theoretical foundations, the religious interpretation of the world in Sufism, and the views of Mu'inuddin Chishti, Naqshbandiya-Mujaddidiya, Ahmad Sirhindi and Imam Rabbani of the Chishti sect.

Key words: Sufism, Tariqat, Chishtiyya, Naqshbandiyya, Yassawiya, Kubrawiyya, India, Mu'iniddin Chishti, Mujaddidiya, Sheikh Nizamiddin Avliya, Ghazali, Naqshbandiyya-Mujaddidiya, Ahmad Sirhindi, Imam Rabbani.

Sufism has served to enrich the spirituality of our people for centuries. The main ideas of this teaching are the spiritual and moral purification of a person, ascension with divine love. That's why Sufism, filled with deep humanistic ideas, found its way into the hearts of people who were in search of truth, expressing people's dreams of purity, eternal life, and freedom of the soul. [1. Pp. 102]

By the beginning of the 9th century, the theoretical foundations of Sufism were developed, practical spiritual and psychological exercises of Sufis, methods of self-education and training were formed, the concepts of order, enlightenment, and truth were created, views on these three parts of Sufism a complex was formed - Sufism was established as a separate science.

Hazrat Alisher Navoi, our grandfather, made the world a field of perfection, an opportunity for purification [2. B. _ 4] did not point out for nothing.

It is noteworthy that the members of the sect should be an example to others in three things, i.e. posture, step, grace, and grace. In this case, it is necessary to refrain from inappropriate words, to refrain from doing things in vain, to do useful things with kindness, to be open-faced and kind. Every murid who has entered the path of tariqat must renounce the worldly life, the troubles of the soul, physical pleasures, arrogance, dry fame, heedlessness and ignorance, and purify his spiritual world, concentrating all his will and thoughts in one place., should be directed towards a good goal. [3. B. _ 29]

Therefore, although the establishment of Sufism schools was initially associated with areas where Islam was widespread, such as Kufa, Baghdad, Basra, Egypt, later, by the 11th-12th centuries, it became common throughout the Islamic world in Central Asia. 'recognized Yassaviya, Kubraviya, Chishtiyya and Naqshbandiyya influential independent sects emerged. Any sect widespread in Central Asia was not left out of the influence of the religious images and rituals

that existed in this region from time immemorial, but was also able to show its influence in the process of assimilation of local traditions.

So, let's start with the introduction of the Chishti sect. Muiniddin Chishti was originally from Khurasan, and after the death of his father, he entered Sufism at the age of fifteen and traveled in cities such as Samarkand, Nishapur, and Baghdad. In Nishapur, Shaykh Osman Haruni was assigned. During his travels, he met many famous mystics. Later, he moved to India, where he served as a guide. In India, he established a sect that had a great reputation and had a unique appearance. As a representative of this sect, "Solar Property Indian" [6. B. _ 122] (the sun of the Indian land) also received the nickname. In addition, this sect spread mainly in India and Pakistan. He did a great service in the spread of Islam in the mentioned countries.

cite the opinion of the representative of this sect about hurting the heart of a single person, hurting his tongue, according to him, it is not the work of a person who knows God to be offended. Because, - "A person, - in the words of Sheikh Nizamiddin Auliya, - through love for God, feels the feeling of love and tolerance towards his own kind" [10.Pp. 14]. A person should always strive for goodness throughout his life. Then his life paths will be bright and shining. Moreover, the more goodness a person shares with humanity, the more his love for himself and for all beings will burn. In this chapter, the following opinion of Ghazali is important: "Love and honor of oneself is also a sign of love for God, because loving oneself means fighting for one's perfection" [11.B. 51]. So it can be seen that a good deed done by a person to another person is also a sign of his love for God.

Speaking about this, - says the President of the Republic of Uzbekistan Shavkat Mirziyoyev. - To give many examples, such as the gradual development of the Great Silk Road and trade relations, the works of our great scholars and writers dedicated to India in the past, the Babur dynasty that operated in this country, and the widespread spread of the Naqshbandi order founded by Bahauddin Naqshband in the Indian land. possible

According to the sources, the Naqshbandi sect was called by different names - "Siddiqiya", "Tayfuriya", "Khojagoniya", "Naqshbandiya", "Naqshbandiya-Ahroriya", "Naqshbandiya-Mujaddidiya", "Naqshbandiya-Mazhariya", "Naqshbandiya-Khalidiya"., and then the name "Naqshbandiya" itself became fixed, - it is emphasized.

Some of these are associated with the names of sheikhs such as Abu Bakr, Abu Yazid Bistami, Ubaidullah Ahror, Shamsuddin Mazhar, Khalid Ziyavuddin Baghdadi, who left a certain mark on the development of Sufism, while others, for example, Khojagonia - Yusuf Hamadani and It is related to the activities of one of his students Abdukholiq Gijduvani, Mujaddidiya - Imam Rabbani Ahmed Faruq Sirhindi.

Mujaddid (ar. - reformer, renewer, reviver) - means the renewer of Sharia. In a word, a mujaddid is a mujtahid, fiqh, that is, someone who has the ability to provide legal solutions to contemporary issues.

There are also cases where the term "Mujaddidiya" has been taken literally by some Western researchers. For example, Swiss researcher Anke von Kügelgen in her research: "According to Islamic traditions, a new mujaddid comes at the beginning of every hundred years. Many of the leaders or patrons of the sect were recognized as innovators of the 13th century Muslim calendar. Sheikh Khalid (1776-1827) received this title in Damascus. In Bukhara, we can see Shah Murod (reigning years 1785-1800), a ruler from the Mangit dynasty, as a "renovator of the 13th century".

Because after Sheikh Ahmed Sirhindi (1564-1624), the Naqshbandi sect began to be called Naqshbandi-Mujaddidiya, i.e. "renewed". First of all, this comes from the hadith of the Prophet Muhammad: "Allah sends one reformer of his religion every hundred years", and secondly, as one of the most prominent scholars of Imam Rabbani's time, "Mujaddidi Alfi Sani" ", that is, it was a reference to the fact that he was recognized as the "innovator of the second millennium of Hijri".

The Naqshbandi-Mujaddidiya sect, which emerged as a branch of the Naqshbandiyya sect, reformed the laws of the Naqshbandiyya sect and brought it closer to the way of life of the society. This ensured that Naqshbandiyyah-MujaddidiyOne of the characteristics of the Naqshbandi-Mujaddidiya sect is that it is not limited to a specific region, but is widely spread throughout the Muslim world.

In short, I think that the place, status, scientific and theoretical ideas of the Chishtiya and Naqshbandi sects in the development of the history of Sufism, the vitality of the sects, the life and activities of the representatives of the sects indicate that they are important sects.. In addition, it is necessary for a person to control himself, to consolidate the acquired knowledge in his heart, to devote every moment of his life to meritorious work, and to spend every soul for spiritual perfection. And this is clear that if the research on these sects continues, the sources of its potential, scope and future development will become even richer.

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THEORETIC ANALYSIS OF THE PECULIARITIES OF TOTAL PHYSICAL RESPONSE METHOD APPLYING IT TO YOUNG LEARNERS

Abstract. In this article we are going to ascertain what is Total Physical Response, what premises the TPR is based on and how acquiring of second language depends on learners' development stage.

Key words: Total Physical Response, foreign language, method, teaching, principles, second language learning.

Teachers make the students keep learning through teacher's explanation of new words or grammar. In fact, this method is not effective because students will easily forget the words and the material if they learn different topics. Especially for young learners, those who are seven to twelve years old, this method is uninteresting. However, there are many methods that can be used in teaching English to young learners. But the applied methods need to be not only interesting but also effective in teaching language.

Therefore, the Total Physical Response activities developed by James Asher provide ideas to create the activity for the success of the English language learning. In this article, we will introduce peculiarities of Total Physical Response method and how this method is practiced to young learners in primary schools. We will also discuss why and how TPR can help teachers to improve their teaching through analyzing the features of pupils learning.

The way pupils learn a foreign language, and therefore the way to teach it, obviously depends on their development stage. "It would not be reasonable to ask a child to do a task that demands a sophisticated control of spatial orientation (for example, tracing a root on a map) if he or she has not developed this skill.

Before applying the TPR method for teaching a foreign language, in this case, it is English, a teacher should understand its principles well so he will be able to use it properly in the teaching learning process. Asher (1984), as the developer of TPR, elaborates the principles of this method, they are: second language learning is parallel to first language learning and should reflect the same naturalistic process; listening should develop before speaking; children respond physically to spoken language, and adult learners learn better if they do that too; once listening comprehension has been developed, speech develops naturally and effortlessly out of it; delaying speech reduces stress (Asher, 1984).

Moreover, Larsen and Freeman propose several principles in teaching learning process by using TPR upon which the teacher's behaviors is based. The principles of TPR are as follows: meaning in the target language can often be conveyed through action; memory is activated through learners' response; the target language should be presented in chunks, not just word by word; the students' understanding of the target language should be developed before speaking; students can initially learn one part of the language rapidly by moving their bodies; the imperative is powerful linguistic device through which the teacher can direct student behavior; students can learn through observing actions as well as by performing the action themselves; feeling of success and low anxiety facilitate learning; students should not be made to memorize fixed routines; correction should be carried out in an unobtrusive manner; students must not develop flexibility in understanding a novel combination of target language chunks; they need to understand more than the exact sentences used in training; language learning is more effective when it is fun; spoken language should be emphasized over written language; students will begin to speak when they are ready; students are expected to make errors when they first begin speaking; work on the fine details of the language should be postponed until students have become somewhat proficient.

Concerning pupils' characteristics, a teacher needs to make teaching be more interesting and motivate children to learn. The primary school students still need a specific guide from teacher and people around them in order to follow the lesson well. Students can learn English in an interesting way and learn it through the Total Physical Response method. Therefore, we are going to discuss what are teachers and learners' roles in order to succeed good teaching results. However, the learners and the teacher play different roles.

Learners in TPR have the primary roles of listeners and performers. They listen attentively and respond physically to commands given by the teacher. Learners are also expected to recognize and respond to novel combinations of previously taught items. They are required to produce novel combinations of their own. Learners monitor and evaluate their own progress. They are encouraged to speak when they feel ready to speak-that is, when a sufficient basis in the language has been internalized.

In the teaching learning process using TPR method, teacher plays an active and direct role. According to Larsen and Freeman "teacher is the director of all students' behaviors". Asher as quoted by Richard and Rodgers states that "The teacher plays an active and direct role in Total Physical Response". It means that teacher is the one who decides what to teach, who models and presents the new material, and who selects supporting materials for classroom use. Teacher is encouraged to be well prepared and well organized so that the lesson flows smoothly and predictable.

Teacher is the important factor in teaching and learning process. He has a great responsibility to transfer his knowledge and skill to the students, to guide

them in developing their mind, and to educate them on how to absorb, to analyze, and to expand their individual knowledge and skills.

Slattrey extinguishes some characteristics of the elementary school English teacher. They are encourage students to read in English (stories, comics, reading games); encourage them to work meaning out for themselves; explain thing about language; use a wider range of language input as their model for language use; encourage creative writing and help them to experiment with the language. According to the statements above, it is important for the primary school English teacher to be more creative in teaching, for example by using some interesting media and method. Therefore, the students will enjoy the lesson more.

TPR is very effective teaching method because can be adapted for all kinds of teaching situations, teacher just needs to use his/her imagination. Using TPR it is a lot of fun. Students enjoy it and it can be a real stirrer in the class. It lifts the pace and the mood. This method is very memorable. It really helps students to remember phrases or words. TPR can be used in large or small classes. It doesn't really matter how many students' teacher has as long as teacher is prepared to take the lead, the students will follow. The physical actions get across the meaning effectively so that all the students can understand and use the target language. It doesn't require a lot of preparation or materials. As long as teacher is clear what he/she want to practice (a rehearsal beforehand can help), it won't take a lot of time to get ready. TPR is very effective with teenagers and young learners as it involves both left and right brained learning.

To sum everything up, language teachers have an active role in this method. He decides what to teach, which materials to use and how they are to be presented. Learners have the roles of listeners and performers. First, they must listen to what the teacher says. Then, they are expected to respond physically to those commands given by the teacher. Teacher must allow period of silence until confidence of understanding is reached and also be tolerant towards the mistakes students make.

In conclusion, TPR should be applied teaching English to primary school children Teachers seeking useful teaching results first of all need to know characteristics of children and how their mental abilities develop through different age periods.

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THE ESSENCE OF INTELLECTUAL AUTHORITY

Abstract. In this article, an opinion is expressed about the education of the young generation, which meets the requirements of market relations, has a clear goal, and has a high intellectual potential.

Keywords: education, training, school, manners, morals, intellectual potential, personnel issue, field, system.

From the beginning of the years of independence, the first President of our country paid the main attention to the issue of personnel, assuming that the achievement of economic independence will not happen overnight. Therefore, he issued the laws "On Education" and "On the National Program of Personnel Training", which are the legal basis of personnel training.

The announcement of the "State National Program for the Development of School Education in 2004-2009" provided the material and technical base of our schools in our republic - buildings, educational equipment and staff, as well as new regulatory documents for the educational process - the state. The creation of educational standards and curricula is an important event. More than 9,000 secondary schools across the country were rebuilt and reconstructed on the basis of a new project. A lot of money was spent on it. It is natural to ask why it was necessary to spend money on it. The reason for this is the opinion of the first President of our country that "Our children should be strong, smart and healthy." Our country's attention to education has begun to bear fruit.

Many foreigners recognize the state policy implemented in the education system of the Republic of Uzbekistan. The practical proof of this was on February 17-18, 2012 in Tashkent in which representatives of the UN, Asian Development Bank (ADB), World Bank, Islamic Development Bank and representatives of 48 countries of the world such as Great Britain, Germany, Italy, USA, Japan, Russia, South Korea participated. An international conference on the topic "Education of a highly educated and intellectually developed generation is an important condition for the country's sustainable development and modernization" is dedicated to the study of Uzbekistan's experience in creating a national model of perfect education of the young generation.

It is noteworthy that Uzbekistan ranks second among 141 countries in terms of attention to the education sector.

The opinion expressed by our first President, "A country with healthy children will be powerful, and the children of a powerful nation will be healthy"

remains the basis of the state policy currently being carried out in the social sphere. Because food, family, and education have the same role in increasing intellectual potential.

If we remember the criteria of human perfection, only our children who are physically healthy, mentally mature, and have high intellectual potential will determine the future of Uzbekistan.

In order to raise a physically healthy generation, a national model of mother and child health protection was formed in the health care system. "Healthy mother - healthy child" program is being implemented. Over the past ten years, more than 750 million US dollars have been allocated to modernize treatment and preventive facilities and equip them with the most modern equipment.

During the years of independence, maternal mortality in Uzbekistan decreased by 3.1 times and infant mortality by 3.2 times. As a result of the implementation of the "Mother and Child Screening" program, births of children with birth defects have decreased by 1.8 times since 2000.

It is no coincidence that Uzbekistan is among the ten countries that care the most about children's health in the world.

Factors of intellectual health (level of mental maturity) depend on components such as generation, nutrition, teacher skills, generation, nutrition is the responsibility of the family.

The teachers working in the education system are responsible for teacher skills.

The teacher's task is not only to teach, but also to make every student understand and understand the content and purpose of the reforms being carried out in our country.

current reforms:

- Technical and technological re-equipment of production processes;
- Implementation of a savings system in every sector;
- Use of energy-efficient techniques and technologies;
- Introduction of information and communication technologies in every field;
- Use of new pedagogical and information technologies in the educational system.

The above-mentioned issues - education of a young generation with a high intellectual potential, who meets the requirements of market relations, set a clear goal in front of them, were taken as the basis for choosing this topic as a pedagogical problem.

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UNIQUE FEATURES AND POTENTIAL OF PILGRIMAGE TOURISM

Abstract. In this article, the specific characteristics of pilgrimage tourism and the types of pilgrimage are classified according to the purpose. Concepts of pilgrimage and tourism are analyzed. Proposals and recommendations for the development of pilgrimage tourism have been developed.

Key words: Pilgrimage, pilgrimage, sacred, pilgrimage tourism, sacred, religious, pilgrimage tourism, worship, steps.

Pilgrimage for Muslims is visiting prophets and religious holy places. According to B.N. Navroz-Zoda, pilgrimage is the basis of tourism in Islam, according to the "Journey to the Homeland" tradition of Khojai Jahan Abdukholiq Gijduvani, the founder of the "Khojagon" doctrine, a person should go on a journey to his country [1].

As mentioned above, the purpose of the pilgrimage is to worship the holy places, to pray, to repent of one's sins, sometimes to fulfill the vows made during a serious illness or danger of death, and to thank God for saving them from them. In some cases, the purpose of the pilgrimage is to heal from severe pain with the help of spring waters and mud.

The territory of Kashkadarya region is very rich in various objects belonging to the sacral (sacred) category of great value, belonging to the Islamic culture and its Sufi flow, which are respected and respected. It should be noted that the sacred heritage is an important resource for the development of cultural tourism, which is one of the priorities of the development of the current society. According to various estimates, cultural tourism makes up a large part of the world flow of tourists.

Large-scale work is being carried out to further develop the tourism potential of Kashkadarya region, to create the most favorable conditions for introducing tourists to the unique historical-cultural and architectural heritage objects of the oasis [2].

Historical buildings, architectural monuments, archaeological finds, ruins, religious shrines, shrines, cemeteries, national crafts, traditions, wedding spectacles, which have been preserved for centuries, are an important component of the tourism of Kashkadarya region. is considered Archaeological tourist objects (at the cross-section of districts and cities, as a unit).

Tourism is a set of relationships and events that arise due to the change of people from their permanent places of residence and work to places that are different [3]. One of the important types of tourism is religious tourism, which is based on the religious needs of people of different confessions, and includes trips by believers to worship holy places and visit religious objects. The types of activities related to providing services to tourists who go to holy places and religious centers outside the usual environment and meeting their needs are understood as religious tourism. Religious tourism is carried out for the purpose of getting acquainted with the history of holy places, the life of saints, architecture, art of religious monuments.

In the 90s of the 20th century, due to the awakening of religious consciousness, the forgotten word pilgrimage entered the social lexicon and began to be actively used, and the traditions of pilgrimage were reborn. Pilgrimage, which is a part of religion, is a trip to holy places with a specific purpose of worship. Pilgrimage exists in some form in almost all religions. Its content consists of worshipping holy places, performing or participating in religious ceremonies, religious improvement, spiritual or physical healing.

The World Tourism Organization (WTO) has announced five types of tourism as promising directions. One of them is cultural tourism, which is divided into religious-pilgrimage tourism and cultural-historical tourism. At first, from the point of view of the sense of faith that has arisen in a person, he worships the perfect people of his religion, saints and sheikhs, and later on their graves, he feels that these actions bring him peace and tranquility. Such activities are called pilgrimage tourism or religious tourism. Historical-cultural heritage includes all socio-cultural environment with all its traditions and customs, features of everyday life.

Religious tourism is divided into two main types:

- Pilgrimage tourism;
- excursion - religious tourism in the direction of knowledge;

However, according to the believers, the concepts of "pilgrimage" and "tourism" are completely different from each other. Pilgrimage is a trip to holy places, the purpose of which is to fulfill the religious duty of believers, to receive the blessing of God, and also to participate in the acts of worship in a peaceful and holy place. A pilgrim visits the places consecrated by the founder of his religion and his close associates in order to receive the blessing of God and participate in ceremonies related to holiness. Sometimes it is visited for the purpose of making sure of the correctness of the decision made, getting physical and mental healing, eliminating mental suffering, or thanking for healing. Pilgrimage is much earlier than tourism and has a history of several thousand years [3; 4]. It should be noted that pilgrimage is considered as a type of tourism in scientific literature.

Pilgrimage tourism is a complex of trips made by representatives of different denominations for the purpose of pilgrimage. Reasons to visit include:

- the desire to heal from spiritual and physical diseases;
- praying for relatives and loved ones;
- To obtain God's favor;
- doing meritorious work;
- atonement of sins;
- expressing gratitude for blessings sent from above;
- showing loyalty to faith;
- striving for asceticism for faith;
- to have the purpose of life [3].

According to different signs, several types of pilgrimage are distinguished.

- by time of year (according to seasonality)
- pilgrimages related to public holidays, religious holidays;
- according to the number and composition of participants
- individual, family and group visits;
- according to the objects to be visited - architecture - religious structures (mosque, monastery, temple), as well as sacred monuments of nature (water basins, caves, mountains, groves, etc.);
- according to the geographical sign - local, regional, inter-regional, national, international;
- according to duration - long and short term; - according to the objects to be visited - confessional places of worship (church, mosque, monastery, etc.), as well as natural places of worship (mountains, lakes, caves, springs, groves);
- according to the location of places of pilgrimage - domestic (within the state borders) and foreign types of pilgrimage;
- according to the conditionality (mandatory, required) - optional and mandatory types of pilgrimage (for example, in Islam, the Hajj pilgrimage is a requirement for every religious Muslim) [3; 4].

Pilgrimage requires a certain attitude of a person to existence. The idea of pilgrimage refers to actions that are carried out in accordance with voluntary obligations under extremely difficult conditions. This is a symbol of a person's readiness to sacrifice temporary material values for eternal spirituality. People go on pilgrimage when there are not enough ritual activities in the places where they live. According to UN data, 200 mln. More than 100,000 people will be on pilgrimage.

Pilgrims generally have little demand for service, food, and accommodation. Pilgrimage tourism, which is a complex of pilgrimage trips by representatives of different religions, is the oldest and at the same time the newest type of tourism. Pilgrimage is a trip to worship sacred places. The development of pilgrimage traditions is common to all major religions. Pilgrimage, which is a type of religious tourism, consists of trips of representatives of different religions. In simpler terms, it is the journey of religious people to worship holy places. There are many different reasons for people to visit: to perform religious rituals (prayer, penance for sins), for spiritual improvement, to obtain God's blessing, to receive

spiritual and physical advice, to attain religious enlightenment, to pray to a holy place, and other reasons. Will be Pilgrimage tourism is one of the oldest and at the same time the newest types of tourism. Pilgrimage is a trip to worship sacred places. The development of pilgrimage traditions is common to all major religions. Pilgrimage to God in all religions is a path to God in spirit, space and time. Places, things and events connected with religious worship in all areas and considered blessed are considered "holy". Almost all nations of the world have objects that have the status of sacred places since ancient times.

Unlike mass tourism, the main socio-economic advantage of pilgrimage tourism for the region is not direct profit, but the socio-psychological and pedagogical synergy of sacred programs for the population living in the region. Here, we are talking about increasing civic responsibility, formation of culture and spirituality, and educational work aimed at the young generation. The existence of many years of spiritual traditions is an important factor for the development of pilgrimage tourism. Places, objects and events associated with religious worship and considered blessed are considered "holy". Humanity gives the status of "sacred places" to such monuments of cultural, historical and natural heritage. Pilgrimage tourism consists of a complex of pilgrimages by representatives of different religions. Pilgrimages are made for many different reasons. For example, there may be a desire to get rid of physical or mental illnesses, to pray for relatives and friends, to obtain God's blessing, to gather strength, to do something. Also, it is visited for the happiness, prosperity, goodness, devotion to the religion given to the powerful forces, to test one's own reasoning, self-sacrificing intentions and capabilities, to say thanks and for other purposes.

Pilgrimage tourism has its roots in pilgrimage. Pilgrimage is a trip to worship important sacral places. The development of pilgrimage traditions is common to all major religions. The Holy Land (Jerusalem-Jerusalem), Afghanistan, Rome, Compostela are considered places of pilgrimage for Christians. Muslims visit Mecca and Medina - Hajj, Hindus visit Allahabad and Varanasi, Lamaists visit Lhasa, Buddhists and Shintos visit Nara.

However, it is very difficult to say anything about the healing of people (whether by faith or by the influence of external forces from the Earth). However, the fact that the lame can walk, the blind can see, and they are cured of serious diseases are undeniable facts.

An excursion is a part of a visit, but it can be an additional, auxiliary part. People try to enrich their spiritual world, broaden their worldview, and gain new knowledge about the history of religion in the types of excursions, the purpose of which is to see monuments, temples, and museums. People who travel with a spiritual (religious) intention and dream of worshiping holy places take part in the excursion.

Spiritual and educational goals are an important aspect of pilgrimage trips. When people go to holy places, they get information about the history and

spiritual traditions of religious institutions, the characteristics of worship, pious saints and ascetics whose lives and activities are connected with holy places in the direction of pilgrimage.

As part of the search for new potential for socio-economic development of our country and regions, regional tourism is moving from the theoretical and educational stage to the implementation stage, and special attention is being paid to sacred tourism. At the moment, attention has been paid to the development of regional tourism in our country. President Sh.M. Mirziyoyev, in his address to the Oliy Majlis on December 22, 2017, emphasized the need to pay serious attention to pilgrimage tourism as well as other sectors of tourism in our country.

In practice, sacred tourism includes all types of tourist services related to religion, various types of mysticism and inexplicable events and traditions. The role of sacred tourism in regional development concepts depends on a number of circumstances, which can be classified depending on history and nature, as well as the human factor. In particular, it depends on the presence of religious sites, monuments of religious culture and sacred nature, and the religious and spiritual condition of the population. The existence of multiple spiritual traditions is an important factor for the development of sacred tourism.

Unlike mass tourism, the main socio-economic advantage of sacred tourism for the region is not direct profit, but the socio-psychological and pedagogical synergy of sacred programs for the population living in the region. Here, we are talking about increasing civic responsibility, formation of culture and spirituality, and educational work aimed at the young generation.

Sacred objects of special importance attract the attention of people with different cultural and historical traditions who live far from these places, in other cities and countries. This phenomenon has created a flow of pilgrims and curious people since ancient times, and later they were joined by the flow of worldly tourists and added a large share to the budget of the countries where such objects are located.

If this event is considered as a system-forming part of the tourist network, it cannot be ignored that it is an important component related to the patriotic education of young people and the integration of the peoples of the country.

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BANK DAROMADLARI HISOBINI TAKOMILLASHTIRISH

Annotatsiya. Mazkur maqolada banklarda daromadlar hisobini yuritilishi, daromadlarning vujudga kelishi va kelgusida bank daromadlarini takomillashtirish to'g'risida fikr mulohasalar olib borilgan.

Kalit so'zlar. Bank daromadlari, foizli daromad, foizsiz daromad, operatsion faoliyat daromadlari.

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IMPROVEMENT OF BANK INCOME ACCOUNT

Abstract. In this article, opinions are made about the accounting of income in banks, the generation of income, and the improvement of bank income in the future.

Key words. Bank income, interest income, non-interest income, operating income.

Tijorat banklarining asosiy faoliyati foyda olishga qaratilgan bo'lib, ma'lumki foyda daromadlar summasining xarajatlar summasidan ortgan sharoitida vujudga keladi. Tijorat banklari daromad va xarajatlari, mos ravishdabuxgalteriya hisobvaraqlar rejasining passiv va aktiv hisobvaraqlarida yuritilib, ushbu hisobvaraqlar hisobot davrining oxirida bankning "foyda va zarar"lar hisobvarag'i bilan korrespondensiyasi asosida yopiladi. Bank foydasini taqsimlash uning aksiyadorlar kengashi yig'ilishida hal etiladi. Tijorat banklari

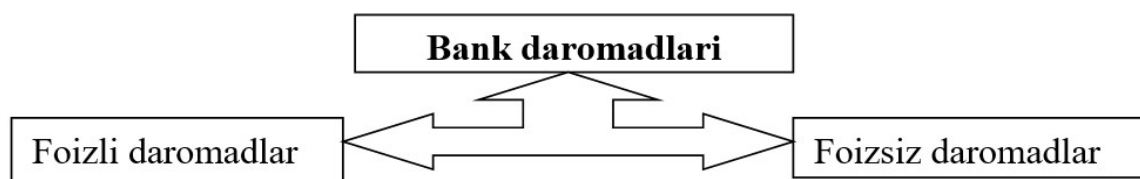
daromad va xarajatlari buxgalteriya hisobining hisoblash metodi asosida amalga oshiriladi, ya'ni bank faoliyati natijasida kelgusida olinishi yoki to'lanishi ko'zda tutilgan daromad va xarajatlar bo'yicha operatsiyalar sodir bo'lgan paytda bu'galteriya hisobvaraqlar rejasining tegishli hisobvaraqlarida aks ettirib boriladi. Tijorat banklarining daromadini oqilona tarzda oshirib borishni ta'minlash ularning moliyaviy barqarorligini oshirishning zaruriy shartlaridan yana biri hisoblanadi. Shuningdek, bank foydasini oqilona tarzda taqsimlash, daromad va xarajatlar hisobga olish tartibini takomillashtirish banklar faoliyati samaradorligini oshirishning dolzarb muammolaridan biri hisoblanadi.

Iqtisodchi olim D.M.Noton "Bank daromadi – jalb qilingan resurslar hisobidan berilgan kreditlardan olingan foizlar bilan jalb qilingan resurslar bo'yicha to'langan foizlar o'rtasidagi farqdan iboratdir" deb yozadi.

Bu borada B.T.Berdiyarov ham "Tijorat bankining daromadi ular foydasidan farqli o'laroq, murakkab tabiatga egadir. Aslida esa tijorat banklari daromadi bank ixtiyoriga kelgan tushum bilan moddiy xarajatlar o'rtasidagi farqdan iboratdir" deb ta'kidlaydi.

"Moliyaviy hisobotni taqdim etish" 1-MHXSda "Daromadlar bu – hisobot davrida aktivlarning oqib kelishi yoki o'sish yo'li orqali, yoxud majburiyatlarning qisqarishi orqali aksiyadorlik kapitali ishtirokchilarining badallari bilan bog'liq bo'lmagan kapitalning ko'payishi shaklida iqtisodiy nafning o'sishidir" deb ta'riflangan.

Bank daromadlarini ko'pchilik iqtisodchi olimlar turli xil belgilarga qarab tasniflaydi. Biz ularni asosan ikkita katta guruhga ajratdik. Birinchi guruhga kiruvchi olimlar daromadlarni olinish tartibi bo'yicha foizli va foizsiz daromadlarga bo'ladi. Daromadlarni bunday tasniflashni K.Navro'zova, B.T.Berdiyarov, A.K.Polishchuk, J.Sinki, D.M.Noton, K.T.Ditd va boshqalarning ilmiy ishlaridako'rish mumkin. Ikkinchi guruh olimlar G.G.Korobova, U.A.Shirinov, N.K.Karimov, E.P.Kozlova, E.N.Galagina va boshqalar bank faoliyatini asosiy va yordamchi faoliyatga bo'lib, shunga mos ravishda daromadlarni tasniflaydilar. Ya'ni bank daromadi operatsion faoliyat daromadi va boshqa daromadlarga bo'lib o'rganadi.



Moliyaviy hisobot elementlaridan xisoblangan daromad va xarajatlarni xisobotda to'g'ri aks ettirish yoki ularni tan olish hozirgi kunda dolzarb bo'lmoqda.

"Tijorat banklarida foizlarni hisoblar to'g'risida"gi 1306-sonli Nizomda tan olish – element ta'rifiga javob beradigan va tan olish mezonlarini qondiradigan

muayyan moddani pul summasi ko'rinishida aks ettirish va balans yoki foyda va zararlar to'g'risidagi hisobotga kiritish jarayoni deb ta'rif berilgan.

O'zbekistondagi birinchi xususiy tijorat banklaridan biridir. 2001-yil aprel oyidan boshlab Bank O'zbekiston Respublikasi Markaziy banki litsenziyasi asosida muvaffaqiyatli faolyat yurita boshladi. 2004-yilda "Aviabank" (Toshkent sh.) aksiyadorlik tijorat banki bilan birlashgandan so'ng, Bank aksiyadorlik tijorat banki

sifatida qayta ro'yxatdan o'tkazildi. 2008-yil dekabr oyida Bank o'zining to'liq –“Kapitalbank” ochiq aksiyadorlik tijorat banki nomi bilan yangi tahrirdagi Nizomni ro'yxatdan o'tkazdi. Bank Markaziy bankning 2014-yil 29-dekabrda 69-sonli bank operatsiyalarini o'tkazish bo'yicha litsenziyasiga, shuningdek, 2014-yil 29-avgustda 64-sonli chet el valyutasida operatsiyalarni amalga oshirish uchun Bosh litsenziyasiga ega. Tashkil etilganidan beri Bank yuqori sur'atlarda rivojlanib, korporativ mijozlarga xizmat ko'rsatish sohasida ham, chakana savdo segmentida ham yuqori o'sishni namoyish etdi.

Bank daromadlarini shakllantirish tartibi ATB «Kapitalbank» misolida ko'rib chiqamiz.

1-jadval

ATB «Kapitalbank»ning foizli daromadlari tarkibi tahlili

mln.so'm hisobida

Ko'rsatkichlar	2020 yil		2021 yil		2022 yil	
	Summa	%	Summa	%	Summa	%
Foizli daromadlar	681 336,00	100	1 596,00	100	1 453,00	100
O'zR MB va boshqa banklardagi hisobvaraqlar bo'yicha foizli daromad	9 091,00	1,33	5 252,00	0,52	22 347,00	1,2
Qimmatli qog'ozlar oldi sotdi hisobvaraqlari bo'yicha foizli daromadlar	0		22 137,00	2,21	78 950,00	4,22
Kredit va lizing operatsiyalari bo'yicha foizlar, diskont(chegirma) va badallar	428180	62,84	525800	52,5	902168	48,28
Boshqa foizli daromadlar	244065	35,82	448407	44,76	864988	46,3

“Kapitalbank” ATBning foizli daromadlari 2022yilda 1868453 mln so'mni tashkil qilgan. Uning asosiy qismini ya'ni 902168 ni kredit va lizing operatsiyalari bo'yicha foizlar tashkil etadi. Bu bank foizli daromadlarining 48,28 % ini tashkil qiladi.

Qolgan foizli daromadlar: O‘zR MB va boshqa banklardagi hisobvaraqlar bo‘yicha foizli daromad 1,2%ni, Qimmatli qog‘ozlar oldi sotdi hisobvaraqlari bo‘yicha foizli daromadlar 4,22 %ni, Boshqa foizli daromadlar esa 46,3 %ni tashkil etadi. “Kapitalbank” ATB asosiy faoliyati mijozlarni kreditlashga yo‘naltirilganligini ko‘rish mumkin. Bankda foizli daromad keltiradigan boshqa operatsiyalar rivojlanmagan. Masalan, rivojlangan davlatlarning bank amaliyotida tijorat banklarining foizli daromadlarining tarkibida kreditlardan keyingi o‘rinni qimmatli qog‘ozlardan olingan foizlar egallaydi. ularning foizli daromadlarning hajmidagi salmog‘i 20-25 foizni egallaydi. AQSh va Yaponiyaning yirik tijorat banklarida kreditlardan olingan foizlarning jami foizli daromadlarning hajmidagi salmog‘i 60 foizdan oshadi.

Banklar tomonidan qimmatli qog‘ozlarga qilingan investisiyalar Fransiya tijorat banklarida 16,2 foizni, Germaniyada-15,5 %, Italiyada-23,8 %, Buyuk Britaniyada-7,8 %, Ispaniyada-23,8 %, AQShda-2,2 %, Belgiyada-6,4 %, Yaponiyada-10,2 foizni tashkil qiladi²⁰. Demak, qimmatli qog‘ozlarga qilingan investisiyalarning yuqori salmog‘i Ispaniya va Italiyada kuzatiladi. Nisbatan juda past salmoq Belgiya, Buyuk Britaniya tijorat banklariga xosdir.

Banklarda daromadlar va xarajatlarni tahlil qilishda, daromadlar hamda xarajatlarni ifodalovchi ko‘rsatkichlar tizimi hamda tahlil qilish uslubidan foydalangan holda tahlilni tashkil qilinib, banklarning daromadlari va xarajatlarini tahlil qilishda qo‘llaniladigan usullar yig‘indisidan tashkil topadi, tahlil qilish maqsadidan kelib chiqib bu usullardan tahlilda foydalaniladi. Banklarda qilingan xarajatlarni tarkibi va tuzilmasini tahlil qilganda, qilingan xarajatlar tarkibida foizli daromadlarni, foizsiz daromadlarni hamda bankning operatsion xarajatlari hajmini hamda ularning jami xarajatlar tarkibida tutgan salmog‘ini to‘liq baholash imkoniyatiga ega bo‘lish mumkin.

1) Banklarda foiz ko‘rinishidagi daromadlarni kengaytirish va xorij amaliyotidagi kredit turlarini kengaytirish.

2) kreditlar bo‘yicha tashkil qilinishi lozim bo‘lgan rezervlar hisobini tijorat bank xarajatiga to‘g‘ri olib borilsa, tijorat banki aksionerlari manfaatlarini uchun foydaliroq bo‘lishini o‘rganish.

3) O‘zbekiston tijorat banklarida foiz ko‘rinishidagi daromadlarni o‘rni yuqoriligini inobatga olgan holda, foizsiz daromadlarni ham takomillashtirish chora tadbirlarini olib borish.

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**ELEKTR ENERGIYA SIFAT KO'RSATKICHLARINING
MONITORINGI VA NAZORAT QILISH UCHUN TOKLARINI
IKKILAMCHI KUHLANISHLARGA O'ZGARTIRGICHINING
TAVSIFLARI**

Annotatsiya. Ushbu maqolada Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun o'lchov nazorat tizimi ishlab chiqish masalalari ko'rib chiqilgan. Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun o'lchash asboblari va dasturlari hamda algoritmlari ishlab chiqilgan. Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun boshqaruv signallari asosida zarur bo'lgan tok o'zgartirgich loyihalangan va uning matematik modellari ishlab chiqilgan. Tok o'zgartirgichini xatoliklarini va ishonchliliklari hisoblangan. Tok o'zgartirgichni statik va dinamik tavsiflarini tasvirlarini qurish uchun dasturiy ta'minotlar ishlab chiqilgan.

Tayanch so'zlar: Elektr energiya sifat ko'rsatkichlari, monitoringi va nazorat, dinamik va statik tavsif, o'lchov nazorat tizimi, mikrokontroller, signal o'zgartirgich, tok, kuchlanish, chastota, sezish elementi, magnit oqim, additiv va multiplikativ, entropiya.

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**SPECIFICATIONS OF CURRENT TO SECONDARY VOLTAGE
CONVERTER FOR MONITORING AND CONTROL OF ELECTRICAL
ENERGY QUALITY INDICATORS**

Annotation. In this article, the issues of development of measurement control system for monitoring and control of quality indicators of electric energy are considered. Measuring devices and programs and algorithms have been developed for monitoring and control of electric power quality indicators. Based on the control signals, the current transformer necessary for monitoring and controlling the quality indicators of electric energy was designed and its mathematical models were developed. Current transformer errors and reliability are calculated. Software has been developed to construct images of static and dynamic characteristics of current transformers.

Key words: Power quality indicators, monitoring and control, dynamic and static description, measurement control system, microcontroller, signal converter, current, voltage, frequency, sensing element, magnetic flux, additive and multiplicative, entropy.

Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish tadqiqotning ko'rinib turibdiki, tok o'zgartirgichning tavsiflari muhim ahamiyatga ega. Bunda o'zgartirgichning asosiy tadqiq qilinadigan tavsiflariga statik, dinamik tavsiflari, sezgirlik va xatolik manbalari kiradi. Fizik - matematik modellardan olingan ma'lumotlar asosida, o'zgartirgichning statik tavsiflarini tadqiq qilishda o'zgartirgich magnit zanjirlarining asosida signalni o'zgartirish jarayonlari amalga oshiriladi. Elektr tarmoq tokining qiymatini kuchlanish ko'rinishdagi chiqish signaliga o'zgartiradigan o'zgartirgichlarning statik tavsiflarini tahlil qilishda signal ko'rinishdagi chiqish kuchlanishini U_{chik} kirish kuchlanishi U_I va stator tokiga I_I , o'lchov elementining kesimi S_o yuzasiga, o'lchov elementining w_o o'ramlari soniga, shuningdek havo orlig'i $l_{x.o}$ balandligining turli o'zgarish dipazonlariga va magnit o'zakning turli parametrlariga bog'liqligini aniqlash talab etiladi [1-3].

Elektr tarmoq toklarini kuchlanish ko'rinishdagi chiqish signaliga o'zgartirgichlarini statik tavsiflarini tahlil qilishda U_{chik} chiqish kuchlanishlarini elektr tarmoq toklariga, o'lchov chulg'aminining o'ramlari soniga – w_o , shuningdek stator tizimining parametrlariga bog'liqligini aniqlash talab etiladi.

Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun toklarini ikkilamchi kuchlanishlarga o'zgartirgichining statik tavsiflari graf modeli asosida shakllantirilgan quyidagicha ko'rinishdagi analitik ifoda orqali aniqlanadi:

$$(1) \quad \begin{cases} U_{chik.\sigma 1} = K_{F_\sigma} U_{chik} P_{\sigma 1} (W(F_{\sigma 111}, F_{\sigma 121}) K_{I_1 F_\sigma} I_1 + W(F_{\sigma 213}, F_{\sigma 121}) K_{I_2 F_\sigma} I_2 + \\ + W(F_{\sigma 313}, F_{\sigma 121}) K_{I_3 F_\sigma} I_3; \\ U_{chik.\sigma 2} = K_{F_\sigma} U_{chik} P_{\sigma 2} (W(F_{\sigma 213}, F_{\sigma 223}) K_{I_2 F_\sigma} I_2 + W(F_{\sigma 111}, F_{\sigma 223}) K_{I_1 F_\sigma} I_1 + \\ + W(F_{\sigma 313}, F_{\sigma 223}) K_{I_3 F_\sigma} I_3; \\ U_{chik.\sigma 3} = K_{F_\sigma} U_{chik} P_{\sigma 3} (W(F_{\sigma 313}, F_{\sigma 323}) K_{I_3 F_\sigma} I_3 + W(F_{\sigma 111}, F_{\sigma 323}) K_{I_1 F_\sigma} I_1 + \\ + W(F_{\sigma 213}, F_{\sigma 323}) K_{I_2 F_\sigma} I_2; \end{cases}$$

bu yerda $K_{F_{\sigma}U_{chik}} = w_{o'} - F_{\sigma}$ magnit oqimlar va $U_{chik.\sigma}$ chiqish elektr kuchlanishlari orasidagi zanjirlararo bog‘liqlik koeffitsienti;

$$P_{\sigma i} = \frac{\mu_0 F_i}{\delta_{\mu i}} (i = \overline{1,21}) - \text{o'zgartirgichning } U_{chik} \text{ chiqish kuchlanishlarini}$$

hosil qilayotgan o‘zgartirish bo‘lagi magnit parametri;

μ_0 – sezish elementi o‘rnatilgan havo oraliqlarining magnit singdiruvchanligi:

$$(\mu_0 = 1,25 \cdot 10^{-6} \text{ G/m}).$$

Toklarining nominal qiymatlarida chiqish kuchlanishini me‘yorlangan (5 V) bo‘lishi talab qilinishi asosida $w_{o'} = 1 \div 4$ o‘ramgacha qiymatlarni qabul qiladi.

F – o‘lchov elementlari o‘rnatilgan havo oraliqlarining ko‘ndalang kesim yuzasi;

δ_{μ} – o‘lchov elementlari o‘rnatilgan havo oraliqlar balandliklari (m);

$W(F_{\sigma ijk}, F_{\sigma inn})$ – magnit o‘zgartirish bo‘lagining uzatish funksiyasi;

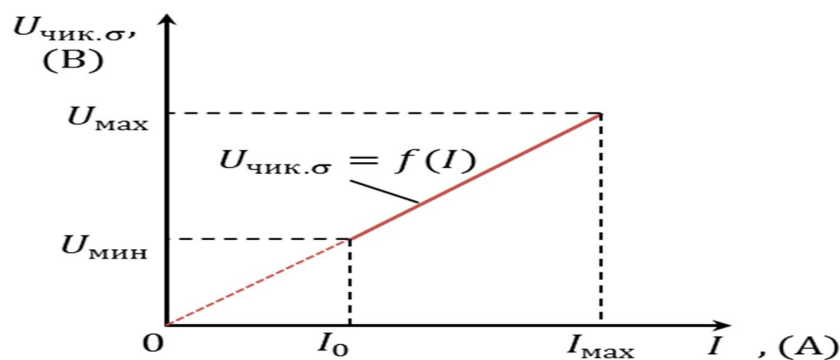
$K_{I_1 F_{\sigma}} = w_1$ – elektr tarmoqlar toklar va magnit o‘zakda hosil bo‘lgan MYuK orasidagi zanjirlararo bog‘liqlik koeffitsienti, w_1 – fazalar soni;

I_1, I_2, I_3 – uch fazali elektr tarmoq faza toklari, (A).

Xususiyl xolda $U_{chik.\sigma 1}, U_{chik.\sigma 2}, U_{chik.\sigma 3}$ chiqish kuchlanishlari tashkil etuvchilarini miqdorlari mos holda I_1, I_2, I_3 elektr tarmoq toklariga bog‘liq bo‘ladi:

$$\begin{cases} U_{chik.\sigma 1} = K_{F_{\sigma}U_{chik}} P_{\sigma 1} (W(F_{\sigma 111}, F_{\sigma 121}) K_{I_1 F_{\sigma}} I_1; \\ U_{chik.\sigma 2} = K_{F_{\sigma}U_{chik}} P_{\sigma 2} (W(F_{\sigma 213}, F_{\sigma 223}) K_{I_2 F_{\sigma}} I_2; \\ U_{chik.\sigma 3} = K_{F_{\sigma}U_{chik}} P_{\sigma 3} (W(F_{\sigma 313}, F_{\sigma 323}) K_{I_3 F_{\sigma}} I_3; \end{cases} (2)$$

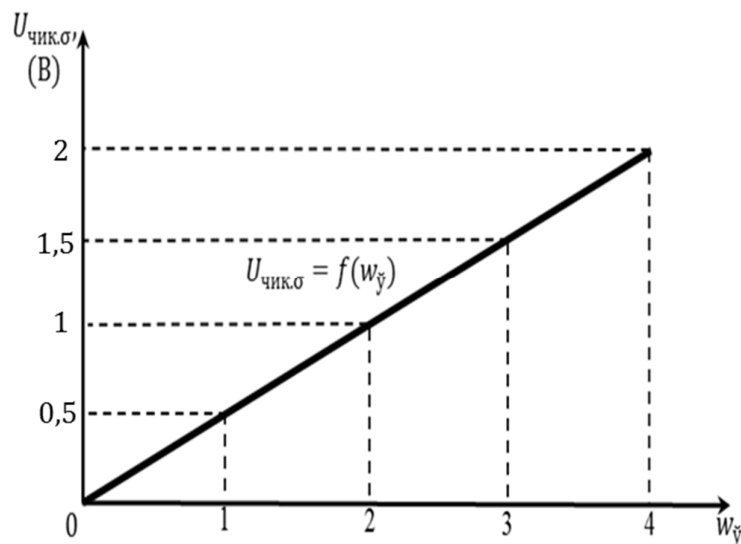
1 va 2- formulalar asosida elektr tarmoq toki va o‘zgartirgichning chiqish kuchlanishi tashkil etuvchisi orasidagi bog‘liqlik statik tavsifi 1–rasmda keltirilgan.



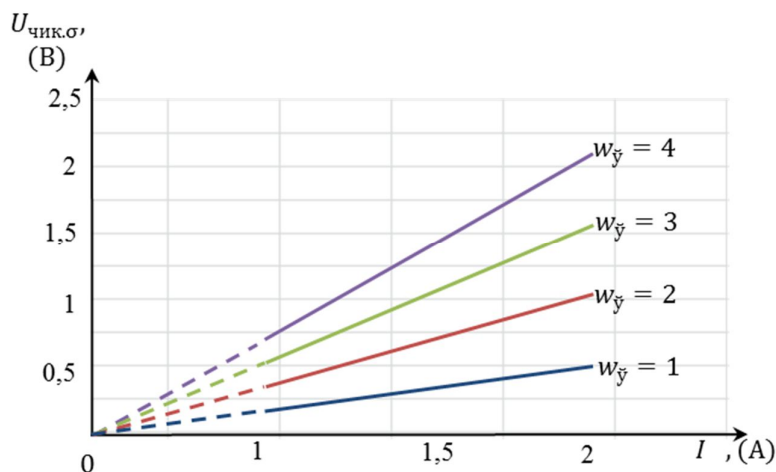
1–rasm. Elektr tarmoq va o‘zgartirgich chiqish kuchlanishi tashkil etuvchisi orasidagi bog‘liqlikning statik tavsifi.

bu yerda $U_{chik.\sigma}$ – tok o‘zgartirgichining modeli asosida olingan chiqish kuchlanishi tashkil etuvchisining o‘zgarish tavsifi.

Uch fazali toklarini sezish chulgʻami oʻramlar sonining har xil qiymatida chiqishdagi kuchlanishning oʻzgarishi 2–rasmda koʻrsatilgan.



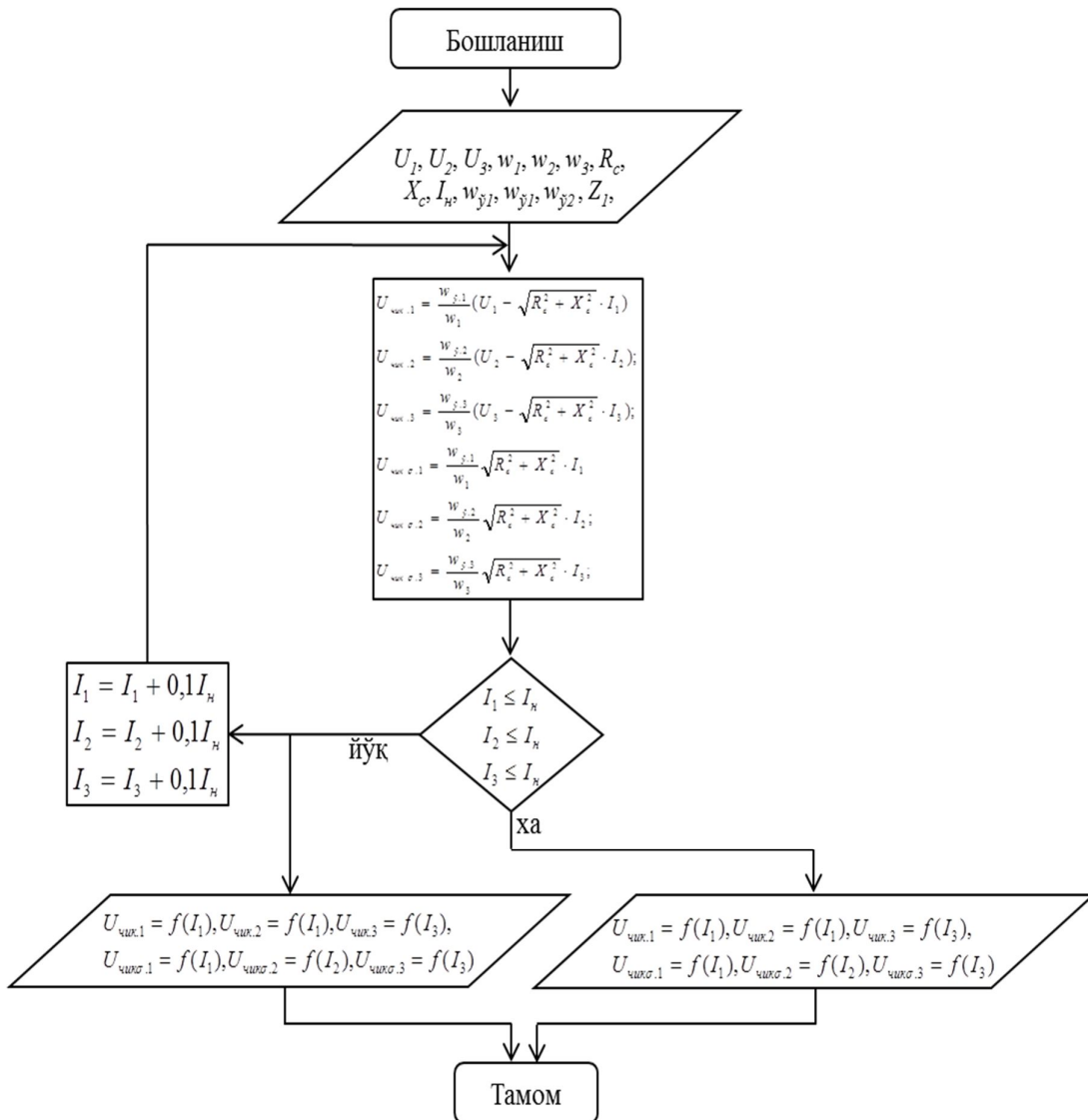
2–rasm. Birlamchi tok oʻzgartirgichi oʻlchov chulgʻami oʻramlar sonining 1 dan 4 gacha qiymatlarida chiqish kuchlanishining oʻzgarishlari.



3–rasm. Oʻzgartirgichning oʻlchov chulgʻami oʻramlar soni 1 dan 4 gacha qiymatlarida chiqish kuchlanishining birlamchi toklarga bogʻliqlik tavsiflari.

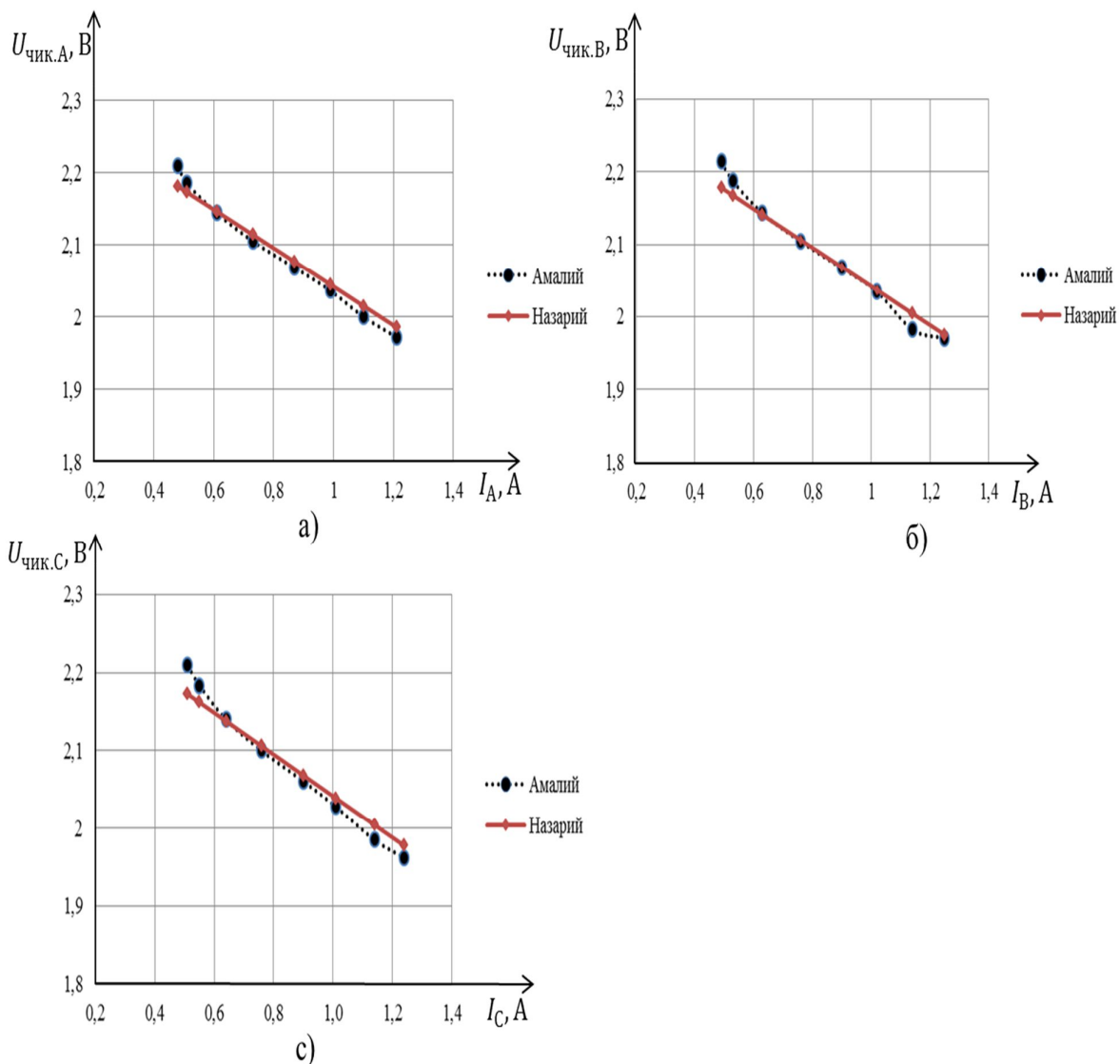
1, 2 va 3– rasmlarda keltirilgan statik tavsiflar asosida toklarni ikkilamchi kuchlanishga oʻzgartirgichning metrologik koʻrsatkichlari: chiqish tavsifining chiziqiligi, oʻzgartirishning aniqligi, oʻzgartirgich elementining sezgirligi kabi koʻrsatkichlari tadqiq etiladi.

Elektr tarmoqning quvvat balansini nazorati va boshqaruvi uchun uch fazali tok oʻzgartirgichini statik tavsiflarini tadqiqot algoritmi ishlab chiqildi.



4 – rasm. Uch fazali tok o‘zgartirgichining statik tavsiflarini tadqiqot algoritmi.

Statik tavsiflarni tadqiqot algoritmi asosida uch fazali uch sezish elementli o‘zgartirgichning statik tavsiflari tadqiqi uchun bulutli hisoblash texnologiyasiningda yaratilgan model asosida olinadi



5- rasm. Uch fazali tok o'zgartirgichi ikkilamchi chiqish kuchlanishlarini U_{chiq} amaliy o'lchangan va nazariy hisoblangan qiymatlarini tokga bog'liqligining statik tavsiflari: a – A faza, b – V faza va s – S faza toklariga mos statik tavsiflar.

Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun uch fazali stator toklari o'zgartirgichining tadqiqotida dinamik tavsiflarining o'rni muhim bo'lib, stator toklarining qiymatlari, o'lchov elementlari parametrlari, tashqi ta'sirlar, elektr tarmoq parametrlari va boshqa ta'sirlarga kuchlanish ko'rinishidagi chiqish signallarining vaqt bo'yicha o'zgarishi va bog'liqliklarini aks ettiradi [4-8].

O'zgartirgichning dinamik tavsiflari graf modeli asosida shakllantirilgan analitik ifodalar, o'zgartirgichning dinamik holatlarida ishlash tavsiflari, fizik – texnik effektlari, shuningdek elektr tarmoqning ish holatlarini hisobga olgan holda nazariy tadqiqotlar olib borish imkonini berdi.

Tok o'zgartirgichning dinamik holati chiqish signalini kirish kattalik va parametrlar bilan bog'laydigan o'zgartirgichning tuzilish sxemasi, o'zgartirish bo'lagining ko'ndalang, bo'ylama va vertikal taqsimlangan parametrlarining xususiyatlari asosida aniqlangan. Uch fazali toklarining kattaliklari va parametrlari o'zgartirgichning ish holatlarida kirish kattaliklari qiymat va burchak bo'yicha nomutunosib va nochiziqli o'zgarish hususiyatlariga ega bo'lganligi sababli dinamik tavsiflarni o'zgartirishi mumkin [9-10].

Uch fazali tarmoqlardan i_1, i_2, i_3 birlamchi toklar o'tishi natijasida hosil bo'lgan magnit oqimlar ta'sirida tok o'zgartirgichi o'lchov chulg'amlari chiqishlarida $u_{chik.1}(t), u_{chik.2}(t), u_{chik.3}(t)$ kuchlanishlar olinadi. Tok o'zgartirgichi chiqishidagi kuchlanishlar o'lchov chulg'amlarini stator pazida joylashishi, o'ramlar soni va parametrlariga bog'liq holda chiqish kuchlanishlari quyidagicha:

$$u_{\text{chik.1}}(t) = -R_{j.1} \cdot i_{\text{chik.1}}(t) - L_{j.1} \frac{di_{\text{chik.1}}(t)}{dt} + w_5 \frac{d\Phi_2(t)}{dt} + w_6 \frac{d\Phi_3(t)}{dt};$$

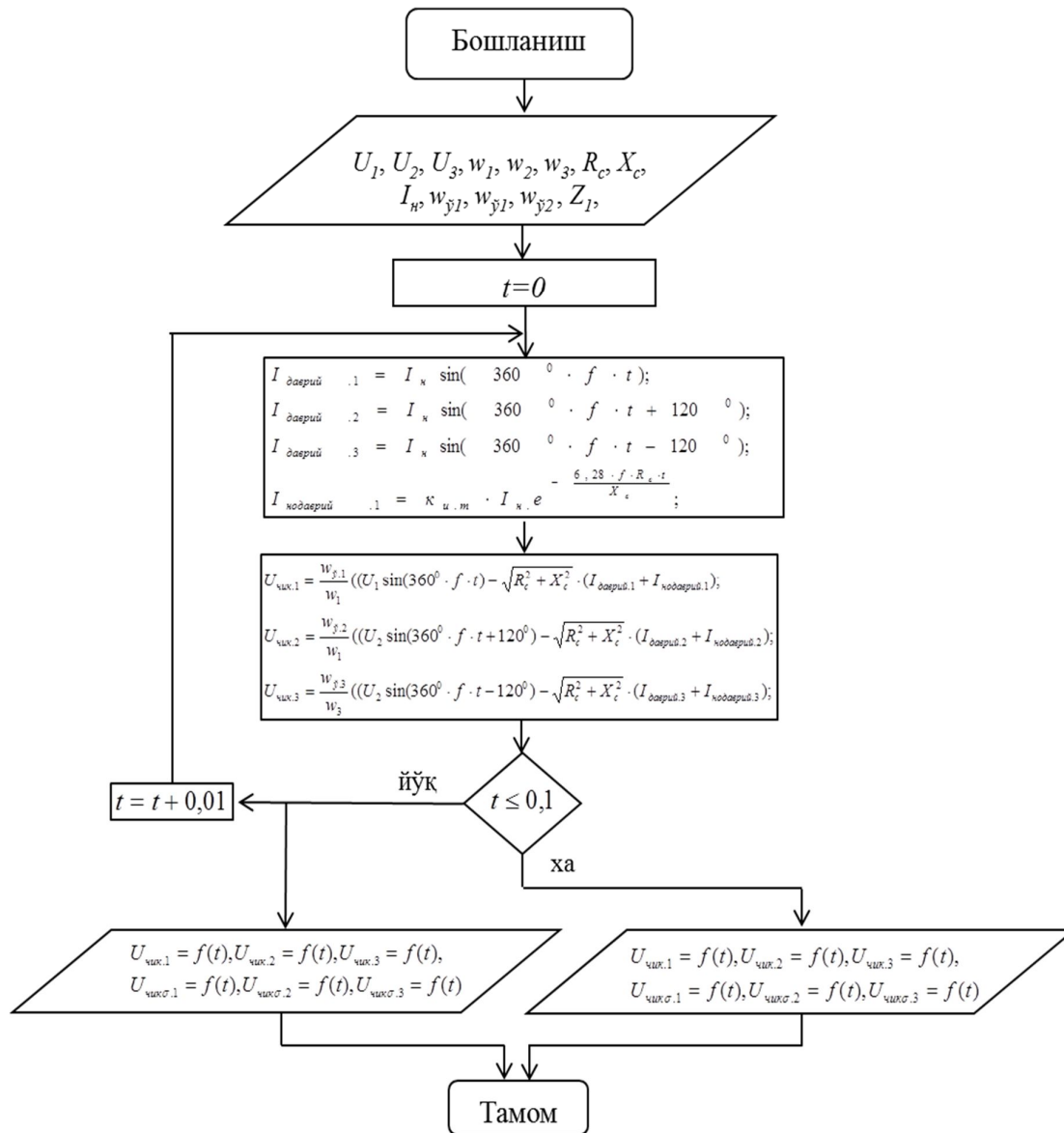
$$u_{\text{chik.2}}(t) = -R_{j.2} \cdot i_{\text{chik.2}}(t) - L_{j.2} \frac{di_{\text{chik.2}}(t)}{dt} + w_4 \frac{d\Phi_1(t)}{dt} + w_6 \frac{d\Phi_3(t)}{dt};$$

$$u_{\text{chik.3}}(t) = -R_{j.3} \cdot i_{\text{chik.3}}(t) - L_{j.3} \frac{di_{\text{chik.3}}(t)}{dt} + w_4 \frac{d\Phi_1(t)}{dt} + w_5 \frac{d\Phi_2(t)}{dt};$$

bu yerda $R_{o'.1}, R_{o'.2}, R_{o'.3}, L_{o'.1}, L_{o'.2}, L_{o'.3}$

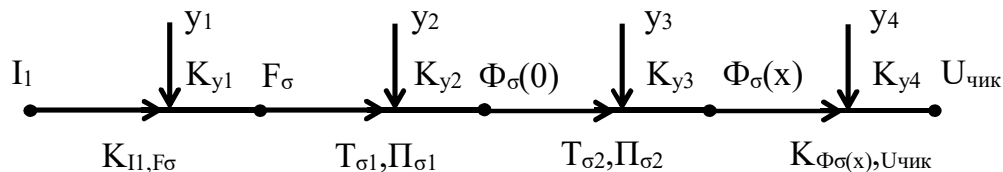
– mos ravishda uch fazali tok o'zgartirgichining aktiv qarshiliklari va induktivliklari, $w_{o'.4}, w_{o'.5}, w_6$ – o'lchov elementlarining o'ramlar soni; $i_{chik.1}(t), i_{chik.2}(t), i_{chik.3}(t)$ – o'lchov chulg'ami toklari.

Tok o'zgartirgichini dinamik tavsiflarini tahlil etishda tadqiqot algoritmi ishlab chiqildi.



6 – rasm. Uch fazali tok o‘zgartirgichini dinamik tavsiflarining tadqiqot algoritmi.

Tokni kuchlanishlarga o‘zgartirgichni xatoliklarini o‘rganib chiqish uchun 7-rasmda tasvirlangan o‘zgartirgichning bitta faza toki uchun xatoliklari umumlashtirilgan graf modelidan foydalanamiz.



7-rasm. Tokni kuchlanishga o‘zgartirgichni umumlashtirilgan graf modeli

Tok o'zgartirgichining kirish kattaligi I_1 , F_σ grafda berilgan bo'lib, unda I_1 (I_A) faza toki F_σ magnit yurituvchi kuchga o'zgartiriladi, bu K_{I_1, G_σ} zanjirlararo aloqa koeffisienti orqali aks etadi. $F_\sigma, F(0)$ zanjirida G_σ magnit yurituvchi kuch $F_\sigma(0)$ magnit oqimiga o'zgartiriladi, uning $T_{\sigma 1}$, $P_{\sigma 1}$ sxematik funksiyasi zanjirning tuzilmasini aks ettiradi.

Magnit zanjirida $F_\sigma(0)$ magnit oqimi umumiy holda x koordinata bo'ylab, stator magnit zanjiri bo'ylab $x=0$ dan x gacha tarqaladi va $F_\sigma(x)$ qiymatga ega bo'ladi. $F_\sigma(x)$, $U_{chik,\sigma}$ zanjirda $F_\sigma(x)$ oqimni $U_{chik,\sigma}$ kuchlanishga o'zgartirish bo'lib o'tadi, bu $K_{F_\sigma(x), U_{chik}}$ zanjirlararo aloqa koeffisienti orqali aks etadi.

Axborot beruvchi graf modelga o'zgartirishlarning har xil ekanligini hisobga oluvchi y_1, y_2, y_3, y_4 ta'sir etuvchi mustaqil o'zgaruvchilar kiritilgan. $I_1 - F_\sigma$; $F_\sigma - F_\sigma(0)$; $F_\sigma(0) - F_\sigma(x)$; $F_\sigma(x) - U_{chik,\sigma}$; y_1, y_2, y_3, y_4 ta'sir etuvchi mustaqil o'zgaruvchilarning mos o'zgartirish zanjirlari bilan bog'liqligi $K_{y1}, K_{y2}, K_{y3}, K_{y4}$ koeffisientlar orqali aks ettiriladi.

Tok o'zgartirgichining xatoliklarini o'rganish uchun 7-rasmda keltirilgan axborot grafli modeli bilan bir qatorda o'lchov qurilmalari axborot nazariyasi qoidalaridan foydalanish juda samarali bo'ladi.

O'lchov qurilmalari axborot nazariyasiga muvofiq o'zgartirgichning xatoligi ilmiy jihatdan Δ_E entropiyali xatolik qiymati bilan aniqlanadi, K_E entropiya koeffisientlari esa alohida elementlar xatoliklar ehtimolliklarining zichligi, taqsimoti, qonuni turiga bog'liq bo'ldi.

Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun o'zgartirgichning o'rtacha kvadratik xatoligi quyidagi ifoda orqali aniqlanadi

$$\sigma_\Sigma = \sqrt{\sigma_1^2 + \sigma_2^2 + \dots + \sigma_n^2}$$

bu yerda $\sigma_1, \sigma_2, \dots, \sigma_{n1}$ – alohida elementlarning o'rtacha kvadratik xatoliklari.

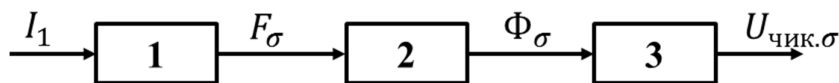
Keltirilgan K_E va σ_Σ xatoliklarning qiymatlari ma'lum bo'lganida Δ_E entropiyali xatolik qiymati quyidagi ifodadan aniqlanadi:

$$\Delta_\sigma = K_\sigma \cdot \sigma_\Sigma$$

Tok o'zgartirgichining graf modeliga ko'ra yig'indi xatolikning tashkil etuvchilari $I_1 - F_\sigma$; $F_\sigma - F_\sigma(0)$; $F_\sigma(0) - F_\sigma(x)$; $F_\sigma(x) - U_{chik,\sigma}$ zanjirlardagi xatoliklar hisoblanadi.

Tokni kuchlanishga o'zgartirgichining kirish zanjiridagi xatoliklar – harorat, namlik, tashqi magnit maydonlar va boshqalar ta'sirida I_1 tok, ω_1 burchak chastotaning o'zgarishlari, K_{I_1, F_μ} aloqa koeffisientining o'zgarishlari, shuningdek elektr va magnit o'tkazgichlari materiallarining fizik xossalarini o'zgarishi hisoblanadi.

Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun uch fazali tok o'zgartirgichining funksional sxemasi ko'rinishi quyidagicha bo'ladi:



8-rasm. Asinxron motor reaktiv quvvatini nazorat va boshqaruv tizimi o'zgartirgichining funksional sxemasi

1-qismda I_1 stator chulg'ami tokini F_σ magnit yurituvchi kuchga o'zgartiriladi, 2-qismda F_σ magnit yurituvchi kuch stator magnit zanjirida F_σ magnit oqimini paydo qiladi, 3-qismda o'lchash chulg'ami chiqishida U_{chik} kuchlanish hosil bo'ladi.

Tok o'zgartirgichining umumiy xatoligini baholash uchun keltirilgan qismlarda paydo bo'ladigan xatoliklarni alohida – alohida ko'rib chiqamiz.

1. $I_1 - F_\sigma$ o'zgartirish zanjiri xatoligini, ya'ni $\sigma_1=0,1$ ($\pm 0,1\%$ – birlamchi nominal qiymatdan) – chegaraviy miqdori;

2. $F_\sigma - \Phi_\sigma$ uchun $\sigma_2=0,1$;

3. $F_\sigma - U_{chik}$ uchun $\sigma_3=0,1$ bo'lgan past miqdorlari asosida aniqlanadi:

$$\sigma_\Sigma = \sqrt{\sigma_1^2 + \sigma_2^2 + \sigma_3^2} = \sqrt{0,1^2 + 0,1^2 + 0,1^2} = 0,173$$

Xatoliklarning barcha tashkil etuvchilarini additiv va multiplikativ xatoliklarga bo'lamiz va ularning paydo bo'lish ehtimolligining taqsimot qonuniga muvofiq ularning o'rtacha kvadratik og'ishi topiladi.

Tok o'zgartirgichi uchun Δ_{TO} entropiyali xatolik quyidagiga teng bo'ladi:

$\Delta_{T\ddot{y}} = K_E \cdot \sigma_\Sigma = 2,07 \cdot 0,173 = 0,36$ bu yerda $K_E=2,07$ – o'zgartirgich elementining entropiyali koeffisienti; σ_Σ – elementning yig'indi o'rtacha kvadratik xatoligi.

Keltirilgan hisoblar va tadqiqotlarga ko'ra Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun uch fazali tok o'zgartirgichining entropiya xatoligi $\Delta_{TO}=0,36$ ya'ni $\pm 0,36\%$ ga teng bo'lib, o'zgartirgich aniqligini me'yorlangan qiymati standartda ko'rsatilgan sonlardan tanlanishi mumkin. Tadqiq qilingan uch fazali tok o'zgartirgichi uchun me'yorlangan aniqlik sinfi 0,5 ya'ni $\pm 0,5\%$ ni tashkil etadi.

Uch fazali tok o'zgartirgichlarining parametrik va o'zgaruvchi ishonchlilik ko'rsatkichlari o'zgartirgichning doimiy ish holatida bo'lish ehtimolidan $R_{par}(t) = 0,99$ va $R_{o'zg}(t) = 0,99$ ga teng qilib olingan bo'lib, o'zgartirgichning ishdan chiqishligiga bog'liq ko'rsatkichlarning ehtimolligini o'zgarish qonuni vaqtga bog'liq bo'lmaydi va bunda tok o'zgartirgichi qismlarining ishonchligini bir xilligi ta'minlanadi.

Uch fazali tok o'zgartirgichining faza toklarda kuchlanishlar ko'rinishidagi ikkilamchi chiqish kattaliklarga o'zgartirish xatoliklarini o'zgartirgichning ish holatida o'rnatilgan me'yoriy qiymatlaridan oshmaslik ehtimoli o'zgartirgich va uning tarkibiy qismlarini metrologik ishonchligini xarakterlaydi [11-12].

Elektr tarmoq faza toklarini ikkilamchi kuchlanish ko'rinishidagi kattalikga o'zgartirish tok o'zgartirgichining ishlash prinsipi tahliliga ko'ra o'rganilayotgan

o'zgartirgichning tarkibiy qismlari ishonchliligini aniqlovchi va tashkil etuvchilarini holatlari jadval ko'rinishida ishlab chiqildi. Ishlab chiqilgan qiymatlardan shunday xulosaga kelamizki, tok o'zgartirgichining o'lchov chulg'aming ishonchli ish holati o'zgartirgichning ishonchli ish holatini aniqlovchi asosiy ko'rsatkichlaridan hisoblanadi.

1-jadval

Tok o'zgartirgichi bo'laklarining ish holati ehtimolligi

№	Ishchi holati ehtimolligi
1	$P_1P_2P_3 = 0,970299$
2	$P_1P_2(1-P_3) = 0,009801$
3	$P_1P_3(1-P_2) = 0,009801$
4	$P_2P_3(1-P_1) = 0,009801$
5	$P_1(1-P_2)(1-P_3) = 0,000099$
6	$P_2(1-P_1)(1-P_3) = 0,000099$
7	$P_3(1-P_1)(1-P_2) = 0,000099$

Tok o'zgartirgichining ish holatini umumiy ishonchlilik ko'rsatkichini 1-jadvalda keltirilgan tok o'zgartirgichi bo'laklarini ish holatidagi ishonchliligidan foydalanib hisoblaymiz:

$$R_{um.} = P_1P_2P_3 + P_1P_2(1-P_3) + P_1P_3(1-P_2) + P_2P_3(1-P_1) + P_1(1-P_2)(1-P_3) + P_2(1-P_1)(1-P_3) + P_3(1-P_1)(1-P_2) = 0,95.$$

Yuqorida hisoblangan ishonchlilik ko'rsatkichidan xulosa qilsak, elektr tarmoq toklarini ikkilamchi kuchlanishlarga o'zgartirgichining ish holatini umumiy ehtimolligi $R_{um.} = 0,95$ ga tengligini ko'ramiz.

Xulosa

1. Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun uch fazali tok o'zgartirgichining tavsiflarini tadqiq etishning graf modeli va bu model asosida analitik ifodasi ishlab chiqildi, o'lchov chulg'amlarini kombinasion joylashtirilganligi bilan chiqishdagi kuchlanishni nazorat va boshqaruv tizimi uchun me'yoriy kattalikda bo'lishligi ta'minlandi.

2. Dinamik tavsiflar tok o'zgartirgichining magnit tuzilmasidagi oqimlarning o'zgarishi asosida belgilanib, birlamchi tok yuklamaga berilgan muddatdan to ikkilamchi kuchlanish o'zining turg'un holatiga 0,045–0,055 sek. vaqt oralig'ida erishdi, ushbu miqdor ruhsat etilgan 0,2 sek. qiymatdan kichik ekanligi va o'zgartirgich yuqori tezlikga egaligi asoslandi.

3. Uch fazali tok o'zgartirgichining xatoliklarini topish uchun graf modeli qurildi, entropiya xatolik koeffitsienti $K_e=2.07$ ta tengligidan umumiy xatoligi $\Delta=0,36$ ya'ni $\pm 0,36$ % ekanligi va tok o'zgartirgichini me'yoriy aniqlik sinfi 0,5 dan kichikligi aniqlandi.

4. Elektr energiya sifat ko'rsatkichlarining monitoringi va nazorat qilish uchun uch fazali tok o'zgartirgichining ish holatini umumiy ehtimolligi $R = 0,95$ ga tengligi aniqlandi.

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SANOAT KORXONALARDA ELEKTR YUKLAMALARNI XARAKTERLOVCHI ASOSIY KOEFFITSIYENTLAR

Annotatsiya: Quvvat va vaqt bo'yicha ish rejimini tavsiflovchi yuklamalar grafiklarining ko'effitsientlari. Korxonalarda qo'llaniladigan yuklamalar turlari.

Kalit so'zlar: Quvvat, vaqt, yuklamalar, grafiklarining ko'effitsientlari. effektiv (o'rtacha kvadrat) qiymat, ishlatilish ko'effitsiyenti, aktiv quvvat.

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MAIN COEFFICIENTS CHARACTERIZING ELECTRICAL LOADS IN INDUSTRIAL ENTERPRISES

Abstract. Coefficients of graphs of loads describing the mode of operation in terms of power and time. Types of downloads used in enterprises.

Keywords: Coefficients of power, time, loads, graphs. effective (mean square) value, utilization factor, active power.

Yuklamalarni hisoblash va tadqiqot qilishda iste'molchilarning quvvat va vaqt bo'yicha ish rejimini tavsiflovchi yuklamalar grafiklarining ko'effitsientlaridan foydalaniladi. Bunday ko'effitsientlar xususiy va guruhiy grafiklari uchun aniqlanib, mos ravishda kichik k va bosh K harflar bilan belgilanadilar.

Quvvat va vaqt bo'yicha ish rejimini tavsiflovchi yuklamalar grafiklarining ko'effitsientlari.

Ishlatilish ko'effitsiyenti deganda, o'rtacha aktiv quvvatni nominal quvvatga nisbati tushuniladi va uning miqdori eng ko'p yuklamali smena uchun aniqlanadi:

$$k_{ish.a} = \frac{P_{o'rt.}}{P_n}; K_{ish.a} = \frac{P_{o'rt.}}{P_n} = \frac{\sum_1^n k_{ish.a} \cdot P_n}{\sum_1^n P_n}$$

$$k_{ish.a} = \frac{P_{o'rt.}}{P_n}; K_{ish.a} = \frac{P_{o'rt.}}{P_n} = \frac{\sum_1^n k_{ish.a} \cdot p_n}{\sum_1^n P_n}$$

Bu yerda, p_n, P_n – mos ravishda bir yoki guruh iste'molchilarining nominal aktiv quvvatlari. P_n ni miqdorini takroriy qisqa muddatda ishlaydigan iste'molchilarda ularning pasportlaridan olinadi.

P_s, P_s – mos ravishda ayrim guruh iste'molchilarning o'rtacha aktiv quvvat energiya hisoblagichlarining ko'rsatgichi bo'yicha aniqlanadi:

$$P_{o'rt.} = \frac{\mathcal{E}_a}{t_s}; P_{o'rt.} = \frac{\mathcal{E}_A}{t_s}$$

$\mathcal{E}_a, \mathcal{E}_A$ – bir yoki guruh iste'molchilarning qabul qilgan aktiv elektr energiyasi.

T_s – sikl uchun vaqt intervali.

Yuqorida keltirilgan munosabatlarni reaktiv quvvatga ham yozish mumkin:

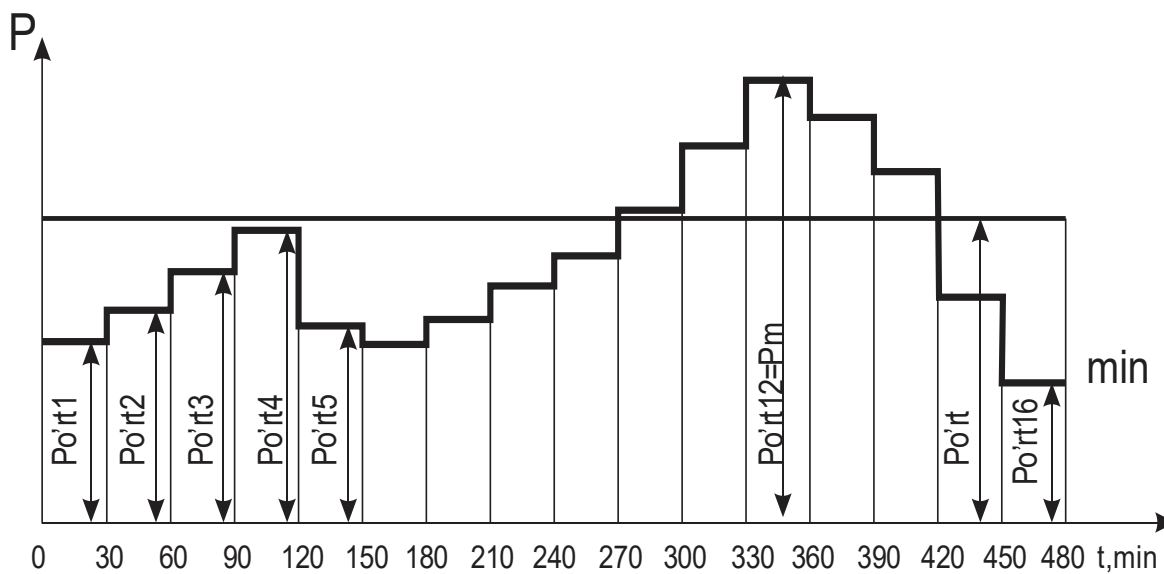
$$k_{ish.r} = \frac{q_{o'rt.}}{q_n}; k_{ish.r} = \frac{Q_{o'rt.}}{Q_n} = \frac{\sum_1^n k_{ish.r} \cdot q_n}{\sum_1^n q_n};$$

$$q_{o'rt.} = \frac{\mathcal{E}_r}{t_s}; Q_{o'rt.} = \frac{\mathcal{E}_r}{t_s}.$$

Har xil rejimlarda ishlovchi elektr iste'molchilari uchun ishlatilish koeffitsiyentlarining o'rtacha qiymati ma'lumotlarda keltirilgan.

Grafikni to'ldirish koeffitsiyenti deb, ma'lum vaqt oralig'idagi o'rtacha quvvatni maksimal quvvatga nisbatini aytiladi.

$$K_{t.a} = \frac{P_{o'rt.}}{P_m}$$



1-rasm. Har xil rejimlarda ishlovchi elektr iste'molchilarning yuklamalar grafigi.

Odatda, $P_{o'rt}$ va P_m larning miqdorlari t yuklamali smena davrining vaqti uchun olinadi.

Aktiv quvvatni maksimumi deganda, ma'lum vaqt oralig'ida o'rtacha quvvatning maksimumi tushuniladi. Smena davomidagi 30 minutli o'rtacha quvvatlarining qiymatlaridan eng maksimumi olinadi. Rasmda 6 soat davomida har 30 minutga to'g'ri keladigan o'rtacha qiymatlarning grafik keltirilgan. Qurilgan vaqt intervalida 30 minutli yuklamaning maksimum qiymati 210 minutdan 240 minutgacha oraliqda sodir bo'lar ekan.

Yuklamaning ushbu qiymatini ko'p hollarda hisobiy quvvat sifatida ham qabul qilinadi.

Grafikni to'ldirish koeffitsiyenti guruh iste'molchilari uchun topiladi. Bu koeffitsiyentini aniqlashning reaktiv quvvat uchun ifodasi quyidagicha bo'ladi:

$$K_{t.r} = \frac{Q_{o'rt.}}{Q_m}$$

Kunlik grafikning to'ldirish koeffitsientlarining qiymatlarini turli korxonalar uchun ma'lumotnomalardan olish mumkin(A.6).

Maksimum koeffitsiyenti – grafikni to'ldirish koeffitsiyentiga teskari bo'lgan miqdor, ya'ni:

$$K_{m.a} = \frac{1}{K_{T.a}} = \frac{P_m}{P_{o'rt.}}; K_{m.r} = \frac{1}{K_{T.r}} = \frac{Q_m}{Q_{o'rt.}}$$

Bu koeffitsiyentning qiymati t yuklamali smena uchun aniqlanadi va guruh iste'molchilariga tegishli bo'ladi. Agar maksimal quvvat deganda hisobiy quvvatni qabul qilinishini e'tiborga olinadigan bo'lsa,

$$K_{M.a} = \frac{P_x}{P_{o'rt.}}$$

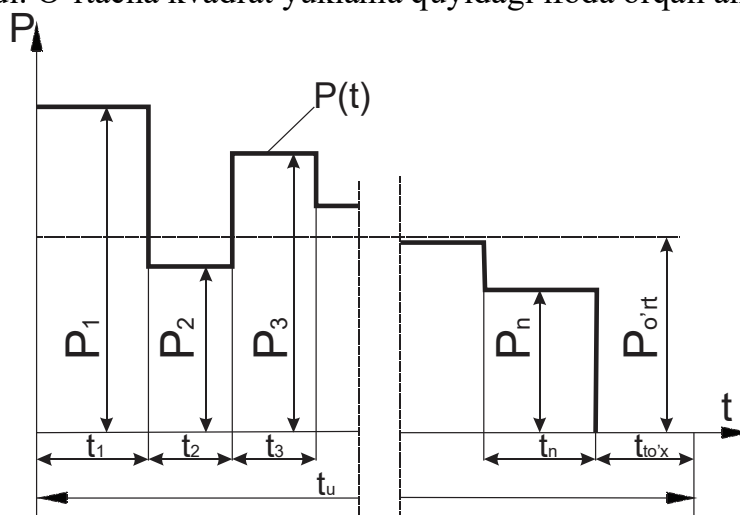
Demak, maksimum koeffitsiyenti grafikdan aniqlanadigan ikki eng asosiy miqdorlar – hisobiy va o‘rtacha yuklamalar orasidagi munosabatni belgilaydi. K_m koeffitsiyenti hisobiy quvvatni o‘rtacha quvvatga nisbatan qancha kattaligini ko‘rsatadi. Uning miqdori birga teng yoki katta bo‘lishi mumkin. O‘zgarmas yuklamali iste‘molchilar (ventilyatorlar, nasoslar va t.u.) uchun $K_m=1$, ya‘ni $P_x = P_{o'rt.}$

Forma koeffitsiyenti yuklamaning effektiv (o‘rtacha kvadrat) qiymatini uning o‘rtacha qiymatiga nisbati bilan aniqlanadi. Bu ko‘rsatgich ayrim iste‘molchi yoki guruh iste‘molchilari uchun ma‘lum vaqt oralig‘ida topiladi:

$$k_{f.a} = \frac{P_{o'rt.kv.}}{P_{o'rt.}}; K_{F.A} = \frac{P_{o'rt.kv.}}{P_{o'rt.}}$$

$$k_{f.r} = \frac{Q_{o'rt.kv.}}{Q_{o'rt.}}; K_{F.R} = \frac{Q_{o'rt.kv.}}{Q_{o'rt.}}$$

Forma koeffitsiyenti yuklama grafigining vaqt bo‘yicha notekisligini ko‘rsatadi. Uning eng kichik qiymati, vaqt bo‘yicha o‘zgarmaydigan yuklamada, birga teng bo‘ladi. O‘rtacha kvadrat yuklama quyidagi ifoda orqali aniqlanadi:



2-rasm. Yuklama grafigining vaqt bo‘yicha notekisligi.

$$P_{o'rt.kv.} = \sqrt{\frac{\sum_{i=1}^n P_i^2 \cdot t_i}{T}} = \sqrt{\frac{\sum_{i=1}^n P_i^2}{n}} \quad Q_{o'rt.kv.} = \sqrt{\frac{\sum_{i=1}^n Q_i^2 \cdot t_i}{T}} = \sqrt{\frac{\sum_{i=1}^n Q_i^2}{n}}$$

Bu yerda, $n = \frac{T}{t_i}$ - yuklama grafigining T vaqt oralig‘idagi teng bo‘laklar soni. Forma koeffitsiyenti $K_{f.a}$ ning miqdori ishlab chiqarish jarayoni maromida

boʻlgan korxonalarda 1,05 dan 1,15 oraligʻida boʻladi.

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THE COST OF A TRANSFORMER AND THE IMPORTANCE OF ITS HEATING

Annotation. The problem of transformer losses and their causes are studied and recommendations for their optimal values are given. Transformer heating and cooling methods are studied.

Keywords: active power, inductive power, waste, load.

We know that the losses in a transformer inevitably affect its efficiency. The result of the ratio of the active (useful) power P_2 supplied from the secondary winding to the consumer (load) to the active power P_1 received from the power supply of the transformer primary winding is called the efficiency (FIK) η . The formula for determining it is as follows:

$$\eta = \frac{P_2}{P_1} = \frac{P_2}{(P_2 + \sum P')} \quad (1)$$

Power losses in the transformer ($\sum P'$) are the magnetic losses generated by the alternating magnetic flux in the core and the electrical losses (including additional losses) that occur when current flows through the winding conductors according to the Joule-Lens law.) is included.

$$\sum P' = P'_{O.N} + K_{Yu}^2 P'_{qt.N} \quad (2)$$

Electricity in the transmission of electrical energy from substation bus sources wastage of 5-10% of electricity on supply lines will be It is impossible to reduce electricity waste to zero, but it is necessary to strive to minimize them.

Since the voltage applied to the transformer is $\sum U_1 = \text{const}$ and its load is almost constant at the values from salt to nominal, the magnetic losses of the transformer are also constant. These losses are approximately equal to the operating losses of the transformer[1].

The main and auxiliary power losses vary in proportion to the square of the current. Of course, this is also reflected in the heating of the magnetic and electrical conductors in the device, according to Joule-Lens law. A transformer connected to a load loses some of its electrical energy during operation, which is converted into heat energy and distributed to the environment. About 80% of the waste is generated by coils, and the rest by magnetic cores and metal structural elements [2].

When heat is released, the transformer heats up. In this case, its temperature is much higher than the ambient temperature. The main reason for this is the limited power when the load is connected.

Due to the heating, the natural convection of the oil inside the tank is formed, ie due to the heating of the magnetic system and the coils, the oil particles close to them lightly rise to the top of the tank, and those close to the tank wall cool down due to the natural circulation of air from outside. Heat from the tank walls is transmitted to the environment through radiation (invisible waves) and convection.

The paper-based Class A insulation used in the transformer loses its elasticity and becomes brittle when exposed to high temperatures for long periods of time. As a result, even small mechanical forces that occur during operation can damage the insulation and lead to a loss of electrical strength. This shortens the life of the transformer.

The higher the temperature, the faster the insulation will wear out. As the power of the transformers increases, the losses increase in proportion to its mass, which is approximately equal to its linear dimension (third degree), and the cooling surface to its square. This means that the heat dissipated in the transformer increases the losses faster than its cooling surface. When transformer oil is used as the cooling medium, it is 6-8 times more efficient than air-cooled.

If the transformer is in normal operation, ie in the nominal operating mode, and the temperature is at a certain value, it will definitely exceed the operating time. This means that its temperature and cooling system will definitely be affected for a lifetime. Insulation will last at least 20-25 years when oil transformers are used under normal conditions, ie when the insulation temperature at its hottest point does not exceed 105⁰C. If it operates under temperatures above 8-100C, the insulation service life will be reduced by about 2 times [4].

The requirement for the insulation material is that the insulation does not chemically react with transformer oil up to 110⁰C.

Figure 1, a shows the change in temperature along the height of the transformer, and Figure 1, b shows the approximate distribution of temperature in the horizontal section of the oil transformer.

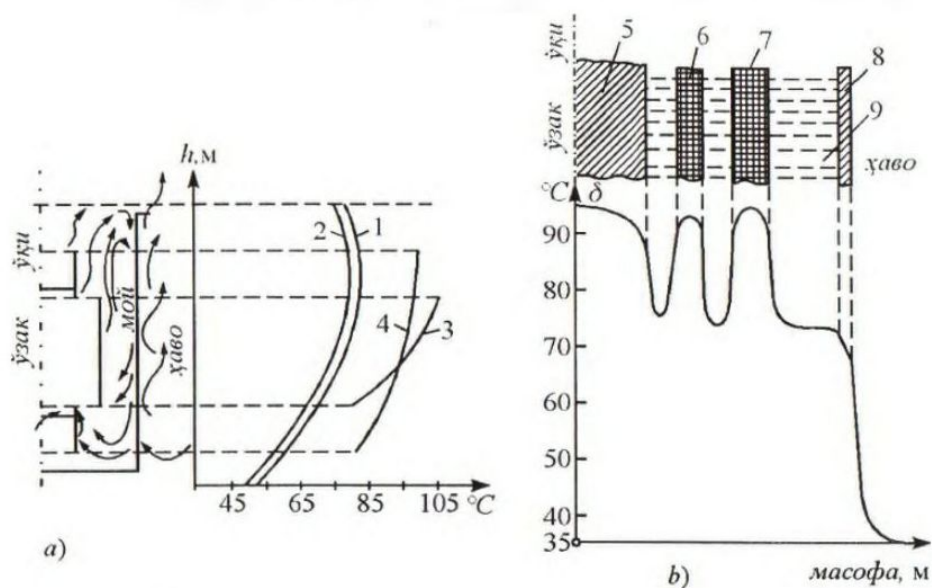


Figure 1. Oil-cooled power transformer: a) approximate temperature change in height (1st oil, 2nd tank walls; 3rd coil and 4th magnetic system); b) the approximate distribution of temperature in the horizontal section. (Core 5; Cells 6,7 PK and YUK; Base wall 8; May 9).

The temperature of the transformer generally varies depending on the load. At the same time, we should consider that it is advisable to make sure that the load does not exceed the nominal value. Therefore, one of these hesitations is that of this electrical loading center (ELM). The load connected to the secondary winding of the transformer causes the transformer to shift to the center of gravity of the load. As a result, firstly, non-ferrous metals are saved, and secondly, the voltage drops across the consumers at the end of the network are eliminated, and at the same time the load on the transformer is reduced [3-5].

The calculation of EYUM and the installation of the main substation in the center of gravity are widely used in these industrial enterprises. This ensures energy efficiency and rated operation of electricity consumers. In the construction of power supply systems for all types of industrial enterprises, master plans of these facilities are created, which show all the industrial production shops. The location of the shops is determined on the basis of production technology. The master plan shows the calculated or determined capacity of the industrial enterprise. The project also includes the above-mentioned shop and the entire company's electrical load schedules. Another important task of the design is to install BPP, BTP, TP in the most convenient place on the territory of the enterprise.

When designing power supply systems, load maps are shown in the master plans of the enterprise to determine the location of BPP, BTP, TP.

Loading cartograms are general-purpose circles, the area bounded by the surface of these circles, which is used to describe the calculated loads of the

workshops on the selected scale. Each shop is shown its own circle, the center of which corresponds to the loading center of the shop.

The electrical load cartogram allows the designer to clearly visualize the distribution of electricity in the plant area.

$$P_i = \pi \cdot r_i^2 \cdot m$$

From the expression you can determine the radius of the circle.

$$r_i = \sqrt{\frac{P_i}{\pi \cdot m}}$$

Here m is the scale of finding the circle.

If the actual distribution of the load in the shop is taken into account, then the center of the load does not coincide with the planned center of gravity of the shop, so finding the center of the load leads to determining the center of gravity.

Given that this system will be available in all industrial enterprises, I propose to promote it in TPs used by consumers. In this way, of course, we can achieve a reduction in the value of energy waste.

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SANOAT KORXONALARINING ENERGETIK BALANSI

Annotatsiya: Jahondagi barcha yoqilg'i resurslarining (yadro energiyasidan tashqari) potensial zaxiralari 25000 mlrd. t shartli yoqilg'iga teng. Uning 95% i yoqilg'ining qattiq turlariga to'g'ri keladi. Shartli yoqilg'i deb, 1 kg yoqilg'i yonganda 7 ming kkal (29 MJ/kg) energiya beradigan, issiqlik koeffitsenti bir deb qabul qilingan yoqilg'iga aytiladi.

Kalit so'zlar: Energetik balans, Xususiy energiya, energiya tashuvchilar, Shartli yoqilg'i, Elektr energiya balansi, iste'mol kartogrammasi.

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ENERGY BALANCE OF INDUSTRIAL ENTERPRISES

Abstract. The potential reserves of all fuel resources in the world (except for nuclear energy) are 25,000 bln. t is equal to conventional fuel. 95% of it corresponds to solid types of fuel. Conventional fuel is a fuel that gives 7 thousand kcal (29 MJ/kg) of energy when 1 kg of fuel is burned, and the heat coefficient is assumed to be one.

Key words: Energy balance, Private energy, energy carriers, Conventional fuel, Electric energy balance, consumption cartogram.

Energiya balansi – bu korxonaga qabul qilayotgan va iste'mol qilayotgan energiya o'rtasidagi munosabatdir. Masalan, korxonaga 1000 kVt quvvat qabul qilayotgan bo'lsa, aynan shu quvvat korxonaga sexlari kesimida teng taqsimlanishi energetik balansni ifodalaydi. Ba'zi hollarda, quvvatning to'la iste'mol qilinmasligi kuzatiladi. Bu holat **debalans** deyiladi.

Energetik balans kelib tushish va sarflash qismlaridan iborat.

Energetik balansning kelib tushish qismi turli energiya tashuvchilar (qazib olinadigan yoqilg'i va yadro yonilg'isi, gaz, bug', suv, havo, elektr energiya) yordamida kelib tushadigan energiyaning miqdorini o'z ichiga oladi.

Energetik balansning sarflash qismi energiyaning barcha turlarini ularning turli ko'rinishidagi sarfini, bir turdagi energiyani boshqa turdasisiga

aylantirilgandagi yo‘qotishlarni hamda maxsus qurilmalarda (masalan, gidro akkumulyalovchi qurilmalarda) yig‘iladigan (akkumulyatsiya qilinadigan) energiya aniqlanadi.

Boshqa balanslarda bo‘lgani kabi masalan, buxgalteriyadagi kabi energiya balansining ham kelib tushish va sarflash qismlari teng bo‘lishi kerak.

Energetika balansi bir tomondan kelayotgan jami energiyaning, boshqa tomondan jami foydali energiyani uning yo‘qotishlari bilan mosligini ko‘rsatadi. Balansni tuzishda, korxonada iste‘mol qilinadigan barcha energiya turlari: elektr energiya, gaz, mazut, suv, bug‘ va h.k. ko‘rib chiqiladi. Korxonaning har bir sexida turli maqsadlarda iste‘mol qilinadigan energiya miqdori o‘lchanadi, bundan tashqari energiya yo‘qotishlari ham baholanadi.

Balansni tuzish mazkur korxonaning sexlarida haqiqiy energiya iste‘moli to‘g‘risidagi ma‘lumotlar asosida amalga oshiriladi (dvigatellar, elektr jihozlar, yoritish va h.k.) bunday axborotni olish uchun maxsus asboblari – elektr energiya, gaz, bug‘, suv va h.k. hisoblagichlaridan foydalaniladi.

Energetik balanslarni o‘rganish, korxonaning ayrim sexlarida va butun korxonada energiyadan foydalanishning haqiqiy holatini o‘rganish imkonini beradi. Energetika balansi korxonada ishlash samaradorligi to‘g‘risida fikr yuritish imkonini beradi. Balans korxonani energiya iqtisod qilinishi mumkin bo‘lgan nuqtalarini aniqlashi lozim.

Energiya tashuvchilarning turi va miqdoriga bog‘liq holda balans xususiy, ya‘ni faqat bitta energiya tashuvchi uchun, yoki umumiy ya‘ni korxonadagi barcha energiya resurslaridan foydalaniladigan jami iste‘mol bo‘yicha tuzilishi mumkin.

Xususiy energiya balanslarini tuzishda energiya tashuvchilarini miqdoriy o‘lchash joularida (Dj, mDj, GDj), kilovatt-soatlarda (kVt.s), tonna shartli yoqilg‘i (t.sh.yo.)da amalga oshiriladi. Umumiy energiya balansini tuzishda turli energiya resurslari va energiya tashuvchilarni o‘lchash tonna shartli yoqilg‘ida amalga oshiriladi.

Jahon miqyosida turli yoqilg‘i E. resurslari miqdorini taqqoslash uchun shartli yoqilg‘i birligi (1 kg yoqilg‘i yonganda 7000 kkal issiqlik ajralishi) qabul qilingan. Jahondagi barcha yoqilg‘i resurslarining (yadro energiyasidan tashqari) potensial zaxiralari 25000 mlrd. t shartli yoqilg‘iga teng. Uning 95% i yoqilg‘ining qattiq turlariga to‘g‘ri keladi.

Yadro energiyasining asosiy manbai bo‘lgan uran va toriyning zaxiralari dunyo okeani suvlaridagi zaxiralar bilan birga 69000 mlrd. t shartli yoqilg‘iga teng. Issiqlik E.si — E.ning issiqlikni issiqlik dvigatellari va boshqalar yordamida boshqa energiya turlari (mexanik energiya, elektr energiyasi) ga aylantirib beruvchi issiqlik texnikasi bo‘limi. Issiqlik E.sida asosiy issiqlik va elektr energiyasi ishlab chiqaruvchi korxonalar issiqlik elektr st-yalari (IES) hamda Davlat issiqlik elektr st-yasi (DIES) hisoblanadi. Yirik DIES lar: Sirdaryo DIES (3000 MVt), Toshkent DIES (1850 MVt), Tolimarjon DIES (loyiha bo‘yicha 3200

MVt). O'zbekistonning issiqtik elektr st-yalari respublikada ishlab chiqarilayotgan elektr energiyasining qariyb 85% ini tashkil qiladi.

Shartli yoqilg'i deb, 1 kg yoqilg'i yonganda 7 ming kkal (29 MJ/kg) energiya beradigan, issiqlik koeffitsenti bir deb qabul qilingan yoqilg'iga aytiladi.

Yoqilg'ini shartli yoqilg'iga aylantirish uchun, yoqilg'ilar haqidagi ma'lumotlarni tegishli issiqlik koeffitsentiga ko'paytiriladi. Hisoblashlarda 1 kg shartli yoqilg'i o'rta hisobda 2 kVt/soat elektr energiyasiga teng deb ham qabul qilinadi, lekin bunda elektr stantsiyalarining foydali ish koeffitsenti hisobga olinadi.

1 kg quruq to'yingan bug'ni kondensatga aylantirishda r issiqlik ajraladi. Bu fazoviy o'tish issiqligi deyiladi va r bilan belgilanadi. Undan tashqari kondensatning sovishi yuzaga keladi. Chunki sirtning harorati to'yinish haroratidan kichik bo'ladi. Agar kondensatning sovishi ajralgan issiqlikdan kichik bo'lsa, u holda issiqlik miqdorini quyidagi ifodadan aniqlaymiz:

$$Q = G r r = kJ /kg.$$

bunda G — hosil bo'lgan kondensatning miqdori. G- kg

Eski stansiyada 1 kVt.soat elektr energiya ishlab chiqarish uchun o'rtacha 360-400 gramm shartli yoqilg'i sarflangan bo'lsa, zamonaviy bug'-gaz qurilmasida bu ko'rsatkich 220-235 grammni tashkil etmoqda.

Sanoatda, shahar va qishloq xo'jaligida energiyaning asosiy iste'mol turi issiqlik va elektr energiyasidir. Shuning uchun sanoat korxonalarida issiqlik va elektr balanslari tuziladi. Elektr balanslarini tuzish xususiyatlarini ko'rib chiqamiz.

Sanoat korxonalarida uchun energiya balanslari ayrim agregatlar yoki ularning guruhiga, sexlar va butun korxonada uchun tuzib chiqiladi. Elektr balanslar asosida mazkur korxonada, ishlab chiqarish bo'linmalarida yoki energo sig'imli agregatlarda elektr energiyani ishlatish sifati to'g'risida obyektiv fikr yuritiladi, ishlab chiqarishga bog'liq bo'lmagan elektr energiya sarflarini qisqartirish imkoniyatlari aniqlanadi, natijada elektr energiyadan foydalanishni yaxshilash bo'yicha tadbirlar ishlab chiqiladi.

Elektr energiya balansining uchta asosiy turlari mavjud:

1) **Haqiqiy elektr energiya balansi** - sex yoki korxonada amalda iste'mol qilinayotgan elektr energiya iste'molini aks ettiradi;

2) **Normallashtirilgan elektr energiya balansi** – haqiqiy elektr energiya balansi tahlil qilinib, korxonada yoki sex miqiyosidagi iste'mol nuqtalari aniqlanib, ularda tejash tadbirlarini olib borishdan keyingi elektr energiya iste'molini aks ettiradi;

3) **Kelajakka mo'ljallangan elektr energiya balansi** – ishlab-chiqarishning rivojlanishini oldindan hisobga oladigan va yaqin kelajakdagi yoki undan ko'proq muddatga (5 yilgacha) uning sifat o'zgarishlarini hisobga oladigan elektr energiya iste'molini aks ettiradi.

Elektr energiya balansining bosh maqsadi – elektr energiyani samarali ishlatish darajasini aniqlash va isroflarni kamaytirish yo'llarini izlash, elektr

iste'molini ratsionalizatsiyalashdan iborat. Shuning uchun balansning asosiy turi etib asosan elektr energiya iste'molini real hajmini va elektr energiyadan foydalanish darajasini aniqlovchi aktiv energiya balansini hisoblash kerak.

Elektr energiya balansini tuzish vazifalari quyidagilardir:

- elektr energiya sarfini topish yordamida korxonaning asosiy mahsulotiga bo'lgan sarf harajatlarini aniqlash;
- korxonaning birlik mahsulotiga ketadigan elektr energiyaning haqiqiy solishtirima sarf me'yorlarini aniqlash.

Erkin normallashtirilgan elektr energiya balansini tuzish korxonaning haqiqiy balansini tahlil etishning so'nggi bosqichi hisoblanadi. Normallashtirilgan elektr energiya balansini korxonalarda elektr energiya iqtisodining zahiralarini baholashga xizmat qiladi.

Energetik balansni o'rganish natijasida mahsulotni ishlab chiqarishga ketgan energiyaning solishtirima sarfi kabi, energiyadan foydalanishning samarasi degan muhim ko'rsatkichini baholash amalga oshiriladi.

Sanoat korxonalarining elektr energiya balansini qurishni yog'-moy kombinatining elektr energiya balansini qurish misolida batafsil ko'rib chiqamiz. Yog'-moy kombinatining umumiy iste'mol quvvati 9290 kVt ga teng bo'lib, bu quvvat kombinatdagi 15 ta sex kesimida taqsimlanadi. Sexlar texnologik jarayoniga bog'liq ravishda ular bir va ikki smenada ishlaydilar. Misol tariqasida Tayyorlov №1 sexining quvvat iste'molini ko'rib chiqib, uning umumkombinat elektr energiyasidan iste'mol ulushini aniqlaymiz.

1. Sexning hisobiy quvvati $P_h=1150$ kVtga teng. Sexning smena davomiyligi 8 soat. (smena davomiyligi bir, ikki, uch smeneali bo'ladi. Bunga muvofiq $t=8, 16, 24$ soat qiymatlarini qabul qiladi). Sexning smena davomida iste'mol qiladigan elektr energiyasini aniqlaymiz:

$$W_{sex1} = P_h \cdot t = 1150 \cdot 8 = 9200 \text{ kVt} \cdot \text{soat}$$

2. Yuqoridagi ifoda yordamida qolgan sexlar uchun ham elektr energiya qiymatini aniqlaymiz. Yog'-moy kombinatining jami elektr energiya iste'moli $W_{\Sigma zavod} = 98880$ kVt²soatga teng. Quyidagi ifoda yordamida sexning umumkombinat elektr energiyasidan iste'mol ulushi aniqlanadi va barcha sexlarning aniqlangan natijalari jadvalda keltiriladi.

$$W\% = \frac{W_{sex1}}{W_{\Sigma zavod}} \cdot 100\% = \frac{9200}{98880} \cdot 100 = 9,3\%$$

YOG'-MOY KOMBINATINING ELEKTR ENERGIYA BALANSI

№	Sexlar nomi	P_h , kVt	t, soat	W, kVt ² soat	W, %
1	Tayyorlov sexi №1	1150	8	9200	9,3
2	Tayyorlov sexi №2	1000	8	8000	8,1
3	Yuvish bo'limi	650	8	5200	5,3
4	Mahsulotxona	1250	8	10000	10,1
5	Issiqlik elektr markazi	1000	16	16000	16,2

6	Zavod boshqarmasi	600	8	4800	4,9
7	Tayyor mahsulot ombori	50	8	400	0,4
8	Hom ashyo ombori	550	8	4400	4,4
9	Avtopark	370	16	5920	6,0
10	Nasosxona №1	150	16	2400	2,4
11	Nasosxona №2	550	16	8800	8,9
12	Ta'mirlash-mexanika sexi	620	8	4960	5,0
13	Laboratoriya	100	8	800	0,8
14	Kompressorxona	1000	16	16000	16,2
15	Oshxona	250	8	2000	2,0
	JAMI	9290		98880	100

Iste'mol kartogrammasi bu – energetik balans elementlarining aniqlangan foiz ulushlari ifodasidir. Iste'mol kartogrammasi energetik balans elementining ko'rilayotgan ob'yektda qanday taqsimlanganligini ifodalaydi. Quyida berilgan yog'-moy kombinati uchun qurilgan iste'mol kartogrammasini tahlil qilinsa, umumkombinat miqiyosida asosiy iste'mol ulushi kompressorxona va issiqlik elektr markazi 16,2 % dan, maxsulotxona 10,1%, tayyorlov sexi №1 9,3% sexlariga foiz miqdorlarida to'g'ri keladi. Energiyani tejash tadbirlari aynan shu nuqtalarda amalga oshirilsa maqsadga muvofiq bo'ladi. Chunki, iste'mol yuqori bo'lgan nuqtalarda isroflar ham shunga mos bo'ladi. Bu nuqtalarda energiyani tejash tadbirlarini amalga oshirishga ketgan iqtisodiy mablag'lar ham qoplanadi.

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RELIABILITY OF ELECTROMAGNETIC CONVERTER

Keywords: single-phase current transformers, magnetic fluxes, reliability, calculation of the reliability of elements, linearity of the output characteristics

Abstract. Classic single-phase current transformers, Methods for calculating the reliability of elements, Probability of no-failure operation of an electromagnetic converter.

At present, the use of electromagnetic converters for control systems of electrical quantities with high accuracy, linearity of output characteristics, unified output quantities, expansion of the range of converted electrical quantities is limited due to insufficient formation of the principles of construction, methods of calculation and design of distributed magnetic systems of converters. The applied classical methods for studying magnetic circuits and conversion systems do not provide the necessary accuracy, especially with the asymmetry of the three-phase primary current of the electrical network, do not have sufficient generality, covering only the magnitudes and parameters of circuits of electrical and magnetic nature. Magnetic conversion systems with nonlinear and inhomogeneous parameters are considered in calculations as objects with lumped parameters [1-3].

Classic single-phase current transformers have a complex converting part, large weight and size indicators, are laborious in design and operation in control systems, and do not provide unification of the output value when working together with modern information processing technology. They do not take into account the mutual influence of magnetic fluxes and fields created by the currents of a three-phase electrical network [3].

The low accuracy of the analyzed devices is due to a number of shortcomings of existing current conversion systems, since measuring complexes were created earlier, and are also being created at the present time according to standard designs developed back in the 20th century, which did not provide solutions for ensuring high accuracy by current converters and unification of the output signal primary measuring transducers [2].

A comprehensive analysis of the elements and systems for controlling sources of electricity and power and their modes, the principles of their construction indicates insufficient knowledge of the problem in the field of electromagnetic conversion of three-phase currents of the control system for sources of electricity and power [2-4].

According to the fundamental principles, the reliability calculations of the elements and the complex of devices of electromagnetic primary current converters are divided into elemental (hardware) and functional (parametric) ones [4].

Consider an electromagnetic primary current converter as an element conditionally consisting of two series-connected elements, in one of which sudden failures can occur, and in the other - gradual failures. Sudden failures appear due to a sharp, sudden change in the converted currents under the influence of one or more random environmental factors or due to errors in the operation of parts of the primary electromagnetic converter. With gradual failures, a smooth, gradual change in the parameter of the primary electromagnetic transducer is observed as a result of wear of individual parts or the entire primary electromagnetic transducer as a whole.

The probability of failure-free operation of the primary electromagnetic converter can be represented as a product of probabilities [3].

$$P_{TP}(t) = P_B(t) P_{\Pi}(t), \quad (1)$$

where: $P_B(t)$ and $P_{\Pi}(t)$ – respectively, the probability of failure-free operation of the primary current electromagnetic converter, corresponding to a sudden and gradual failure due to wear.

The probabilities of operable states of the main components of the primary current electromagnetic converter are presented in Table 1.

Analyzing the principle of converting EMPTC with FEC, a table of possible operable states of the elements is compiled (Table 1.), which allow determining the elemental reliability of each node of the primary current electromagnetic converter.

As can be seen from Table 1., there are seven possible operable states of the nodes of the primary current electromagnetic converter. Summing up the probabilities of all possible operable states of the nodes, we obtain the probability of operability of the electromagnetic converter of the primary current:

$$P = p_1 + p_2 + p_3 + p_1 p_2 p_3 - p_1 p_2 - p_2 p_3 - p_1 p_3 \quad (2)$$

The probability of operability of the main elements (primary winding, magnetic circuit, FEC) of the primary current electromagnetic converter units, respectively, is equal to:

$$p_1 = 0,97; \quad p_2 = 0,99; \quad p_3 = 0,97.$$

Table 1

Probabilities of operational states of the main nodes
electromagnetic converter of primary current

State	Probability	Operable components of the primary current electromagnetic converter
C_1	P_1 P_2 P_3	1-Primary winding, 2-magnetic core, 3-PIO

	C_2	$P_1P_2(1-P_3)$	1;2
	C_3	$P_1P_3(1-P_2)$	1;3
	C_4	$P_2P_3(1-P_1)$	2;3
	C_5	$P_1(1-P_2)(1-P_3)$	1
	C_6	$P_2(1-P_1)(1-P_3)$	2
	C_7	$P_3(1-P_1)(1-P_2)$	3

Then the probability of operability of the nodes of the electromagnetic converter of the primary current:

$$P = 0,97+0,99+ 0,97+0,97 \cdot 0,99 \cdot 0,97 \cdot 0,97 \cdot 0,99 \cdot 0,99 \cdot 0,97 \cdot 0,97 \cdot 0,97 = 0,98.$$

The calculation of the functional reliability of the nodes of the primary current electromagnetic converter is based on the analysis of the conversion of the currents of a three-phase electrical network - the input current I_{evkh} to U_{ev} - the output voltage performed in the nodes of the primary current electromagnetic converter. The functional reliability of the components of the primary current electromagnetic converter is calculated in the following sequence:

- the form of the function U_{ev} is formed, i.e. the conversion equation I_{evkh} to U_{evkh} is written, which establishes the relationship between the quantities used in the designs of the primary current electromagnetic converter [10]:

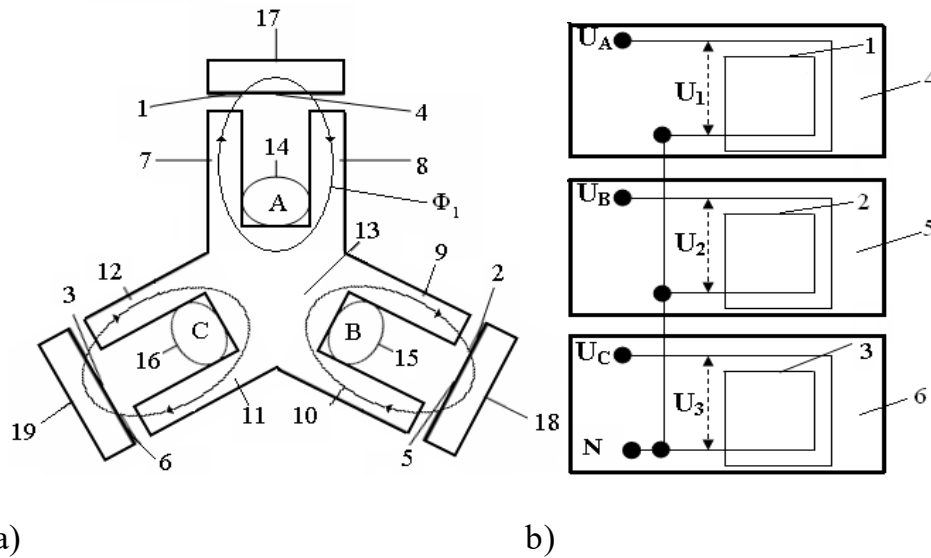
$$U_{\text{ЭВЫХ}} = K_{\mu\text{Э}} T_{\mu} \Pi_{\mu} K_{\text{Э}\mu} T_{\text{ЭВХ}} \Pi_{\text{ЭВХ}} I_{\text{ЭВХ}}(3)$$

- based on the analysis of the conversion equation I_{eq} to U_{eq} , a block diagram is drawn up for calculating the reliability of the nodes of the electromagnetic converter of the primary current and the reliability due to complete failures of the elements of the nodes of the electromagnetic converter of the primary current (p_1) is calculated.

For the nodes of the electromagnetic converter of the primary current, the analysis of equation (3) made it possible to establish that the breakage of the primary winding - the excitation winding $T_{evkh}P_{evkh}=0$, the failure (breakage) of the magnetic circuit $T_{\mu}\Pi_{\mu}=0$, the breakage of the secondary measuring winding $T_{evx}\Pi_{\text{ЭВХ}}=0$, loss of connection between the magnetic current $K_{\Phi\mu}U_{\text{e}} = 0$, $K_{IeF\mu} = 0$, leads to a complete failure of the components of the primary current electromagnetic converter. Taking into account catastrophic failures $p=0,98$, the total reliability of the components of the primary current electromagnetic converter will be:

$$P = P_{\text{кат}} P_{\text{пар}} = 0,98 * 0,98 = 0,96$$

As can be seen from the performed calculation, the parametric reliability is most affected by the change in M.F.S. F and induction under the influence of ambient temperature and aging of materials.



a - a magnetic core of a three-beam star-shaped rod

b - insulating plates with PIO

Fig.1. General view of the MF EMF with FEC

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**QISHLOQ XO'JALIGIDA QUYOSHMANBALARIDAN
FOYDALANGAN HOLDA JIZZAX VILOYATINING TOG'LI
HUDUDLARIDA FOYDALANISH**

Annotatsiya. Maqolada Jizzax viloyatining tog'li hududlarida muqobil energiya manbalaridan foydalanish imkoniyatlari haqida ma'lumotlar keltirilgan. Quyosh-shamol gibrid energiya manbalarining xususiy holatda quvvatlari hisoblanib ishlatish imkoniyatlari keltirilgan.

Tayanch so'zlar: energetika, gibrid, energiya, quyosh, shamol, generator, fotoelement, foydali ish koeffitsienti.

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**UTILIZATION OF SOLAR RESOURCES IN AGRICULTURE IN THE
MOUNTAIN AREAS OF JIZZAK REGION**

Annotation. The article provides information on the possibility of using alternative energy sources in the mountainous areas of Jizzakh region. The possibilities of using solar-wind hybrid energy sources in a special case are given.

Keywords: energy, hybrid, energy, solar, wind, generator, photocell, efficiency.

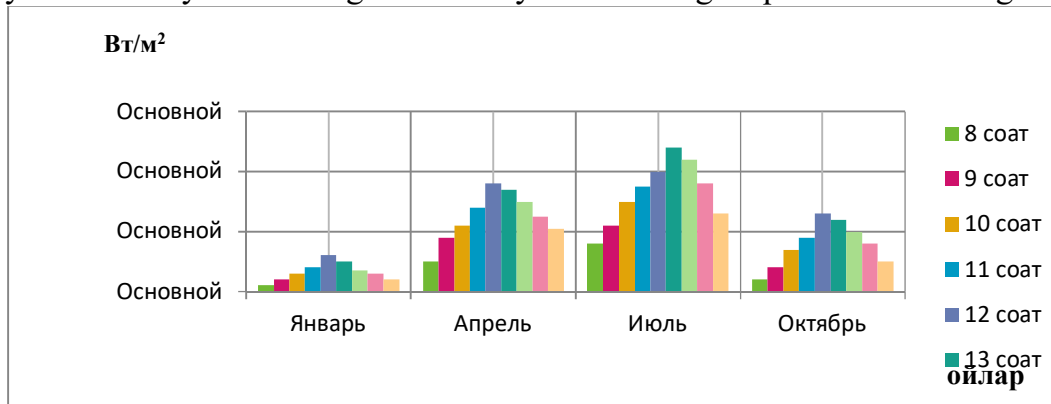
Hozirgi kunda dunyo bo'yicha kishi boshiga to'g'ri keladigan energiya iste'moli o'rtacha 2-4 kVt soatga teng. Ammo farovon hayot kechirish uchun bu miqdor etarli emas va u 10 kVt soatga teng bo'lishi lozim. Neft, gaz ko'mir, torf kabi yoqilg'i manbalarining yildan - yilga miqdori kamayib, tannarxi oshib borayotgan hozirgi sharoitda axolining energiyaga bo'lgan extiyojini to'la qondirish, energiya iste'molini talab darajasida yetkazish dunyo xamjamiyati oldida turgan asosiy muammo bulib turibdi. Ushbu muammoni hal etishning yagona yo'li muqobil – qayta tiklanuvchi energiya manbalaridan foydalanishdir. Bu muammolar Uzbekiston Respublikasining birinchi Prezidenti I.Karimovning 2013 yil 1-martdagi “Mukobil energiya manbalarini rivojlantirish chora tadbirlari to'g'risida”gi 4512-sonli farmonida o'z aksini topdi.

Tadqiqot natijalari va muhokamalar: Ma'lumki, mamlakatimizda qayta tiklanuvchi muqobil energiya manbalarining potensiali 173,4 mln t.n.e. bo'lib,

energiyaning yillik iste'moli qiymatidan uch barobar ko'pdir. Bu energiyani 98,8% ni quyosh energiyasi tashkil etadi. Chunki Mamlakatimiz serquyosh o'lka bo'lib, yilning 250-270 kunida quyosh nur sohib turadi va har bir metr kvadrat erga 1100 vt gacha energiya uzatiladi. Quyosh energiyasidan foydalanish yorug'likni fotoelementlar - quyosh batareyalari yordamida elektr energiyasiga aylantirish orqali amalga oshiriladi. Bu borada Yaponiya, Germaniya, AQSH mamlakatlari etakchilik qilmoqda [1]. Quyosh kollektorlari - Quyosh pechlaridan foydalanib issiqlik energiyasini hosil qilish - Quyosh pechlarining yuzasi (21 mln kvadrat metr) bilan o'lchanadi. Bu borada Yaponiya, Isroil, Gretsiya mamlakatlari etakchi o'rinlarda turadilar. Quyosh energiyasidan elektr energiyasini hosil qiladigan kremniy monokristalini sof holda tayyorlash juda qimmatga tushganligi sababli Quyosh batareyalarining foydali ish koeffitsenti juda past bo'lgan. Endilikda arsenid galliy, kremniy polikristali, kadmiy tellur kabi yupqa plyonkali Quyosh elementlari yaratildiki, ular asosida tayyorlangan quyosh elementlarining foydali ish koeffitsienti ancha oshdi. Bugungi kunda quyosh fotoelektr stansiyalari va suvni quyosh energiyasi orqali isitish kollektorlari Mamlakatimizning barcha viloyatlarida va Qoraqalpog'iston Respublikasida ham muvaffaqiyatli qo'llanilib kelinmoqda. Quyosh fotoelektr stansiyalaridan "Zomin" monitoring markazida, Forish tumanidagi Narvonsoy qishlog'idagi fermer xo'jaligida, Navoiy viloyati Tomdi tumanidagi bir nechta o'rta maktablarda, Jizzax politexnika institutida foydalanilmoqda. Nurota tumani markaziy shifoxonadagi tibbiyot jihozlari shamol generatoridan olinadigan energiya xisobiga ishlamoqda.

Quyosh nurlari energiyasi ta'sirida qizigan issiq havo nisbatan yengil bo'ladi va u yuqoriga ko'tariladi. Uning o'rnini egallashga intilgan sovuq havo oqimining harakati tufayli shamol hosil bo'ladi.

Respublikamizdagi mavjud chekka hududlariga to'g'ridan-to'g'ri tushuvchi bir yillik quyosh radiatsiyasi orqali 1 m² yuzadan qish faslida 400-600 Vt energiya, yoz faslida esa 1800-2500 Vt energiya olish imkoniyati mavjud. 1-jadvalda tog' oldi aholi yashash punkti hududlariga to'g'ridan-to'g'ri tushuvchi quyosh radiatsiyasi nurining soatlar bo'yicha olinadigan quvvatlari keltirilgan [3].



1-jadval. Respublikamiz hududlarida quyosh nurlanishidan soatlar bo'yicha olinishi mumkin bulgan quvvatlar jadvali.

Quyosh fotoelementli qurilmalari asosan elektrlashtirilmagan hududlar uchun mo'ljallangan bo'lib, foydalanishda o'ziga xos talablari mavjud. Bular quyidagilardan iborat:

monokristal kremniy asosida ishlangan 500 Vt quvvatli quyosh fotoelektrik bloki joyning geografik kengligiga va yil fasliga ko'ra quyoshga nisbatan optimal burchakda o'rnatiladi;

tekshiruvga xojat bo'lmagan ishqoriy va kislotali 500-600 A soat umumiy hajmiga ega bo'lgan akkumulyator batareyalari (AB) ishlatiladi;

turli ish rejalarida AB ning razryad - zaryadini tekshirish uchun kontroller, 12/220 Vt li invertorga ega bo'lgan boshqarish blokidan foydalaniladi;

montaj simlari va turli markadagi kabellar ishlatiladi;

60-soat/sutka ishlaydigan lyuminessent lampalar (10 dona, xar biri 20 Vt dan).

№	SEU-135 qurilmasining tarkibiy nomlari	O'lch.bir	miqdori
1	Bir dona quyosh panelining quvvati	Vt	135
2	Bir dona quyosh panelining gabariti	mm	1060x1380x50
3	Panelning salt ishi holatidagi kuchlanishi	V	14
4	Panelning ish holatidagi kuchlanishi	V	9,5
5	Paneldan chiqish kuchlanishi	V	DC 12V/4x12V/4x9V
6	Bir dona panelning og'irligi	kg	8
7	Qurilmaning umumiy og'irligi, akkumltorsiz	kg	32
8	Quyosh panelining ishlash diapazoni	S°	-40 +55S°
9	Panelning ishchi diapazoni	S°	-10 +42S°
10	FIK	%	80-85
11	Kafolat muddati	yil	20

2-jadval. SEU-135 turidagi quyosh fotoelementli panelining konstruktiv parametrlari.

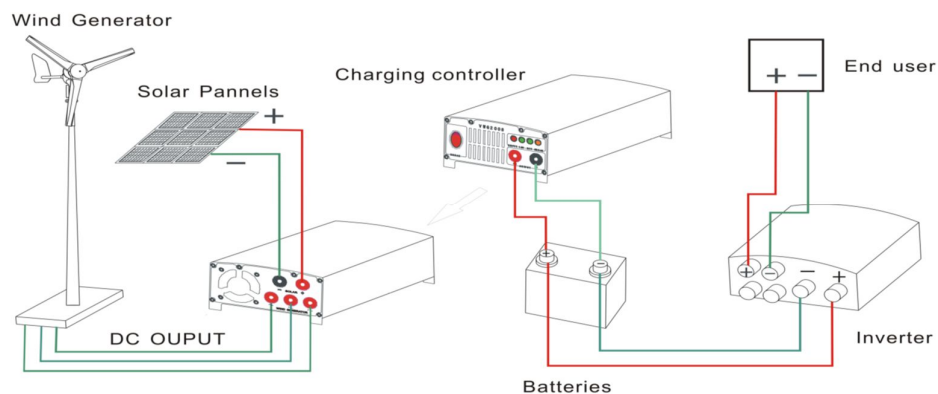
Energiya ta'minoti mavjud bo'lmagan hududlar ya'ni, chul, sahro va tog' oldi aholi yashash punktlarining elektr ta'minoti uchun quyosh energiyasi qurilmasini tanlashda energetik jihati, tannarxi va ekspluatatsiya ko'rsatgichlari va ishlash xarakteristikalariga e'tibor beriladi. Energiya iste'molchilarining energiya ta'minoti uchun ishlatiladigan quyosh energiya qurilmalarining maqsadga muvofiqligini aniqlashda quyidagi parametrlarni aniqlash zarur buladi[5]:

N- quyosh energiya qurilmasining kerakli miqdori (dona);

F-ularning egallagan maydon o'lchami ($F=N \cdot F_0$, m², bunda F₀- bitta modul maydoni)

SH.Rashidov tumani Paxtaobod QFY xududidagi tog' oldi aholi yashash punktini quyosh fotoelementli qurilmalari orqali energiya bilan ta'minlash

maqsadida 5 dona SEU-135 turidagi quyosh fotoelektr stansiyasidan foydalanishni taklif qilamiz va ushbu stansiyalar hududdagi energiya iste'molchilarining elektr energiyaga bo'lgan ehtiyojini 40-50% gacha ta'minlash imkoniyatiga ega bulinadi. Ushbu SEU-135 turidagi quyosh fotoelektr stansiyasining har biri 4140x12720 mm er maydonini band qiladi. SH.Rashidov tumanining energiya ta'minoti mavjud bo'lmagan aholi yashash punktlari tumanning tog' yon bag'irlarida joylashgan. U erda harorat yoz oylarida (+35)-(+40) °C qish oylarida esa -10°C, -20°C tashkil etadi. qish faslida haroratning keskin pasayishi va tez kun botib, tez kech tushishi kuzatiladi.



1.Rasm. Kichik quvvatli shamol-quyosh gibril fotoelektr qurilmasining sxematik tuzilishi.

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SOLAR IN AUTONOMOUS ELECTRICAL NETWORKS AND USE OF WIND ENERGY SOURCES

Annotation. The article discusses issues related to the use of solar and wind installations as primary sources of energy, which make it possible to create completely autonomous power plants that provide guaranteed year-round coverage of electrical loads in various climatic conditions.

Key words: renewable energy sources, autonomous networks, solar installations, wind installations, energy characteristics.

INTRODUCTION

In many countries of the world, powerful renewable energy systems are based, as is known, on the use of mono-wind, mono-solar photovoltaic or mono-solar heat generating complexes. At the same time, there are numerous examples of the simultaneous use of two or more types of RES. In Canada, to provide power to remote villages, hybrid schemes are used - wind-diesel and wind - driven. Hydrogen is used to generate electricity in internal combustion engines. The wind-generating scheme is being applied at the Prince Edward Island Wind-Hydrogen Village and in the city of Ramea. The power of the hydrogen generator is 250 kW. It saves 120 thousand liters of fuel annually, thereby preventing emissions into the atmosphere: $CO_2 - 320 \text{ т}$, $NO_x - 6,8 \text{ т}$, $SO_2 - 0,6 \text{ т}$ [1].

Experience in operating complex renewable energy systems abroad

The TAFE Tasmania Institute (Australia) has a complex consisting of two wind turbines, an electrolyzer and a diesel plant, which is adapted to work with hydrogen.

An example of the effective use of a wind-diesel energy complex: on Fair Island (Scotland) for a village with a population of 70 people, a power plant with two diesel power plants was built, the first (power - 20 kW) was sufficient for electricity supply in summer, and the other (50 kW) - for electricity supply in winter (see Table 1). Wind conditions on the island are very favorable. The average wind speed is 9.6 m / s. In June 1982, a 50 kW wind farm was installed there. Since then, energy production has increased 3.7 times. The operation of the VDU on Fair Island showed that the cost of electricity received from the diesel power plant was 8 cents / kWh, and from the wind farm 3.5 cents / kWh. A special device was developed for this station, which showed when the energy meter switched to a higher tariff[2].

Table 1
Energy production at an integrated wind-diesel plant (WDP) (Fair Island)
for a year of operation

Energy production on Fair Island in one year	Power generation	
	abs. number, kW h	Relative quantity, %
Integrated VDU	185 024	100,00
Wind farm	168 895	91,28
DES	16 147	8,72

The study found that the most likely hours of sunshine are distributed symmetrically around noon [3].

Analysis of complex renewable energy systems

In the course of the study, scientists established the averaged values of the intensity of solar radiation h_s with the distribution of the duration of sunshine (S) symmetrically relative to noon. It is proposed to determine the intensity of solar radiation as

$$h_s = h_0 \cdot b_s \cdot \exp\left(-0,25 \frac{S}{S_0}\right),$$

Where, $h_0 = 1360 \text{ BT}/\text{M}^2$ – solar constant; b_s – coefficient depending on the season is given in table. 2; S_0 – possible duration of sunshine (day length), [h].

Coefficient b_s shows the fraction of the solar constant arriving on a horizontal surface at noon. The product of the coefficient b_s by the solar constant allows you to determine the intensity of solar radiation at noon. Coefficient b_s has a pronounced annual course and is of greatest importance in the summer.

Tab 2
Parameter of the equation of the intensity of solar radiation "within the day" in the southern Urals

Parame ters	Monthly											
	1	2	3	4	5	6	7	8	9	10	11	12
b_s	0,3	0,4	0,45	0,5	0,55	0,6	0,55	0,5	0,45	0,4	0,3	0,2

From the average intensity of solar radiation, given for the corresponding duration of sunshine, it is easy to determine the solar radiation for a given time

$$S: H_s = h_s S.$$

For an objective assessment of the incoming solar energy, it is necessary to know the probability of the appearance of the sunshine duration, which characterizes its supply $p(S)$. The probabilistic characteristic of the daytime sunshine duration is determined for each month according to the observations of the meteorological service.

It is known that the specific power of the wind flow is represented as an average value for the calculation period and it is necessary to know the average

value v^3 . This requires knowing the distribution of the frequency of the wind speed, which can be determined for each month from the observation data[3-4].

It is known that the specific power of the wind flow is represented as an average value for the calculation period and it is necessary to know the average value v^3 . This requires knowing the distribution of the frequency of the wind speed, which can be determined for each month from the observation data. Then, by empirical repeatability ($t_{*(v)}$) or the differential function $f(v)$ of the wind speed distribution, you can determine the expected average power of the wind flow for the design period, W / M^2 [8],

$$\bar{N}_0 = \frac{1}{2} \rho \int_0^{\infty} v^3 f(v) dv = \frac{1}{2} \rho (v^3)_{cp}$$

It is recommended to determine the average value of the wind flow power per day. Then the wind speed at which the average daily wind power is expected is presented as the energy characteristic of the wind. The dependence of the energy characteristic of the wind flow on the average wind speed (see Fig. 2) is well approximated by an equation of the form

$$v_{cp,m} = 1,4 + 1,1 v_{cp},$$

Where $v_{cp,m}$ – average wind speed per month, M/c

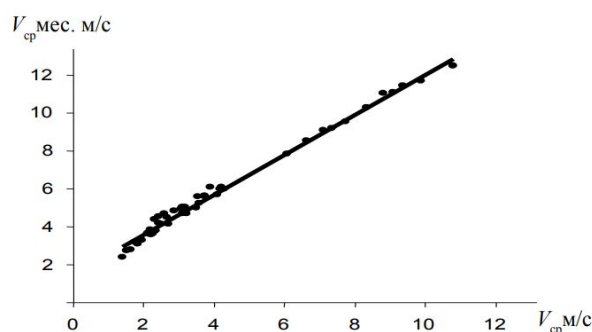


Figure 2. Dependence of the energy characteristics of the wind flow on the average wind speed

The lack of research was the lack of an implemented system for the integrated use of various types of RES for a full-scale approbation of theoretical calculations [4].

CONCLUSIONS

In general, the complex use of renewable energy sources has been limited until recently due to objective circumstances and the uncompetitiveness (high cost) of equipment for large-scale use. However, the increase in tariffs for energy services and fossil fuels brings the issue of increasing the efficiency of using available renewable resources to a new level. In connection with the above examples, the problem arises of continuing research and finding optimal solutions for the complex application of renewable energy sources proposed in this study.

Based on this, the following conclusions can be drawn:

- the use of solar and wind installations as primary energy sources makes it possible to create fully autonomous power plants that provide guaranteed year-round coverage of electrical loads, at least for small consumers, in various climatic conditions;

- the most effective are combined installations that optimally (depending on climatic conditions) combine solar and wind installations;

- development of work is required on experimental development and further improvement of mathematical models of autonomous power plants on renewable energy sources, which are the necessary basis for substantiating their optimal configurations, taking into account significantly different real climatic operating conditions and consumer characteristics.

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ELEKTR TA'MINOTINING QAYTA TIKLANUVCHAN ENERGIYA MANBALARIDAN TASHKIL TOPGAN MICROGRIDNING TEXNIK- IQTISODIY TAHLILI

Annotatsiya. Ushbu maqola elektr ta'minotining qayta tiklanuvchan energiya manbalaridan tashkil topgan microgridning texnik-iqtisodiy tahlili o'rganilgan.

Kalit so'zlar: Mikrogrid, tarmoq, energetika, gibrid.

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MICROGRID OF RENEWABLE ENERGY SOURCES OF ELECTRICITY SUPPLY TECHNICAL-ECONOMIC ANALYSIS

Abstract. This article examines the technical and economic analysis of the microgrid consisting of renewable energy sources of electricity supply.

Key words: Microgrid, network, energy, hybrid.

Mikrogrid boshqarish qobiliyatiga ega bo'lgan mahalliy energiya tarmog'i, ya'ni u an'anaviy tarmoqdan uzilib Mikrogrid ravishda ishlay oladi. AQSh Energetika Departamenti Microgrid Exchange Group-ga ko'ra, quyidagi mezonlarga ko'ra mikro tarmoq aniqlanadi.

Mikrogrid - bu tarmoqqa nisbatan bitta boshqariladigan ob'ekt vazifasini bajaradigan, aniq belgilangan elektr chegaralarida o'zaro bog'liq yuklarning va taqsimlangan energiya manbalarining guruhidir. Mikrotarmoq, tarmoqqa ulangan yoki orol rejimida ishlashini ta'minlash uchun tarmoqqa ulanishi va uzilishi mumkin[1].

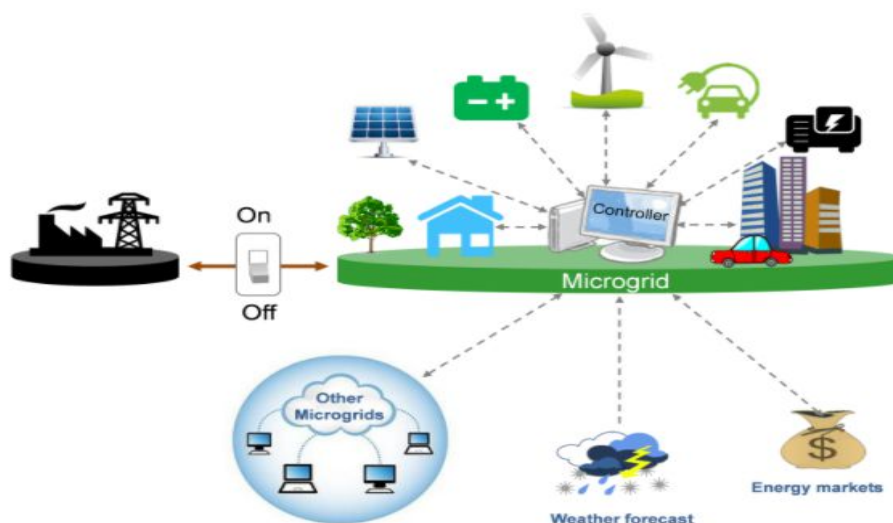
O'z foydalanuvchilarining elektr energiyasiga bo'lgan ehtiyojini qondirish uchun mikro tarmoq ishlab chiqarish manbasiga ega bo'lishi kerak. Mikrotarmoqlar qadimgi tushuncha ekanligini hisobga olsak, mikrotarmoqlarga etkazib beriladigan elektr energiyasi tarixiy jihatdan "hisoblagich orqasida" fotoalbum yoqilg'i generatorlari - masalan, gaz bilan ishlaydigan generatorlardan kelib chiqqan. Shu bilan birga, quyosh narxining pasayishi bilan birga, fotoalbum

yoqilg'ini ishlab chiqarishdan quyosh energiyasiga o'tishning ekologik foydalari haqida gapirmasa ham, bugungi kunda loyihalashtirilayotgan ko'plab mikro tarmoqlar elektr energiyasini quyosh plyus batareyasini saqlash bilan birlashtirgan holda etkazib beradi.

Mikrogridlarning afzalliklari

Mikrogridlarning bir nechta foydalari bor:

- samarali, arzon va toza energiya bilan ta'minlash
- Mintaqaviy elektr tarmog'ining ishlashi va barqarorligini oshirish
- Ishonchlilik va barqarorlikni oshiradigan muhim infratuzilma
- Tarmoq tirbandligini va eng yuqori yuklarni kamaytirish
- Bir vaqtning o'zida elektr energiyasini va foydali issiqlikni ishlab chiqarish uchun issiqlik dvigatelidan foydalanadigan yuqori quvvatli kombinatsiyalangan issiqlik va quvvatni yoqish, yoqilg'i sarfini kamaytirish, chiziq yo'qotishlarini va uglerod izlarini kamaytirish
- CHP, qayta tiklanadigan energiya manbalari, issiqlik va elektr jihozlari hamda zamonaviy tizim va binolarni boshqarish vositalarini birlashtirish
- Mintaqaviy uzatish tashkilotlari (RTO) bozorlarini raqobatdosh qilish
- Energiya, quvvat va yordamchi xizmatlarni o'z ichiga olgan tarmoq xizmatlarini taklif qilish
- mintaqaviy inqirozlarda boshpana joylarini va birinchi yordam beruvchilarni qo'llab-quvvatlash
- Mahalliy energiya manbalaridan va ish joylaridan foydalaning
- Konsentratsiyalangan xavfdan ko'ra, diversifikatsiya qilingan xavf



1-rasm. Mikrogridning strategik sxemasi

Tarmoq uylarni, korxonalarni va boshqa binolarni markaziy quvvat manbalariga ulaydi, bu bizga elektr jihozlari, isitish / sovutish tizimlari va elektronikadan foydalanish imkonini beradi. Ammo bu o'zaro bog'liqlik shuni

anglatadiki, tarmoqning bir qismini ta'mirlash kerak bo'lganda, hamma ta'sir qiladi.

Bu erda mikrogrid yordam berishi mumkin. Mikrotarmoq odatda tarmoqqa ulangan holda ishlaydi, ammo eng muhimi, u inqiroz paytida yoki boshqa sabablarga ko'ra inqiroz paytida mahalliy energiya ishlab chiqarish yordamida uzilib o'z-o'zidan ishlashi mumkin [2].

Mikrotarmoq elektr energiyasini taqsimlangan generatorlar, batareyalar va / yoki quyosh panellari singari qayta tiklanadigan manbalar bilan ta'minlashi mumkin. Qanday qilib yonilg'i bilan ta'minlanishiga va uning talablari qanday boshqarilishiga qarab, mikrogrid abadiy ishlashi mumkin [3].

Mikro tarmoqlar uzilishlar yuz berganda elektr tarmog'idan ajralib qolishi mumkin. Qattiq ob-havodan tortib to telefon ustuniga urilguncha elektr tarmog'i ishlamay qolganda, elektr energiyasini ishlab chiqarishda va undan foydalanishda davom etish uchun siz tarmoqdan yoki "oroldan" uzilib qolishingiz kerak. Shunday qilib, mikro tarmoqning asosiy xususiyatlaridan biri uning kattaroq panjara o'chib ketgan taqdirda ham ishlashni davom ettirishidir [4].

Yaqinda dunyoda avj olgan yong'inlar kabi holatlarda mikrogridlar foydali bo'lishi mumkin. Dunyoda elektr ta'minotidagi uzilishlarning aksariyati rejalashtirilgan uzilishlardir, shuning uchun elektr uzatish liniyalari qulab tushmasligi va ko'proq yong'in chiqishiga sabab bo'ladi. Ko'pgina odamlar uchun mikro tarmoq elektr energiyasini quyosh panellari orqali ishlab chiqarish va ushbu energiyani favqulodda vaziyatlarda ishlatish uchun saqlash orqali energiya muammosiga echim bo'ladi. Ushbu uy xo'jaliklari asosiy tarmoqdan uzilib, asosiy tarmoq qayta ulanmaguncha o'zini o'zi ta'minlashi mumkin [5].

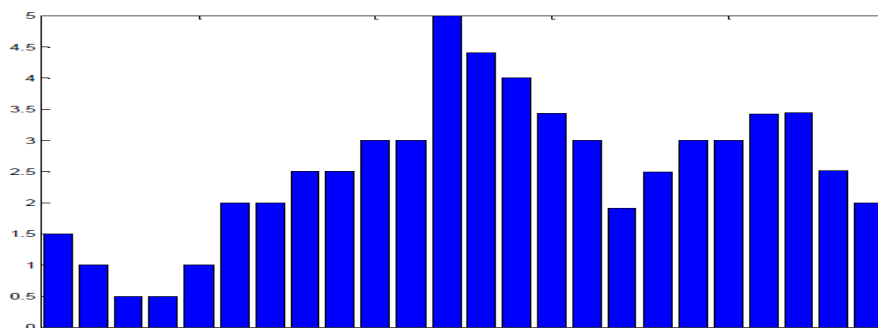
Simulyatsiya yondashuvi

Tizim uchun 100% ishonchlilik nazarda tutilgan, ya'ni tizim uzilishlarsiz ishlaydi. Qayta tiklanadigan resurslar mavjud bo'lmaganda ham yukni qondirish uchun tarkibiy qismlarning eng yaxshi kombinatsiyasi va o'lchamlarini topish uchun ishlab chiqilgan dastur gibril tizim o'zgaruvchilarini optimallashtiradi.

Yuklama profilini aniqlash

Qishloq va uzoq qabilaviy hududlar uchun elektr ta'minoti uchun muqobil echim sifatida tarmoqqa ulangan gibril qayta tiklanadigan energiya tizimidan foydalanish mumkin. Biroq, hududning yuklama profilini o'rganish ma'lum bir hudud uchun ishonchli va samarali tizimni yaratish uchun juda muhimdir. Batareyalarni o'lchamlari va modellashtirish yuklama profiliga bog'liq. Bundan tashqari, yuklama profilidagi eng yuqori vaqtlar va iste'molchilarning xatti-harakatlari tizimning ishonchliligiga ta'sir qiladi, shuningdek, komponentning o'lchamlari va elektr energiyasining narxi bunga ta'sir qiladi.

Odatda qishloq joylarining soatlik yuklanish profili 2-rasmda keltirilgan. Gibril tizim ushbu kunlik yuk egri chizig'ini ta'minlash uchun mo'ljallangan.



2-Qishloqdagi uy uchun soatlik odatdagi yuklama profili (kVt)

Quvvatni boshqarish strategiyasi

Microgrid (tarmoqqa ulangan) gibrid tizim qayta tiklanadigan energiya manbalaridan hamda zaxira sifatida qayta tiklanmaydigan manbalardan iborat. Natijada, buning uchun quvvatni boshqarish strategiyalari juda murakkablashdi. Asosiy nazorat qoidasi sifatida qayta tiklanadigan energiya manbalaridan olinadigan energiya yuklarni oziqlantirish uchun imtiyozli ravishda ishlatilishi kerak. Bunga qo'shimcha ravishda, qayta tiklanadigan manbalar mavjud bo'lmaganda yoki yukni qondirish uchun etarli bo'lmaganda, batareyalar banki ham kerakli quvvatni ta'minlashi kerak [5].

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THE SIGNIFICANCE OF THE LAWS OF DIALECTIC IN SCIENTIFIC KNOWLEDGE

Abstract. This article discusses the dialectical concept of opposition, of dialectics laws of development reason, direction and of course, the necessities in understanding and his the solution to find in search, research in reaching hand will come In the article we depending on a - resistance dialectical concept about word we walk

Key words. Dialectics, opposition, conflict, concept, Contradiction, Scientific knowledge, Syllogism, A. Poincaré, Einstein, Heisenberg, Schrödinger.

The world scientific in knowing of dialectics laws conceptual important ownership this is an axiom. President Shaukat Mirziyoev meaning with saying: - " Ilm no in the place backwardness, ignorance and Of course, that's right out of the way get lost will be" [1].

Dependent a is resistance dialectical from the concept use scientific thinking in the process done increasing very a lot different connections to determine and in order to bring enable gives, zero, this concept within each different analytical - synthetic actions to know in the process opposition aspects of it development on the way known points that expression can Of this as a result " plural " " singular " k a turns, " color - color " as it were one to the line lined up, in order will come and him to see relatively it becomes easier.

That's it note reach should be right now dependent a - resistance concept dialectical in theory creative of thinking certain samples present requirements level efficient analysis to do for enough level work not issued. oppositions and them solution to do methods about works a lot has been in the circumstances this thought strange being feeling can But now of our philosophers in his views this problem on the surface unanimity is available not Theirs dependent a - resistance typology, opposition solution to do forms and methods about views mutually suitable doesn't come, sometimes while to each other is the opposite.

Dependent α is resistance problem about to the discussion point puts since J. T. Tulenov so that writes: " If from me discussion being done of the problem which aspects more detailed work exit need about if they ask, I am opposition solution to do methods and types the issue separately note reached will be I was Because it is issue solution to do relatively of approaches each variety, one how much cases while the author position complexity to the eye thrown away" [2].

From himself obviously it is right thought Indeed, different methodological approaches science, knowledge development efficient effect show ca n't The same

one scientific research results sometimes sorry can't be error and sometimes great one discovery that in any case, different methodological directions if shown, this of science development enough chance does not create Such in the situation sometimes someone's arbitrariness or masculinity, various transitory, " unscientific " situations big importance occupation reach can But talk only dependent a - resistance problem theoretical in terms of thorough work when not released not Scientific thinking systematic and detailed analysis to do, to think certain appearances and samples (for example, scientific texts) objective and reasonable what do you want? for necessary scientific tools good work not released too above mention done of the situation serious reasons is one Well, that's it the situation positive towards change is it possible

Scientific to know process with certain level familiar has been each what kind of person is dependent on resistance to know important, immanent factor, his that it is a motivating force admit takes Not only that Philosophers, but separately of sciences many famous representatives too own creative activities encourage for depending on the resistance certain way, that or this in the form used Here, for example, is N. Borning work style given from the descriptions one let 's take " His thinking style and work style known level creative to the feature have was.. N. Bor articles the text on writing table behind sitting down not across the room walking to work he liked He is himself stenographer, listener of articles and critic as to himself help to give persuaded colleagues to one telling was writing. In this he is himself with also, a colleague with too relentlessly they were enjoying themselves. Colleague conversation to the end go I'm fine from was falling Einstein, Heisenberg, Schrödinger and another physicists N. Bor always dependent a – resistances search for them aspiration, contradictions possible until aggravation that he likes they don't notice possible not was By the way, N. Borga special has been proving method with complementarity principle between similarity - alternative views depending on the resistance a benefit out get ability is available was " [3].

But to know in the process depending on the resistance organize with his scientific research in the product, let's say, scientific work in the text existence completely other - other are things. Last mention done in case, scientific writing to the rules according to knowledge procedural structural part possible will be eliminated until and main accent to the ready, completed, " received " result is given To know live movement sometimes recognize which cannot be level will change and finally as a result Movement " locomotive " depends on the resistance very less thing remains or never thing won't stay Most good without student opposite dependent a – against himself solution by doing which cannot be opposition of the nobility separately, in a mess stages, whole of the process some one fragments manifestation will be

That's it although some in the texts or their separately in parts to know of the process valid and natural dependent a - resistance much complete and sure manifestation will be This thank you A. Poincaré the following opinions attention

Awarded: "Mathematical knowledge of opportunity being it seems Well, if this science only from the surface deductive if, his no one doubts yes who does not perfection and consistency from where come will it come out? Or, on the contrary, mathematics before pusher all suggestions formal logic rules using head from suggestions cause release possible so what for in mathematics infinite repetition does not meet? Syllogism to us any one new thing to teach ca n't if everyone thing crime from the law come output must if so, everyone thing this to the law to be brought need Is it possible that the volume is the volume? books filled in all of theorems statement A as A of showing masked method that assumption to do possible if!"[4]. Of your opinion during A. Poincare himself described depending on the resistance solution to do movement does So, his in the text dependent a - resistance - opinion mover, him of truth to the bottom to do as a motivating force is defined. Yu is in the snow mention done text to the pen of a great mathematician belongs to, but it is a purely mathematical text not In it dependent a - resistance idea different way manifestation will be

So, " live " depends on resistance movement is always clear in creation own on the contrary can't find it. Most of the time it is rich, rich, dramatic and to tension complete thinking of the process differentiate difficult has been only traces preserved remains. But that 's it despite, in creation of your opinion live, dependent on resistance complete of movement footprints differentiate can This to the tracks looking many p thing study and, required without, recovery can Otherwise by doing in other words, the researcher his opinion useful analysis to do, in which it depends on the resistance based on from tools use can.

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IMPROVING ACCOUNTING POLICIES AND TAX REPORTING

Abstract. The article discusses issues in order to ensure the reliability of financial reporting information, the features of accounting policies, collection of evidence when auditing financial statements, and the procedure for drawing up an auditor's report based on the results of auditing financial statements are explained.

Key words. Tax statements, financial results, reporting, economic decisions, IFRS.

In recent years in the Republic of Uzbekistan, large-scale changes are being implemented in the field of accounting, as well as in all areas. In particular, accounting operations and preparation of financial reports are organized at the level of international standards. In addition, the provisions of national accounting standards are being adapted to the requirements of international standards of financial reporting. These cases also apply to the accounting policy, which is one of the main documents used in accounting.

It is known that the accounting policy includes a set of rules, methods and requirements used in accounting operations of any business entity during the reporting period. A reasonable and consistent structure of the accounting policy serves to increase the reliability and transparency of financial reporting information.

Accounting plays an important role in the rational use of funds, increasing the efficiency of activities, and making economic decisions in an economic entity. Through information and control functions of accounting, information on daily activities is formed and summarized in reports. Accounting policy plays an important role in the effective implementation of these processes.

Accounting policy is a comprehensive document that is prepared for financial, management and tax accounting purposes. For the purposes of financial accounting, the following main aspects are considered in the accounting policy: the procedure and methods of evaluating the fixed assets available in the balance sheet of the economic entity and calculating their depreciation; the procedure for maintaining the account of repair costs for fixed assets; the procedure for evaluating long-term investments and disclosing information about them; the procedure for continuous and periodic accounting of inventories; the procedure for evaluating inventories and carrying them to cost; issues of determining the net sale value of inventories; issues of classification of obligations and their

assessment; criteria for recognition of income and expenses and the procedure for disclosing information about them.

From the point of view of management accounting, the accounting policy considers the following aspects: methods of product cost calculation and their application; procedure for formation of transfer price; procedure for drawing up segmental reports; procedure for determining the break-even point, etc.

The accounting policy drawn up for the purposes of tax accounting must comply with the requirements of the Tax Code. In this case, it is necessary to cover the following issues: the correct calculation of the basis for the types of taxes and payments; the composition of deductible and non-deductible expenses during the reporting period for profit tax; if tax incentives are provided to entities, their application; directions for using the funds freed up in the entity due to the provided tax benefits, etc.

When drawing up the accounting policy, it is necessary to pay attention to its organizational, technical and methodological aspects. The organizational aspects of the accounting policy include the form in which the accounting service is organized, the distribution of responsibilities among employees, and the qualification levels of accountants.

The main purpose of financial reporting is to provide external users with reliable information about the business entity. Accounting policy, in turn, directly affects the formation of information in financial statements. Therefore, the information capabilities of users of financial statements should be taken into account when creating an accounting policy.

Formation of accounting policy in economic entities is considered a complex process, which includes the following stages (Fig. 1).

When creating an accounting policy, first of all, it is necessary to clarify the composition of accounting objects. In the practice of our country, the requirements for accounting objects are disclosed in the accounting policy in a sequence according to the balance sheet structure. In particular, long-term assets include fixed assets, intangible assets, long-term investments, capital investments, long-term receivables. Next, the accounting policy rules for inventories, receivables and cash are defined as part of current assets. This is followed by coverage of equity, liability, income and expense requirements.

When forming the accounting policy, it is necessary to consider the factors affecting it. In particular, the accounting policy is significantly influenced by the organizational and legal structure of the economic entity, the scope and purpose of the activity, the financial strategy adopted by the entity, the state of the internal control system, and external factors.

Documentation of the accounting policy is formalized by the order of the head. However, the document rotation table, working account plan, etc. are attached to the accounting policy. In addition, the method of assessment of certain types of assets and liabilities can be given as an appendix to the policy.

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IMPROVING THE FINANCIAL REPORTING ACCORDING TO IFRS

Abstract. According to the "Conceptual framework for preparation and presentation of financial statements", "The purpose of financial statements is to provide information on the financial status of the accounting entity as of the reporting date, the financial results of its activities during the reporting period, and the movement of funds. However, the financial report does not contain all the information needed by users to make economic decisions, because the report mainly reflects the results of previous events.

Key words. financial statements, financial results, reporting, economic decisions, IFRS.

In the countries of the world, special attention is paid to increasing the efficiency of joint-stock companies, introducing modern corporate management principles and increasing the transparency of information in financial reports. However, despite the measures taken in this area, many companies in the world are facing fraud related to financial reporting. According to the information of the international association of auditors fighting against fraud, "11% of cases of fraud in the banking and finance sector, 12% in the industry, and 18% in the construction sector were detected in the financial statements of the countries of the world." For this reason, in the countries of the world, the correct application of accounting principles and the improvement of the quality of audits are given special importance in preventing and eliminating fraud related to financial statements.

Joint-stock companies play an important role in the development of the country's economy. These types of entities operate on the basis of shares contributed by shareholders, and their main task is to protect the interests of the founders. Joint-stock companies have certain priorities compared to other types of entities in solving problematic issues such as proper organization of economic activity and management of complex economic processes.

The financial report of joint-stock companies is an important element of accounting, the final order of the entire accounting process, and consists of summarizing accounting information about the property and financial situation and financial results compiled according to the forms established for a certain period, usually for the reporting period.

The content of the financial report has been thoroughly interpreted by regulatory legal documents and economists.

According to Article 22 of the Law of the Republic of Uzbekistan "On Accounting", "Financial reporting consists of systematic information on the financial status of the accounting entity as of the reporting date, the financial result of its activities during the reporting period, and the movement of funds."

According to BHMS No. 1 entitled "Accounting policy and financial reporting", "Financial reporting is a method of presenting financial information describing the activity of this economic entity in a certain period, regardless of whether the economic entity is a separate independent economic entity or a consolidated group of economic entities."

According to the "Conceptual framework for preparation and presentation of financial statements", "The purpose of financial statements is to provide information on the financial status of the accounting entity as of the reporting date, the financial results of its activities during the reporting period, and the movement of funds. However, the financial report does not contain all the information needed by users to make economic decisions, because the report mainly reflects the results of previous events."

According to BHXS No. 1 entitled "Presentation of financial reporting", "financial reporting is a report designed to meet the needs of all users, not intended to meet specific informational needs".

B.A. Khasanov, A.A. Khashimov, A.B. Mukhametov, A.A. Abduvokhidov stated that "the financial report consists of systematic information about the financial status of the accounting entity as of the reporting date, the financial result of the reporting period and the movement of funds."

According to F.T. Abduvakhidov, I.N.Ko'ziev and Sh.Kh.Dadabaev, "financial report is a set of data on the results of sales of products (works and services) by economic entities, which shows the state of financial economic activity of the entity for a certain period (quarterly, annual) is reflected in the form of value".

According to Z. Sobirova, "International standards of financial reporting are the rules of preparation and presentation of financial reports accepted in the public interest. It is an international accounting system. MHXS has a recommendation description. These standards are also used because regulatory authorities around the world recognize the importance of unifying financial reporting rules and support the activities of the Committee on IFRS."

U. Singh conducted research on financial statements and said that "the accounting process involves recording, classifying and summarizing various business transactions. Financial statements are the result of this process, which provides various information related to profitability and financial position."

According to a group of economists, "the financial report is used by the management of the company as a basis for making management decisions. "Financial reporting data is considered necessary for the analysis of activity, it is possible to determine the reasons for deviations from the parameters set in the plan, and to identify unused production reserves."

R. Buvaneswari and S. Lakshmi stated that "financial report is an official document about the financial activity of an enterprise or organization, which must be prepared based on the concept and principles of accounting".

At the beginning, a group of economists agreed that "in the context of globalization, financial reporting data and other data, information on the financial status of entities, financial indicators and cash flows will be very useful for users to make economic decisions."

According to the results of the research, the following definition was formed: financial reporting means a systematized and summarized set of information about the financial status, financial results and cash flows of an economic entity on a certain date, which is necessary for internal and external users to make rational economic decisions.

Many reforms in the development of auditing activities in our country is being implemented. In these reforms, one of the important issues is to improve the quality of audit, in particular, audit of financial statements. Many opinions have been expressed by regulatory legal documents and economists regarding the organization and conduct of the financial statement audit.

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AGRAR MUNOSABATLAR VA AGROBIZNES TARIXI TUSHUNCHASI

Annotatsiya: Ushbu maqolada agrar munosabatlar va agrobiznes tarixi va tushunchasi haqida so'z yuritilgan.

Kalit so'zlar: Agrar munosabatlar, Agrobiznes, Agrar munosabatlar va agrobiznes tarixi, Qadimgi davrlar, O'rta asrlar, San'at inkubatori va industrializatsiya, Sovet davri, Hozirgi davr.

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CONCEPT OF AGRARIAN RELATIONS AND AGRIBUSINESS HISTORY

Annotation. This article talks about the history and concept of agrarian relations and agribusiness.

Key words: Agrarian relations, Agribusiness, History of agrarian relations and agribusiness, Ancient times, Middle Ages, Art incubator and industrialization, Soviet period, Modern period.

Agrar munosabatlar va agrobiznes tarixiy ravishda bir-biriga samarali tarzda bog'liq bo'lgan mavzulardir. Agrobiznes, agrar sohada faoliyat ko'rsatuvchi tadbirkorlik faoliyatining birlamchi ko'rsatkichlari va agrar mahsulotlar tarqatish, sotish va sotuv jarayonlarini o'z ichiga oladi. Bu esa agrar munosabatlarni shakllantiradi va ulardagi iqtisodiy, siyosiy va tijorat aloqalarni ifodalaydi.

Tarixiy ravishda agrar munosabatlar va agrobiznesning o'rni va rivojlanishi ko'plab davrlarda sodir bo'lgan. Quyidagi muhim tarixiy bosqichlarni kuzatib chiqamiz:

1. Qadimgi davrlar: Tarixiy ravishda agrar munosabatlar va agrobiznesning boshlang'ich bosqichlari qadimgi davrlarga keladi. Bu davrlarda odamlar o'simliklar va hayvonlar bilan bog'liq bo'lgan hayot shakllarini rivojlantirish uchun qo'shimcha bilim va tajribaga ega bo'lishdi. Bu davrlarda qishloq xo'jaligi, suv manbai va irrigatsiya tizimlari, urug'lanish usullari rivojlandi.

2. O'rtacha asrlar: O'rtacha asrlarda agrar munosabatlar va agrobiznesning o'zgarishga uchragan davri edi. Bu davrda agrar mahsulotlarni sotish va sotib olish uchun tijorat tizimlari rivojlandi. Silk Road, Osiyo-Qirg'iziston-Qozog'iston yulduzlari, musulmon xalqlar o'rtasidagi iqtisodiy va tijorat munosabatlar bu davrda rivojlandi.

3. San'at inkubatori va industrializatsiya: San'at inkubatori va industrializatsiya davri agrar munosabatlarni va agrobiznesni katta o'zgarishlarga uchirdi. Tarixiy ravishda 18-19 asrlarda agrar sohada qo'llanilgan texnologik innovatsiyalar va industrializatsiya jarayonlari agrar mahsulotlar yetishtirish, ishlash va tarqatishni yanada rivojlantirdi. Bu davrda insonlar o'simlik yetishtirish texnologiyalari, irrigatsiya tizimlari, mehnat mashinalari kabi muhim taraqqiyotlar bilan tanishishdi.

4. Sovet davri va keyingi yillar: Sovet davri va keyingi yillarda agrar munosabatlar va agrobiznes davlat tomonidan tashkil etilgan iqtisodiy tizimlar orqali boshqarilgan. Kollektiv qishloq xo'jaligi, yirik agrar kombinatlar, selskokhoztehnika tashkilotlari bu davrda o'rin olgan. Agrobiznesning tashkil etilgan strukturalari, sanoatga orientirlangan mahsulotlar ishlab chiqarish, kooperatsiya tarmoqlari shakllangan.

5. Hozirgi davr: Hozirgi kunda agrar munosabatlar va agrobiznes global miqyosda rivojlanib kelmoqda. Tarixiy jarayonlarda rivojlangan innovatsiyalar, texnologik imkoniyatlar, global tarmoqlar, iqtisodiy integratsiya tashkilotlari va xususiy tashkilotlar agrar sohada rivojlanishga olib kelmoqda. Bu davrda bojxona va sotish tarmoqlari, onlayn platformalar, agrar finans xizmatlari kabibosqichlar rivojlanmoqda. Agrobiznes tadbirkorlari, sifatli agrar mahsulotlar yetishtirish, ishlab chiqarish, savdo va eksport-import jarayonlarini samarali boshqarish uchun strategik planlashuv, marketing, moliyalashtirish, innovatsiyalar va ta'sirli tizimlar bilan ishlashni qo'llaydilar.

Barcha bu davrlar agrar munosabatlar va agrobiznesning tarixiy rivojlanishini ta'minlashda o'z o'rnini bilan bo'lganlar. Bu sohada rivojlanishni davom ettirish, ekologik va iqtisodiy barqarorlikni ta'minlash, ishlab chiqarish jarayonlarini sifatliroq qilish, innovatsiyalarni qo'llash kabi muhim vazifalar holatda turibdi. Agrar munosabatlar yoki agrar muloqotlar, xorijiy mamlakatlar, xorijiy iqtisodiyotlar va xorijiy tashkilotlar bilan o'rtasidagi agrar sohasidagi hamkorlik va hamkorlikni o'rnatish bo'yicha amaliyotlarni ifodalovchi umumiy tushunchadir. Bu munosabatlar, agrar sohadagi iqtisodiy, siyosiy, ekologik va texnologik muammolarni yechishni va o'zaro foydali aloqalar va kooperatsiya ko'rsatishni maqsad qiladi.

Agrar munosabatlar turli shakllarda amalga oshirilishi mumkin. Bu munosabatlar bilan davlatlar, xorijiy iqtisodiyotlar va tashkilotlar o'rtasidagi hamkorlikni o'rnatish uchun kelajakka yo'naltirilgan strategiyalar, siyosiy shartnoma va aniq kelishuvlar yaratishadi. Bu kelishuvlar shu jumladan yirik mazkur mamlakatlarning agrar mahsulotlarini eksport qilish, import qilish, investitsiya qilish, texnologiyalarni almashish va o'rgatish, texnikaviy yordam

ko'rsatish va yirik mazkur mamlakatlarning agrar sohasida yirik infrastruktur vositalarini takomillashtirish va rivojlantirishga oid bo'lishi mumkin.

Agrar munosabatlar, o'zaro foydali aloqalar va tashkilotlarning rivojlanishini va yuksalishini ta'minlash maqsadida juda muhimdir. Ular, dunyo bo'ylab xorijiy foydalanuvchilar bilan agrar mahsulotlar almashish va sotish, tarqatish va transport qilish, texnikaviy yordam va tajriba almashish, o'zaro bojxona aloqalarini rivojlantirish, agrar sohada yangi innovatsiyalar va texnologiyalar kirishini ta'minlash va boshqalar bilan hamkorlikni o'z ichiga oladi.

Agrar munosabatlar, agrar sohadagi iqtisodiyotning rivojlanishi, oziq-ovqat xavfsizligi, ta'minotning mustahkamligi, insonlar va ekologik muhitni himoya qilish kabi jarayonlarda o'z ahamiyatini ko'rsatadi. Bu munosabatlar, dunyo miqyosidagi o'zaro bog'liqlik va kooperatsiyani rivojlantirishda ham katta ahamiyatga ega. Bundan tashqari, agrar munosabatlar, agrar sohadagi iqtisodiyotni diversifikatsiya qilish, yangi bojxona va sotuv tarmoqlarini yaratish, kasbiy bilim va ko'nikmalarni oshirish, investitsiyalarni jalb qilish, yangi ish o'rinlari yaratish va ko'plab boshqa sohalarga o'tishda ham muhim ahamiyatga ega. Agrar munosabatlar, global iqtisodiyotni rivojlantirish va insonlar hayot sifatini oshirishning muhim asoslari hisoblanadi.

Agrobiznes, agrar sohada faoliyat olib boruvchi tadbirkorlik faoliyatining birlamchi ko'rsatkichlari va ahamiyatli soha sifatida taniladi. Bu sohada mahsulotni o'skash, uni ishlash, tarqatish va sotish jarayonlarini o'z ichiga oluvchi barcha tadbirkorlik faoliyatlari, shuningdek, agrar sohadagi turli bojxona faoliyatini ham o'z ichiga oladi.

Agrobiznesning bir necha asosiy yo'nalishlari mavjud bo'lib, ulardan ba'zilari quyidagilardir:

1. Arzon mahsulotlar yetishtirish: Agrobiznes, arzon va sifatli mahsulotlar yetishtirishga yo'naltirilgan bo'lib, bu tarzda mahsulotlarni o'skash, suv va energetika resurslarini samarali ishlatish, zararli kimyoviy moddalarni kamaytirish, ekologik tarzda bog'liqlik qilish va sifatni ta'minlashni o'z ichiga oladi.

2. Mahsulotlarni ishlash: Agrobiznes, yetishtirilgan mahsulotlarni o'zgartirish, qayta ishlash, qayta ishlash va to'lash jarayonlarini o'z ichiga oladi. Bu, mahsulotlarni o'zgartirilgan sifatga oshirish, saqlash va uzun muddatli saqlash, ta'minotning mustahkamlanishi va qayta ishlash jarayonlarini o'z ichiga oladi.

3. Mahsulotlarni tarqatish va sotish: Agrobiznes, mahsulotlarni iste'mol uchun tarqatish va sotish jarayonlarini o'z ichiga oladi. Bu, mahsulotlarni eksport qilish, import qilish, mahalliy bozorlarda sotish, xususiy bozorlarda sotish, onlayn platformalarda sotish va ko'p qator boshqa tarqatish va sotish usullarini o'z ichiga oladi.

4. Bojxona va sotish tarmoqlari: Agrobiznes, mahsulotlar sotish uchun bojxona va sotish tarmoqlarini o'z ichiga oladi. Bu, sotish markazlari, do'konlar, bojxonalarni yaratish va boshqalar bilan to'lov tizimlarini o'z ichiga oladi.

5. Yordam va konsalting xizmatlari: Agrobiznes, tashkilotlarga yordam va konsalting xizmatlari ko'rsatadi. Bu, agrar sohada tajribali mutaxassislar tomonidan tarbiyalash, texnikaviy yordam, korxonaga boshqarish, ma'lumotlar va tahlil xizmatlari kabi xizmatlar orqali amalga oshiriladi.

Xulosa: Agrobiznes, iqtisodiy rivojlanish, ish o'rinlari yaratish, oziq-ovqat xavfsizligi va ta'minotning mustahkamligi, ekologik muhitni himoya qilish va insonlar hayot sifatini oshirishga olib keladigan muhim asosiy sohalardan biridir. Bu sohada faoliyat ko'rsatish uchun sifatli resurslar, tajribali kadrlar, texnologiyalar va tashkilotlar orqali ko'plab imkoniyatlarga ega bo'lish zarur.

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AGRICULTURAL DROUGHT MONITORING BASED ON LANDSAT 8 DERIVED VEGETATION HEALTH INDICES: CASE STUDY OF MEZŐHEGYES, SOUTH-EASTERN HUNGARY

Abstract. Agricultural drought causes many economic and social problems in various communities. Advanced Geographic Information Systems (GIS) and remote sensing techniques play a significant role in the mapping and monitoring of agricultural drought. The main objective of this paper is to monitor agricultural drought using a remote sensing-based vegetation health index (VHI) derived from Landsat 8 during 2020 and 2021. VHI was calculated based on temperature condition (VCI) and thermal condition of vegetation (TCI). Both indices were generated from Normalized Difference Vegetation Index and land surface temperature (LST) data respectively. The result indicates that there is no any extreme drought occurred in the research area. The VHI classes demonstrates that large area of study site faced drought from moderate to mild from 2020 to 2021. Mild drought, covering an area, 50.2 percent in 2020 while 64.5 percent in 2021 was registered all across Mezohegyes. This is due to the rising of NDVI from 0.46 in 2020 to 0.55 in 2021 whereas LST decreased slightly from 62oC to 51oC respectively.

Keywords: remote sensing, drought, agriculture, Landsat, VCI, LST.

Introduction.

Drought can have a devastating effect on water supply, and crops resulting in famine, malnutrition, epidemics, and large-scale migration. Its impact on agriculture is enormous. Almost a drought occurs frequently in Hungary, which causes serious damage to agriculture every year (Gulácsi and Kovács, 2018). Early detection and assessment of drought-prone areas will help reduce the likelihood of drought. This, in turn, will help prevent risks, increase food security and ensure efficient delivery (Rojas et al., 2011). Since the 1970s, much research has been done by satellite, which in turn has served to determine the appearance of the earth, the effects of drought, and many scientific approaches (Gu et al., 2007). Drought can be monitored effectively over large areas using remote

sensing technology. Remote sensing data helps to monitor and easily obtain drought conditions. With this, we can see the effectiveness of real-time monitoring and assessment of plant health in drought conditions (Masroor et al., 2022). Several remotely perceived drought indices have been developed and applied, including duration, intensity, severity, and spatial level of drought (Mishra et al., 2015). Among those indices, to monitor and analyse drought continuously, Normalized Difference Vegetation Index (NDVI) and Land Surface Temperature (LST) are used (Brema et al., 2019). The Normalized Difference Vegetation Index (NDVI) as a probe for vegetation health has been one of the most commonly used approaches to drought events monitoring. Satellite land surface temperature (LST) is used individually or in combination with NDVI to detect and monitor drought (Hu et al., 2019). One of the most widely used satellite indices for drought monitoring is the Vegetation Health Index (VHI). This can be determined using two indices, the Vegetation Condition Index (VCI) and the Thermal Condition Index (TCI) (Zeng et al., 2022). Therefore, VHI consequently evaluates vegetation drought stressed by temperature. Both parameters can be derived from Normalized Difference Vegetation Index (NDVI) and land surface temperature (LST) data. Due to the availability of sufficient data in this study, VHI was obtained in 2020 and 2021 using the Landsat satellite. Landsat is considered in this paper due to its open-access policy while having a relatively fine temporal and spatial resolution for drought monitoring. The purpose of this article is to determine the level of drought in the agricultural lands of the Mezőhegyes and to compare the droughts of 2020 and 2021.

2. Study area

The experimental farm of Mezőhegyes is located in Mezőhegyes town, Békés and Csongrád-Csanád counties, Hungary, next to the Romanian border (latitude 46° 19' N, longitude 20° 49' E) (Figure 1). The total administrative area of the town is 15 544 hectares, and its population is 4950 people. Chernozem is a very common type of soil that supports both plant growth and high yields (Amankulova et al., 2021). The meadow and lowland chernozem, with their high lime content, provides an excellent basis for field plant cultivation. Chernozem is a very fertile soil that produces high agricultural yields and offers excellent agronomic conditions to produce crops, especially cereals and oilseeds. Mezőhegyesi Ménesbirtok Zrt. (the experimental farm of Mezőhegyes) plays an important role in the lives of both Mezőhegyes and the neighbouring settlements. According to the operational water scarcity assessment and forecasting system in Hungary and the experimental farm of Mezőhegyes, between May 21 and June 28, 2020, a very high rainfall for this agricultural area was recorded at 190.6 mm. Climate records at Mezőhegyes station (next to the selected fields) show that annual rainfall there was 575 mm (458 mm in-crop) for the 2020 season. The result indicates that there is no any extreme drought occurred in the research area. The VHI classes demonstrates that large area of study site faced drought from moderate to mild from 2020 to 2021. Mild drought, covering an area, 50.2 percent

in 2020 while 64.5 percent in 2021 was registered all across Mezohegyes. This is due to the rising of NDVI from 0.46 in 2020 to 0.55 in 2021 whereas LST decreased slightly from 62°C to 51°C respectively.



Figure 1. Location of the study.

3. Methodology

Landsat 8 OLI/TIRS Level-2 datasets were downloaded from The USGS Earth Explorer website (<https://earthexplorer.usgs.gov/>). Atmospherically corrected images from 2020 to 2021 were used for drought monitoring. Landsat 8 satellite carries two Operational Land Imager and Thermal Infrared sensors (launched on 11 February 2013) and acquires earth surface with 11 multispectral and thermal bands. Landsat images are a collection of high-resolution satellite imagery, with a spatial resolution of 30 m, provided in a standardized, orthorectified format. Multispectral and thermal bands from Landsat 8 were used to calculate Normalized Difference Vegetation Index (NDVI) and land surface temperature (LST) indices. Time-series of NDVI and LST can be useful to demonstrate the dry season and the effect of the weather anomaly on vegetation (Wang et al., 2014).

3.1 NDVI.

Landsat Normalized Difference Vegetation Index (NDVI) is used to quantify vegetation greenness and is useful in understanding vegetation density and assessing changes in plant health. NDVI was calculated as follows:

In Landsat 8-9, $NDVI = (Band\ 5 - Band\ 4) / (Band\ 5 + Band\ 4)$.

where NDVI values range between -1 and 1.

3.2 LST

The Land Surface Temperature (LST) was calculated from an atmospherically corrected thermal band of Landsat 8 based on at-sensor

brightness temperature was derived using the equation developed by Chander et al. (2009).

3.3 VCI, TCI, VHI.

The vegetation condition index (VCI) was obtained from Normalized Difference Vegetation Index (NDVI) to monitor vegetation conditions (Kogan, 1995). The temperature condition (TCI) was developed to capture different responses of vegetation to in-situ temperature as additional information. This can be achieved by employing thermal channels for drought monitoring. Finally, the vegetation health index (VHI) was calculated to assess both vegetation stress and temperature to evaluate drought severity (Kogan et al., 2004).

$$VCI = 100 * (NDVI - NDVI_{min}) / (NDVI_{max} - NDVI_{min})$$

$$TCI = 100 * (T_{max} - T_c) / (T_{max} - T_{min})$$

$$VHI = 0.5 * VCI + 0.5 * TCI$$

where:

NDVI, $NDVI_{min}$, and $NDVI_{max}$ are the seasonal average of the smoothed weekly NDVI, its multiyear absolute minimum and its maximum, respectively;

T_c , T_{min} , and T_{max} are similar values for land surface temperature in Celsius.

The following table is provided for drought monitoring in this study (Table 1).

No	Drought category	Value
1	Extreme	<10
2	Severe	<20
3	Moderate	<30
4	Mild	<40
5	No	≥ 40

4. Result and Discussion

This study used Landsat data to determine the agricultural drought of the Mezöhegyes in 2020 and 2021. NDVI could be used as a variable response to identify and quantify drought disturbance in semi-arid and arid lands, with low values corresponding to stressed vegetation. NDVI is an effective indicator of vegetation response to drought, based on the relationships between NDVI and a meteorologically based drought index. According to the time series of NDVI. Low rainfall, high temperatures and low soil moisture can lead to severe droughts in agriculture (Sruthi and Aslam, 2015).

Fig. 2 represents that the NDVI value increased slightly during the observation period. Drought monitoring using NDVI alone as the important parameter was not enough to investigate drought in small scale. Thus, it is important to combine another parameter to improve the accuracy. In this research, we used LST as a second parameter from 2020 and 2021 are presented in Figure 3.

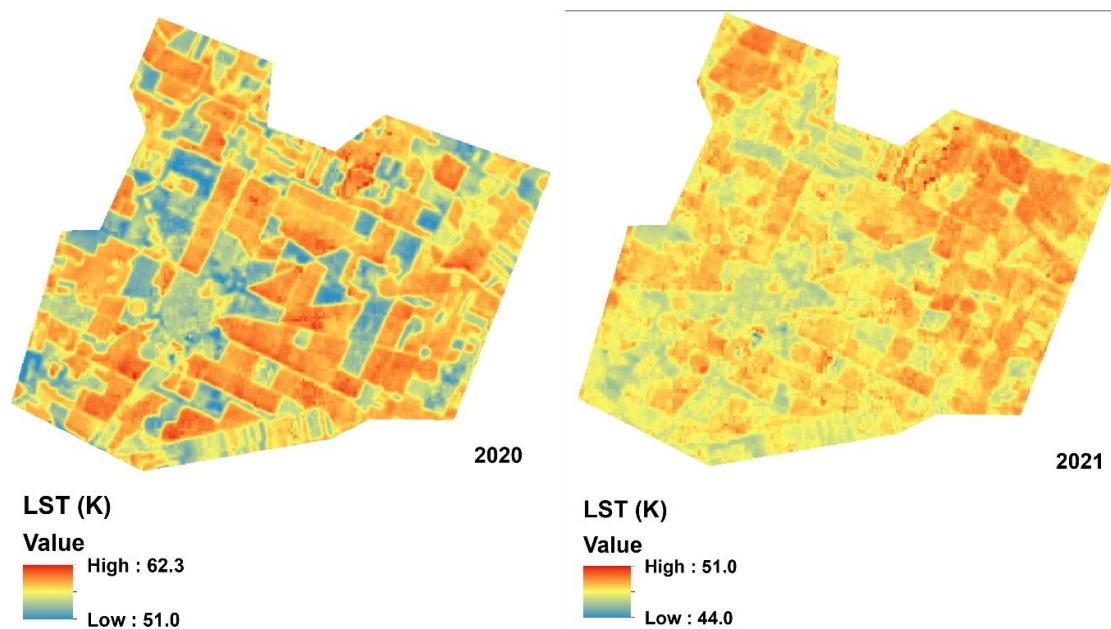


Figure 3.

Dry soil can be observed where where LST is higher. The result shows that LST increased moderately by 10°C from 2020 to 2021. If we describe LST in general, in the dry condition LST is high and NDVI is low.

To determine the vegetation health index (VHI), we combined two indicators, VCI and TCI, and obtained the following result. The VHI index was generated for the two years 2020 and 2021. Almost no extreme and severe drought was detected in the vegetated area of Mezohegyes. VHI value was 39.5 in 2020 describes moderate drought, however it was 49.9 in 2021. Mild drought, covering an area, 50.2 percent in 2020 while 64.5 percent in 2021 was registered all across Mezohegyes. This is due to the rising of NDVI from 0.46 in 2020 to 0.55 in 2021 whereas LST decreased slightly from 62°C to 51°C respectively. However, the this study site, constituted the largest moderate and mild drought areas. The two years (VHI) for the Mezöhegyes region was derived from a combination of NDVI and LST. According to the result, the drought conditions were moderate, mild or no drought condition. In most parts of the Mezöhegyes, no extreme drought was observed at 30 m high resolution. This means that the agricultural lands of the Mezohegyes region were almost stable in both years.

Conclusion This study was carried out to detect agricultural drought extent over the Mezöhegyes using satellite remote sensing based index, vegetation health index (VHI) derived from Landsat 8 satellite. We found that this index could be used successfully to determine the spatio-temporal level of drought in agricultural areas. Moreover, drought can be identified in the study are through composite analysis of vegetation health by vegetation condition and temperature condition of vegetation. Our mapping method is rapid, straightforward and principally fed by remote sensing data.

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USING OF HUMOR IN TEACHING FOREIGN LANGUAGE

Abstract. The research work presents information about the definition, the structure, and using of humor.

The purpose of this work is to view anecdotes as a way for teaching students foreign language. For this it is necessary to analyze the anecdotes and find their advantages and disadvantages for teaching.

Key words: Communicative Competence, Communicative Language Teaching, humor, anecdote, moral activity, foreign language.

Teaching has been described as 'the most privatized of all public professions'. "Teaching is a moral activity, because it is founded upon a relationship which involves making decisions and taking actions that influence the social, emotional, intellectual and moral development of others in one's care.

Teaching has no use without communication. The ever-growing need for good communication skills in English has created a huge demand for English teaching around the world. And opportunities to learn English are provided in many different ways such as through formal instruction, travel, and study abroad, as well as through the media and internet.

Paul-Emile Chiasson from University of New Brunswick (Saint John, NB, Canada) states that for many the simple mention of humor condors up notions and protests of, "I'm not funny, I don't use humor." " I can't tell a joke; let alone use one in class." For others it is something to be feared, synonymous with classroom disorder and chaos. "I'm not about to start telling jokes, it will mean complete loss of control."

He continues saying that for some this resistance to using humor may simply be a lack of knowledge as to how one may use it effectively in class. "I enjoy humor, but I don't know how to go about using it, so I don't. I don't want to look foolish." Others associate humor and its use with non-productivity. Students can't be learning if they are laughing. Yet humor is as authentic and as communicative a human reaction and social skill as is greeting and conversing with friends. [8]

Adam Chee W.S. from The International TEYL Journal says that humor is the characteristic that makes something laughable or amusing but humor in the English classroom has more than just the 'effect to induce laughter'; it brings

together a chain-reaction by increasing the learner's motivation and self-confidence which creates a positive classroom atmosphere for the smooth acquisition of the language. Joseph Gatt explains it best:

"It is the 'breathing-out of the soul'. When during the lesson the pupils only listen to the teacher, who may be teaching in the same tone, then it is as if they only breathe in and have no opportunity to breathe out. They need humor, which the teacher can find in very different places. Therefore, the teacher must bring in humor during his lessons and this humor should result from the vitality and momentum of the lesson."

From Adam Chee W.S.'s point of view there is little or no doubt that humor is an invaluable teaching aid in the English classroom and that almost all English teachers use humor at one point of time or another in their lesson. As a matter of fact, students have listed humor as an essential quality of a good teacher and the best teachers are known for their ability to release tension in class with humor.

But what exactly is so special about the use of humor in the ESL classroom that helps get the language to flow so freely? It has been observed by Marklin Walker that "students enjoys humor in forms of funny anecdotes" and it is this very 'enjoyment' that makes humor a popular content for teaching English because positive humor helps,

1) Increases Motivation and Self-confidence
"Humor can help the shy and/or timid students to feel that they are a part of the class and to allow them to contribute or participate without feeling humiliated or vulnerable" (Chiasson 2002). This can act as a means of enhancing student motivation to learn English as well as stimulating recall to the materials taught.

2) Creates a Positive Classroom Atmosphere
The nature of positive humor helps create a "positive atmosphere" which encourages the learners' desire to take part in class conversations by decreasing anxiety and stress.[9]

Anecdotes told in the classroom express our feelings, ideas, and experiences, just like the ones in daily conversations. However, since anecdotes are an excellent way to generate discussion to help students use their language skills, teachers usually have an additional intention in mind: a teaching objective to describe, explain, clarify, or emphasize an aspect of language or content. In practice, we can divide anecdotes used in class into three groups: (1) planned anecdotes, (2) semi-planned anecdotes, and (3) unplanned anecdotes.

1. Planned anecdotes are similar to those used in essays or in oral presentations. The teacher plans when to use the anecdote in the lesson, how to use it, and what kind of an exercise or questions will follow the anecdote. For example, if a language point will be presented, the teacher should decide beforehand which vocabulary items or grammatical structures to emphasize while sharing the anecdote. The anecdote may be written down so the teacher can either read it aloud or tell it using notes. The significance or evaluation of a planned

anecdote is also considered while planning and is indicated either at the beginning or at the end of the story.

2. Semi-planned anecdotes differ from planned anecdotes because the complete details are not worked out in advance. In this case, the exact words or sentences are not written down, although teachers do have one or more anecdotes in mind and are prepared to tell them at the appropriate time in the lesson. One strategy is to keep a list of anecdotes and let the student reactions or the flow of the lesson determine which one to share. It is also good to base semi-planned anecdotes on the events experienced by the whole class or by one group of students. For example, an anecdote about a school night or an extracurricular activity that all students participated in reduces the need for explanation and saves time. Individuals can share their personal anecdotes as well, and if the teacher knows a student's anecdote, she may plan to ask the student to share it at an appropriate time. As with planned anecdotes, it is important to consider the purpose and significance of semi-planned anecdotes beforehand.

3. Unplanned anecdotes come up naturally in the flow of classroom activities and are spontaneously activated by a response, a question, or a discussion that suddenly reminds the teacher of a story that is worthwhile to share with the students. In this sense, unplanned anecdotes are like those that appear in everyday conversation. These impromptu anecdotes may also be provided by students, as one of their experiences may be enlightening or thought-provoking for both their classmates and the teacher. If the point of the anecdote is not clear, either the teacher or the students can indicate the need for an evaluative element, just as a listener might do in a naturally occurring conversation.

In addition, the anecdote can be: Interesting, amusing, often quite tactless and biographical - in part like a close-up picture, fairly odd or halfway so, like a sketch also, deals with intimate matters, differs from articles.

Anecdotes are one of the most economical, easy, and enjoyable ways to introduce meaningful language and content, to practice language skills and subskills, and to help manage classes of various ages and proficiency levels. Experience shows that students are always highly interested in experiences of their teachers and peers. Although some teachers may not feel comfortable with the idea of sharing personal information with their students, others may love to share their experiences and ask similar questions about the students' experiences. How much the teacher shares and asks the students to share depends not on being friends with them but on creating a friendly atmosphere in the classroom. The ideas listed below summarize the benefits experienced while using anecdotes in the classes.

- Classroom management is an important aspect in teaching any course, regardless of subject matter. It is an issue for novice and experienced teachers, for teachers of young or adult learners, and for teachers of beginner to advanced levels.

▪ Genuine communication occurs in language classes when learners provide their own experiences and information. By listening to anecdotes from the teacher and classmates, asking questions for extra information or clarification, and contributing evaluative feedback as in real life dialogues, the language learners engage in authentic communication.

In conclusion, from my analysis and observation, I can tell that most of the anecdotes are good for using as a warm-up activity and for teaching reading and listening. But taking into consideration the content, the context, the mode of narration the following diagram shows the percentage of the profit that the anecdotes provide for teaching skills.

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TRANSFORMATORILARNING SHIKASTLANISHI SABABLARINI TAHLIL QILISH

Annotatsiya. Ushbu maqolada sanoat-korxonalarida keng foydalanilayotgan transformatorlar, transformatorlarning shikastlanishi sabablari, kuch transformatorlarining shikastlanishlar turlari va ularni keltirib chiqaruvchi asosiy omillar, transformatorlarning ichki shikastlanishlari, transformatorlarning chulgʻamlari shikastlanishlar va ularning sabablari, poʻlat oʻzadagi shikastlanishni keltirib chiqaruvchi sabablar, moyining haddan tashqari qizishi omillari, chulgʻam burilishlarini kuyishi omillari, diagnostika qilish usullari koʻrib chiqilgan.

Kalit soʻzlar: transformatorlarning diagnostikasi, shikastlanishlar turlari, shikastlanishlar sabablari, chulgʻamlarning shikastlanish klassifikatsiyasi, poʻlat oʻzadagi shikastlanishlar, moyning haddan tashqari qizishi, chulgʻamlarning burilishlarini kuyishi, diagnostikalash usullari.

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ANALYSIS OF THE CAUSES OF DAMAGE TO TRANSFORMERS

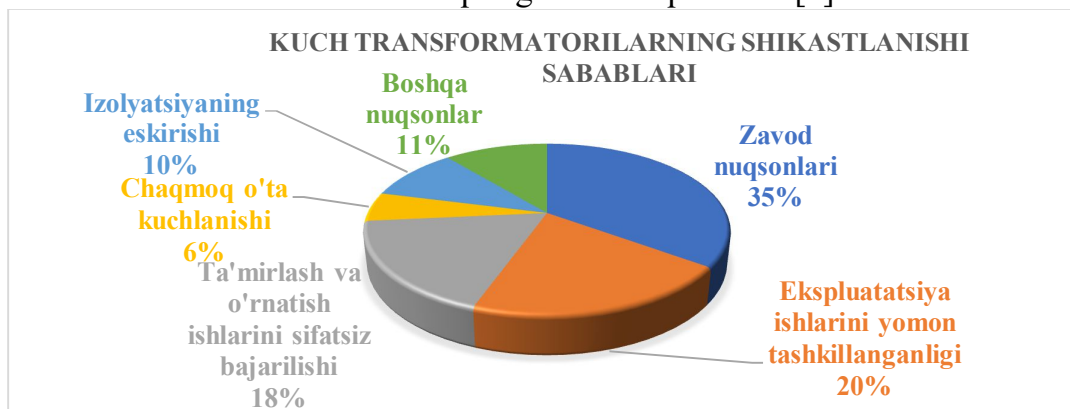
Annotation. This article discusses transformers widely used in industrial enterprises, the causes of damage to transformers, types of damage to power transformers and the main factors causing them, internal damage to transformers, damage to the winding of transformers and their causes, causes of damage to the steel core, factors of oil overheating, factors of burn winding winding, diagnostic methods.

Keywords: transformer diagnostics, types of damage, causes of damage, classification of winding damage, steel core damage, oil overheating, winding burns, diagnostic methods.

Kuch transformatorlarining shikastlanishi natijasida isteʼmolchilarga elektr energiyasini oʻz vaqtida yetkazib berilmasligi mamlakat sanoati va iqtisodiyotiga katta iqtisodiy zararlarni keltirib chiqarishi, kuch transformatorlarning shikastlanish sabablari haqida dunyo olimlari ilmiy tadqiqot ishlarini olib borishmoqda [1,2,3].

Sanoat – korxonalarida, shahar va qishloq elektr tarmoqlarida keng foydalanilayotgan elektr qurilmalari kuchlanishi 6(10) kV boʻlgan hamda quvvati 25 kVA dan 1000 kVA gacha boʻlgan kuch transformatorlari hisoblanishini

e'tiborga olsak, ilmiy tadqiqot ishlarini mana shu parametrdagi transformatorlarda olib borish maqsadga muvofiq bo'ladi [1].



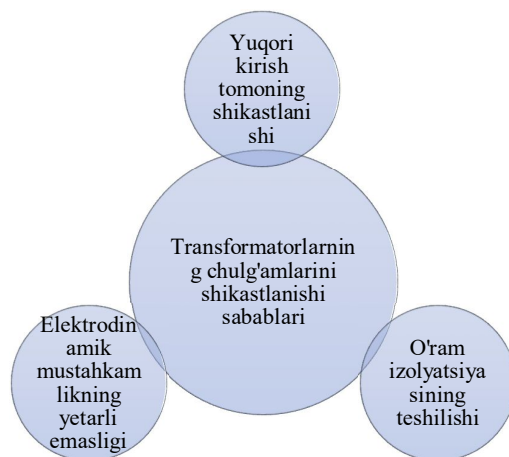
1.1-rasm. Kuch transformatorlarining shikastlanishi sabablari tahlili [1].

ADABIYOTLAR TAHLILI VA METODLAR

S.K. Sheryazov va A.V. Pyatkovlar tomonidan Shadrinsk elektr tarmoqlaridagi kuchlanishi 10/0,4 kV quvvati 25-630 kVA oraliq'ida bo'lgan kuch transformatorlaridagi shikastlanishlarning sabablarini o'rganish maqsadida olib borilgan tahliliy tadqiqot natijalariga ko'ra eng ko'p shikastlanish sabablari ishlab chiqarish korxonasidan nuqsonli chiqqan transformatorlarga to'g'ri kelib, umumiy shikastlanishlarning 35% ni tashkil etmoqda. Bu shikastlanishlar sabablari qatoriga xizmat ko'rsatish ishlarini yomon tashkillanganligi (20%) hamda, ta'mirlash yoki o'rnatish ishlarini sifatsiz bajarilishi (18%) ni qo'shishimiz mumkin [1]. 1.1-rasmda Shadrinsk elektr tarmoqlaridagi kuch transformatorlarining shikastlanishi sabablari tahlili keltirilgan.

10/0,4 kV kuchlanishli kuch transformatorlaridagi ichki shikastlanishlar transformatorlarning umumiy shikastlanishini 62% ni tashkil etadi. Ichki shikastlanishlar orasida eng ko'p uchraydigan shikastlanish turlari kirish qismidagi shikastlanishlar, umumiy ichki shikastlanishlarning 44% ni tashkil etadigan chulg'amlardagi o'ramlar tutashuvi hamda chulg'amlardagi o'zgartirgich blokining shikastlanishi hisoblanadi [1].

V.G. Goldshteyn, A.Yu. Xrennikovlar "Kuch transformatorlarining chulg'amlarini shikastlanish sabablari va qisqa tutashuv toklari hisobi" nomli ilmiy tadqiqot ishida transformatorlar chulg'amlarining shikastlanishiga 3 ta asosiy sabab keltirgan. Birinchi sabab, transformatorlarning yuqori kirish tomonining shikastlanishi. Ikkinchi sabab, transformator chulg'amlari o'ramlarining izolyatsiyasini teshilishi va uchunchi sabab qilib qisqa tutashuvlarda chulg'amlarning elektrodinamik mustahkamligini yetarli emasligi takidlangan [2].



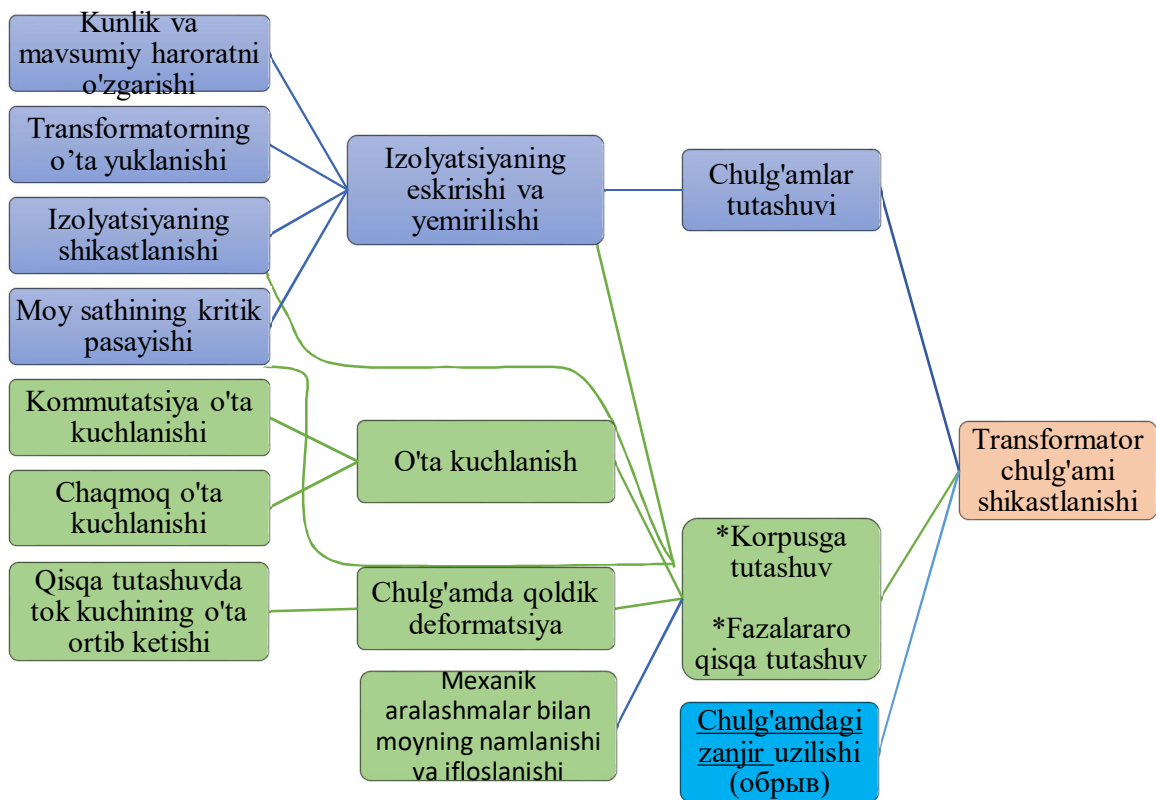
1.2-rasm. Transformatorlarning chulg'amlarini shikastlanish sabablari

Elektrodinamik kuchlar tizimning qisqa tutashuv quvvati, transformatorlarning nominal quvvati, ulanish sxemasi, konstruktiv tuzilishi, texnik holati, zarbiy koeffitsiyenti, qisqa tutashuv toklarining davriy tashkil etuvchilari va shu kabi bir qator omillarga bog'liq [2].

NATIJAR VA MUHOKAMALAR

Tadqiqot natijalari shuni ko'rsatmoqdaki, kuch transformatorlarining chulg'amlarini shikastlanishi asosan 3 ta omilga bog'liq (1.3-rasm).

Birinchi omil kuch transformatorlarining chulg'amlarini tutashuvi. Transformatorlarni ishlab chiqarish va ularga xizmat ko'rsatish sifatining yomonligi, kunlik hamda mavsumiy haroratning o'zgarishi, transformatorlarni texnik-normativ hujjatlarda belgilangan me'yorlardan ortiq muddatda o'ta yuklangan holda foydalanish, chulg'amlarni izolyatsiyasi shikastlangan holda foydalanishda davom etish (bular asosan 25 yil va unda uzoq muddat foydalanilgan transformatorlarda uchraydi), moy sathini kritik pasaygan holda foydalanish, transformatorlarning chulg'amlari izolyatsiyasini eskirishi va yemirilishiga olib keladi. Bu o'z navbatida kuch transformatorlarining chulg'amlararo tutashuvini keltirib chiqaradi.



1.3-rasm. Transformatorlarning chulg'amlari shikastlanishi klassifikatsiyasi

Ikkinchi omil sifatida korpusga tutashuv hamda fazalararo qisqa tutashuv keltirilgan bo'lib, kommutatsiya jarayonlarida hamda chaqnashlarda o'ta kuchlanishni keltirib chiqaradi. Qisqa tutashuvlar sodir bo'lganda tok kuchining ortib ketishi elektrodinamik kuchlar tufayli qoldiq deformatsiyani keltirib chiqaradi [4; 7-b.]. O'ta kuchlanish, qoldiq deformatsiya, mexanik aralashmalar bilan transformator moyining ifloslanishi va namlik darajasining ortishi transformatorlarning chulg'amlarini korpusga tutashuviga va chulg'amlarning fazalararo tutashuviga olib keladi.

Uchinchi omil chulg'amdagi zanjir uzilishi bo'lib, u ham transformatorlarning chulg'amini shikastlantiruvchi omil hisoblanadi [3]. Transformator chulg'amlari ikkilamchi zanjirining uzilishidan himoya qilish bo'yicha bir qator ilmiy izlanishlar olib borilgan [3; 4].

XULOSA

Xulosa qilib shuni aytish mumkinki, sanoat-korxonalarida, shahar va qishloq va elektr tarmoqlarida keng foydalanilayotgan elektr qurilmalari 6(10) kV kuchlanishli 25-630 kVA quvvatli transformatorlar bo'lib, ulardagi shikastlanishlarni tahlil qilish orqali kuch transformatorlarining ishlash ishonchliligini oshirish mumkin. Tahlil natijalari shuni ko'rsatmoqdaki

transformatorlardagi eng ko‘p uchraydigan ichki shikastlanish turidan bo‘lgan chulg‘amlar shikastlanishlari bo‘lib, uni keltirib chiqaruvchi omillar transformatorlarni texnik – normativ xujjatlarda keltirilgan me‘yorlarda foydalanmaslik, ekspluatatsiya jarayonlarining sifatsiz bajarilishi hisoblanadi. Kelgusi tadqiqot ishlarida transformatorlarning chulg‘amlarini shikastlanishi va ularning diagnostikasiga ko‘proq e’tibor qaratish lozim bo‘ladi.

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ASPECTS OF PREPARATION OF FINANCIAL STATEMENTS AND AUDIT INSPECTIONS IN JOINT STOCK COMPANIES

Abstract. The article entitled "Practical aspects of the preparation of financial statements and conducting audits in joint-stock companies" describes the features of accounting policies in order to ensure the reliability of financial statement information, the procedure for gathering evidence during the audit of financial statements, and the procedure for drawing up an auditor's opinion on the results of financial statement verification.

Key words: econometric, empirical analysis, securities, internal audit, financial and credit sector, economics.

In recent years in the Republic of Uzbekistan, large-scale changes are being implemented in the field of accounting, as well as in all areas. In particular, accounting operations and preparation of financial reports are organized at the level of international standards. In addition, the provisions of national accounting standards are being adapted to the requirements of international standards of financial reporting. These cases also apply to the accounting policy, which is one of the main documents used in accounting.

It is known that the accounting policy includes a set of rules, methods and requirements used in accounting operations of any business entity during the reporting period. A reasonable and consistent structure of the accounting policy serves to increase the reliability and transparency of financial reporting information.

Accounting plays an important role in the rational use of funds, increasing the efficiency of activities, and making economic decisions in an economic entity. Through information and control functions of accounting, information on daily activities is formed and summarized in reports. Accounting policy plays an important role in the effective implementation of these processes. Accounting policy is a comprehensive document that is prepared for financial, management and tax accounting purposes. For the purposes of financial accounting, the following main aspects are considered in the accounting policy: the procedure and methods of evaluating the fixed assets available in the balance sheet of the economic entity and calculating their depreciation; the procedure for maintaining

the account of repair costs for fixed assets; the procedure for evaluating long-term investments and disclosing information about them; the procedure for continuous and periodic accounting of inventories; the procedure for evaluating inventories and carrying them to cost; issues of determining the net sale value of inventories; issues of classification of obligations and their assessment; criteria for recognition of income and expenses and the procedure for disclosing information about them.

From the point of view of management accounting, the accounting policy considers the following aspects: methods of product cost calculation and their application; procedure for formation of transfer price; procedure for drawing up segmental reports; procedure for determining the break-even point, etc.

The accounting policy drawn up for the purposes of tax accounting must comply with the requirements of the Tax Code. In this case, it is necessary to cover the following issues: correct calculation of the basis for the types of taxes and payments; the composition of deductible and non-deductible expenses during the reporting period for profit tax; if tax incentives are provided to entities, their application; directions for using the funds freed up in the entity due to the provided tax benefits, etc.

When drawing up the accounting policy, it is necessary to pay attention to its organizational, technical and methodological aspects. The organizational aspects of the accounting policy include the form in which the accounting service is organized, the distribution of responsibilities among employees, and the qualification levels of accountants.

The main purpose of financial reporting is to provide external users with reliable information about the business entity. Accounting policy, in turn, directly affects the formation of information in financial statements. Therefore, the information capabilities of users of financial statements should be taken into account when creating an accounting policy.

Formation of accounting policy in economic entities is considered a complex process, which includes the following stages (Fig. 1).

When creating an accounting policy, first of all, it is necessary to clarify the composition of accounting objects. In the practice of our country, the requirements for accounting objects are disclosed in the accounting policy in a sequence according to the balance sheet structure. In particular, long-term assets include fixed assets, intangible assets, long-term investments, capital investments, long-term receivables. Next, the accounting policy rules for inventories, receivables and cash are defined as part of current assets. This is followed by coverage of equity, liability, income and expense requirements.

When forming the accounting policy, it is necessary to consider the factors affecting it. In particular, the accounting policy is significantly influenced by the organizational and legal structure of the economic entity, the scope and purpose of the activity, the financial strategy adopted by the entity, the state of the internal control system, and external factors.

Documentation of the accounting policy is formalized by the order of the head. However, the document rotation table, working account plan, etc. are attached to the accounting policy. In addition, the method of assessment of certain types of assets and liabilities can be given as an appendix to the policy.

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IMPROVING ANALYSIS OF FINANCIAL ASSETS AND RESERVES OF COMMERCIAL BANKS

Abstract. This article discusses the issues of classifying the quality of financial assets in commercial banks, as well as the issues of forming reserves to cover possible losses, ways to increase the efficiency of credit portfolio management.

Key words: commercial bank, reserve, bank's credit portfolio, credit, credit portfolio management, profitability, risk, liquidity.

It should be noted that economists have expressed different views on improving the quality of commercial banks' asset portfolios. However, many economists have recognized the following ways of improving the quality of credit portfolios of commercial banks:

- reducing the credit risk level by analyzing the cash flow of the borrower client;
- ensuring that the interest rates of commercial banks' loans are at a low and stable level;
- since the quality of the credit portfolio of banks directly depends on external factors, the state's investment and industrial policy and the levels of risks associated with the financing of investment projects play an important role in improving the quality of their credit portfolios;
- lack of long-term resources in banks is considered to be the main factor hindering the improvement of long-term lending practices of commercial banks;
- elimination of transformation risk is important in improving the quality of banks' credit portfolios. The lack of long-term resources necessary for long-term loans in the commercial banks of the Republic of Uzbekistan caused the deepening of the transformation risk in the banks. In turn, the transformation creates a strong negative impact on the liquidity of risky banks.

The issue of improving the management of asset portfolios of commercial banks - credit portfolios and securities portfolios - by improving their quality, was thoroughly researched by foreign economists on a scientific basis, and relevant scientific conclusions and practical recommendations were formed.

LITERATURE REVIEW

According to T. Mazurin's conclusion, the following conditions must be present for the development of lending to the real sectors of the economy:

- availability of effective investment and industrial policy of the state;
- development of investment infrastructure that allows to reduce the level of risks associated with the implementation of investment projects;
- increasing the investment attractiveness of enterprises.

According to M. Matovnikov, the lack of long-term resources in banks is the main factor hindering the improvement of long-term lending practices of commercial banks. A simple and realistic way to solve this problem is to get a loan from the Central Bank by pledging liquid assets.

Appropriate changes have been made to the current normative documents on the creation of potential reserves on assets in the banking system of the Republic of Uzbekistan. In particular, on June 13, 2015, the Central Bank Administration "On the introduction of changes and additions to the procedure for classifying assets, forming and using reserves to cover potential losses by commercial banks" 14/ Decision No. 5 was adopted.

According to this decision, the following changes have been made to the above procedure (Table 1).

Table 1. Classification of assets of commercial banks

Classification categories	Expired days	Backup that needs to be created	Calculation of interest
Standard	0	1%	in balance
Substandard	0	10%	in balance
You are not satisfied	1-89	25%	In the "Contingencies" account
Suspicious	90-179	50%	
Hopeless	180 and more	100%	

There are no problems with the return of assets classified as "standard". In this case, it is necessary that no part of the principal amount and interest has expired or the terms have not been revised. Assets that are overdue and renegotiated beyond principal or interest cannot be classified as "default".

For assets classified as "standard" in the reserve capital of a commercial bank, it is necessary to form a reserve created for standard assets in the amount of one percent of their outstanding principal debt (residual).

For commercial bank assets classified as "substandard", it is necessary to form a special reserve in the amount of ten percent of the amount of their unreturned principal debt (residual).

If there is an overdue arrears on the principal debt and interest, and its term does not exceed 90 days, it is classified as non-performing.

For commercial bank assets classified as "non-performing", it is necessary to form a special reserve in the amount of twenty-five percent of the amount of their unpaid principal debt (residual).

Assets are classified as "doubtful" if at least one of the following factors is present:

- if there is at least one indicator of "unsecured" assets, as well as some other negative characteristics (the absence of readily marketable collateral or the presence of unsecured assets, or the borrower's bankruptcy);

- if there is a possibility of partial payment of the asset in the near future;

If there is arrears of principal and interest for more than 90 days, but not more than 180 days, then this asset is classified as doubtful and it is necessary to create a special reserve for the assets in the amount of fifty percent of the amount of their unpaid principal debt (residue).

If there is arrears of principal and interest for more than 180 days, these assets are classified as "non-performing".

For assets classified as "non-performing" by commercial banks, it is necessary to form a special reserve in the amount of one hundred percent of the amount of their unpaid principal debt (residual).

If the commercial bank has several assets given to one debtor, all the assets returned by the debtor to the commercial bank should be classified as assets classified in the lowest category.

A mandatory reserve deposit has been set up in the central bank to cover potential losses on commercial bank assets, and a representative account of funds equal to the amount of special reserves formed against potential losses on commercial banks' assets in this mandatory reserve deposit sheet there is a requirement to go through them.

Also, according to the newly introduced changes, the Central Bank, analyzing the credit portfolios of commercial banks, may issue mandatory instructions to commercial banks regarding the formation of reserves against possible asset losses in an additional approach.

In general, the main goal of credit portfolio management of commercial banks is to achieve the optimal level of risk, profitability and liquidity indicators of this portfolio.

In our opinion, in the effective management of credit portfolios in commercial banks, it is necessary to take into account the following factors:

- conducting constant, effective monitoring of the quality of bank assets, strengthening the mechanism for identifying and eliminating problematic situations related to bank assets at the initial stages;

- formation of new methods of problem credit management;

- control of compliance with the terms of the bank's credit policy and lending principles.

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METHODS FOR CALCULATING ACTIVE POWER LOSSES IN A CABLE DISTRIBUTION NETWORK UP TO 1000 KV

Annotation. In the given article, work was carried out to calculate additional active power losses that occur as a result of a violation of the quality indicators of electricity in a cable distribution network with a voltage of 0.4 kV. On the basis of the requirements of GOST 13109-97, which are placed on certain characteristics that allow the assessment of electrical energy quality indicators, the effects of high harmonics on electrical networks were studied.

Keywords. 0.4 KV cable line network, electrical energy quality indicators, current and voltage non-sinusoidality, current and voltage symmetries, active power loss.

Introduction. When the lengths of transformer 0.4 kV transmission tobacco were analyzed it was determined that the brogan electric energy deviation reaching consumers under gost 13109-1997 or GOST 32145-2013 would be within the $\pm 5\%$ range on demand.

$$\Delta P_{\Sigma n} = 3 \sum_{n=2}^{40} I_n^2 R_1 k_{in} , (1)$$

where n is the harmonic number; I_n - is the current that makes up the harmonica; R_1 - network length; $k_{in} = 0,47\sqrt{n}$ - the coefficient of change in the active resistance of current conducting parts in n -th harmonica.

(2) the computational method presented in the expression is given in [1].

$$\Delta P_{\Sigma n} = 3r_0 l \sum_{n=2}^{40} I_n^2 (k_{\Pi n} + k_{\epsilon n}) , (2)$$

where $k_{\Pi n} = 0,021\sqrt{f}$ - coefficient taking into account the effect of the external effect; $k_{\epsilon n} = \frac{1,18+k_{\Pi n}}{0,27+k_{\Pi n}} \left(\frac{d}{a}\right)^2$ - coefficient taking into account the interaction of the proximity of conductors in the transmission line; r_0 - comparative resistance, Om/m; l - length of the network part, m; f - n - frequency of harmonica, Gs; d - the diameter of the conductor, mm; a - distance between conductor centers, mm.

Results. Table 1 presents quantitative comparisons of increasing coefficients for each harmonica according to the first and second methods of calculating the cross section of cable 16 and 35 mm²:

Increasing the coefficients for different calculation methods

Table 1.

Harmonica number	3	5	7	9	11	13	15	17	19
Method 1	0,81	1,05	1,24	1,41	1,56	1,69	1,82	1,94	2,05
Method 2	35	1,26	1,25	1,26	1,28	1,3	1,32	1,34	1,38
	16	1,41	1,39	1,39	1,4	1,42	1,43	1,45	1,49
Harmonica number	21	23	25	27	29	31	33	35	37
Method 1	2,15	2,25	2,35	2,44	2,53	2,62	2,7	2,78	2,86
Method 2	35	1,4	1,42	1,44	1,46	1,48	1,5	1,52	1,55
	16	1,51	1,52	1,54	1,56	1,58	1,6	1,62	1,65

As we can see from Table 1, when calculating according to two different methods, the coefficients take different values, and it is necessary to choose or develop a new method that meets the requirements of accuracy (for example, according to the requirements of GOST 31819.21-2012 "equipment for measuring electricity of alternating current. Static active energy meters of precision classes 1 and 2, the energy measurement error should not exceed 2% and 3%, respectively, for accuracy classes 1 and 2 meters).

Taking as a basis the method of calculating additional power losses in a symmetric electrical network with a voltage of 0.4 kV by the expression (3)

$$\Delta P_i = k_{ui} I_{ei}^2 r_{ei} k_{Di}, \quad (3)$$

where k_{ui} – coefficient that takes into account the number of phases that cause the circuit of contacts in a certain part of the network; I_{ei} - effective current in the network area (current value); r_{ei} – active resistance of the network part; k_{Di} – the coefficient of additional power losses resulting from uneven distribution of loads;

$$k_{Di} = N^2 \left(1 + 1.5 \frac{r_{NT}}{r_F} \right) - 1.5 \frac{r_{NT}}{r_F}, \quad (4)$$

where r_{NT}, r_F – zero working and phase conductor resistors;

$$N^2 = 3 \frac{I_A^2 + I_B^2 + I_C^2}{(I_A + I_B + I_C)^2} \quad (5)$$

unevenness coefficient of currents.

Method for performing the calculation taking into account the effect of symmetry and sinusoidality on the active power losses in the zero working conductor proposed in low-voltage three-phase networks:

1. Phase losses

Active power dissipation in phase a:

$$\Delta P_A = r_{oF} l_A \sum_{n=2}^{40} I_{nA}^2 (k_{Pn} + k_{bnF}), \quad (6)$$

where $k_{pn} = 0,021\sqrt{f}$ – coefficient taking into account the effect of the external effect; coefficient; $k_{bn} = \frac{1,18+k_{pn}}{0,27+k_{pn}} \left(\frac{d}{a}\right)^2$ – coefficient taking into account the interaction of the proximity of conductors in the transmission line; r_{0F} – phase conductor specific resistance Om/m; l_A – length of the network part A, m; f – n-frequency of harmonica, Gs; d_f – the diameter of the conductor, mm; a – distance between conductor centers, mm; I_{nA} – A phase n-harmonic current.[3]

In this

$$a = \sqrt[6]{l_{AB}l_{BC}l_{CA}l_{A0}l_{B0}l_{C0}}, (7)$$

where $l_{AB}l_{BC}l_{CA}l_{A0}l_{B0}l_{C0}$ – are the reciprocal distances between wires, respectively.

Phase A active power dissipation:

$$\Delta P_V = r_{0F}l_V \sum_{n=2}^{40} I_{nV}^2 (k_{pn} + k_{bnF}), (8)$$

l_V – Length of the branch part of Phase B, m; I_{nV} – N-harmonic current of Phase B.

Phase B active power dissipation:

$$\Delta P_S = r_{0F}l_S \sum_{n=2}^{40} I_{nS}^2 (k_{pn} + k_{bnF}), (9)$$

l_S – Length of the branch part of Phase C, m; I_{nS} – N-harmonic current of Phase C.

Active power loss in zero working conductor:

$$\Delta P_0 = r_{0n}l_0 \sum_{n=2}^{40} I_{n0}^2 (k_{pn} + k_{bn0}), (10)$$

The total loss of active power in a three-phase network with a nonlinear and symmetric consumer is determined by 11 expressions:

$$\Delta P_{\Sigma n} = \Delta P_A + \Delta P_B + \Delta P_C + \Delta P_0. (11)$$

The assessment of losses from symmetry in a three-phase four-wire network is carried out on the condition that the consumer has a constant connection power, when the value of the power coefficient is 0.8, when the section surface of the 100 m long copper cable with a length of 35 mm² is considered the part of the circuit.[4]

As a result of the fact that consumers with a non-linear change element are connected to the electrical network in a symmetrical way, the eleter network comes to a more symmetrical appearance.

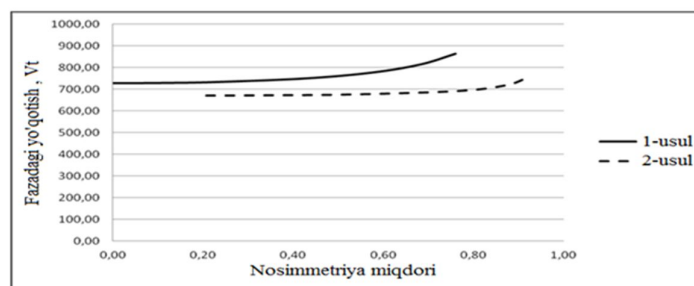


Figure 2. Graph of dependence of Phase conductors on power losses of the symmetric indicator

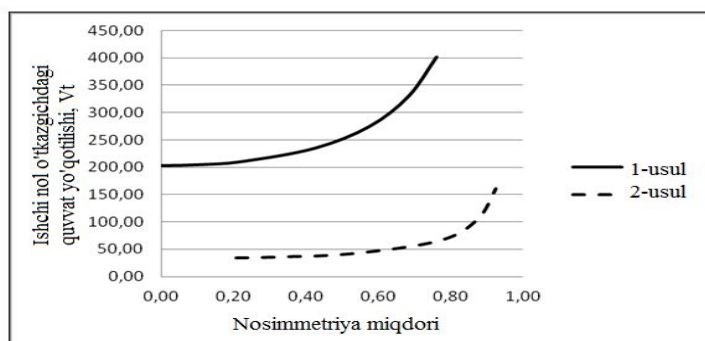


Figure 3. Graph of dependence of the working zero conductor symmetric indicator on power losses

The 1-count was done as part of the phase currents (28%) taking into account the large proportion of harmonic currents multiplied by 3.

In the 2nd count, 5-15% of the phase currents were carried out taking into account a large part of the harmonic currents multiplied by 3.

Conclusion. This article carried out a laboratory experiment confirming the effectiveness of the practical application of the developed method of calculating active power losses in a cable. The deviation of experimental additional coefficients from those calculated did not exceed $\pm 3\%$, which is explained by the established error of measuring instruments. According to the results of the experiment, the maximum value of the measurement error was a maximum of 2.8%. However, given the measurement errors of the Fluke 43 voltage quality analyzer, the overall measurement error ranged from 3.04% to 15.26%.

A laboratory experiment was conducted confirming the effectiveness of the practical application of the developed method of calculating active power losses in the cable. The deviation of experimental additional coefficients from those calculated did not exceed $\pm 3\%$, which is explained by the established error of measuring instruments. According to the results of the experiment, the maximum value of the measurement error was a maximum of 2.8%. However, given the measurement errors of the Fluke 43 voltage quality analyzer, the overall measurement error ranged from 3.04% to 15.26%.

Comparing the developed loss estimation method with a method that only takes into account phase current symmetries, we can conclude that the nature of the increase in total losses in the network as well as the increase in the share of symmetries for both calculation methods is the same.

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СПОСОБ СОХРАНЕНИЯ ПОГОЛОВЬЯ ГУСЕНИЦ ТУТОВОГО ШЕЛКОПРЯДА В СЛУЧАЕ НАСТУПЛЕНИЯ ВЕСЕННИХ ЗАМОРОЗКОВ

Аннотация. Сбор листьев шелковицы и упаковка их по 2,5-3 кг в герметичные пакеты 40x50 см и содержание при температуре +2 +40С, а затем кормление ими червей под увлажненным покровом в первые два года жизни позволяет сохранить численность червей.

Ключевые слова: тутовый шелкопряд, яйцо, слепок, кокон, бутон, бабочка, порода, гибрид, гетерозис, самка, самец, пол, температура, влажность, свет, тутовый лист, шелковистость, жизнеспособность червя, жизнеспособность червя, метрическое число, хмелевой шелк, прядение.

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A METHOD FOR PRESERVING THE STOCK OF MULIBORTH CATERPILLARS IN THE CASE OF SPRING FROSTS

Annotation. Collecting, packing and storing a mulberry leaf in sealed cellophane bags of 40x50 cm in size of 2.5-3 kg of feed at a temperature of +2-+40C, and then feeding the caterpillars of the first two ages with this leaf in packages under a wet cover 2 times a day helps to preserve the population of silkworm caterpillars

Key words: silkworm, egg, cast, cocoon, bud, butterfly, breed, hybrid, heterosis, female, male, sex, temperature, humidity, light, mulberry leaf, silkiness, worm viability, worm viability, metric number, hop silk.

Глобальные изменения климата во всем мире ставят всех работников сельского хозяйства, в том числе и шелководов, перед необходимостью искать пути сохранения выращенного урожая, поголовья животных, разнообразия растений [1], [2], [3], [4]. К тому же субконтинентальный климат Узбекистана отличается резкими перепадами сезонных и суточных

температур и почти ежегодными ранне-весенними заморозками. Именно ранней весной начинается повсеместная инкубация грены и выкормка гусениц тутового шелкопряда. Потому поиск способа сохранения поголовья гусениц при возникновении экстремальных условий является экономически важной и актуальной задачей.

Работа проводилась в 2021, 2022, 2023 годах в лаборатории генетики и селекции тутового шелкопряда НИИШ. В опытах использовались гибриды тутового шелкопряда из меченных по полу на стадии грены и гусеницы пород: С-13, С-14, Меченная 1, Меченная 2, а также партеногенетический клон 9ПК. Данные породы имеют серьезные генетические изменения в геномах, полученные в результате больших доз рентгеновского облучения и термоактивации грены к партеногенетическому развитию. Породы эти были выбраны для опытов не случайно. Если генетически модифицированные породы нормально перенесут новый способ кормления гусениц, то можно ожидать, что и традиционные для Узбекистана породы можно будет без потерь выкармливать по новой технологии.

Ранней весной лист шелковицы сортовых деревьев был заблаговременно собран и упакован в полиэтиленовые мешки размером 40-50 см по 2,5-3,0 кг листа в каждом и помещен в холодильную камеру при $t^0=2-4C^0$. Ожившие гусеницы были помещены в перфорированные пергаментные пакеты под влажный покров и кормились 2 раза в день измельченным, хранившимся в холодильнике листом шелковицы.

В таблице 1 приводим биологические показатели гибридов, кормившихся до 3-го возраста листом из холодильника, заготовленным заранее. Контрольный гибрид Асака х Мархамат кормился обычным листом.

Таблица 1
Некоторые биологические показатели гибридов (средние за 3 года).

Наименование гибридов	Жизнеспособность гусениц, %	Масса		Шелконосность, %
		кокона, г.	оболочки, мг.	
С - 13 х С - 14	91,2	1,72	413	24,0
С - 14 х С - 13	88,1	1,80	410	22,8
Меченная 1 х Меченная 2	89,8	1,67	398	23,8
Меченная 2 х Меченная 1	89,4	1,70	440	24,1
9пк х С - 5	91,2	1,72	396	23,0
Асака х Мархамат (контр)	91,4	1,84	415	23,5

Учитывая, что, начиная с 1-го возраста, гусеницы получали свежий, но еще не созревший лист, можно было ожидать некоторого понижения биологических показателей. Так и произошло. Например, жизнеспособность гусениц опытных гибридов составила 88.1-92%, а контрольного 92,4, но понижение это очень незначительное. Остальные

биологические показатели также находятся на уровне контроля: масса кокона в опыте – 1,67-1,70г, в контроле – 1,84г, масса оболочки в опыте – 398-440 мг, в контроле – 415 мг; шелконосность коконов в опыте – 22,8-24,1%, в контроле – 23,5%. Таким образом, способ кормления гусениц листом шелковицы, который был предварительно собран, упакован и сохранен в холодильнике, не оказывает негативного воздействия на биологические показатели гибридов из меченных по полу пород.

Для того, чтобы выяснить, отражается ли способ кормления на качестве шелковой нити, образцы коконов (по 50-60 штук) каждого гибрида были размотаны. Показатели технологических свойств изучаемых гибридов приведены в таблице 2.

Таблица 2

Технологические показатели гибридов (средние за 3 года).

Наименование	Масса сухого кокона, г.	Выход		Метрический номер, ед	ДНРКН	Разматываемость, %	Производ. д. длина нити, м.
		шелка-сырца, %	шелкопродуктов				
С - 13 х С - 14	0,96	44,87	49,35	2924	831	90,4	1323
С -.14 х С -13	0,82	45,10	49,18	3134	754	91,0	1315
Меч.1 х Меч.2	0,93	45,85	51,00	2710	874	91,8	1286
Меч.2 х Меч.1	0,89	47,20	51,24	3118	1022	91,7	1435
9пк х С - 5	0,84	45,63	50,25	2718	868	91,3	1142
Асака х Мархамат (к)	0,80	44,92	50,0	2872	875	90,95	1240

Из таблицы 2 видно, что все технологические показатели находятся на уровне контроля, т.е. кормление гусениц младших возрастов, заранее заготовленным и хранившимся в холодильнике листом, не изменяют качества шелковины.

Опыт нашей работы показывает, что для того, чтобы сохранить в целостности все породы и гибриды тутового шелкопряда в случае внезапных ранне-весенних заморозков следует:

1. При предупреждении гидрометеослужбы о возможных заморозках, заготовить заранее достаточное количество листа шелковицы, лучше сортов Таджикская бессемянная, Сурх-тут, Жар-Арык 4, 5, 6, 7, 8, 9, долго сохраняющих свои кормовые качества.

2. Лист упаковать герметически в полиэтиленовые мешки размером 40 см х 50 см, по 2,5-3,0 кг корма в каждый. После выемки нужного количества листа, пакет надо вновь плотно закрыть.

3. Поместить плотно упакованный лист в холодильные камеры с $t +2^{\circ}$, $+4^{\circ}$ С. Лист можно хранить и в прохладных темных местах вдоль земляных и бетонных стен около 7-8 дней в больших не плотно заполненных пакетах.

4. Гусениц следует поместить в пергаментные пакеты под влажный покров. Кормление гусениц заготовленным листом можно производить 2 раза в день.

Предварительный сбор и хранение листа в холодильных камерах дает возможность сохранить весь селекционный материал без потерь, особенно на племшелкстанциях и грензаводах, при неблагоприятных погодных условиях.

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НЕРВНО-ПСИХИЧЕСКОЕ РАЗВИТИЕ ДЕТЕЙ С ПЕРИНАТАЛЬНЫМ ПОРАЖЕНИЕМ ЦНС

Резюме. Анализ клинико-anamnestic данных свидетельствует о ведущей роли комплексного воздействия различных факторов риска, действующих на всех этапах развития - ante-, intra- и постнатального.

Анализ исходов перинатального поражения ЦНС показал, что даже при легкой степени поражения головного мозга у данного контингента детей в дальнейшем имеются отклонения в неврологическом статусе.

Однако, в силу своей «легкости» данным нарушениям уделяется, как правило, недостаточно внимания, как со стороны врачей, так и родителей, и со временем эти нарушения под влиянием различных факторов приобретают прогрессивный характер течения, хотя эта группа детей доступна эффективной реабилитации в большей степени, чем более грубые формы патологии.

Ключевые слова: нервно-психическое развитие, перинатальная поражения, новорожденный, поражения головного мозга.

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NEUROPSYCHIC DEVELOPMENT OF CHILDREN WITH PERINATAL CNS

Resume. The analysis of clinical and anamnestic data shows the leading role of the complex impact of various risk factors acting at all stages of development - ante-, intra - and postnatal.

Analysis of the outcomes of perinatal CNS lesion showed that even with a mild degree of brain damage in this group of children in the future there are deviations in the neurological status.

However, due to its "ease" these violations are usually given insufficient attention, both by doctors and parents, and over time, these violations under the influence of various factors acquire a progressive nature of the course, although this group of children is available for effective rehabilitation to a greater extent than the more severe forms of pathology.

Key words: neuropsychiatric development, perinatal lesions, newborn, brain lesions.

Актуальность. Проблема изучения перинатальных последствий у детей, перенесших при рождении асфиксию, несмотря на то, что ей уделяется достаточное внимание, остается актуальной, что обусловлено высоким уровнем неврологических последствий [2,4,5].

По данным экспертов ВОЗ, первое ранговое место в структуре перинатальной смертности принадлежит внутриутробной гипоксии и асфиксии в родах, которые составляют около 48%, при этом 1,0 – 1,5% родившихся детей (по данным зарубежных и отечественных авторов) переносят асфиксию плода средней или тяжелой степени с развитием в последующем гипоксическо-ишемической энцефалопатии и поражением других органов [1,3,6,7].

Целью данной работы явилось изучение нервно-психического развития детей с перинатальным поражением ЦНС легкой и средней степени тяжести.

Материалы и методы исследования. Под нашим наблюдением находились 60 новорожденных от 0 до 3 лет. Из них основную группу составило 40 новорожденных и контрольную группу 20 детей (здоровые новорожденные). Неврологическое обследование проводилось в отделение неврологии детской городской больницы г. Андижана.

Результаты исследования и их обсуждение. Наблюдаемые нами дети были разделены на клинические группы в соответствии со степенью тяжести поражения ЦНС и степенью нарушения периода ранней постнатальной адаптации.

В I группу вошло 26 детей (43,33% от общего числа обследованных), родившихся в срок или со степенью недоношенности (36 нед.), период новорожденности которых протекал относительно благополучно. Состояние при рождении и в периоде ранней постнатальной адаптации было расценено как удовлетворительное, что позволило всех их выписать из родильного дома на 3-5 сутки жизни домой. При катamnестическом наблюдении за данной группой детей уже в течение первых 2-х месяцев жизни, в результате клинического осмотра и ультразвукового исследования головного мозга, были выявлены стойкие отклонения в неврологическом статусе.

Данные анамнеза, клинического наблюдения и результатов инструментального обследования в периоде новорожденного свидетельствовали о перенесенном перинатальном поражении ЦНС средней степени тяжести. Период ранней постнатальной адаптации был осложнен за счет соматической патологии и неврологической симптоматики, что потребовало проведения реанимационных мероприятий и интенсивной по синдромной терапии большинства детей - 22 (84,61%) и перевода из

родильного дома в отделение реанимации и, в дальнейшем, в отделение патологии новорожденных.

Наши исследования показали, что динамика анализа комплексного клинического обследования 40 детей в возрасте от 0 до 3-х лет показали, что только 10 из них (12,2%) были признаны здоровыми и не имели нарушений ни в неврологическом, ни в психическом статусе. У подавляющего же большинства обследованных детей (87,2%) были выявлены отклонения как в неврологическом, так и психическом статусе, причем, как правило, они носили сочетанный характер.

Анализ результатов проведенного исследования позволил выявить зависимость между степенью тяжести перенесенной перинатальной церебральной патологии и исходами нервно-психического развития.

Первичное обследование включало проведение клинического неврологического осмотра. Все неврологические синдромы, выявленные на 2-3 году жизни, мы рассматривали как исходы перинатального поражения ЦНС.

Анализ полученных результатов обследования показал, что в спектр выявленных синдромов был достаточно разнообразен. Частота выявленных синдромов у детей, перенесших легкую и среднюю степень поражения ЦНС в перинатальном периоде была различной.

В качестве исходов перинатального поражения ЦНС легкой и средней степени тяжести наиболее часто встречался синдром двигательных нарушений, проявляющийся нарушениями мышечного тонуса, причем частота встречаемости данных нарушений была сопоставимой между I и II группами.

Особо следует обратить внимание, что у 2-х детей III группы, несмотря на среднюю степень тяжести перинатальное поражение ЦНС, были выявлены тяжелые двигательные нарушения, свидетельствующие об исходе перинатального поражения ЦНС в детский церебральный паралич - гемиплегическую форму.

Достоверно чаще ($p < 0,01$) у детей III группы (в 38,46% случаев) по сравнению с I и II, отмечалась рассеянная очаговая микросимптоматика в виде асимметрии носогубных складок, девиации языка, сходящегося косоглазия, недостаточной конвергенции взора.

В неврологическом статусе детей с перинатальным поражением средней степени тяжести (III группа) с высокой степенью достоверности ($p = 0,0001$) преобладал синдром угнетения ЦНС, который сохранялся в течение длительного времени от 7 до 21 суток жизни. что клинически проявлялось угнетением безусловно-рефлекторной деятельности, и в первую очередь рефлексов спинального автоматизма, длительным отсутствием сосательного рефлекса, требовавшего длительного зондового питания, значительным снижением спонтанной двигательной активности. На фоне синдрома угнетения у 2 детей (7,69%) были отмечены

неонатальные судороги, которые носили генерализованный характер. Частота судорожного синдрома была сопоставима с частотой при перинатальном поражении ЦНС легкой степени и осложненным течением периода ранней постнатальной адаптации.

Среди двигательных нарушений у наблюдаемых детей преобладали синдромы нарушения мышечного тонуса. Причем у большинства детей с легким поражением ЦНС преобладали нарушения в виде гипертонуса, в то время как у новорожденных с поражением ЦНС средней степени тяжести чаще отмечался синдром мышечной гипотонии.

При дальнейшем наблюдении, у 2 детей (7,14%) II группы и 5 (19,23%) - III группы был выявлен гипертензивный синдром. Очаговая симптоматика в виде сходящегося косоглазия, псевдобульбарных расстройств была выявлена только у детей с поражением ЦНС средней степени тяжести - у 2 (7,69%).

Вывод. Таким образом, анализ клинико-anamnestических данных свидетельствует о ведущей роли комплексного воздействия различных факторов риска, действующих на всех этапах развития - ante-, intra- и постнатального.

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Однако, в силу своей «легкости» данным нарушениям уделяется, как правило, недостаточно внимания, как со стороны врачей, так и родителей, и со временем эти нарушения под влиянием различных факторов приобретают прогрессивный характер течения, хотя эта группа детей доступна эффективной реабилитации в большей степени, чем более грубые формы патологии.

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СОВРЕМЕННЫЕ МЕТОДЫ ЛЕЧЕНИЯ И ПРОФИЛАКТИКИ ЖЕЛЕЗОДЕФИЦИТНОЙ АНЕМИИ У ДЕТЕЙ

Резюме. В статье представлены особенности физиологических процессов и патологических состояний у детей первого года жизни, предрасполагающих к развитию железодефицитной анемии (ЖДА).

Практикующему педиатру для своевременного выявления и выбора правильной тактики лечения ЖДА у детей первых 12 месяцев жизни необходимы знания об особенностях развития и лечения патологии, обусловленных отличиями физиологического состояния на фоне высокой интенсивности обменных процессов и незрелости анатомических структур у маленьких пациентов.

Ключевые слова: дети, недоношенные дети, железодефицитные состояния, железодефицитная анемия, беременные женщины, сульфат железа, препараты железа (III) на основе гидроксид полимальтозного комплекса.

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MODERN METHODS OF TREATMENT AND PREVENTION OF IRON DEFICIENCY ANEMIA IN CHILDREN

Resume. The article presents the features of physiological processes and pathological conditions in children of the first year of life, predisposing to the development of iron deficiency anemia (IDA).

A practicing pediatrician for the timely identification and selection of the right tactics for the treatment of IDA in children of the first 12 months of life needs knowledge about the features of the development and treatment of pathology due to differences in the physiological state against the background of high intensity of metabolic processes and immaturity of the anatomical structures in small patients.

Key words: infants, premature infants, iron deficiency conditions, iron deficiency anemia, pregnant women, iron sulfate, iron (III) preparations based on polymaltose hydroxide complex.

Введение. Важная часть профилактики железодефицитной анемии у детей — регулярные осмотры у врача и исследования крови. Нехватка железа легко выявляется даже на самых ранних стадиях, когда ее проще всего устранить [2,4,7]. Особого внимания требуют дети, родившиеся недоношенными или с дефицитом массы тела, а также дети матерей, страдавших анемией во время беременности. Чтобы избежать развития анемии, нужно строго следить за питанием ребенка, включая в меню железосодержащие продукты, а также фрукты и овощи. Чем разнообразнее рацион, тем меньше шансов, что ребенок будет испытывать недостаток в том или ином витамине или минерале [3,5,6]. Столкнулись ли ваши дети с такой проблемой, как анемия или нет, в любом случае, для полноценного развития ребенка необходимо поощрять активные игры и физические нагрузки, даже если ради этого придется проявить строгость и ограничить доступ малыша к телевизору, игровым приставкам и интернету. Многим родителям мультфильмы или видеоигры кажутся простым способом занять ребенка, однако благодаря развитию технологий около 30% современных детей ведут малоподвижный образ жизни. Это чревато не только анемией, но и набором лишнего веса, замедлением физического развития, проблемами с позвоночником, зрением и кровообращением [1,7,8].

Цель исследования - оптимизация тактики лечения ЖДА у детей и подростков с помощью выбора на основе методов доказательной медицины наиболее эффективного терапевтического плана.

Материалы и методы исследования: Под наблюдением находились 94 ребенка с ЖДА в возрасте от 5 месяцев до 17 лет, в том числе: до 1 года - 16 детей (17,0%), 1-3 года - 64 ребенка (68,1%), 4-12 лет - 4 человека (4,3%) и старше 12 лет - 10 подростков (10,6%).

Результаты исследования. При анализе анте и интранатальных причин развития ЖДА у наблюдаемых детей выявлено, что гипосидероз беременной и гестоз наблюдались в 51,6 и 59,4% соответственно, угроза прерывания беременности - в 48,4%, кесарево сечение - в 31,3%, обильные менструации - у 23,4%, наличие у матери более 5 беременностей - 14,1 %, перерыв между беременностями менее 3-х лет - 20,3%, занятия спортом - 12,5%, хронические инфекции - 10,9%, многоплодная беременность 6,3%, вегетарианство - 6,3% и донорство - в 6,3%.

Недоношенными родились 31,0% детей, у которых в последующем наблюдались избыточные прибавки в массе, приводящие к повышенной потребности организма в железе Крупный вес при рождении имели 24,1% детей Алиментарный дефицит железа как следствие несбалансированного питания (раннее искусственное вскармливание, в том числе неадаптированными молочными смесями, позднее введение или отсутствие в рационе мясных продуктов) выявлен у 39,1% детей. Более 1/3 детей были из благополучных семей с невысоким материальным достатком Нарушения менструального цикла выявлены у 100% девушек.

Интенсивный рост отмечен у 40% подростков, занятия спортом - у 20%, алиментарный фактор у 20%. У всех пациентов в генезе ЖДА наблюдалось сочетание нескольких из указанных выше причин.

Проведенное исследование свидетельствует о том, что ЖДА у детей раннего возраста обусловлена комплексом причин, включающих как неблагоприятное течение беременности и родов, отягощенный акушерско-гинекологический и социальный анамнез, так и алиментарный фактор, и повышенные потребности ребенка в железе в периоды интенсивного роста.

Дефекты вскармливания отмечены у менее половины детей, что позволяет нам присоединиться к мнению многих отечественных исследователей о более значимой роли состояния здоровья матерей, патологического течения беременности и анемии беременных в развитии ЖДА у детей грудного и раннего возраста, чем алиментарная недостаточность. У подростков причинами развития ЖДА являются высокие темпы роста, занятия спортом, а также нарушения менструального цикла у девушек.

Анализ клинических проявлений ЖДА показал, что у детей наблюдаются разнообразные анемические и сидеропенические симптомы, частота и выраженность которых зависит от возраста пациентов, степени тяжести и длительности анемии.

Единственным симптомом, наблюдаемым нами в клинической картине всех обследованных детей, была бледность кожи и слизистых оболочек. Другим симптомом, выявленным у большинства пациентов, была вялость или слабость. Указанные анемические симптомы связаны с недостаточным обеспечением тканей кислородом. Нарушение сна и эмоциональная лабильность встретились примерно у половины детей независимо от возраста. Головной мозг ребенка очень чувствителен к недостатку железа и выявленные нарушения поведения обусловлены прежде всего сидеропенией. Физическое развитие ниже среднего было у 10 детей.

Типичными проявлениями сидеропении у детей первых трех лет жизни были снижение и/или извращение аппетита, тахикардия и функциональный систолический шум, кишечная диспепсия, мышечная гипотония, включая гипотонию мышц брюшной стенки и диафрагмы. Последнее приводило к относительно низкому расположению печени и селезенки и в ряде случаев создавало ложное впечатление об их увеличении. Гепатомегалия и спленомегалия, выявленные нами у более половины детей, явились характерными признаками этой возрастной.

У половины пациентов наблюдались сухость кожи, волос, их ломкость и выпадение, реже - ангулярный стоматит и глоссит. Трофические изменения со стороны желудочно-кишечного тракта, кожи, ее придатков, а также мышечная слабость, в том числе миокардиальная, обусловлены

тканевым дефицитом железа, приводящим к метаболическим нарушениям в клетках.

Выводы. Ведущая значимость алиментарного фактора отмечена у менее половины детей. У подростков причинами развития ЖДА служат высокие темпы роста, занятия спортом, а также нарушения менструального цикла у девушек.

У детей раннего возраста в современных условиях большую роль в качестве факторов риска развития ЖДА играют состояние здоровья матери, патологическое течение беременности, анемия во время беременности и отягощенный социальный анамнез.

У детей раннего возраста с ЖДА концентрация цинка в сыворотке крови была нормальной (у 46,7%) или повышенной (у 50,0%). Содержание меди в сыворотке крови у 70,0% больных не отличалось от показателей здоровых детей, было значительно снижено у 16,7% и повышено у 13,3% пациентов. Не обнаружено существенной разницы в содержании цинка и меди у детей с легкой и среднетяжелой анемией.

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ПРОТИВОРЕЧИЯ ЭКОНОМИКИ РОССИИ И МЕХАНИЗМ ИХ РАЗРЕШЕНИЯ В УСЛОВИЯХ ИМПОРТОЗАВИСИМОСТИ

Аннотация. В статье рассматриваются основные противоречия, существующие в экономике России в условиях высокой степени импортозависимости. Анализируются причины возникновения этих противоречий и предлагает механизмы их разрешения. Особое внимание уделено вопросам диверсификации экономики, стимулированию отечественного производства и повышению конкурентоспособности отечественных товаров на мировом рынке. В статье также рассматриваются возможные пути снижения зависимости от импорта и укрепления экономической безопасности страны.

Ключевые слова: импортозамещение, экономика, инвестиции, механизм, диверсификация экономики.

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CONTRADICTIONS OF THE RUSSIAN ECONOMY AND THE MECHANISM FOR THEIR RESOLUTION IN CONDITIONS OF IMPORT DEPENDENCE

Abstract. The article examines the main contradictions that exist in the Russian economy in conditions of a high degree of import dependence. The reasons for the emergence of these contradictions are analyzed and mechanisms for their resolution are proposed. Particular attention is paid to issues of diversifying the economy, stimulating domestic production and increasing the competitiveness of domestic goods on the world market. The article also discusses

possible ways to reduce dependence on imports and strengthen the country's economic security.

Key words: import substitution, economy, investment, mechanism, economic diversification.

В современном мире экономика России сталкивается с многочисленными противоречиями, которые отражают сложную и противоречивую природу нашей страны. Несмотря на большие экономические потенциалы и богатые природные ресурсы, Россия все еще остается страной с высокой степенью импортозависимости. Хотя это и обеспечивает определенные преимущества, такие как доступ к новым технологиям и продуктам, оно также ставит нас перед рядом проблем и вызовов [1]. В этой статье мы рассмотрим основные противоречия экономики России и механизмы их разрешения в условиях импортозависимости.

Первым и, пожалуй, самым значимым противоречием экономики России является разрыв между богатством ее природных ресурсов и низким уровнем их эффективного использования. Россия располагает огромными запасами нефти, газа, угля, древесины и других полезных ископаемых, которые составляют основу ее экономики. Однако, из-за недостаточного развития сферы производства и технологий, значительная часть этих ресурсов экспортируется в необработанном виде, принося лишь небольшую прибыль. Это приводит к тому, что Россия не может полностью удовлетворить свои потребности в собственном производстве, а также зависит от импорта высокотехнологичной продукции из-за рубежа.

Одним из основных механизмов разрешения этого противоречия является развитие отечественного производства и технологического потенциала. Для этого необходимо создать более благоприятные условия для бизнеса и инвестиций, а также совершенствовать систему образования и науки. Это позволит привлечь квалифицированные кадры и современные технологии, которые позволят эффективнее использовать природные ресурсы и повысить конкурентоспособность национального производства [2].

Еще одним противоречием, которое становится все более заметным в условиях импортозависимости, является неравномерное развитие регионов. Большинство промышленных и технологически развитых регионов расположены на западе страны, в то время как восточные и северные регионы остаются отсталыми и мало развитыми. Это приводит к дисбалансу в экономике и социальной сфере, а также затрудняет реализацию региональной политики и выравнивание различий в уровне жизни.

Для преодоления этого противоречия необходимо принять комплексные меры по развитию отсталых регионов и привлечению инвестиций в их экономику. К примеру, можно создавать особые

экономические зоны и предоставлять налоговые льготы для инвесторов, открывать новые производства и развивать туристический потенциал регионов. Также важно улучшить инфраструктуру и образовательную базу, чтобы привлечь квалифицированные кадры и создать условия для развития местных предприятий.

Еще одним противоречием экономики России является недостаточная диверсификация экономики и высокая зависимость от экспорта энергоносителей. Это делает нашу страну уязвимой перед изменениями на мировом рынке и колебаниями цен на нефть и газ. Кроме того, такая ситуация не способствует развитию других отраслей экономики и препятствует созданию конкурентоспособных продуктов на мировом рынке.

Для решения этого противоречия необходимо развивать не только собственное производство, но и стимулировать научно-технические исследования и инновации. Необходимо создать условия для развития различных отраслей экономики, таких как сельское хозяйство, туризм, производство высокотехнологичной продукции. Также важно улучшить качество образования и подготовку кадров в отраслях, которые могут сделать Россию более конкурентоспособной на мировом рынке [4].

Современная экономическая модель России представляется как противостояние экономических институтов, об этих противоречиях мы подробнее поговорим ниже. У каждого экономического института своя цель, которую он, несмотря на положения товарищей по несчастью, пытается достичь. В этом смысле расплачивается за ошибки управленческого корпуса потребитель (вынужденный потребитель) – гражданин.

Политика таргетирования инфляции не даёт устойчивых и прогнозируемых результатов. Так, например, уровень инфляции попадал в установленный в 2014 г. таргет («оптимальные» – 4%) за весь период только 2 раза – в 2017 и в 2019 гг. Однако работы над ошибками Центральным Банком проведено не было.

На рисунке 1 можно увидеть прямую зависимость между уровнем инфляции и ключевой ставкой, причем за повышением ключевой ставки следует повышение уровня инфляции с небольшим временным лагом и наоборот. Это можно объяснить тем, что в условиях дефицита денежной массы (коэффициент монетизации на 2023 г. – 0,58), отсутствия развитого внутреннего производства товаров массового потребления, плавающего валютного курса, раздутого финансового сектора, высокого количества посредников на одного производителя, повышение ключевой ставки снежным комом повышает цены между посредниками, увеличивая производственные/логистические/финансовые затраты и в будущем – расходы бюджета [5]. Замкнутый круг: высокая ключевая ставка – высокая инфляция – высокая инфляция – высокая ключевая ставка.

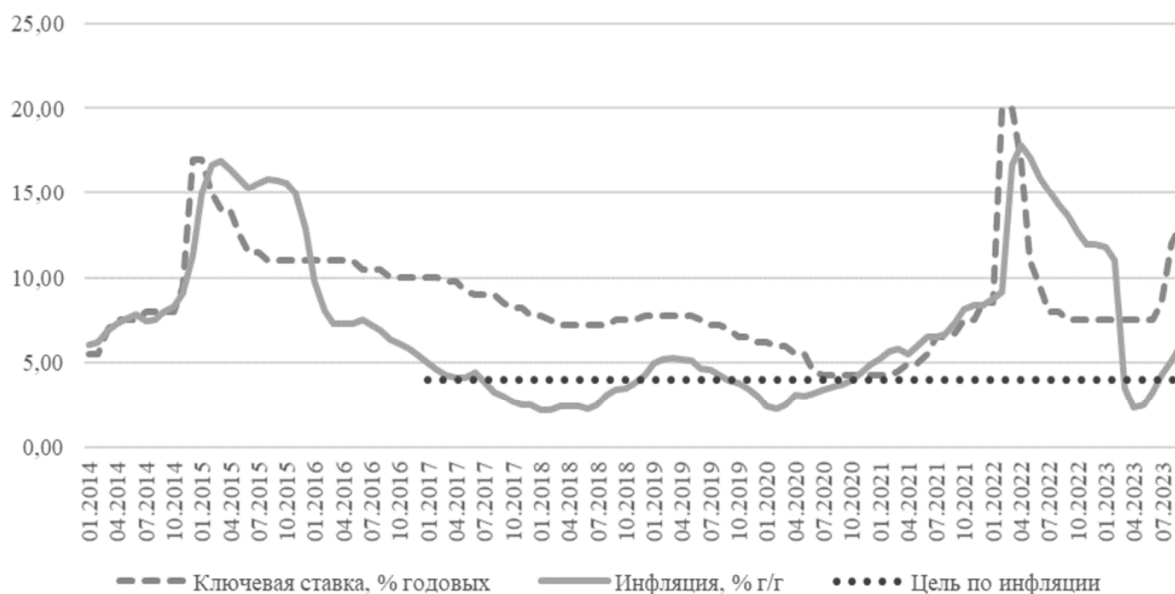


Рисунок 1 – Динамика ключевой ставки, инфляция и цели по инфляции

Ко всему вышеперечисленному медианная рентабельность организаций в 2022 г. составляет 13,30%, а средняя ставка по кредитам, предоставленным нефинансовым организациям до года – 11,46%, свыше 1 года – 10,11%. Кажется, что разница небольшая и прибыль всё равно есть, но если рассмотреть по видам экономической деятельности, то выяснится, что рентабельность значительной части отраслей (около 40,0%) ниже ключевой ставки. В эти отрасли входят: производство автотранспортных средств, водоснабжение, лесоводство, деятельность железнодорожного транспорта, строительство, обработка древесины, научные исследования, разработки и др. В условиях рыночной экономики низкодоходные отрасли не смогут существовать, потому что капитал «перетечет» в другие, более прибыльные, например, в производство табачных изделий (рентабельность – 49,3%), в финансовую и страховую деятельность (46,7%). Таким образом, импортозамещение если и будет происходить, то только в высокорентабельных отраслях.

Рассмотрим возможные пути снижения зависимости от импорта и укрепления экономической безопасности страны [3]:

1. Развитие отечественного производства: необходимо активно поддерживать отечественных производителей, создавать условия для расширения производственных мощностей и повышения качества продукции. Это позволит снизить зависимость от импорта и укрепить экономическую безопасность страны.

2. Стимулирование инноваций: инвестирование в научные исследования, разработку новых технологий и создание инновационных

продуктов способствует увеличению конкурентоспособности отечественных товаров на мировом рынке и снижению зависимости от импорта.

3. Развитие экспорта: активное продвижение отечественной продукции на мировой рынок поможет увеличить объем экспорта и снизить зависимость от импорта. Для этого необходимо развивать торговые связи, улучшать качество продукции и адаптировать ее к требованиям международных стандартов.

4. Диверсификация экономики: развитие не только сырьевых отраслей, но и промышленности, сельского хозяйства, услуг и других секторов экономики позволит снизить риски, связанные с импортозависимостью, и укрепить экономическую безопасность страны.

5. Создание благоприятного инвестиционного климата: привлечение иностранных инвестиций, развитие малого и среднего бизнеса, поддержка инновационных проектов способствуют развитию экономики и уменьшению зависимости от импорта.

6. Развитие таможенной политики: усиление контроля за ввозом товаров, введение тарифных и нетарифных мер для защиты отечественного производства, борьба с контрабандой и нелегальным импортом помогут снизить зависимость от импорта и укрепить экономическую безопасность России.

Таким образом, было рассмотрено одно из наиболее актуальных противоречий российской экономики – импортозависимость. Она является серьезным вызовом для развития страны, так как зависимость от импорта приводит к нестабильности в экономике и угрожает ее устойчивости.

Однако, была обозначена возможность разрешения этого противоречия через механизмы для сокращения импорта и поддержки отечественного производства. Это может быть достигнуто через создание благоприятных условий для развития отечественных предприятий, поддержку инноваций и технологического развития, а также через привлечение иностранных инвестиций.

В целом противоречия в экономике России могут быть разрешены, если правительство и бизнес сосредоточатся на развитии отечественного производства и сокращении импорта. Это требует совместных усилий всех участников экономических процессов и принятия эффективных мер для поддержки отечественного бизнеса. Такой подход позволит сделать экономику более устойчивой и конкурентоспособной в глобальном мире.

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Ключевые слова: мобильная робототехника, инновационные технологии, роботизация, интеллектуальные системы, инспекции железных дорог.

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APPLICATION OF ROBOTICS IN THE RAILWAY INDUSTRY

Annotation. The article talks about the role of mobile robotics in the field of science and technology, which deals with the creation and use of robots. It is noted that robotization of railways and related infrastructure makes it possible to speed up the process of cargo turnover and reduce the cost of their operation.

Keywords: mobile robotics, innovative technologies, robotization, intelligent systems, railway inspections.

Мобильная робототехника – это область науки и техники, которая занимается созданием и использованием роботов, способных передвигаться по различным поверхностям. Эта технология находит широкое применение в различных сферах, включая производство, медицину, авиацию и транспорт.

В последние годы железнодорожный транспорт стал одной из наиболее важных отраслей экономики страны. Железнодорожники активно внедряют новые инновационные технологии для развития мультимодальных железнодорожных перевозок, оптимизации процесса модернизации железнодорожного полотна, сортировочных хабов и стыковых узлов. Для повышения эффективности и безопасности своей деятельности в железнодорожной отрасли активно используют мобильную робототехнику.

Роботы в транспортной отрасли увеличивают скорость выполнения задач, автоматизируют монотонные процессы, снижают затраты, риски и ошибки при выполнении задач. Роботизация бизнес-процессов включена в стратегию повышения эффективности для большинства компаний.

Роботизация железных дорог и сопутствующей инфраструктуры позволяет ускорить процесс оборачиваемости грузов и снизить себестоимость их эксплуатации. (1).

В железнодорожной отрасли роботам доверили ввод нормативно-справочной информации, предполагающий корректировку тарифной таблицы стоимостей АСУ «Экспресс» в пригородном сообщении, а также администрирование пользователей интеллектуальной системы управления железнодорожным транспортом.

Внедрение роботов позволяет существенно повысить скорость различных бизнес-процессов. Они могут работать в режиме 24/7, не ошибаются и не устают. В некоторых областях скорость решения повысилась на 70%. Защите данных уделяется повышенное внимание – роботы функционируют в специальном защищенном серверном сегменте

Одним из самых интересных примеров использования мобильной робототехники на железных дорогах является эксплуатация автономных инспекторов железнодорожных путей. Эти роботы могут передвигаться по железнодорожным путям и осуществлять визуальный контроль за

состоянием инфраструктуры. Они оснащены камерами и другими сенсорами, которые позволяют получать информацию о состоянии рельсов, шпал, балласта и других элементов железнодорожной инфраструктуры. (рис. 1).

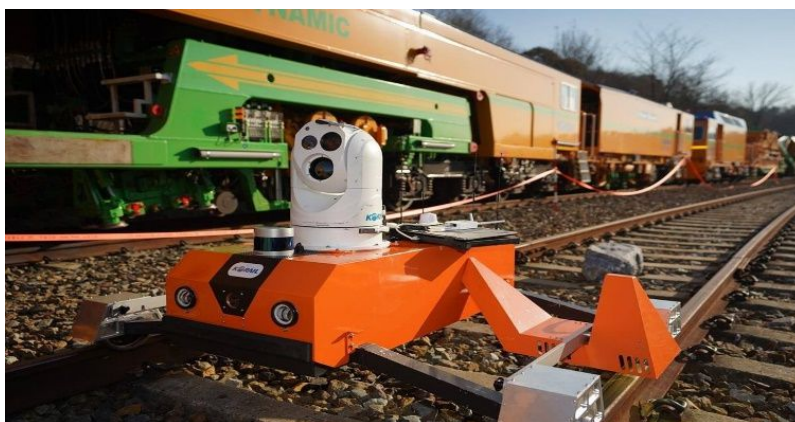


Рисунок 1. Робот для осмотра железнодорожных путей.

Технология позволяет значительно ускорить процесс инспекции и обнаружения возможных дефектов. Автономные инспекторы могут работать в любых условиях и не нуждаются в перерывах на отдых или питание, что позволяет существенно сократить время на проверку.

Железные дороги представляют собой крупную инфраструктуру и являются основным видом транспорта во многих странах. Операторы железнодорожных систем должны регулярно осматривать железнодорожные пути в рамках обслуживания своей системы, поскольку она тесно связана с пассажирскими и грузовыми перевозками. Тем не менее, отдел технического обслуживания всегда сталкивается с проблемами, связанными с проведением эффективной проверки и снижением затрат на рабочую силу. (2).

Применение интеллектуального робота для инспекции железных дорог может легко решить вышеуказанные проблемы. Он может проверять 24 часа в сутки без мертвых зон и передавать данные мониторинга в режиме реального времени для анализа.

Робот для инспекции железных дорог RIIS1005, разработанный Shenhao Technology, использует комплексный метод обнаружения с функциями проверки, динамическому обнаружению нарушений верхнего строения пути, а также автономному анализу данных и выводу результатов в реальном времени.

Железнодорожный инспекционный робот RIIS1005 имеет следующие особенности:

- все виды выявления дефектов - способен анализировать дефекты поверхности рельсов, крепежных изделий, посторонних предметов на рельсах, шпал, балластного слоя и т.д.;

- высокоточная интеллектуальная идентификация дефектов - система сочетает в себе технологию глубокого обучения, технологию распознавания образов, технологию сопоставления признаков изображения и другие алгоритмы собственной разработки для достижения уровня обнаружения повреждений более чем в 95% случаях, для железнодорожных линий в сложных условиях эксплуатации;

- он может передавать результаты проверки в режиме реального времени во время процесса проверки и направлять рабочих для своевременного ремонта поврежденного пути;

- модульная конструкция позволяет разбирать инспекционный робот на независимые части, что удобно ремонтникам для переноса оборудования на узких рабочих местах;

- результаты обнаружения повреждения гусеницы могут отображаться в режиме реального времени через сигнал Wi-Fi или 5G.

Другим примером использования мобильной робототехники на железной дороге является деятельность автономных транспортных средств для перемещения грузов на железнодорожных станциях. Эти роботы могут перемещаться по станции и перевозить грузы между различными пунктами назначения. Такая технология позволяет существенно сократить время на перемещение грузов и уменьшить количество ошибок и повреждений при перевозке. Автономные транспортные средства могут работать круглосуточно без перерывов на отдых или питание.

Мобильная робототехника становится всё более важной для железнодорожного транспорта. Она позволяет повысить эффективность и безопасность работы железнодорожной инфраструктуры, уменьшить затраты на персонал и обслуживание оборудования. (3).

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Мобильная робототехника – это область науки и техники, которая занимается созданием и использованием роботов, способных передвигаться по различным поверхностям. Эта технология находит широкое применение в различных сферах, включая производство, медицину, авиацию и транспорт.

В последние годы железнодорожный транспорт стал одной из наиболее важных отраслей экономики страны. Железнодорожники активно внедряют новые инновационные технологии для развития мультимодальных железнодорожных перевозок, оптимизации процесса модернизации железнодорожного полотна, сортировочных хабов и стыковых узлов. Для повышения эффективности и безопасности своей деятельности в железнодорожной отрасли активно используют мобильную робототехнику.

Роботы в транспортной отрасли увеличивают скорость выполнения задач, автоматизируют монотонные процессы, снижают затраты, риски и ошибки при выполнении задач. Роботизация бизнес-процессов включена в стратегию повышения эффективности для большинства компаний.

Роботизация железных дорог и сопутствующей инфраструктуры позволяет ускорить процесс оборачиваемости грузов и снизить себестоимость их эксплуатации. (1).

В железнодорожной отрасли роботам доверили ввод нормативно-справочной информации, предполагающий корректировку тарифной таблицы стоимостей АСУ «Экспресс» в пригородном сообщении, а также администрирование пользователей интеллектуальной системы управления железнодорожным транспортом.

Внедрение роботов позволяет существенно повысить скорость различных бизнес-процессов. Они могут работать в режиме 24/7, не ошибаются и не устают. В некоторых областях скорость решения повысилась на 70%. Защите данных уделяется повышенное внимание – роботы функционируют в специальном защищенном серверном сегменте

Одним из самых интересных примеров использования мобильной робототехники на железных дорогах является эксплуатация автономных инспекторов железнодорожных путей. Эти роботы могут передвигаться по железнодорожным путям и осуществлять визуальный контроль за

состоянием инфраструктуры. Они оснащены камерами и другими сенсорами, которые позволяют получать информацию о состоянии рельсов, шпал, балласта и других элементов железнодорожной инфраструктуры. (рис. 1).

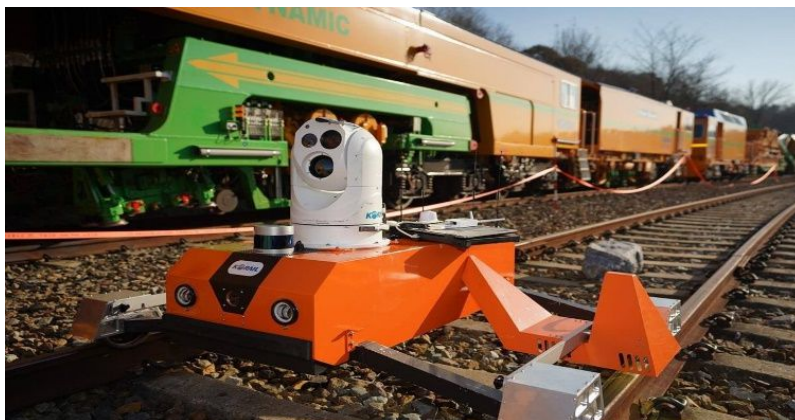


Рисунок 1. Робот для осмотра железнодорожных путей.

Технология позволяет значительно ускорить процесс инспекции и обнаружения возможных дефектов. Автономные инспекторы могут работать в любых условиях и не нуждаются в перерывах на отдых или питание, что позволяет существенно сократить время на проверку.

Железные дороги представляют собой крупную инфраструктуру и являются основным видом транспорта во многих странах. Операторы железнодорожных систем должны регулярно осматривать железнодорожные пути в рамках обслуживания своей системы, поскольку она тесно связана с пассажирскими и грузовыми перевозками. Тем не менее, отдел технического обслуживания всегда сталкивается с проблемами, связанными с проведением эффективной проверки и снижением затрат на рабочую силу. (2).

Применение интеллектуального робота для инспекции железных дорог может легко решить вышеуказанные проблемы. Он может проверять 24 часа в сутки без мертвых зон и передавать данные мониторинга в режиме реального времени для анализа.

Робот для инспекции железных дорог RIIS1005, разработанный Shenhao Technology, использует комплексный метод обнаружения с функциями проверки, динамическому обнаружению нарушений верхнего строения пути, а так же автономному анализу данных и выводу результатов в реальном времени.

Железнодорожный инспекционный робот RIIS1005 имеет следующие особенности:

- все виды выявления дефектов - способен анализировать дефекты поверхности рельсов, крепежных изделий, посторонних предметов на рельсах, шпал, балластного слоя и т.д.;

- высокоточная интеллектуальная идентификация дефектов - система сочетает в себе технологию глубокого обучения, технологию распознавания образов, технологию сопоставления признаков изображения и другие алгоритмы собственной разработки для достижения уровня обнаружения повреждений более чем в 95% случаях, для железнодорожных линий в сложных условиях эксплуатации;

- он может передавать результаты проверки в режиме реального времени во время процесса проверки и направлять рабочих для своевременного ремонта поврежденного пути;

- модульная конструкция позволяет разбирать инспекционный робот на независимые части, что удобно ремонтникам для переноса оборудования на узких рабочих местах;

- результаты обнаружения повреждения гусеницы могут отображаться в режиме реального времени через сигнал Wi-Fi или 5G.

Другим примером использования мобильной робототехники на железной дороге является деятельность автономных транспортных средств для перемещения грузов на железнодорожных станциях. Эти роботы могут перемещаться по станции и перевозить грузы между различными пунктами назначения. Такая технология позволяет существенно сократить время на перемещение грузов и уменьшить количество ошибок и повреждений при перевозке. Автономные транспортные средства могут работать круглосуточно без перерывов на отдых или питание.

Мобильная робототехника становится всё более важной для железнодорожного транспорта. Она позволяет повысить эффективность и безопасность работы железнодорожной инфраструктуры, уменьшить затраты на персонал и обслуживание оборудования. (3).

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ПРИЧИНЫ ВОЗНИКНОВЕНИЯ ЗЕМЛЕТРЯСЕНИЙ

Аннотация. В то время, когда на земле происходит много землетрясений, статьи о землетрясениях являются очень актуальными. В статье представлена информация о землетрясениях и их причинах возникновения.

Ключевые слова: землетрясение, движение грунта, гипоцентр, эпицентр, афтершок.

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CAUSES OF EARTHQUAKES

Abstract. At a time when many earthquakes are happening on earth, articles on earthquakes are very relevant. The article provides information about earthquakes and their causes.

Key words: earthquake, ground movement, hypocenter, epicenter, aftershock.

Землетрясение - подземные толчки и колебания, возникающие в результате внезапного смещения, разлома или толчка земной коры или верхней части мантии и распространяющиеся далеко в виде волнообразных колебаний. По причинам возникновения они делятся на тектонические, вулканические и землетрясения. Землетрясения, возникающие на разной глубине под действием природных сил, называются тектоническими землетрясениями. Они являются продуктом подземных движений и процессов, являющихся результатом внезапной траты этих процессов в виде кинетической энергии. Вулканические явления и землетрясения случаются в природе очень редко; по силе они равны самым слабым из тектонических землетрясений.

Землетрясение – это стихийное бедствие, которое каждый год приносит огромный вред жителям земного шара, в результате которого разрушаются здания и сооружения, возникают пожары, гибнут люди.

Землетрясение редко возвращается на одно и то же место через десятки и даже сотни лет, и каждое землетрясение имеет свои особенности, поэтому меры по обеспечению сейсмостойкости зданий иногда могут принести пользу, а иногда, наоборот, нанести вред. Тем не менее, несколько правил, основанных на анализе последствий землетрясений, можно считать универсальными и полезными.

Чтобы полностью понять причины и природу землетрясений, необходимо знать геологические процессы, происходящие на земле. Научные наблюдения, произведенные на поверхности Земли, показали, что земная кора находится в постоянном, но очень медленном движении: некоторые участки коры поднимаются, некоторые опускаются, некоторые участки перемещаются горизонтально. Такое движение земной коры называется тектоническим движением.

Во время землетрясения движение грунта по основанию зданий и сооружений весьма неравномерно и сложно. Американский сейсмолог С.Клеменсон сравнивает движение земли с хаотичным полетом воздушного винта.

Чтобы получить более глубокое представление о механике очага землетрясения, познакомимся со следующим небольшим экспериментом. Берем обычную стеклянную пробирку и помещаем внутрь нее спиральную пружину так, чтобы ее конец выступал (рис. 1). Опускаем в масляную пробирку еще одну пробирку, немного большего и длинного диаметра, при этом из пробирки вытекает половина масла. Таким образом, у нас будет простая модель горных пород, расположенных вокруг очага будущего землетрясения.

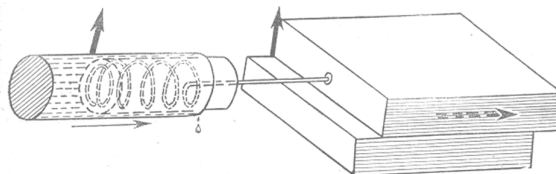


Рисунок 1. Опыт работы в области механики очагов землетрясений.

Ставим две деревянные доски друг на друга, чтобы создать модель источника. Поверхность соприкасающихся друг с другом досок играет роль геологического разлома. Силы, порождаемые в земной коре, мы создаём руками.

Придерживая внешнюю трубку, кладем выступающий конец пружины на боковую поверхность верхней доски и стараемся перемещать ее равномерно. Однако доска движется не плавно, несмотря на то, что внешняя пробирка движется к доске, доска не движется в течение определенного периода времени.

Но можно наблюдать укорочение пружины и постепенное вытеснение масла между стенками двух пробирок. Таким образом, в «камнях»

увеличиваются упругое напряжение (укорочение пружины) и пластическая деформация (проникновение маленькой пробирки в большую).

Силы трения способствуют сопротивлению доски. Однако когда пружина укорачивается и накапливает достаточное упругое напряжение, чтобы преодолеть силы трения между пластинами, верхняя пластина мгновенно перемещается на небольшое расстояние - происходит «разрыв», то есть происходит «землетрясение». Пружина частично (не полностью) расширяется, уменьшая напряжение в руке. Под давлением подача масла на некоторое время прекращается.

Но процесс упруго-пластического деформирования «камней» продолжается. Через определенный промежуток времени происходит очередной сдвиг по «разлому» и происходит следующее «землетрясение».

В реальных геологических условиях для того, чтобы произошел следующий сдвиг, потребуются десятки или сотни лет.

Несомненно, данная модель очага землетрясения является предельно упрощенной и приближенной моделью. Фактически источник со всех сторон окружен камнями, и эти камни оказывают сопротивление скользящим блокам при их движении.

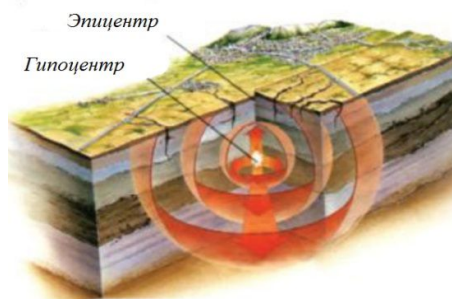


Рисунок 2. Источник землетрясения.

Место, где произошел разрыв-смещение, называется гипоцентром или очагом землетрясения. Проекция гипоцентра на земную поверхность называется эпицентром (рис. 2). Повторные землетрясения называются афтершоками. Причины афтершоков точно такие же, как и у основного толчка. В результате действия некоторых препятствий (например, силы трения, неровностей поверхностей скольжения), препятствующих взаимному движению двух блоков по геологическому разлому, движение прекращается, а нарушенные связи частично восстанавливаются. Неизрасходованная часть энергии создает напряжение в новых связях, и через определенное время связи не выдерживают, и происходит новый разрыв, новое встряхивание. Сила тряски на этот раз будет слабее основного землетрясения. Однако бывают и афтершоки, по силе близкие к основному землетрясению.

Перед основным землетрясением происходит слабое сотрясение, называемое афтершоком. Причина этого в том, что при достижении

напряжения определенного уровня в некоторых более слабых частях массива возникает небольшая трещина, а основной обрыв еще не достигает нормы.

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**РАЗРАБОТКА И СОВЕРШЕНСТВОВАНИЕ СИСТЕМ ПОЛИВА,
ТАКИХ КАК КАПЕЛЬНЫЙ ПОЛИВ, ДЛЯ ПОВЫШЕНИЯ
ЭФФЕКТИВНОСТИ ИСПОЛЬЗОВАНИЯ ВОДЫ И УЛУЧШЕНИЯ
КАЧЕСТВА УРОЖАЯ**

Аннотация. В данной работе рассматривается эффективность применения капельного полива в сельском хозяйстве Узбекистана. Анализируются преимущества данной технологии, такие как оптимизация использования воды, повышение урожайности сельскохозяйственных культур и улучшение качества почвы. Предоставляется методика внедрения капельного полива, а также рекомендации по обслуживанию и автоматизации полива.

Ключевые слова: Капельный, полив, эффективность, урожайность, вода, орошение, автоматизация, методика, Узбекистан, сельское.

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DEVELOPMENT AND IMPROVEMENT OF IRRIGATION SYSTEMS, SUCH AS DRIP IRRIGATION, TO INCREASE WATER USE EFFICIENCY AND IMPROVE CROP QUALITY

Abstract. This work discusses the effectiveness of using drip irrigation in agriculture in Uzbekistan. The advantages of this technology, such as optimizing water use, increasing crop yields and improving soil quality, are analyzed. A methodology for introducing drip irrigation is provided, as well as recommendations for maintenance and irrigation automation.

Key words: Drip irrigation, efficiency, productivity, water, irrigation, automation, methodology, Uzbekistan, rural.

В современном сельском хозяйстве одним из наиболее значимых вопросов является оптимизация использования воды для обеспечения максимальной продуктивности сельскохозяйственных культур при одновременном сохранении ограниченных водных ресурсов. Традиционные методы полива зачастую приводят к излишнему расходу воды и могут привести к ухудшению качества почвы, повышению уровня засоленности и снижению урожайности. В этом контексте разработка и совершенствование систем полива, таких как капельный полив, становятся все более актуальными и необходимыми.

Одной из основных проблем в разработке и совершенствовании систем полива является поиск оптимального баланса между эффективным распределением воды и потребностями сельскохозяйственных культур. Капельный полив, который представляет собой метод подачи воды непосредственно к корневой системе растений с помощью трубок и капельниц, считается одним из самых эффективных методов орошения.

Методика капельного полива в Узбекистане основывается на использовании современных технологий орошения для повышения эффективности использования воды и улучшения качества урожая. Капельный полив предполагает доставку воды непосредственно к корневой зоне растений через систему труб и капельниц. Эта методика может быть адаптирована к различным культурам и типам почвы, что делает ее универсальной и эффективной.

В первую очередь, необходимо провести анализ почвы и климатических условий региона, в котором будет внедряться капельный

полив. Это включает определение типа почвы, ее водопроницаемости, а также уровень засоленности и другие характеристики. На основе этих данных разрабатывается схема капельного полива, включающая определение расстояния между растениями, глубину посадки и количество воды, необходимое для каждого растения.

Следующим этапом является установка системы капельного полива. Это включает в себя прокладку трубопроводов по всей площади поля и установку капельниц у каждого растения. Трубы должны быть прочными и устойчивыми к внешним условиям, таким как ультрафиолетовое излучение и механические повреждения.

Регулирование подачи воды осуществляется с помощью системы контроля и автоматизации. Это может включать использование датчиков влажности почвы, температуры и других параметров для определения оптимального времени, и количества полива. Система автоматизации позволяет точно регулировать объем воды, подаваемой каждому растению, что способствует оптимальному росту культур и экономии водных ресурсов.

Одним из ключевых аспектов успешного внедрения капельного полива является обучение фермеров правильному использованию этой технологии. Это включает разъяснение преимуществ капельного полива, практические советы по установке и обслуживанию системы, а также информацию о возможных проблемах и способах их решения.

Наконец, регулярный мониторинг и техническое обслуживание системы капельного полива являются важными для ее эффективного функционирования. Это включает проверку состояния труб и капельниц, очистку от засоров и регулировку системы в зависимости от изменяющихся условий.

В результате проведенного исследования по методике капельного полива в Узбекистане были получены значительные улучшения в эффективности использования воды и урожайности сельскохозяйственных культур. Применение капельного полива позволило оптимизировать подачу воды непосредственно к корневой системе растений, что сократило расход воды и повысило качество полива.

Основные результаты исследования:

Экономия воды: Внедрение системы капельного полива привело к снижению расхода воды на 35% по сравнению с традиционными методами орошения. Это позволило фермеру сэкономить значительные объемы воды, особенно в засушливых регионах.

Повышение урожайности: Урожайность сельскохозяйственных культур повысилась в среднем на 25% благодаря более равномерному и точному распределению воды по полю. Это также улучшило качество полученной продукции.

Снижение засоленности почвы: более точное применение воды уменьшило риск засоленности почвы, что благоприятно сказалось на росте растений и их здоровье.

Снижение затрат на обслуживание: благодаря автоматизированной системе контроля и управления поливом фермер смог сократить время и усилия, необходимые для обслуживания системы. Это привело к снижению общих затрат на орошение на 20%.

Увеличение прибыльности фермеров: Улучшение урожайности и снижение затрат на орошение привело к увеличению прибыли фермеров в среднем на 30%.

Исследование показало, что методика капельного полива является эффективным инструментом для оптимизации использования воды и повышения качества урожая в Узбекистане. Ее применение способствует устойчивому развитию сельского хозяйства в регионе и повышению благосостояния фермеров.

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**ИЗУЧЕНИЕ ПРИМЕНЕНИЯ БИОТЕХНОЛОГИЙ В ПИЩЕВОЙ
ПРОМЫШЛЕННОСТИ ДЛЯ УЛУЧШЕНИЯ БЕЗОПАСНОСТИ
ПРОДУКТОВ, ТАКИХ КАК СОЗДАНИЕ ПРОДУКТОВ С НИЗКИМ
СОДЕРЖАНИЕМ АЛЛЕРГЕНОВ**

Аннотация. В данной работе рассматривается применение биотехнологий в пищевой промышленности для повышения безопасности продуктов и снижения содержания аллергенов. Исследование проводилось в Узбекистане и было сосредоточено на продуктах, важных для региона, таких как пшеница, молочные продукты и орехи.

Ключевые слова: биотехнологии, пищевые, аллергены, модификация, безопасность, регуляторное, эффективность, пшеница, молочные, орехи.

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STUDY OF THE APPLICATION OF BIOTECHNOLOGY IN THE FOOD INDUSTRY TO IMPROVE PRODUCT SAFETY, SUCH AS THE CREATION OF LOW-ALLERGEN PRODUCTS

Abstract. This paper discusses the use of biotechnology in the food industry to improve product safety and reduce allergen content. The study was conducted in Uzbekistan and focused on foods important to the region, such as wheat, dairy products and nuts.

Key words: biotechnology, food, allergens, modification, safety, regulatory, effectiveness, wheat, dairy, nuts.

В последние десятилетия биотехнологии стали неотъемлемой частью пищевой промышленности, принося существенные улучшения в безопасность и качество продуктов питания. Одним из наиболее значимых направлений исследований является создание продуктов с низким содержанием аллергенов. Это особенно актуально для людей, страдающих пищевыми аллергиями, так как традиционные методы обработки продуктов часто не могут обеспечить полный контроль над содержанием аллергенов. Биотехнологии, однако, открывают новые возможности для снижения аллергенности продуктов, что приводит к повышению безопасности и расширению ассортимента продуктов для аллергиков.

Одной из сложностей в применении биотехнологий для создания продуктов с низким содержанием аллергенов является необходимость глубокого понимания молекулярной структуры аллергенов и их поведения в различных условиях. Это включает в себя исследования генетических и

белковых профилей аллергенов, а также разработку методов их модификации, чтобы снизить или устранить аллергенные свойства.

Методика изучения применения биотехнологий в пищевой промышленности для улучшения безопасности продуктов и снижения содержания аллергенов включает несколько ключевых этапов.

Сбор данных и анализ аллергенов: Первым шагом является идентификация продуктов, которые вызывают наиболее распространенные пищевые аллергии. Это включает в себя анализ данных о составе продуктов, имеющихся аллергенах, и их влиянии на здоровье людей с пищевыми аллергиями.

Разработка генетически модифицированных продуктов: на основе собранных данных можно разработать методы модификации продуктов для снижения содержания аллергенов. Это может включать редактирование генов растений или животных, используемых для производства продуктов, чтобы уменьшить или устранить присутствие аллергенов.

Оценка эффективности и безопасности: после разработки новых продуктов с низким содержанием аллергенов, необходимо провести тщательные исследования их эффективности и безопасности. Это включает в себя клинические испытания и тестирование продуктов на предмет аллергенности, чтобы убедиться, что модификации привели к желаемому результату.

Регуляторное одобрение и общественное восприятие: важно получить одобрение регулирующих органов для использования генетически модифицированных продуктов в пищевой промышленности. Также необходимо проводить разъяснительную работу с общественностью о безопасности и преимуществах новых продуктов, чтобы снизить опасения по поводу биотехнологий.

Мониторинг и контроль: после введения новых продуктов на рынок необходимо обеспечить постоянный мониторинг и контроль их качества и безопасности. Это поможет выявлять любые неожиданные последствия использования биотехнологически модифицированных продуктов и своевременно реагировать на возможные проблемы.

Результаты проведенного исследования по разработанной методике для улучшения безопасности продуктов и снижения содержания аллергенов показывают значительные успехи в этой области. Исследование проводилось в Узбекистане и было сосредоточено на различных продуктах, важных для пищевой промышленности региона. Снижение содержания аллергенов: в ходе исследования удалось снизить содержание аллергенов в различных продуктах на 60–80% в зависимости от вида продукта. Это привело к значительному уменьшению риска аллергических реакций у людей, страдающих пищевыми аллергиями. Тщательные клинические испытания и тестирование показали, что продукты с пониженным содержанием аллергенов безопасны для употребления и сохраняют свою

пищевую ценность и вкусовые качества. При этом не было выявлено серьезных побочных эффектов или негативных воздействий на здоровье. Разъяснительная работа и информационные кампании о преимуществах новых продуктов способствовали повышению общественного доверия к биотехнологиям в пищевой промышленности. В результате, около 70% опрошенных потребителей выразили готовность попробовать продукты с низким содержанием аллергенов.

Исследование в Узбекистане было сосредоточено на таких продуктах, как пшеница, молочные продукты и орехи, которые часто вызывают аллергические реакции у некоторых людей. Усилия по снижению содержания аллергенов в этих продуктах дали положительные результаты, что открывает новые возможности для повышения безопасности пищевых продуктов и улучшения качества жизни людей, страдающих пищевыми аллергиями.

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ИССЛЕДОВАНИЕ ПРОЦЕССА РАЗЛОЖЕНИЯ ТРИКАЛЬЦИЙФОСФАТА ФОСФОРНОЙ КИСЛОТОЙ С ЧАСТИЧНОЙ ЗАМЕНОЙ ФОСФАТОВ НА СЕРНУЮ КИСЛОТУ В ПРИСУТСТВИИ СУЛЬФАТА МАГНИЯ И НИТРАТА АММОНИЯ

Аннотация. В статье установлено, что наиболее высокие результаты коэффициента разложения получены при выпарке фосфорной кислоты до содержания 32,22-25,77% P_2O_5 и 5,54-9,76% SO_3 . При увеличении доли серной кислоты до 20% степень разложения повышается до 93,45% и до 99,55% при замене 30% P_2O_5 на серную кислоту.

Ключевые слова: Узбекистан, трикальцийфосфат, разложения трикальцийфосфата, термическая фосфорная кислота, серная кислота, водорастворимой формой сульфатов, реологические свойства кислоты, азот, фосфор, калий, кальций, магний, сера, коэффициент разложение, степень извлечения SO_3 в водный раствор, нитрат аммония, реологические свойства.

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**STUDY OF THE PROCESS OF DECOMPOSITION OF TRICALCIUM
PHOSPHATE BY PHOSPHORIC ACID WITH PARTIAL
REPLACEMENT OF PHOSPHATES BY SULFURIC ACID IN THE
PRESENCE OF MAGNESIUM SULPHATE AND AMMONIUM
NITRATE**

Abstract. The article found that the highest results of the decomposition coefficient were obtained when phosphoric acid was evaporated to a content of 32,22-25,77% P₂O₅ and 5,54-9,76% SO₃. When the proportion of sulfuric acid increases to 20%, the degree of decomposition increases to 93,45% and to 99,55% when replacing 30% P₂O₅ with sulfuric acid.

Keywords: Uzbekistan, tricalcium phosphate, decomposition of tricalcium phosphate, thermal phosphoric acid, sulfuric acid, water-soluble form of sulfates, rheological properties of the acid, nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, decomposition coefficient, degree of extraction of SO₃ into aqueous solution, ammonium nitrate, rheological properties.

В мире особое внимание уделяется разработкам технологии концентрированных фосфорных удобрений с вовлечением в производство низкосортных и высокомагниевого фосфоритов в связи с истощением богатых месторождений фосфатного сырья [1]. В связи с этим, обеспечение агропромышленного комплекса необходимыми средствами защиты растений, стимуляторами роста и развития растений, минеральными и органоминеральными удобрениями в широком ассортименте, с различными соотношениями основных макроэлементов – азота, фосфора, калия, кальция, магния, серы является важным направлением в повышении урожайности сельскохозяйственных культур [2].

В этом аспекте важной задачей является обоснование научно-технических решений по разработке технологий одинарных и концентрированных фосфорных удобрений с водорастворимой формой сульфатов. Для обеспечения ими сельскохозяйственного производства необходимо обосновать ряд существующих научных решений установление оптимальных технологических параметров частичной замены фосфорной кислоты на серную, степени аммонизации кислой пульпы, при которой наблюдается максимальное содержание водорастворимых сульфатов, разработка технологии получения концентрированных азотно-фосфорных удобрений с водорастворимой формой сульфатов.

Концентрированная ЭФК является основой для производства двойного суперфосфата. ЭФК из высококачественного сырья, хорошо упаривается до концентрации 54% P_2O_5 и используется для получения двойного суперфосфата. ЭФК, полученная из магнийсодержащего сырья, например, из фосфоритов Каратау, Кизылкумов и Кингисеппа, вследствие содержания в ней примесей магния, загустевает при концентрации 37-38% P_2O_5 . Утверждают, что присутствие в фосфатном сырье более 0,3% MgO вызывает трудности при концентрировании ЭФК в связи с образованием нерастворимого фосфата магния, ведущего к формированию шлама. Другие авторы считают, что загустевание упаренной до концентрации 37-38% P_2O_5 магнийсодержащей ЭФК происходит вследствие образования MgF_2 и SiO_2 в результате гидролиза $MgSiF_6$.

Изучением свойств реальных растворов ЭФК из фосфоритов Каратау в зависимости от соотношения примесных соединений магния, железа, алюминия, серной кислоты и других установлено, что загустевание ЭФК по мере ее концентрирования происходит вследствие присутствия магния в кислоте в виде гидратов сульфата магния. В ЭФК (21% P_2O_5) из фосфоритов Каратау содержится 1,5-2,0% MgO , т.е. 4,5-6,0% $MgSO_4$ или же 9,0-12,0% $MgSO_4 \cdot 7H_2O$ в растворенном виде, а при повышении концентрации до 37-38% P_2O_5 содержание этой соли достигает 16-21%. При этом раствор пересыщен гидратами сульфата магния. При охлаждении они кристаллизуются и ассоциируют молекулы воды (такое свойство присуще всем кристаллогидратам), вследствие чего раствор загустевает. Другие присутствующие примеси (сульфат кальция, фосфаты железа и алюминия, кремнефториды натрия и калия), особенно серная кислота, усиливают процессы загустевания.

С целью ликвидации загустевания, т.е. улучшения реологических свойств использован химический реагент – нитрата аммония, изучена растворимость соединений магния в растворе этого реагента [3-5].

Для теоретического обоснования переработки фосфоритов на одинарные фосфорные удобрения фосфорной кислотой, с частичной заменой P_2O_5 фосфорной кислоты на серную кислоту, проведены исследования по разложению трикальцийфосфата термической фосфорной

кислотой с содержанием 20% P_2O_5 с заменой 10, 20 и 30% P_2O_5 на серную кислоту при суммарной стехиометрической норме кислот.

Исследование процесса разложения трикальцийфосфата проводили также с более концентрированной термической фосфорной кислотой, и заменой 10, 20 и 30% P_2O_5 на H_2SO_4 с концентрацией 91,75% на лабораторной установке. Лабораторная установка состояла из реактора, снабженного винтовой мешалкой с электродвигателем и помещенного в водяной термостат. Температура в термостате поддерживалась с помощью контактного термометра. Температура во всех опытах была постоянной, и она равнялась $80^{\circ}C$ и продолжительности процесса 2 часа.

После достижения заданной температуры дозировали расчетное количество трикальцийфосфата. Определенный промежуток времени производили отбор проб пульпы на анализ для определения содержания различных форм P_2O_5 , CaO , SO_3 и расчета коэффициента разложения трикальцийфосфата, коэффициентов извлечения CaO и SO_3 в жидкую фазу.

Исследования по разложению трикальцийфосфата 20% по P_2O_5 термической фосфорной кислотой с частичной заменой P_2O_5 на серную кислоту проводили с фосфорной кислотой, содержащей 1% сульфата магния. Необходимость этих исследований обоснована тем, что фосфориты Каратау, Центральных Кызылкумов содержат магний, а ЭФК на их основе содержит сульфат магния, который существенно влияет на активность и реологические свойства кислоты.

Введения в исходную фосфорную кислоту с содержанием 20% P_2O_5 1% $MgSO_4$ и замена 10% P_2O_5 на серную кислоту приводит к снижению P_2O_5 до 16,25%, в которой содержится 4,58% SO_3 .

Выпарка этих кислот позволяет получить фосфорную кислоту с содержанием 24,38-19,50% P_2O_5 и 5,08-8,28 % SO_3 , а также 32,50-26,00% P_2O_5 и 5,59-9,85 % SO_3 .

При разложении трикальцийфосфата термической фосфорной кислотой, с исходной концентрацией 16,25% P_2O_5 и содержащей 4,58% SO_3 содержание P_2O_5 общ. составляет 21,12%, P_2O_5 усв. 20,01%, P_2O_5 в.р 18,39%. Отношение усвояемых форм к общей форме при этом повышается с 94,74% до 95,87% и 98,27% и водных с 87,07% до 90,03% и 91,85%, соответственно. Соответственно коэффициент разложения трикальцийфосфата повышается с 85,30% до 89,27% и 96,44%.

При замене 10% P_2O_5 фосфорной кислоты на H_2SO_4 содержание SO_3 общ.в пульпе составляет 3,83% и SO_3 водн. 1,16%. Увеличение нормы серной кислоты приводит к повышению содержания общей формы SO_3 до 4,69% при замене 20% P_2O_5 на H_2SO_4 и до 5,57% при замене 30%. При этом содержание водорастворимой формы SO_3 составляет 1,28% и 1,13%.

При использовании более концентрированной фосфорной кислоты содержание общей формы SO_3 составляет 3,92-7,01% и водной 1,15-1,44%. Повышение концентрации H_3PO_4 и замена 10-30% P_2O_5 на H_2SO_4

коэффициент извлечения SO_3 в жидкую фазу снижается и составляет с 30,29-20,29% до 29,34-20,63% и до 30,42-20,54%.

В таблице 1. приведены результаты влияние процесса сушки продуктов разложения трикальцийфосфата 20% термической фосфорной кислотой, содержащей 1% сульфата магния, при замене 10%, 20% и 30% P_2O_5 на серную кислоту.

Сушку пульп проводили в сушильном шкафу при температуре 105°C до содержания влаги менее 3%.

Из таблицы видно, что в процессе сушки, за счет удаления влаги, содержание общей формы P_2O_5 повышается до 42,87%, при использовании кислоты 16,25% P_2O_5 с содержанием 4,58% SO_3 и снижается до 40,86% для кислоты 14,65% P_2O_5 и 5,63% SO_3 и до 38,70% для кислоты 13,00% P_2O_5 и 6,70% SO_3 . Содержание усвояемой формы при этом составляет 40,70%, водной формы 37,45-35,62%.

При этом отношение усвояемой формы к общей форме повышается с 94,95% при замене 10% P_2O_5 на серную до 96,06% при замене 20% P_2O_5 и до 98,55% при замене 30% P_2O_5 .

Отношение водорастворимой формы к общей составляет, соответственно, 87,35%, 90,75% и 92,04%. Коэффициент разложения составляет 85,86%, 89,76 % и 97,04% при замене 10%, 20% и 30% P_2O_5 на серную кислоту.

Использование более концентрированной фосфорной кислоты с заменой 10, 20 и 30% P_2O_5 на серную кислоту позволяет получить продукт с более высокой степенью разложения. При разложении трикальцийфосфата фосфорной кислотой с содержанием 24,38% P_2O_5 и 5,08% SO_3 степень разложение составляет 89,30%, а кислотой 32,50% P_2O_5 и 5,59% SO_3 98,60%.

При увеличении доли серной кислоты до 20% степень разложения повышается до 92,39% и до 98,90% при замене 20% P_2O_5 на серную кислоту. Наиболее высокие результаты коэффициента разложения получены при выпарке фосфорной кислоты до содержания 32,50-26,00% P_2O_5 и 5,59-9,85% SO_3 . Содержание SO_3 как общей, так и водной форм в высушенных продуктах с увеличением доли серной кислоты повышается. При использовании экстракционной фосфорной кислоты, активированной нитратом аммония, в ней содержится сульфат магния, как сопутствующий компонент фосфоритов Каратау и Центральных Кызылкумов.

Таблица 1

Влияние частичной замены фосфорной кислоты, содержащей сульфат магния, серной на химический состав продукта

№	Показатели	Содержание компонентов, масс. %									
		при замене H_3PO_4 на H_2SO_4 , %									
		10	20	30	10	20	30	10	20	30	
1.	Исходная концентрация P_2O_5 в ЭФК, %	16,25	14,65	13,00	24,38	21,98	19,50	32,50	29,30	26,00	
2.	Исходная концентрация SO_3 в ЭФК, %	4,58	5,63	6,70	5,08	6,66	8,28	5,59	7,69	9,85	
3.	Содержание в продукте:										
	P_2O_5 (общ.), %	42,87	40,86	38,70	45,29	44,86	41,21	47,24	45,67	42,99	
	P_2O_5 (усв.), %	40,70	39,25	38,14	43,56	43,55	40,36	47,00	45,48	42,86	
	P_2O_5 (в.р.), %	37,45	37,08	35,62	39,99	40,78	38,20	43,11	42,43	41,07	
	SO_3 (общ.), %	7,77	9,65	11,63	6,07	8,12	10,21	5,22	7,37	9,50	
	SO_3 (в.р.), %	2,37	2,65	2,38	1,81	2,26	2,21	1,62	1,97	1,98	
	CaO (общ.), %	18,12	18,61	19,07	19,13	22,75	26,50	19,96	20,78	21,15	
	CaO (в.р.), %	4,70	4,28	3,10	4,80	4,75	4,52	5,26	4,67	3,58	
	MgO %	3,02	3,16	3,09	2,12	2,17	2,20	1,67	1,70	1,72	
	влаги, %	2,05	1,88	1,85	3,05	2,04	2,19	2,33	0,85	1,48	
4.	$(P_2O_{5\text{усв.}}:P_2O_{5\text{общ.}})\times 100$, %	94,95	96,06	98,55	96,18	97,07	97,94	99,50	99,58	99,70	
5.	$(P_2O_{5\text{в.р.}}:P_2O_{5\text{общ.}})\times 100$, %	87,35	90,75	92,04	88,30	90,90	92,70	91,25	92,90	95,53	
6.	K_p по $P_2O_{5\text{усв.}}$, %	85,86	89,76	97,04	89,30	92,39	95,79	98,60	98,90	99,39	
7.	$K_{\text{извл.}}$ по CaO в водном растворе, %	25,94	23,00	16,26	25,09	20,88	17,06	26,35	22,47	16,93	
8.	Степень извлечения SO_3 в водный раствор, %	30,50	27,46	20,46	29,82	27,83	21,64	31,03	26,73	20,84	

Поэтому дальнейшие исследования по разложению трикальцийфосфата фосфорной кислотой с частичной заменой P_2O_5 на серную кислоту проводили с 20% термической фосфорной кислотой, содержащей по 1% нитрата аммония и сульфата магния.

Дальнейшие исследования по разложению трикальцийфосфата фосфорной кислотой с частичной заменой P_2O_5 на серную кислоту проводили с 20% термической фосфорной кислотой, содержащей нитрата аммония (1%) и сульфата магния (1%).

Выпарка этих кислот позволяет получить фосфорную кислоту с содержанием 24,17-19,33% P_2O_5 и 5,04-8,21 % SO_3 , а также 32,22-25,77% P_2O_5 и 5,54-9,79 % SO_3 .

При разложении трикальцийфосфата термической фосфорной кислотой с исходной концентрацией 16,10% P_2O_5 и содержащей 4,54% SO_3 содержание $P_2O_{5\text{общ}}$ составляет 20,95% $P_2O_{5\text{усв}}$ 19,89%, $P_2O_{5\text{в.р}}$ 18,42 %. С увеличением количества замены P_2O_5 на серную кислоту отношение усвояемых форм к общей форме при этом повышается с 94,94% до 96,14% и 98,86% и водных с 87,92% до 90,86% и 92,55%, соответственно. Коэффициент разложения трикальцийфосфата повышается с 85,83% до 89,97 % и 97,67%.

При использовании более концентрированной фосфорной кислоты содержание общей формы SO_3 составляет 3,90-6,96% и водной 1,34-1,54%. Коэффициент извлечения SO_3 в жидкую фазу, с увеличением доли H_2SO_4 , снижается и составляет 35,26-22,24% и 34,36-22,19% и 35,43-22,13%.

В таблице 2 приведены результаты влияние процесса сушки продуктов разложения трикальцийфосфата 20% термической фосфорной кислотой, содержащей по 1% нитрата аммония и сульфата магния, при замене 10%, 20% и 30% P_2O_5 на серную кислоту.

Сушку пульпы проводили в сушильном шкафу при температуре 105⁰С до содержания влаги менее 3%. Из таблицы видно, что в процессе сушки, за счет удаления влаги, содержание общей формы P_2O_5 повышается до 41,28%, при использовании кислоты 16,10% P_2O_5 с содержанием 4,54% SO_3 и снижается до 39,35% P_2O_5 для кислоты 14,52% P_2O_5 и 5,58% SO_3 и до 37,63% P_2O_5 для кислоты 12,89% P_2O_5 и 6,64% SO_3 .

Содержание усвояемой формы при этом составляет 39,52%, водной формы 36,42-35,08%. При этом отношение усвояемой формы к общей форме повышается с 95,74% при замене 10% P_2O_5 на серную до 96,90% при замене 20% P_2O_5 и до 99,70% при замене 30% P_2O_5 . Отношение водорастворимой формы к общей составляет, соответственно, 88,23%, 91,26 % и 93,22%.

Коэффициент разложения составляет 88,07%, 91,94 % и 99,39% при замене 10%, 20% и 30% P_2O_5 на серную кислоту. Использование более концентрированной фосфорной кислоты с заменой 10, 20 и 30% P_2O_5 на серную кислоту позволяет получить продукт с более высокой степенью разложения.

При разложении трикальцийфосфата фосфорной кислотой с содержанием 24,17% P_2O_5 и 5,04% SO_3 степень разложения составляет 91,20%, а кислотой 32,22% P_2O_5 и 5,54% SO_3 98,04%.

Наиболее высокие результаты коэффициента разложения получены при выпарке фосфорной кислоты до содержания 32,22-25,77% P_2O_5 и 5,54-9,76% SO_3 . Содержание SO_3 как общей, так и водной форм в высушенных продуктах с увеличением доли серной кислоты повышается.

Таблица 2

Влияние частичной замены фосфорной кислоты, содержащей нитрат аммония и сульфат магния, серной на химический состав продукта

№	Показатели	Содержание компонентов, масс. %								
		При замене H_3PO_4 на H_2SO_4 , %								
		10	20	30	10	20	30	10	20	30
1.	Исходная концентрация P_2O_5 в ЭФК, %	16,10	14,52	12,89	24,17	21,78	19,33	32,22	29,04	25,77
2.	Исходная концентрация SO_3 в ЭФК, %	4,54	5,58	6,64	5,04	6,60	8,21	5,54	7,63	9,76
3.	Содержание в продукте:									
	P_2O_5 (общ.), %	41,28	39,35	37,63	45,17	45,69	41,60	46,94	44,52	41,77
	P_2O_5 (усв.), %	39,52	38,13	37,51	43,75	44,54	41,06	46,61	44,29	41,68
	P_2O_5 (в.р.), %	36,42	35,91	35,08	40,17	42,17	39,18	43,30	41,97	40,62
	SO_3 (общ.), %	7,49	9,31	11,31	6,06	7,94	10,07	5,18	7,19	9,23
	SO_3 (в.р.), %	3,02	3,06	2,87	2,32	2,56	2,70	1,88	2,18	2,34
	CaO (общ.), %	17,44	17,90	18,55	19,08	19,38	16,95	19,82	20,26	20,57
	CaO (в.р.), %	6,14	5,07	4,37	6,64	5,56	4,25	6,47	5,75	4,95
	MgO %	2,94	2,96	3,01	2,13	2,12	2,17	1,65	1,67	1,67
	N %	0,57	0,57	0,57	0,42	0,42	0,42	0,32	0,32	0,32
влаги, %	3,98	3,85	2,75	2,08	3,09	2,27	1,97	2,37	3,28	
4.	$(\text{P}_2\text{O}_{5\text{усв.}}:\text{P}_2\text{O}_{5\text{общ.}})\times 100$, %	95,74	96,90	99,70	96,86	97,48	98,70	99,30	99,48	99,78
5.	$(\text{P}_2\text{O}_{5\text{в.р.}}:\text{P}_2\text{O}_{5\text{общ.}})\times 100$, %	88,23	91,26	93,22	88,93	92,29	94,18	92,25	94,27	97,25
6.	K_p по $\text{P}_2\text{O}_{5\text{усв.}}$, %	88,07	91,94	99,39	91,20	93,45	97,34	98,04	98,65	99,55
7.	$K_{\text{извл.}}$ по CaO в водном растворе, %	35,21	28,32	23,56	34,80	28,69	25,07	32,64	28,38	24,06
8.	Степень извлечения SO_3 в водный раствор, %	40,32	32,87	25,36	38,28	32,24	26,81	36,29	30,32	25,35

Установлено, что наиболее высокие результаты коэффициента разложения получены при выпарке фосфорной кислоты до содержания 32,22-25,77% P_2O_5 и 5,54-9,76% SO_3 . Содержание SO_3 как общей, так и водной форм в высушенных продуктах с увеличением доли серной кислоты повышается. Доля водорастворимой формы SO_3 по отношению к общей форме при замене 10% P_2O_5 на серную изменяется от 40,32% до 36,29%, при замене 20% от 32,87% до 30,32%, при замене 30% от 25,36% до 25,35%. При

увеличении доли серной кислоты до 20% степень разложения повышается до 93,45% и до 99,55% при замене 30% P_2O_5 на серную кислоту.

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НЕКОТОРЫЕ АСПЕКТЫ ПОВЫШЕНИЯ ПРОФЕССИОНАЛЬНОЙ ПОДГОТОВКИ БУДУЩИХ СПЕЦИАЛИСТОВ

В данной статье описаны некоторые вопросы подготовки будущих специалистов в высших учебных заведениях и пути использования метода упражнений для совершенствования практической подготовки студентов.

Ключевые слова и фразы: будущий специалист, практическое образование, подготовка, навык, квалификация, метод, приемы работы.

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SOME ASPECTS OF INCREASING PROFESSIONAL TRAINING OF FUTURE SPECIALISTS

This article describes some issues of training future specialists in higher educational institutions and ways to use the exercise method to improve the practical training of students.

Key words and phrases: future specialist, practical education, training, skill, qualification, method, work techniques.

Исходя из направленности характеристик высших учебных заведений, система образования неразрывно связана с производственными процессами. Для этого профессорам-преподавателям необходимо организовать этот процесс по своей специализации и постоянно совершенствовать эти навыки.

В высших учебных заведениях учебный процесс состоит из самостоятельного и взаимосвязанного теоретического и практического обучения. В процессе теоретического обучения студенты преимущественно приобретают теоретические знания, а в процессе практического обучения формируются практические навыки и компетенции студентов. Результатом этих двух совместных процессов является подготовка квалифицированного специалиста конкретной профессии и квалификации.

Современный специалист должен уметь быть в курсе новостей в сфере своей профессиональной деятельности, видеть направления развития в будущем и пути решения возникающих проблем. Чтобы подготовить специалиста на уровне таких требований, необходимо разработать эффективные формы, активные методы и современные средства практического обучения в высших учебных заведениях.

Подготовка квалифицированных специалистов в высших учебных заведениях должна отвечать следующим требованиям:

- направлены на формирование знаний, умений и квалификаций, предусмотренных государственным образовательным стандартом по направлениям;

- соответствие образовательным целям и задачам, предусмотренным содержанием образования;

- все составляющие процесса подготовки специалистов (теоретическая подготовка, лабораторно-практическая подготовка, квалификационная практика, преддипломная практика) организованы последовательно;

- соответствие требованиям уровня развития науки, техники и технологий содержания образования и т.д.

Практическое образование играет важную роль в выполнении этих требований. Доступны следующие виды практики: лабораторное обучение, практическое обучение, вводное обучение, квалификационная подготовка и преддипломная подготовка.

Одним из основных методов формирования профессиональных навыков и квалификации студентов в процессе практического обучения является метод практики.

Метод обучения заключается в повторении определенных действий несколько раз с целью развития навыков и умений. К упражнениям по формированию профессиональных умений и навыков предъявляются следующие требования: выполнение обучающимися упражнений осознанное и целенаправленное; упражнения должны быть основаны на методологии, систематичны, последовательны, непрерывны и повторяемы; самостоятельность студентов в работе должна развиваться регулярно.

Упражнения целесообразно применять не ко всем изучаемым трудовым процессам, а к процессам, относительно более сложным для освоения учащимися. В соответствии с направленностью таких процессов, практическая работа, представленная в содержании научных программ, также может быть включена в квалификационные требования.

В целях обеспечения эффективности повышения практической подготовки студентов при использовании метода упражнений в процессе практического обучения необходимо соблюдать следующие требования:

- прочность материально-технической базы (наличие исправно работающего оборудования, приборов и тренажеров);

- демонстрация методов работы обеспечивает правильное и полное усвоение студентами методов работы;

- порядок выполнения упражнений должен быть сначала продемонстрирован преподавателем;

- добиться, чтобы данные упражнения выполнялись обучающимся два-три раза под контролем преподавателя;

➤ пути быстрого устранения недостатков, допущенных обучающимися в ходе выполнения упражнения, должны быть заранее продуманы и т. д.

Существуют также различные другие методы, используемые в процессе практического профессионального образования, каждый из которых имеет определенные требования к его использованию. В целях улучшения практической подготовки студентов необходимо соблюдать данные требования. Это, в свою очередь, требует от преподавателя полного владения методами практического профессионального образования.

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РАМСАР КОНВЕНЦИЯСИ: АЙДАР-АРНАСОЙ КЎЛЛАР ТИЗИМИ ЭКОЛОГИЯСИ

Аннотация. Айдар-Арнасой кўллар тизими ўзгарувчан экотизим ҳисобланади. Экотизимдаги ўзгаришлар ландшафтнинг ҳамма компонентларига, яъни, ўсимлик, хайвонот, ер ости сув сатҳи ва минераллашиш даражасига ҳам таъсири бўлади. Арид ҳудудда ўзига хос микроқлим ҳосил бўлиб, атроф-муҳит иқлимига ҳам таъсир кўрсатмоқда.

Таянч сўзлар: Арид ҳудуд, экотизим, геотизим, ландшафт, кимёвий анализ, гидрокимёвий. Рамсар Конвенцияси, акватория, табиий ареал

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RAMSAR CONVENTION: ECOLOGY OF THE AYDAR-ARNASOY LAKE SYSTEM

Abstract. Aydar-Arnasoy lake system is a variable ecosystem. Changes in the ecosystem will also affect all components of the landscape, i.e. flora, fauna, groundwater levels and mineralization levels. A unique microclimate is formed in the arid region, which also affects the surrounding climate.

Key words: Arid region, ecosystem, geosystem, land.

Мавзунинг долзарблиги. Ўзбекистон республикаси арид ҳудудда жойлашганлиги сабабли, бош муаммо - сув эканлигини кунлик ҳаётимиз ёки матбуотимиз орқали чоп этилаётган мақолалар ҳам кўрсатиб турибди. Бугунги кунда республикамиз ҳудудидаги сув манбалардан оқилона фойдаланмаслик оқибатида, табиий равишда пайдо бўлган сув ҳавзалари куриб (Орол денгизи) бораётганлигини ва баъзи бир ҳудудларда эса ташлама кўллар (Айдар-Арнасой, Сарикамиш ва Денгизкўл)нинг акваторияси кенгайиб, ўзига хос бўлган экотизим (геотизим)лар шаклланаётганлигини кўрамиз[1]. Арид ҳудудда ҳосил бўлган Айдар-Арнасой кўллар тизими ўзгарувчан экотизим ҳисобланади. Экотизимдаги ўзгаришлар ландшафтнинг ҳамма компонентларига, биринчи навбатда

ўсимлик, хайвонот, ер ости сув сатҳи ва минераллашиш даражасига ҳам таъсири бўлади. Иккинчи томондан арид ҳудудда ўзига хос микроиклим ҳосил бўлиб, атроф-муҳит иқлимига ҳам таъсир кўрсатмоқда. Атроф-муҳит иқлимидаги ўзгаришлар шу жойда тупроқларга, ўсимлик қопламига ва хайвонот оламига ҳам таъсири бўлмоқда. Ушбу ўзгаришларни ўрганиш, таҳлил қилиш ва олдиндан башорат қилиш катта илмий ҳамда амалий аҳамиятга эга[2].

Асосий қисм. Ер шарининг ярмидан кўпроғи, яъни 71 фоизи сув билан қопланган бўлса-да, сув ҳавзаларидан охирги йилларда саноат ҳамда хўжалик эҳтиёжлари учун кенг фойдаланиш уларга бўладиган турли таъсирлар кўламнинг кенгайишига олиб келмоқда.

Ўзбекистон Республикаси Олий Мажлисининг 2001 йил 30 августдаги қарорига асосан Ўзбекистон Республикаси Рамсар Конвенциясига қўшилди ва ушбу қарор 2002 йилнинг 8 февралидан кучга кирди[3]. Ҳозирда мамлакатимизнинг майдони 31,3 минг гектарга тенг Денгизкўл ҳамда 527,1 минг гектар бўлган Айдар-Арнасой кўллар тизими Рамсар рўйхатига киритилган.

Денгизкўл сувда сузувчи қушлар мониторинги учун муҳим сув муҳофаза объекти ҳисобланади. У ерда қушларнинг 170 дан ортиқ турини, хусусан, Ўзбекистон Қизил китобига киритилган қушларнинг 24 тури ва табиат ва табиий ресурсларни муҳофаза қилиш халқаро иттифоқининг рўйхатига киритилган 2 турини учратиш мумкин.

Умуман, мазкур акваториянинг биохилма-хиллигини сут эмизувчиларнинг 35 тури, балиқ ҳамда судралиб юрувчиларнинг 24 тури, амфибиянинг 2 тури ташкил этади. Суви оқиб чиқиб кетмайдиган кўлда ўсимликларнинг 47 тури ўсиб, улардан 6 тури Ўзбекистон Қизил китобига киритилган бўлиб, 16 тури Марказий Осиё эндемиклари ҳисобланади.

Рамсар рўйхатига киритилган иккинчи объект-Айдар-Арнасой кўллар тизими таркибига Тузкон, Арнасой ва Айдаркўл кўллари киради. Ҳозирги кунда Айдар-Арнасой кўллар тизими майдони 3702 км² ва сув ҳажми 44,1 км³ ни ташкил қилган улкан сув ҳавзасига айланди.

Айдаркўл сувларининг таркибида сульфат ва натрий ионларининг миқдор жиҳатдан кўплиги, унинг шўр таъмга эга эканлигини белгилайди. Сув ранги яшил-кўкимтир. Сувнинг шўрланиш даражаси 3,2-12,2 г/л гача ўзгаради. Энг юқори шўрланиш даражаси баҳор ойларига тўғри келади. Аста-секинлик билан мазкур сув ҳавзаси сувнинг таркибида туз ионлари миқдори ортиб бормоқда. Бугунги кунда Айдаркўлнинг турли ҳудудларида сувдаги туз миқдори 4-16,5г/л гача, ўртача 10,2 г/л ни ташкил этади. Айдаркўл сувининг ион таркиби океан суви таркибига яқин туради. Ўрта Осиё гидрометриалогия илмий-тадқиқот институти маълумотларига кўра 1990 йил 2005 йилда сувнинг шўрланиш даражаси шарқий ҳудудда 17 г/л бугунги кунда 12,2, г/л, ғарбий ҳудудда 22 г/л бугунги кунда 14,5 г/л гача етиши аниқланган. Сувнинг рН кўрсаткичи Айдаркўлда 8,6 га, Тузконда 8,8

га, Арнасойда 8,9 га тенг. Бу кўрсаткичлар Айдаркўл суви кучи ишқорий муҳитга эга эканлигидан далолат беради[4,5].

Натижа ва муҳокама.Мазкур Конвенция яшаш ареаллари нафақат бир давлат худудида жойлашган, балки уя қуриш, учиб ўтиш, қишлаш ареаллари турли давлатлар чегарасида жойлашган куш турлари, шунингдек, Табиат ва табиий ресурсларни муҳофаза қилиш халқаро иттифоқининг Қизил рўйхатига киритилган, ҳаётининг маълум қисмида республикамиз худудида яшовчи куш турларини ҳам муҳофазалашда муҳим ўрин тутади.

Республикамиздаги Рамсар рўйхатига киритилган кўллардан оқилона фойдаланиш самарадорлигини янада ошириш ва умуман Конвенция талабларини тўлақонли бажаришда сув-ботқоқ экотизимлари кадастри ва мониторингига йўналтирилган илмий тадқиқотларни бажариш муҳим ўрин тутади.

Мазкур халқаро ҳужжатдан кўзланган мақсад:

- инсон ва унинг атрофини ўраб турган муҳитнинг ўзаро боғлиқлиги;
- сув-ботқоқ ерларнинг иқтисодий, маданий ва рекреациявий аҳамияти;
- сувда сузувчи кушлар ва уларнинг муҳофазаси халқаро ресурс сифатида қаралиши лозимлигини тан олган ҳолда;
- узокни кўзлаган миллий сиёсат билан халқаро ҳаракатларни мувофиқлаштирилишини таъминланишдан иборат.

Бугунги кунда мазкур Конвенцияга 169 та мамлакат аъзодир. Айдар-Арнасой кўллар тизими таркибидаги Тузкон, Арнасой ва Айдаркўл кўллари мамлакатимизда Рамсар рўйхатига киритилган санокли объектлардан ҳисобланади.

Маълумки, юртимиздаги асосий сув манбалари трансчегаравий хусусиятга эга бўлган Амударё ва Сирдарё дарёлари билан узвий боғлиқ. Ички кўллар сув сатҳидаги ўзгаришлар ҳам мазкур дарёларнинг йиллик сув ҳажми билан узвий боғлиқлигини ҳисобга олсак, бу масаланинг ўта долзарблиги яққол намоён бўлади. Шу боис ҳам Рамсар Конвенциясида аҳдлашувчи томонлар ушбу ҳужжатдан келиб чиқадиган мажбуриятларни бажариш бўйича, айниқса, сув-ботқоқ ерлар бирдан ортиқ аҳдлашувчи томонлар худудларида жойлашган бўлса ёки сув тизими бирдан ортиқ аҳдлашувчи томоннинг худуди таркибида бўлганда, бир-бирлари билан маслаҳатлашиши лозимлиги кўрсатиб ўтилган.

Экологик тизимларни сақлаш ва яхшилаш, аҳолининг экологик ҳавфсиз яшашини таъминлашга эришиш мақсадида “Ўзбекистон Республикаси экология ва атроф-муҳитни муҳофаза қилиш ва табиий ресурслардан оқилона фойдаланиш соҳасида 2030 йилгача мўлжалланган концепция” лойиҳаси ишлаб чиқилганлиги ҳам мамлакатимизда барқарор ривожланиш борасидаги устувор йўналишлардан бири, ҳамда минтақамизда соғлом экологик вазиятни сақлаб қолишга қаратилган ишларнинг узвий давомидир.

Хулоса.Шундай экан, мамлакатимизда барқарор ривожланиш борасидаги устувор йўналишлардан бири ҳам минтақамизда соғлом экологик вазиятни сақлаб қолишга қаратилган. Сув-ботқоқ ҳудудлари эса экологик тизимлар барқарорлиги ва бус-бутунлигини таъминлашда тизим занжирининг муҳим бир халқаси сифатида алоҳида ўрин тутди.

Юқоридагилардан келиб чиқиб айтиш мумкинки, хавзалардаги экологик барқарорликни келгуси авлодлар учун сақлаб қолиш учун барчамиз бирдек масъулмиз.

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ОРОЛ ДЕНГИЗИНИГ ҚУРИГАН ТУБИДА БИОЛОГИК ХИЛМА-ХИЛЛИНИ САҚЛАБ ҚОЛИШ МУАММОЛАРИ ВА ЕЧИМЛАРИ

Аннотация. Орол денгизидан сугориш ишларини нотўғри фойдаланиш оқибатида, унинг сувлари қуриб, тупроқда тузлар ва бошқа минералларни қолдирди. Улар нафақат тупроқни ифлослантирди, балки шамол ва бўронлар орқали кўтарилиб, бошқа ҳудудларга, шу жумладан экин майдонларига ҳам тарқалди. Ҳудудни қайта тиклашнинг асосий муаммоси денгиз тубидан туз ва бошқа зарарли минералларни камайтиришдир. Сув қуриган майдонларда табиий ҳолда ва ўсимликларни экиб кўпайтириш орқали чўл ўсимликлар қопламани ташкил қилишдир. Қумликлар чўл ўсимликлар билан қопланганда денгизнинг суви қуриган майдонларида қумларнинг кўчиши, чанг-тўзонлар дефляцияси камаяди, флора ва фаунанинг ривожланишига, денгиз тубида тупроқ ҳосил бўлиши жараёнига ва Оролбўйи минтақасининг экологик шароитига ижобий таъсир кўрсатади.

Калит сўзлар. Орол денгизи, Оролбўйи ҳудуди, чўлланиш, трансчегаравий сув ресурслари.

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PROBLEMS AND SOLUTIONS OF PRESERVING BIOLOGICAL DIVERSITY IN THE DRY TUB OF THE ISLAND SEA

Abstract. As a result of improper use of irrigation works from the Aral Sea, its waters dried up, leaving salts and other minerals in the soil. Not only did they pollute the soil, but they were carried by wind and storms and spread to other areas, including cultivated fields. The main challenge of reclamation of the area is the reduction of salt and other harmful minerals from the seabed. It is the creation of a desert vegetation cover in dry areas naturally and by planting plants. When the sand dunes are covered with desert plants, the migration of sand and the defoliation of dust and pollen in the dry areas of the sea are reduced, the development of flora and fauna, has a positive effect on the process of soil

formation at the bottom of the sea and the ecological conditions of the Aral Bay region.

Key words. Aral Sea, Aral coastal area, desertification, transboundary water resources.

Кириш. Орол бўйида экологик аҳвол кескинлашуви замондошларимизни ташвишга солаётган глобал муаммо. Орол танглиги йирик минтақавий экологик ҳалокат бўлиб, денгиз ҳавзасида яшайдиган 35 миллиондан зиёд киши, шу жумладан, Ўзбекистон аҳолисининг катта қисми айна таъсир остида яшамоқда. Минг афсуски, яқин ўтмишда дунёдаги энг йирик кўллардан ҳисобланган Орол тезлик билан қуримоқда. Орол денгизини йўқолиши 2,5 миллион гектари Ўзбекистон ҳудудида бўлган қарийб беш миллион гектар қуриган майдон ўрнида Оролқум туз чўлини юзага келишига олиб келди Мазкур майдон беқарор экологик тизимдан иборат бўлиб, ҳам атроф муҳитга, ҳамда маҳаллий аҳоли саломатлигига жиддий таҳдид солмоқда. Шамол қуриган ҳудуддан кўтарилган қум ва тузни учуришига қарши чора кўриш учун сунъий ўрмонлар бунёд қилиш муҳим аҳамиятга эга. Орол денгизи қуришининг салбий оқибатларини юмшатиш, ҳудуд аҳолисининг ҳаёт шароити ва турмуш сифатини яхшилаш мақсадида 2017-2021 йилларда Оролбўйи ҳудудини ривожлантириш бўйича давлат дастурида устувор йўналишларидан бири сифатида белгиланган [1].

Тадқиқот услублари. Илмий манбалардан маълум бўлишича, денгиз суви қуриган тубида Оролбўйи, Устюрт платоси, Қорақум ва Қизилқум чўллари минтақаларида чўлланиш жараёни тезлашган. Денгиз 1986-йилдан бошлаб сув ҳажми кескин камайиб катта денгиз ва кичик денгиз бўлиб бўлиниб кетган. Ҳозирда катта денгизнинг сув сатҳи 3,40 метр, сув юзаси 13,47 квадрат километр, сув ҳажми 81,35 куб километр, сувнинг минерализатсияланиш даражаси эса 152 л/гни ташкил қилади. Орол денгизининг қуриган туби қарийб 4 миллион гектарни ташкил қилиб, шундан 1,3 миллион гектардан ортиғи Ўзбекистон ҳудудига тўғри келади.

XX асрнинг 60-йилларидан Орол денгизи сатҳи тез суръатлар билан пасайиши жиддий экологик ва ижтимоий-иқтисодий оқибатларга олиб кела бошлади. 1981 йилга келиб, денгизда кема ҳаракатлари бутунлай тўхтаган. Барча кемалар порт шаҳарлар яқинидаги қуруқликда қолиб кетди. Бир неча йиллар ичида 500 дан ортиқ кема қумга абадий тикилиб қолди. Улар металлломга топширилиб, атиги 11 та кема “кемалар қабристон”да мунғайганича қолди.

2018 йилнинг 27 ноябрида БМТнинг Оролбўйи минтақаси учун инсон ҳавфсизлиги бўйича кўп томонлама шериклик асосида Траст фонди фаолият бошлади. 2018 йилнинг декабр ойларидан бошлаб денгизнинг қуриган ҳудудида 500 минг гектарлик ўрмон барпо этиш жараёнига киришилди. 2020 йил 12 февралда Ўзбекистон Республикаси Президентининг “Ўзбекистон Республикаси Президенти ҳузуридаги Оролбўйи халқаро

инновация марказининг фаолияти самарадорлигини оширишга доир кўшимча чора-тадбирлар тўғрисида”ги қарори эълон қилинди. Унга мувофиқ, Орол денгизи қуриши оқибатларини бартараф этиш ҳамда сайёҳлар сонини кўпайтиришга қаратилган “ My garden in the Aral Sea” (“Оролдаги боғим”) агро ва экотуризм лойиҳаси амалга оширилиши белгиланди[2].

Натижа ва муҳокама. Қорақалпоғистон Республикаси давлат ўрмон хўжалиги кўмитаси маълумотларига кўра, 1989-йилдан Қорақалпоғистон давлат ўрмон хўжалиги кўмитаси ва хорижий давлатлар ҳамкорлик ташкилотлари томонидан денгиз суви қуриган майдонларга чўлга чидамли ўсимликлар (саксовул, черкез, қандим ва б.) экиш ишлари олиб борилмоқда. Ҳозирда жами 418 минг 287 гектар майдонга чўл ўсимликлари экилган. Жумладан, 294 минг 700 гектарга ўсимликлар уруғи сепилган, 59 минг 745 гектарга кўчат услубида экилган. 63 минг 842 гектар ерга ўсимликларни табиий униб чиқишига ёрдам бериш ишлари олиб борилган. Экилган майдонларнинг асосий қисмини саксовул, черкез, қандим ўсимликлари эгаллайди. Денгизнинг қуриган тубига экилиб келинаётган қора саксовул ўсимлиги шўрадошлар оиласига мансуб бўлиб, бўйи 5 метргача ўсади. Бу ўсимлик тақир, чорлиқум шўрхоқ ерларда яхши ўсади. У Устюртда кўп тарқалган. Шундай ўсимликлардан бири черкез, қандим Орол денгизининг қуриган тубига уруғидан экиб кўпайтирилмоқда[3].

2022 йил давомида Орол денгизининг қуриган ҳудудида глобал экологик муаммонинг олдини олиш ва аҳолининг ижтимоий-иқтисодий яшаш тарзини яхшилашга қаратилган кенг кўламли чора-тадбирлар олиб борилди. Хусусан, 107 минг гектар майдонда саксовул ва бошқа чўл ўсимликларидан “яшил қоплама” барпо этилди. Маҳаллий аҳоли кўмагида 590,3 тонна чўл ўсимлиги уруғи жамғарилди. Юз гектар саксовул ва бошқа чўл ўсимликларидан ниҳол хоналар ташкил этилди.

2023 йил давомида ҳам бу борада тизимли ишлар олиб борилди. Жумладан, 2023 йил юз минг гектар майдонда “яшил қоплама” ҳимоя ўрмонзори барпо этилади. “Яшил қоплама” барпо этиш, хатосини тўлдириш учун жами 420 тонна саксовул, қандим, қорабуроқ каби чўл ўсимликлари уруғи жамғарилади. Саксовул ва бошқа чўл ўсимликларидан ниҳол хоналар ташкил этилади. Ўрмон-мелиоратив тадбирларини амалга ошириш учун зарур миқдордаги техника ва механизм, мутахассис ва ишчи-ходим, шунингдек ихтиёрий равишда аҳоли жалб этилди [4].

Айни пайтда Халқаро инновация маркази томонидан “Мўйноқ” ва “Саманбай” тажриба-синов майдонлари ташкил этилган, шунингдек шўрланиш ва қурғоқчиликка чидамли чўл ва манзарали ўсимликлар генофонди шакллантирилиб, 13 турдаги ўсимлик дунёси объектлари синовдан ўтказилмоқда.

Хулоса. Мазкур тадбирлар кумни мустаҳкамлаш жараёнларини яхшилаш, туз ва чангни чегарабўйи зоналарига ёйилишини қисқартиришга

қаратилган. Узоқ муддатли истиқболда ўрмонлаштириш бўйича ишлар ҳудудда экологик мувозанатни яхшилайти, шу аснода маҳаллий аҳоли саломатлигига ижобий таъсир кўрсатади, қулай микроиклим ва атмосфера ҳолатини яратади, тупроқдан намни буғланишини қисқартиради ва хайвонот олами сонини ошиши ва эркин ҳаракат қилиши учун шароитлар яратади. Бунинг натижасида минтақада экологик ва ижтимоий-иқтисодий барқарорлик таъминланади.

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МАККАЖЎХОРИНИ ЕТИШТИРИШ ВА ЙИҒИШТИРИШ ҲАМДА СЎТАЛАРНИ ЯНЧИБ, ДОНИНИ АЖРАТИБ ОЛИШНИНГ БУГУНГИ ХОЛАТИ

Аннотация. Маккажўхори дунё миқёсида энг асосий қишлоқ хўжалик экинларидан бири ҳисобланади, ўзининг ҳосилдорлиги юқорилиги билан бошқа донли экинлардан ажралиб турганлиги сабабли уни етиштириш ҳажми йилдан– йилга ортиб бормоқда. Ўзбекистонда ҳам маккажўхори муҳим қишлоқ хўжалик экинлари сарасига киради ва озиқ-овқат танқислигини олдини олишда, чорвачилик ҳамда паррандачилик озуқа базасини ривожлантиришда муҳим рол ўйнайди.

Калит сўзлар: Қобиқли сўталар, физик-механик хоссалар, ўлчам-масса,

навлар, сўталарнинг таркиби, қобиқлар сони, массаси, қобиқларнинг узунлиги, эни ва қалинлиги, вариация коэффицентлари.

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MORPHOLOGICAL COMPOSITION AND DIMENSION-MASS INDICATORS OF SHELLED STUFF

Annotation. Corn is considered one of the most basic agricultural crops on a global scale, with its high yield, as it is distinguished from other cereals, the volume of its cultivation is increasing from year to year. In Uzbekistan, corn also belongs to the Saras of important agricultural crops and plays an important role in the Prevention of food shortages, the development of livestock and poultry feed base.

Keywords: Shelled beans, physical-mechanical properties, size-mass, varieties, composition of pods, number of shells, mass, length, width and thickness of shells, coefficients of variation.

Маккажўхори дунё миқёсида энг асосий қишлоқ хўжалик экинларидан бири ҳисобланади. Ўзининг ҳосилдорлиги юқорилиги билан бошқа донли экинлардан ажралиб турганлиги сабабли уни етиштириш ҳажми йилдан–йилга ортиб бормоқда. Дунё бўйича энг кўп маккажўхори

Америка Қўшма Штатларида етиштирилади ва умумий ҳосилнинг 40 фоизини ташкил этади. Кейинги ўринларда Хитой, Бразилия, Аргентина, Украина, Ҳиндистон, Мексика, Индонезия, Франция ва Жанубий Африка, Нигерия давлатлари туради.

Ўзбекистонда ҳам маккажўхори муҳим қишлоқ хўжалик экинлари сарасига киради ва озиқ-овқат танқислигини олдини олишда, чорвачилик ҳамда паррандачилик озуқа базасини ривожлантиришда муҳим рол ўйнайди. Шу сабабли Республикамизда ҳам маккажўхори етиштириш хажми йилдан-йилга ортиб бормоқда. Демак, маккажўхори йиғиштиришда қўлланиладиган техника воситаларига бўлган талаб йилдан-йилга ортиб боради. Ҳозирги кунларда маккажўхори донга икки хил усул билан йиғиштириб олинмоқда.

Маккажўхорини донга йиғиштиришнинг мавжуд технологиялари.

1. Сўта ҳолида йиғиштириб олиш;
2. Сўталарни янчиб, бир йўла дон ҳолида йиғиштириб олиш.

Ушбу усулларни амалга оширадиган турли конструкциядаги техник воситалар яратилган бўлиб, уларнинг аксарияти Америка Қўшма Штатларида ихтиро қилинган. Илгарилари маккажўхорини сўта ҳолида йиғиштириб олиш асосий усул ҳисобланган. Бунинг учун қўл меҳнатидан ёки пиккер (тергич) машиналардан фойдаланилган. Поялар эса алоҳида мосламалар ёрдамида далага органик ўғит сифатида майдалаб ташланган ёки чорвага озуқа сифатида йиғиштириб олинган. Йиғиштирилган қобиқли сўталар хирмонга олиб келинган ва стационарда қуритилиб, машина ёки қўлда қобиғидан тозаланган. Ундан сўнг сўтаянчгич машиналарида янчилиб, донлари ажратиб олинган ва омборларда сақланган.

Мазкур усулнинг **камчилиги** пояларни йиғиштиришнинг алоҳида амалга оширилиши ҳисобланиб, бу сарф-харажат ва поя нобудгарчилигининг кўпайтириб юборади. Шу сабабли бу ўрим усулидан воз кечилган. Ҳозирги даврда эса маккажўхорини сўта ҳолида йиғиштириб олишда поялари қирқилиб, сўталар ажратиб олинади ва улар қобиғидан тозаланиб ёки тозаланмасдан транспорт воситасига юкланади. Поялар ҳам бир пайтнинг ўзида майдаланиб, ёнма-ён юрган транспорт воситасига юклаб кетилади. Бу усул асосан КОП-1,4 “Херсонце-7”, ККП-3 “Херсонце-9”, ККП-2 “Херсонце-10”, КСКУ-6 ва бошқа шу каби машиналарда амалга оширилади. Йиғилган сўталар таркибида бир қисм намлиги юқори сўталар бўлганлиги сабабли улар стационар пунктларда қуритилади. Сўнгра эса сўталар қобиқ тозалаш машиналарида тўлалигича ёки чала қолиб кетган қобиқларидан тозаланади ва сўтаянчгичлар ёрдамида янчилиб, донлари ажратиб олинади. Мазкур ўрим усулида сўталар стационар шароитда қуритилиши натижасида, уларнинг намлиги меъёрига келади ва донларни сифатли янчиб олишга эришилади. Бундан ташқари, поялар ҳам нобуд қилинмасдан йиғиштириб олинади. Мазкур ўрим усули яқин вақтларгача Ўзбекистонда ҳам кенг қўлланилган ва унда фойдаланилган техника

воситаларининг техник-эксплуатацион ва иш сифат кўрсаткичларига оид маълумотлар мавжуд илмий манбаларда келтирилган.

Республикамиз шароитида маккажўхорини донга тўғридан-тўғри комбайн билан йиғиштириш усули махсус ўриш мосламаси билан жиҳозланган ғалла комбайнлари ёки ўзиюрар маккажўхори комбайнлари ёрдамида икки хил кўринишда амалга оширилади.

Дон билан бирга пояларни ҳам йиғиштириб олиш усули: бу ўрим усули КСКУ-6 комбайини ёрдамида амалга оширилади. Унинг афзаллиги бир йўла бир нечта технологик жараёнлар бир пайтда бажарилиб, дон тўғридан-тўғри олинади; камчилиги агар дон ва пояларнинг намлиги 20 фойздан юқори бўлса, донни йиғиштириб олишда унинг шикастланиши ва нобудгарчилиги ортиб кетади, комбайн янчгичини тез-тез тикилиши натижасида иш унуми пасаяди.

Навбатдаги усул Кейс-2166 русумли комбайнда амалга оширилади. Бу усулда комбайн билан фақатгина дон йиғиштирилиб, поя ва сўта ўзаклари далага сочиб кетилади.

Донлар транспорт воситасида хирмонларга олиб келинади ва дон тозалаш машиналарида тозаланиб, сақлаш учун омборларга жойлаштирилади. Бу усулнинг **афзаллиги** ҳосил тез фурсатларда йиғиштириб олинади. Шунингдек, қолдириб кетилган поя, ўзак ва қобиқ бўлаклари ер учун органик ўғит сифатида фойдали бўлади. Маккажўхорининг анғиз қолдиқларида 0,20% азот, 0,12% фосфор ва 0,11% калий моддалари мавжуд бўлиб, бир гектар майдонда маккажўхоридан бўшаган ерда 20,8 кг азот қолади. Аммо маккажўхори поялари чорва моллари учун озуқа сифатида фойдаланиладиган жойларда (жумладан, бизнинг республикамизда ҳам), мазкур ўрим усули жуда кам қўлланилади. Айни вақтда ўрим-йиғим техникалари ишлаб чиқариш бўйича дунёда етакчи бўлган “Клаас”, “Кейс”, “Джон-Дир”, “Дойц Фар”, “Нью-Холланд” каби фирма ва компаниялар ўз комбайнларини охириги ўрим усулига мослаб ишлаб чиқаришмоқда.

Ўзбекистон шароитида маккажўхорини донга йиғиштириш учун энг мақбул усуллардан бири бу уни думбул пишиш даврида қобиқли сўта кўринишида, бир пайтнинг ўзида пояларини ҳам майдалаб йиғиштириб олган ҳолда сўталарни қуриштириб, сўнгра қобиқларидан тозаламасдан янчиб олиш ҳисобланади. Мазкур ўрим усулини амалга ошириш учун ҚХМЭИда янги турдаги маккажўхори йиғиш машинаси ва сўтаянчгич ишлаб чиқилган.

Маккажўхорини донга йиғиштириш учун тавсия этилган янги технология.

Тавсия этилган усул бўйича сўталарнинг намлиги 35-40 % га етганда маккажўхори поялари қирқилади, улардан сўталар ажратилиб, қобиқидан тозаланмасдан тиркамага юкланади. Поялар эса майдаланиб, ёнма-ён юрган транспорт воситасига юклаб берилади. Қобиқли сўталар хирмонда дон намлиги – 18-20 %, ўзакларнинг намлиги – 20-24 % бўлгунга қадар

куритилади ва қобикларидан тозаланмасдан сўтаянчгич ёрдамида янчиблиб, донлари ажратиб олинади. Бу ўрим усулининг афзаллиги шундан иборатки, барча ҳосил одатдагидан 10-12 кун эртароқ ва бир вақтда даладан тўлик йиғиштириб олиб чиқилади. Бунинг натижасида дала навбатдаги экинларни экиш ёки ишлов бериш учун эртароқ бўшайди. Сўталарнинг қобиклардан тозаланмаслиги ҳисобига ўрим-йиғим машинасининг иш унуми 20 фоизга ортади, дон нобудгарчилиги ва ёнилғи сарфи эса 10-15 фоизга камаяди. Бундан ташқари, дон билан биргаликда чорва учун қимматли озуқа ҳисобланган дағал поя ҳам йиғиб олинади. Сўталарнинг қобиклар ичида бўлиши эса уларни юклаш, ташиш ва тушириш пайтида донларнинг зарарланиши ва нобуд бўлишини кескин камайтиради. Сўта ҳолида йиғиштириб олинган маккажўхорини янчиб, донини ажратиб олиш учун дунё миқёсида турли хил конструкциядаги сўтаянчгичлар ишлаб чиқилган. Аммо, ушбу сўтаянчгичларнинг кўпчилик қисми бир-бирига ўхшаш бўлганлиги сабабли, уларнинг айримларининг конструкцияси ва технологик жараёнини таҳлил этиш зарур бўлади.

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МАККАЖЎХОРИНИНГ ТУТГАН УРНИ ВА АҲАМИЯТИ

Аннотация. Маккажўхорининг халқ хўжалигидаги аҳамияти юқори бўлиб, дон ва яшил масса учун кенг майдонларда экиладиган муҳим маданий ўсимлик ҳисобланади. Сўнгги йилларда бир қанча саноат соҳаларида фойдаланилиши билан бирга, озиқ-овқат ҳамда чорва ҳайвонлари учун тўйимли озуқабоп экин сифатида фойдаланишида маккажўхорининг аҳамияти янада ортган.

Калит сўзлар: Қобиқли сўталар, физик-механик хоссалар, ўлчам-масса, навлар, сўталарнинг таркиби, қобиқлар сони, массаси, қобиқларнинг узунлиги, эни ва қалинлиги, вариация коэффицентлари.

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THE POT AND VALUE OF CORN

Annotation. Corn has a high importance in the national economy and is an important cultural plant planted in large areas for grain and green mass. In recent years, the importance of corn in its use as a nutritious fodder crop for food as well as livestock has increased with its use in several industries.

Keywords: Shelled beans, physical-mechanical properties, size-mass, varieties, composition of pods, number of shells, mass, length, width and thickness of shells, coefficients of variation.

Маккажўхорининг халқ хўжалигидаги аҳамияти юқори бўлиб, дон ва яшил масса учун кенг майдонларда экиладиган муҳим маданий ўсимлик ҳисобланади. Сўнгги йилларда бир қанча саноат соҳаларида фойдаланилиши билан бирга, озиқ-овқат ҳамда чорва ҳайвонлари учун

тўйимли озуқабоп экин сифатида фойдаланишда маккажўхорининг аҳамияти янада ортган.

Маккажўхори дунё деҳқончилигида кўп тарқалган энг қимматли ва серҳосил экин ҳисобланиб, донли экинлар орасида умумий дон ҳосили бўйича иккинчи, экин майдони бўйича учинчи ўринда туради.

Маккажўхорининг халқ хўжалигидаги аҳамияти

Озиқ-овқатдаги ўрни. Маккажўхори бошқа донли экинларга қараганда ҳосилдорлиги ва озуқавийлигининг юқорилиги билан устун туради.

Дон таркибидаги муртак қисмида мой кўп бўлганлиги учун маккажўхоридан тайёрланган ун тез ачийди, шунинг учун ун тайёрлашда муртаги ажратиб олинади, муртагидан озиқ-овқатда ишлатиладиган сифатли мой олинади. Маккажўхори унига 20-30% буғдой уни қўшиб нон ёпилади.

Маккажўхори попугидан тайёрланган дамлама буйрак ва жигар хасталикларини даволашда сийдик ҳайдовчи восита сифатида ишлатилади. Попугида К витамини кўп бўлади. Мойи атеросклерозда даво бўлади.

Бразилияда кўпчилик автомашиналар биоэтанолда (бензин ва дизел ёқилғиси ўрнини босади) ишлайди. Бразилияликлар биоэтанолни асосан маккажўхори донидан олишади (1 тонна дондан 180 литр этил спирти олинади). 60 т/га кўк массасидан 6000 м³ метан гази олинади.

Озуқадаги ўрни. Ем-хашак учун маккажўхорининг дони ва пояси ишлатилади. Унинг дони жуда тўйимли (1 кг маккажўхори дони 1,34 кг озуқа бирлигига эга) ҳисобланиб, чорва ҳайвонлари ва паррандаларга бутунлигича ёки ёрма (майдаланган) ҳолида берилади.

Маккажўхорининг пояси молларга яшил ҳолича берилади, ундан хашак ҳамда дони сут-мум пишиш даврида ўрилганда эса юқори сифатли силос тайёрлаш мумкин.

Маккажўхори силосининг бир килограмми тўйимлилиги жиҳатидан 0,20-0,25 озуқа бирлигига, сўтаси билан бирга бостирилганда эса 0,40 озуқа бирлигига тенг бўлади.

Маккажўхори юқори ҳосилли экин бўлиб, 100 кг миқдор- даги қуруқ поя ва баргларида 37 озуқа бирлигини сақлайди. Маккажўхори қуруқ пояси ва дони янчиб олингандан сўнг қолган сўта ўзаги (мардаги)дан ёқилғи маҳсулот сифатида фойдаланилади.

Маккажўхорининг саноатдаги аҳамияти. Маккажўхорининг саноатдаги аҳамияти шундан иборатки, унинг донидан крахмал, спирт, глюкоза, сирка кислотаси, поясидан эса қоғоз, картон, ёғоч спирти, сунъий каучук, сунъий смола ва бошқа ҳар хил маҳсулотлар олинади.

Маккажўхорининг келиб чиқиши ва тарқалиши тарихи

Маккажўхори эраиздан 7-12 минг йил олдин Мексикада маданийлаштирилган. Ёввойи ҳолдаги маккажўхори экини сўталари ҳозиргиларга нисбатан 10 баробар кичик, яъни 3-4 см бўлган. Мексикада

археологик қазилмалар вақтида маккажўхори чангдонлари топилиб, унинг ёши 5000 йилни ташкил қилиши аниқланган.

Маккажўхорининг ватани – Марказий ва Жанубий Америка (Мексика, Гватемала) ҳисобланади. Марказий Американинг маҳаллий аҳолиси уни эрамиздан олдин, 3400-2300 йиллар муқаддам етиштиришни бошлашган.

Бу ҳақда археологик қазилмалар–чанглар, рўваклар, дон ва сўтасининг содда шакллари ҳамда генетик, цитозембриологик тадқиқотлар гувоҳлик беради.

Мая ҳиндулари маккажўхорини “маис” деб номлашган. Америкада ҳозиргача шундай аталади.

Маккажўхори Европага Х.Колумбнинг иккинчи экспедицияси сафаридан кейин 1496 йилда келтирилган. Денгиз йўли орқали “маис” Олд ва Шарқий Осиёга (шунингдек, Тур- кияга) келтирилган.

Маккажўхори испанчада “**cucurucho**” дейилиб, қоғоз кулек, фунтик маъносини билдиради. Русча "кукуруза" руминчада “*еловая шишка*” маъносини беради. “Кукуруза” сўзи туркчадан келиб чиққан бўлиб, туркияда маккажўхорини “**кочкороз**”, яъни баланд ўсимлик деб аташади.

Ўрта Осиёга ота-боболаримиз XIX аср бошларида Маккаю Мадинага ҳаж сафарига зиёратга борган пайтларида уруғларидан олиб келишган ва далага экишган, ўсиб турган экинини кўриб, ўзимизда ўсадиган оқ жўхори экинига ўхшашлиги ва уруғи Маккаю Мадинадан келтирилганлигини инобатга олиб маккажўхори деб ном беришган.

Маккажўхорининг санаб ўтилган турларидан фақат бештаси аҳамиятга эгадир.

1. Тишсимон маккажўхори - дони йирик, чўзинчоқ ясси, қорни ва орқа томони ботик, донининг учи юмалоқ эндоспермнинг ойнасимон қатлами донининг ён томонида бўлиб, унсимон қавати эса доннинг марказ ва тепа қисмида жойлашган. Доннинг устки қисмида чуқурча бўлиб, бу унсимон крахмал қисмининг ойнасимон қисмига нисбатан тез қуриши натижасида ҳосил бўлади.

Доннинг ранги оқ, сариқ, қорамтир. Донининг таркибида 68-78% крахмал ва 8-14% оқсил бўлади. Бу кенжа турнинг навлари ва дурагайлари кўп тарқалган.

2. Кремнистисимон маккажўхори - дони йирик, юмалоқ, донининг юзаси силлик, ялтироқ, учи юмалоқ. Эндосперми ойнасимон бўлиб, фақат марказий қисмида унсимон бўлади. Донининг ранги ҳар хил: оқ, сариқ, қизил. Донининг таркибида 65-87% крахмал ва 8-18% оқсил бўлади.

3. Крахмалли маккажўхори. Дони йирик, юмалоқ, устки қисми силлик, ойнасимон эндосперми йўқ, унсимон эндосперми яхши ривожланган, донни бутунлай тўлдириб ту- ради. Донининг ранги оқ, оч сариқ ва бошқа рангда бўлади. Донининг таркибида 72-85% крахмал ва 6-13% оқсил бўлади.

4. Қандли ёки ширин маккажўхори. Дони йирик ва ўртача

катталиқда бўлади. Донининг шакли ҳар хил бўлади, ботик, бир оз бурчаксимон, буришган бўлади, шохсимон эн- досперми яхши ривожланган, унсимон эндосперми бўлмай- ди. Донининг ранги оқ, оч сарик, кўнғир. Сўтаси донининг сут пишиш даврида консерва тайёрлаш учун ишлатилади.

5. Чатнайдиған ёки гуручсимон маккажўхори. Дони май- да, юмалок, бир оз ботик, донининг учи ўткир, ойнасимон, эндосперми яхши ривожланган, донни бутунлай тўлдириб туради. Донининг ранги асосан оқ бўлади, таркибида 62-70% крахмал ва 10-15% оқсил бўлади.

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УЧЕТ И АНАЛИЗ ВНЕОБОРОТНЫХ АКТИВОВ ОРГАНИЗАЦИИ

Аннотация. Активная управленческая политика по учету и анализу внеоборотных активов становится все более важной для современных организаций. Данная статья представляет комплексный обзор ключевых аспектов, связанных с внеоборотными активами, включая их оценку, амортизацию, переоценку, анализ эффективности использования и управление рисками. Читатель познакомится с методиками правильного учета внеоборотных активов, оптимизации использования капитала, а также с инструментами анализа, позволяющими оценить эффективность инвестиций, риски и прогнозировать будущие потребности организации. Статья предназначена для бухгалтеров, финансовых аналитиков, менеджеров по управлению активами и руководителей, заинтересованных в оптимизации управления долгосрочными активами.

Ключевые слова: внеоборотные активы, оценка, анализ, управление рисками, эффективность.

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ACCOUNTING AND ANALYSIS OF NON-CURRENT ASSETS OF THE ORGANIZATION

Annotation. An active management policy on accounting and analysis of non-current assets is becoming increasingly important for modern organizations. This article provides a comprehensive overview of the key aspects related to non-current assets, including their valuation, depreciation, revaluation, efficiency analysis and risk management. The reader will get acquainted with the methods of correct accounting of non-current assets, optimizing the use of capital, as well as with analysis tools that allow assessing the effectiveness of investments, risks and predicting the future needs of the organization. The article is intended for accountants, financial analysts, asset management managers and executives interested in optimizing the management of long-term assets.

Keywords: non-current assets, valuation, analysis, risk management, efficiency.

Внеоборотные активы являются одной из ключевых категорий активов в бухгалтерском учете организации. Эти активы представляют собой долгосрочные инвестиции, имущество, оборудование, нематериальные активы и другие виды активов, которые не предполагается продавать или преобразовывать в денежные средства в течение короткого периода, обычно более одного года. Учет и анализ внеоборотных активов играют важную роль в финансовом управлении организацией. Внеоборотные активы играют важную роль в создании организации. Они обеспечивают базу для деятельности компании, включая оборудование, транспортные средства и здания. Нематериальные активы, такие как патенты и бренды, помогают формировать конкурентное преимущество. Инвестиции в исследования и разработки способствуют инновациям и росту бизнеса. Создание структуры, управленческих процессов и компетенций сотрудников также основано на внеоборотных активах. В целом, эти активы являются основой для успешного старта и развития компании, обеспечивая ей устойчивость и конкурентоспособность на рынке.

При первоначальном включении в бухгалтерский учет внеоборотных активов необходимо правильно определить их стоимость. Обычно это включает в себя стоимость приобретения актива, расходы по его улучшению и подготовке к использованию. Оценка внеоборотных активов является ключевым этапом при их первоначальном включении в бухгалтерский учет организации. Этот процесс включает в себя правильное определение стоимости внеоборотного актива, которая обычно состоит из нескольких составляющих:

1. Стоимость приобретения: Включает в себя фактическую сумму, которая была потрачена на приобретение данного актива, включая его покупную цену, налоги, комиссии и другие сопутствующие расходы.

2. Расходы по улучшению и подготовке к использованию: Если актив требует дополнительных затрат на улучшение, модернизацию или подготовку к использованию (например, обучение персонала, настройку оборудования и т. д.), эти расходы также могут быть включены в общую стоимость актива.

Оценка внеоборотных активов должна быть проведена в соответствии с принципами бухгалтерского учета и аудита, учитывая текущие стандарты и правила. Правильная и точная оценка внеоборотных активов не только обеспечивает корректное отражение их стоимости в учете, но и является основой для последующей амортизации и анализа эффективности использования этих активов в организации.

Амортизация внеоборотных активов представляет собой процесс распределения стоимости актива на его срок службы. Этот процесс имеет

важное значение, поскольку позволяет организации правильно учесть износ и излишнюю стоимость актива в течение его использования. Важными аспектами амортизации являются:

1. Методы амортизации: Существует несколько методов амортизации, такие как линейный метод, уменьшенного остаточного значения, двойного уменьшения остаточной стоимости и т. д. Каждый из них применим в различных ситуациях и может влиять на финансовые показатели организации.

2. Срок службы: Важно правильно оценить срок службы актива, так как от этого зависит период амортизации. Некоторые активы могут иметь разные сроки службы в зависимости от их типа и назначения.

3. Влияние на финансовую отчетность: Амортизация влияет на финансовые отчеты организации, такие как отчет о прибылях и убытках и баланс. Понимание принципов и методов амортизации помогает представить более точную картину финансового положения компании.

Корректная амортизация внеоборотных активов позволяет организации учитывать износ активов, снижать налоговое бремя и принимать обоснованные управленческие решения относительно использования и обновления активов.

Переоценка внеоборотных активов представляет собой процедуру оценки активов с целью отражения их текущей рыночной стоимости в бухгалтерском учете организации. Некоторые ключевые аспекты переоценки внеоборотных активов включают:

1. Цели переоценки: Организации могут проводить переоценку внеоборотных активов для корректировки их стоимости до текущей рыночной цены, реализации потенциальных приростов капитала или сокращения нереализованных потерь.

2. Правила бухгалтерского учета: Существуют строгие правила и стандарты, регулирующие процесс переоценки внеоборотных активов, чтобы обеспечить прозрачность и достоверность финансовой отчетности.

3. Влияние на финансовый результат: Проведение переоценки внеоборотных активов может иметь существенное влияние на финансовые показатели организации, такие как чистая прибыль, собственный капитал и рыночная стоимость активов.

4. Управленческие решения: Результаты переоценки могут помочь руководству компании принимать обоснованные управленческие решения относительно инвестиций, кредитования и стратегического планирования.

Эффективная и правильная переоценка внеоборотных активов способствует улучшению качества информации в финансовой отчетности и позволяет более точно отразить реальную стоимость активов организации.

Анализ эффективности использования внеоборотных активов является важным инструментом для оценки эффективности управления

долгосрочными активами организации. Некоторые ключевые аспекты этого анализа включают:

1. Коэффициенты оборачиваемости: Показатели, отражающие, насколько эффективно внеоборотные активы оборачиваются в прибыль. Высокие значения этих коэффициентов свидетельствуют о более эффективном использовании активов.

2. Рентабельность внеоборотных активов: Этот показатель позволяет оценить доходность вложенных в внеоборотные активы средств. Рентабельность активов помогает выявить, насколько успешно используются долгосрочные активы компании.

3. Сравнение показателей: Сравнение показателей эффективности использования внеоборотных активов со среднестатистическими данными по отрасли или с конкурентами может дать более объективное представление о производительности компании.

Этот анализ помогает руководству принимать обоснованные решения относительно оптимизации использования долгосрочных активов, улучшения финансовых показателей и повышения общей эффективности бизнеса.

Управление рисками связанных с инвестициями внеоборотных активов играет ключевую роль в финансовой стратегии организации. Некоторые важные моменты в этой области включают:

1. Идентификация рисков: Определение потенциальных угроз и опасностей, которые могут повлиять на ценность внеоборотных активов, такие как изменения на рынке, технологические изменения или изменения в законодательстве.

2. Оценка рисков: Анализ вероятности возникновения рисков и их возможных последствий для финансового положения компании.

3. Разработка стратегий управления рисками: Создание планов и мер, направленных на снижение рисков, связанных с долгосрочными активами, таких как страхование, диверсификация портфеля активов, а также регулярный аудит и мониторинг.

4. Принятие управленческих решений: Основываясь на анализе рисков, руководство принимает обоснованные решения по управлению внеоборотными активами, минимизируя потери и обеспечивая устойчивость и долгосрочное развитие компании.

Эффективное управление рисками позволяет организации адаптироваться к изменениям во внешней среде, обеспечить стабильность финансовых результатов и сохранить ценность своих долгосрочных активов.

Прогнозирование будущих инвестиций в внеоборотные активы играет важную роль в стратегическом планировании развития организации. Этот процесс позволяет определить потребности в долгосрочных активах для поддержки текущих и будущих бизнес-операций, разработать план

капитальных затрат, оптимизировать использование активов и выработать стратегии развития. Прогнозирование инвестиций помогает организации быть готовой к изменениям в окружающей среде, повысить эффективность и рентабельность бизнеса, а также обеспечить устойчивость и конкурентоспособность компании.

В данной статье была рассмотрена важность учета и анализа внеоборотных активов для организации. Внеоборотные активы играют решающую роль в формировании и успехе предприятия, служа основой для его долгосрочной устойчивости и развития. Оценка, амортизация, переоценка, анализ эффективности использования и управление рисками в отношении внеоборотных активов необходимы для принятия обоснованных управленческих решений, оптимизации использования ресурсов и создания конкурентных преимуществ. Прогнозирование будущих инвестиций в эти активы позволяет компании быть готовой к вызовам рыночной среды и обеспечить свое долгосрочное развитие. В совокупности все эти аспекты способствуют эффективному управлению бизнесом и достижению стратегических целей организации.

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ВАЖНЫЕ АСПЕКТЫ РАЗВИТИЯ ЭКОЛОГИЧЕСКОЙ КОМПЕТЕНТНОСТИ И КУЛЬТУРЫ У СТУДЕНТОВ

Аннотация. В данной статье освещаются вопросы, связанные с формированием экологической компетентности и культуры у студентов в ходе образовательного процесса. Авторы обсуждают основные задачи, поставленные перед образовательными учреждениями, в том числе формирование новых ценностей, этических ориентиров, развитие способности и готовности студентов учитывать экологическую составляющую в их будущей профессиональной деятельности. Научно-исследовательская работа основана на результатах студентов факультетов экономики и маркетинга. При выполнении этих задач выделены важные аспекты курса экологического менеджмента. Также в статье представлены различные подходы и методы, используемые для достижения цели, примеры практической деятельности, направленной на развитие экологической компетентности и культуры у студентов. В исследовании подчеркивается важность включения экологических аспектов в образовательный процесс для подготовки экологически сознательных и ответственных специалистов.

Ключевые слова: экологическая компетентность, природопользование, культура, преподавание, образование, воспитание, студенты, ценности, этическое отношение, будущая профессиональная деятельность, методы.

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IMPORTANT ASPECTS OF DEVELOPING ENVIRONMENTAL COMPETENCE AND CULTURE IN STUDENTS

Abstract. This article highlights issues related to the formation of environmental competence and culture among students during the educational process. The authors discuss the main tasks set for educational institutions, including the formation of new values, ethical guidelines, development of the ability and readiness of students to take into account the environmental component in their future professional activities. The research work is based on the results of students of the faculties of economics and marketing. In carrying out these tasks, important aspects of the environmental management course are highlighted. The article also presents various approaches and methods used to achieve the goal, examples of practical activities aimed at developing environmental competence and culture among students. The study highlights the importance of incorporating environmental aspects into the educational process to create environmentally conscious and responsible professionals.

Key words: environmental competence, environmental management, culture, teaching, education, education, students, values, ethical attitude, future professional activities, methods.

Актуальность. Современная цивилизация проявляет особое внимание к проблемам защиты и охраны окружающей среды. Появление предвестников экологического кризиса в различных сферах человеческой деятельности в конце XX века подняло актуальный вопрос об устойчивом развитии, особенно в промышленно развитых государствах. Одной из важных причин ухудшения экологической ситуации является низкий уровень экологической культуры населения и недостаточная экологическая компетентность у руководителей промышленных предприятий и менеджеров различных уровней [1, 2].

Для обеспечения экологической безопасности необходимо формирование у будущих специалистов экологической компетентности, культуры и экологического мировоззрения. Однако в образовательных программах вузов, где готовят бакалавров по разным направлениям экологические проблемы до сих пор не получили должного отражения.

В существующих образовательных стандартах для этих направлений экологическая компетентность не представлена, хотя ее важность для будущих специалистов очевидна.

В связи с этим возникает необходимость внедрения системы обучения экологическому менеджменту с использованием междисциплинарного подхода в профессиональной подготовке студентов по направлениям экономика, маркетинг, финансовая, управление человеческими ресурсами, туризм и другие [2, 3].

Научно-литературный обзор. На научно-теоретическом и практическом уровнях требуются разработка соответствующих методик, их апробация и внедрение в образовательный процесс. Важно учесть, что современное образование характеризуется расширением экологических практик. Решение экологических проблем зависит от государственной политики, ее ценностей и приоритетов.

На протяжении нескольких десятилетий отечественные и зарубежные ученые, такие как А. Н. Захлебный, С. Н. Глазачев, Н. С. Дежникова, И. Д. Зверев, В. А. Игнатова, Б. Т. Лихачев, а также узбекистанские исследователи Ф. А. Абдуллаев, Ш. Р. Назарова и У. Ш. Турсунов активно исследуют проблемы формирования экологической культуры в области экологического образования [1, 4, 5].

С точки зрения образовательных целей важно не только обучить студентов пониманию экологических проблем общества, но также учитывать реальные условия и их динамику. Необходимо как улучшать традиционные методики, так и внедрять новые педагогические технологии, направленные на формирование экологической компетентности и, следовательно, экологической культуры будущих специалистов.

Проведенный анализ, выполненный авторами, показал, что на данный момент уровень профессиональной подготовки выпускников, будущих специалистов в области экологии, остается недостаточно высоким. Основной проблемой является отсутствие курса экология и экологического менеджмента в большинстве учебных планов. В то же время подавляющее большинство студентов понимает важность экологической подготовки, что подтверждается результатами опроса среди студентов экономического факультета Каршинского Государственного Университета (опрошено 75 респондентов относительно необходимости включения курса экологического менеджмента в образовательные программы факультета управления).

Экологическая подготовка студентов в вузе должна быть органически интегрированной в общую систему профессиональной подготовки всех направлений и профилей. Кроме того, важно учитывать региональные аспекты стандартов образования и обеспечить персональную значимость этой подготовки для каждого студента. Вузы должны органически включать экологическую подготовку студентов в общую систему профессиональной подготовки всех направлений и профилей. Кроме того, важно учитывать региональные компоненты стандартов образования и делать экологическую подготовку значимой для личности каждого студента.

Формирование экологической культуры студентов является одной из важных задач профессиональной педагогики и экологического менеджмента [2, 3, 4]. В настоящее время требования к экологической образованности и культуре становятся неотъемлемой частью общей культуры личности. Внимание к экологическому образованию и

формированию экологического сознания и культуры, которые являются частью нравственного воспитания, постепенно увеличивается. Под экологической культурой понимается гармоничное единство экологического сознания, поведения и воспитания с природой. В различных регионах страны экологическое воспитание студентов приобретает свою специфику под влиянием национальных традиций, особенностей народов, проживающих на данной территории, а также отношения к природе родного края и реальной ситуации. Конечно, на формирование экологической культуры оказывают влияние экологические знания, убеждения и компетентность.

На сегодняшний день существует несколько подходов к определению экологической культуры. По мнению А. Н. Захлебного [1, 5], это осознание и применение принципов природопользования в деятельности и сознании человека, умение решать социально-экономические задачи, не нанося вреда окружающей среде и здоровью людей. Согласно Ф. А. Абдуллаева, экологическая культура имеет множество аспектов, включая культуру познавательной деятельности в отношении природы, культуру труда с учетом экологических, эстетических и социальных критериев, и культуру духовного общения с природой, развитие эстетических эмоций и умений оценивать эстетические аспекты как естественной, так и измененной природной среды.

Экологическая культура специалистов является условием и способом реализации ценностей в системе "человек - природа - общество", которые выражаются в общецивилизационной культуре, культуре социальной жизни и культуре деятельности (интеллектуальной и практической) при принятии управленческих решений в области взаимодействия природы и общества.

Формирование экологической культуры студентов включает различные аспекты. Это включает приобретение экологических знаний и представлений, развитие мотивации и сознания, формирование убеждений и потребности в экологической деятельности, изменение отношения к природе и развитие соответствующих потребностей, мотивов и установок в образовании и воспитании.

Экологическая культура, как качество личности, должна развиваться в рамках непрерывного экологического воспитания и образования. Экологическое воспитание должно быть систематическим и начинаться с раннего детства, простираясь на протяжении всей жизни. Отношение к природе взаимосвязано с различными сферами человеческой жизни, такими как семейные, общественные, производственные и межличностные отношения, и охватывает различные аспекты сознания и деятельности, включая научные, политические, идеологические, художественные, нравственные, эстетические и правовые.

Экологическая культура личности не может существовать без ее практического отношения к реальности, которое формируется через

интегрированную научно-образовательную деятельность студентов. Процесс обучения экологическому менеджменту должен включать обязательные экологические компоненты, способствующие формированию экологической культуры личности.

Уровень экологической культуры будущего специалиста должен отражать усвоение норм и ценностей, направленных на устойчивое развитие, и проявляться в потребности в экологической проверке управленческих решений в области взаимодействия природы и общества.

Для того чтобы будущие специалисты могли эффективно решать экологические проблемы, необходимо, чтобы они не только осознавали эти задачи с помощью гуманитарных, в основном описательных методов анализа, но также могли анализировать взаимосвязи между процессами, происходящими в природе и обществе, с использованием современных естественно-научных методов, таких как системный анализ, оптимизация, нелинейная динамика и имитационное моделирование. Современная образовательная система не отвечает потребностям социальной жизни уже несколько десятилетий, поскольку она передает в будущее ценности индустриально-потребительского общества, не обращая должного внимания на приближающуюся глобальную антропоэкологическую катастрофу. Это подтверждается анализом содержания образования, поскольку государственный образовательный стандарт для специальности не включал экологический менеджмент как отдельную дисциплину.

В настоящее время формирование экологической культуры становится неотъемлемой частью не только обучения, но и воспитания. Экологическое образование должно иметь комплексный характер и гармонично сочетаться с обучением и другими направлениями воспитательной работы, так как оно является одним из компонентов процесса гуманизации. Для успешной реализации стратегии устойчивого развития экологическое образование не должно ограничиваться просто передачей экологических знаний; оно должно развивать системное экологическое мышление и способствовать формированию экологической культуры личности. Экологизация образования предполагает широкое внедрение экологического подхода на всех уровнях обучения, который в настоящее время выполняет интегрирующую научно-образовательную функцию.

Цель исследования заключается в изучении проблемы формирования экологической культуры студентов в области экологии. Исходя из проведенного анализа, авторы отмечают недостаточно высокий уровень профессиональной подготовки выпускников в данной области. Одной из основных проблем является отсутствие курсов экология и экологического менеджмента в большинстве учебных планов. Это противоречит пониманию студентами важности экологической подготовки, что подтверждается результатами опроса.

Материал и методы исследования. Интеграция экологического менеджмента в основную систему образования должна быть реализована в два этапа. На первом подготовительном этапе необходимо оценить уровень подготовленности студентов в области экологии и экологического менеджмента путем проведения опытно-экспериментальной проверки, которая может быть осуществлена различными методами, такими как:

- *Наблюдение за самостоятельной работой студентов.*
- *Анкетирование.*
- *Индивидуальные и групповые проблемно-тематические беседы.*
- *Использование методике Case study и метода "Плюс, минус, интересно".*
- *Письменный опрос с элементами рефлексии.*

После сбора данных проводится статистическая обработка, основанная на количественном и качественном анализе. Это позволяет определить исходный уровень экологической культуры и эффективность формирования экологической компетентности в качестве условия развития ценностного отношения к природе, личности, социальной среде и деятельности.

Результаты и обсуждение. Авторами исследования был обнаружен значимый дополнительный эффект от проведения данного подготовительного этапа - увеличение интереса к изучению экологического менеджмента, что отражено на рисунке 1, где представлены результаты опроса студентов относительно необходимости дальнейшего изучения экологического менеджмента (включая тех же респондентов).

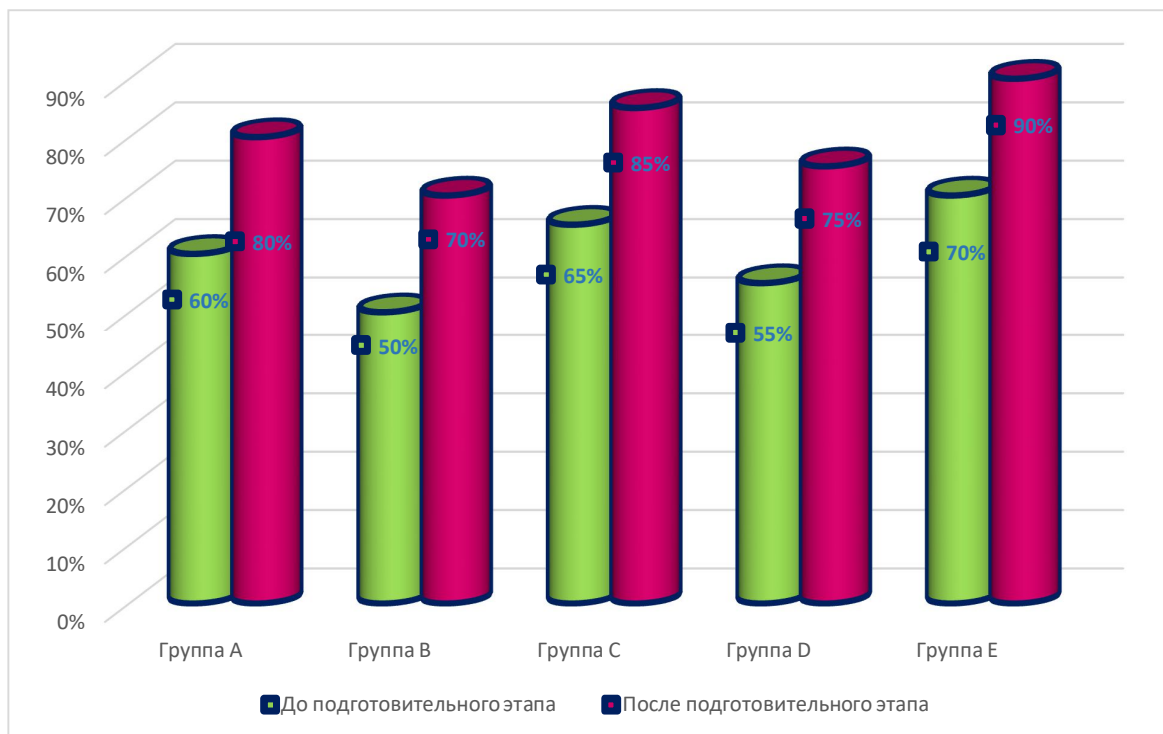


Рис. 1: Результаты оценки студентами необходимости дальнейшего изучения курса экологического менеджмента.

Если основная цель первого этапа заключалась в определении исходного уровня экологической культуры студентов, то на втором этапе, формирующем учебный процесс эксперимента, происходит развитие экологической компетентности на основе полученных данных. Одним из инструментов для достижения этой цели может быть разработанная одним из авторов система заданий, интегрированных в основную систему образования и способствующих созданию благоприятных условий для формирования экологической культуры и экологической компетенции.

Цель данного этапа заключается в формировании у студентов комплексной системы знаний по экологическому менеджменту. Эта система включает как теоретический, так и практический компонент, основанный на комплексном и системном подходе к вопросам охраны окружающей среды, которые являются характерными для международных организаций и условий. В рамках изучения данной дисциплины рассматриваются основные механизмы экологического менеджмента, вопросы сопровождения хозяйственной деятельности, правовые аспекты регулирования деятельности организаций с учетом экологических факторов, а также финансовое обеспечение системы экологического менеджмента.

В учебном процессе основными формами проведения занятий могут быть лекции, семинары в диалоговом режиме, межвузовские телеконференции, а также экологические маршруты в сочетании с

внеаудиторной работой для формирования и развития профессиональных навыков студентов. Рекомендуется использование активных методов обучения с элементами исследовательской работы, таких как работа в малых группах для решения конкретных задач, групповые дискуссии, ролевые игры и "мозговой штурм".

В результате освоения курса студенты должны сформировать следующие составляющие экологической компетенции:

- Способность нести ответственность за результаты своей профессиональной деятельности в контексте экологической ситуации.
- Готовность обеспечивать охрану окружающей среды, жизни и здоровья людей.
- Умение использовать современные методы управления для решения экологических задач.
- Способность применять основные методы защиты от возможных последствий экологических аварий и катастроф.
- Умение проводить экологический аудит.
- Способность принимать решения и оценивать их последствия с точки зрения их влияния на экологическую ситуацию.

Важным условием для эффективного обучения является интеграция научно-исследовательской и образовательной деятельности. В процессе внедрения курса по экологическому менеджменту в образовательный процесс факультета управления студенты активно участвовали в научно-образовательной деятельности, что позволило оценить важность задач экологического менеджмента. Результаты анкетирования представлены на рисунке 2.

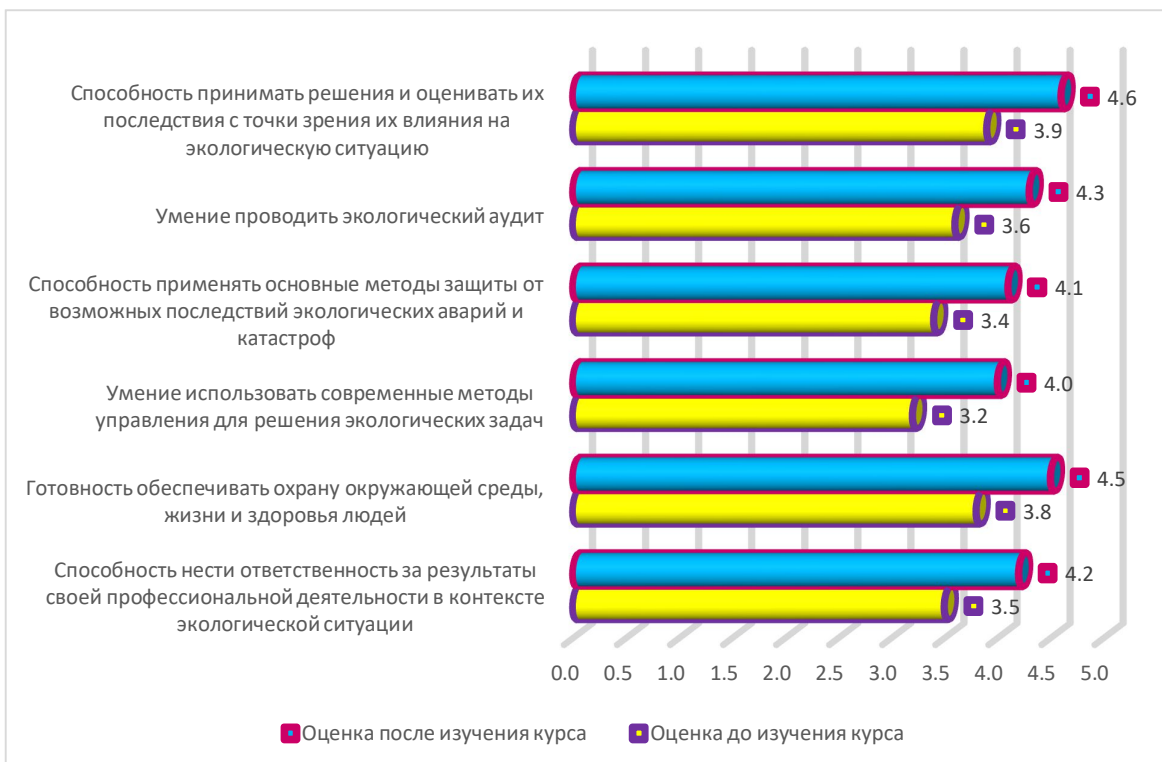


Рис. 2: Результаты оценки студентами степени значимости задач экологического менеджмента в ходе изучения курса.

В ходе обучения студенты освоили требования стандартов ISO серии 14000 и определили наиболее значимые цели внедрения этих стандартов и их влияние на экологическую эффективность организации. Результаты опроса приведены в таблице 1.

Таблица 1.

Результаты опроса студентов о значимости целей внедрения стандартов ISO серии 14000 и их влиянии на экологическую эффективность.

Цель внедрения стандартов ISO серии 14000	Уровень значимости (по шкале от 1 до 5)	Влияние на экологическую эффективность (по шкале от 1 до 5)
Снижение загрязнения окружающей среды	4.5	4.2
Эффективное использование ресурсов	4.3	4.1
Соблюдение экологических норм и требований	4.7	4.4

Улучшение экологической репутации компании	4.2	4.0
Снижение рисков экологических аварий	4.6	4.3
Повышение экологической осведомленности	4.4	4.2

Полученные результаты анкетирования подтверждают полезность включения исследовательского компонента в курс по экологическому менеджменту.

Важно отметить, что уровень экологической культуры не только предполагает наличие экологических знаний, но также требует положительного опыта эмоционально-ценностного отношения к природе, соответствующего стиля мышления и деятельности.

В настоящее время обучение экологии и экологическому менеджменту становится все более важным и актуальным в свете растущей потребности в устойчивом развитии и охране окружающей среды. Интеграция научно-исследовательской и образовательной деятельности в этой области играет значимую роль в формировании компетентности студентов в сфере экологического менеджмента. Это позволяет им не только приобрести необходимые знания, но и развить навыки и практические умения, необходимые для эффективного решения экологических проблем и устойчивого развития организаций и сообщества в целом. Обучение экологии и экологическому менеджменту становится все более актуальным и требует тесной взаимосвязи с основным образованием, формированием новых ценностей и нравственных установок, пересмотром структуры потребностей, целей, приоритетов и способов деятельности. В заключение, важно выделить несколько значимых особенностей данного обучения.

Методическая система обучения экологическому менеджменту должна основываться на формировании фундаментального естественно-научного ядра. Необходимо развивать междисциплинарные связи и создавать интегративные образовательные модули. Важно осуществлять реальную интеграцию образовательной, научной и инновационной деятельности.

Обучение должно быть ориентировано на практику. Следует включать практикумы, экспериментальную и проектную деятельность в программы курсов. Лабораторные практикумы и полевые занятия должны проводиться с учетом системного подхода и междисциплинарных связей. Важно также вовлечение студентов в реальные экологические проекты.

Формирование экологической компетенции, экологического мировоззрения и экологической культуры должно включать креативный аспект. Интеграция экологической составляющей в систему обучения и овладение студентами соответствующими компетенциями позволят повысить качество образования и привести его в соответствие с мировыми образовательными стандартами. Интеграция экологической составляющей в основное образование придает ему "дополнительную ценность", расширяет сферу деятельности и способствует принятию эффективных решений с учетом экологических факторов.

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МЕХАНИКА ЦЕХЛАРИДА МЕХНАТ МУҲОФАЗАСАСИНИ ТАШКИЛ ЭТИШ

Аннотация. Ушбу мақолада механика цехларида меҳнат муҳофазасини ташиқ этишига бағишланган бўлиб, механика цехида ишловчиларга таъсир этувчи омиллар, цехда ҳосил бўладиган чанг, шовқин ва титрашга қарши чора тадбирлар тўғрисида фикр юритилган

Таянч сўзлар: Электр майдони, титраш, шовқин, металл чанглари, мойловчи-совитувчи суюқликлар, чархлаш, сайқал бериш, Толиқиш, оғир иш, марказий нерв системаси, зарарли омил.

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ORGANIZING LABOR PROTECTION IN MECHANICAL FACTORIES

Annotation. This article is devoted to the organization of labor protection in mechanical workshops, the factors affecting workers in the mechanical workshop, the measures against dust, noise and vibration generated in the workshop are discussed.

Key words: Electric field, vibration, noise, metal dust, lubricating-coolant fluids, sharpening, polishing, Fatigue, heavy work, central nervous system, harmful factor.

Мамлакатимиз халқ хўжалигининг турли тармоқларида фаолият олиб боровчи кишиларнинг соғлигини давлат томонидан кафолатланади. Айнан ҳозирги техника тараққиётининг жадал ривожланган босқичида ишчилар саломатлигини сақлаш масалаласи меҳнат муҳофазасининг олдида турган бош вазифалардан бири бўлиб ҳисобланади.

Механика цехида меҳнат муҳофазаси қоидаларини ишлаб чиқишда қуйидагиларга аҳамият бериш лозим.

1. Механика цехи дастгоҳлари ва инсонга таъсир этувчи омиллари.
2. Шовқин ва титрашга қарши чора тадбирлар.
3. Механика цехида ёритилганликни тўғри танлаш.
4. Механика цехида соғломлаштириш тадбирлари.

Ишчиларга қулай меҳнат шароитларини яратишда уларни меҳнат муҳофазаси бўлимларига мос яъни хавфсизлик техникаси, ишлаб чиқариш санитарияси ва меҳнат гигиенаси ҳолда, талабларига мос ҳолда бўлишлиги эътиборга олинади. Аввало дастгоҳларда ишлашда ишчиларга таъсир этувчи зарарли омиллар – электр майдони, титраш, шовқин, металл чанглари кабиларнинг инсонга салбий таъсири камайтирилиши чоралари кўрилади. Бунинг асосида бандай зарарли омилларни тугатиш, камайтириш ва шу билан бирга уларнинг мавжудлиги асосида инсонларни ҳимоялаш мақсадида ишлатиладиган ҳимоя воситалари билан таъминланиши керак.

Механика цехида (жилвирлаш, токарлик, силлиқлаш) ишлов берилади ва тайёр буюм қилиб жўнатилади. Механика цехида токарлик, фрезерлик, пармалаш, чархлаш, сайқал бериш, силлиқлаш дастгоҳлари ишлатилади. Бу турдаги ишларда операцияларни бажариш мойловчи-совитувчи суюқликлар (СОЖ), чанг, шовқин (кўпинча тебраниш билан бирга), шунингдек, травматизм хавфнинг ишчиларга таъсири билан боғлиқ бўлади. СОЖ ҳозирги замон машинасозлик заводларида кўп миқдорда қўлланиб, таркиби бўйича жуда хилма-хилдир. Улар табиий ва сунъий моддалар қўшилган асоси мой, сув бўлиши мумкин. Ишқорлар, масалан, кальцийланган сода ҳам қўлланади.

СОЖ билан ишлаш тери қопламанинг анча ифлосланиши билан боғлиқ бўлиб, мойли фолликулитлар, ҳуснбузар, дерматитлар ривожланиши мумкин. СОЖнинг қириндилар билан ифлосланиши, буғланиш натижасида ишқорлар концентрациясининг ортиши, қириндиларни нотўғри усулда олиб ташлаш, ифлос латта билан қўлни артиш ва бошқалар терининг механик ва химиявий жароҳатланишига, унинг микротравмаланишига шароит яратади.

Чархлаш, сайқал бериш, силлиқлаш процесслари чанг ажралиши билан бажарилади, унинг интенсивлиги ишланаётган металлнинг турига, фойдаланилаётган чархлаш, кесиш асбобларига, ишлов ишлов беришнинг куруқ ёки нам методига, чанг сўрувчи қурилманинг бўлиши ва конструкцияга боғлиқ бўлади. Хосил бўладиган чангнинг таркиби одатда минерал-металл аралашмасидан иборат. Одатда, у корунд (Al_2O_3), карборунд (SiC) каби сунъий абразивлар, абразивнинг керамик қисмидан ажраладиган оз миқдорда (2– 3,5%гача) эркин кремний (II)-оксид аралашмасига эга бўлади. Камдан-кам ҳолларда, табиий абразивлар қўлланганда чанг эркин кремний (II)-оксиднинг юқори процентини сақлаши мумкин.

Сайқал бериш-силлиқлашда чиқадиغان чангнинг нафас йўлларида кириши юқори нафас йўлларининг катари, бронхитлар, камдан-кам ҳолларда одатда туберкулёз билан оғирлашишга мойил бўлмаган пневмокоңиознинг зарарсиз ўтадиган ва интерстициал шакли ривожланишига сабаб бўлиши мумкин. Чархлаш, сайқал бериш ва механик ишлов беришнинг бошқа усулларида кўзнинг шикастланиши хавфли бўлади. Металлга механик ишлов бериш процесслари- сайқал бериш,

силлиқлаш, асбобни қўлда чархлаш ва қўлда чархлаш ва бошқалар ишловчиларнинг қўлига бериладиган тебраниш таъсири билан кузатилади ва кўпинча тебраниш касаллигининг ривожланишига олиб келади. Бу ишлар интенсив шовқиннинг юзага келиши билан ҳам характерланади. Юқори унумли дастгоҳлар, автоматлашган ускуналардан фойдаланишда унинг даражаси айниқса юқори бўлиши кузатилади. Шу сабабли механик цехларининг ишчиларида шовқин патологияси- кулоқ зарарланиши, нерв, юрак-томир системасига умумий таъсир зоҳир бўлиши мумкин.

Металлга ишлов беришнинг тоза механик методлари билан бир қаторда электр-химик усуллари: асбобни анод-механик усулда чархлаш, электр исмпульсли метод ва бошқалар қўлланади. Уларнинг қўлланиши электр травматизми, электролитлар ишқорий эритмаларининг қўл ва тана терисига зарарли таъсир этиш хавфи билан боғлиқ. Электролитлар таъсири дерматитларга, ёрилишларга, пиодермияга олиб келади. Бундан ташқари, бу процессларда, хаво мухити электролит буғлари ва томчилар, углеводлар ва бошқа моддалар билан ифлосланади.

Ультратовуш усуллари қўллаш орқали металлга ишлов бериш ишчиларга ультратовуш (асосан товуш билан алоқада бўлиш) ва юқоир частотали товуш таъсири билан кузатилади; лазерларни ишлатиш ҳам тўғридан-тўғри, ҳам тарқоқ монохраматик нурланиш таъсир этиши мумкинлиги, кўз, тери қопламларининг жароҳатланиши хавфи билан боғлиқ. Бунда кўпинча мухитнинг бошқа факторлари ҳам, масалан, хавонинг захарли моддалар билан ифлосланиши ва бошқалар юзага келади.

Кўз травматизмининг олдини олиш учун дастгоҳларга ўрнатилган тўсиқлар, экранлар, кўзойнақлардан кенг фойдаланилади. Бунда умумий ва жойли ёритишнинг рационал қурилмаси муҳим роль ўйнайди. Чанг касалликларининг олдини олиш ишлов беришнинг нам усуллари жорий этишга, самарадор жойли вентиляциялар ўрнатишга, респираторлардан фойдаланишга асосланган.

Шовқин билан курашиш учун унинг ҳосил бўлиш жойининг ўзидан уни пасайтириш усуллари топиш, товушни изоляциялаш ва уни ютиб қолувчи мосламалар ўрнатиш, шунингдек, индивидуал ҳимоя воситалари қўллаш лозим бўлади. Тебраниш касалликларининг олдини олишда сайқал берадиган ва бошқа қўл асбобларини такомиллаштириш чоралари кўрилади, механизациялаштирилади, оғирлигини енгиллаштирилади, дасталарни тебранишдан ҳимоя қиладиган материаллар билан қопланади ва тебранишдан сақлайдиган қўлқоплардан фойдаланилади. Тебранишнинг таъсир этиш вақтини камайтириш мақсадида касбларни алмаштириш, ишлаб чиқариш гимнастикаси, ўзини ўзи массаж қилиш, қўллар учун илиқ ванналар, профилактик тарзда витамин бериш каби ташкилий ва медицина тадбирлари қўлланади.

Ультратовуш ҳамда лазер дастгоҳлари ва қурилмалари махсус химоя тадбирлари-бевосита таъсир тегишининг олдини олиш, қулоқ ва кўзнинг индивидуал химоя қилишни талаб этади.

Кўпчилик касб ишчилари фақат ишга киришдан олдин эмас, балки ишга кирганидан кейин ҳам вақти-вақтида медицина кўрикларидан ўтиб туришлари керак. Касбга алоқадор касалликларнинг ривожланишига шароит яратадиган соматик касалликларни ёки ишлаб чиқариш зарарлари таъсирида анча оғир ва тез ўтадиган касалликларни аниқлаш, улар билан контактда бўлишни вақтинча тўхтатиш ва самарали даволаш мақсадида тебраниш, чанг, шовқин ва бошқа факторлар таъсирининг эрта формаларни ўз вақтида аниқлаш касалликнинг олдини олишда катта роль ўйнайди.

Механика цехида ишловчиларнинг кўриш қобилиятларини меъёрида сақлаш мақсадида пармалаш устахонаси биноси иш ўринларини ДАСТ 12.1.046-85—«Иш ўринларини умумий текис ёритиш» бўйича ёритишни меъёрлаштириш керак. Бунинг учун хона деворлари ёруғлик нуруни қайтариш коэффиценти $K \geq 0,8$ бўлишини таъминлаш мақсадида оқ рангли ёки оч кулрангли қилиб бўялган бўлиши керак. Табiiй ёритилганлик коэффицентини ошириш мақсадида хонанинг деразалари сони кўп бўлиб, унинг умумий юзаси хона саҳнининг $1/3$ қисмидан кам бўлмаслиги, деразанинг ёруғлик ўтказувчи шаффоф ойна юзаси 80%дан кам бўлмаган ҳолатда бўлиши керак.

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ЗНАЧЕНИЕ И СОВРЕМЕННОЕ СОСТОЯНИЕ ОСОБО ОХРАНЯЕМЫХ ТЕРРИТОРИЙ В УЗБЕКИСТАНЕ

Аннотация. В данной статье описано значение особо охраняемых территорий в мире, их организация, рациональное использование природных ландшафтов, значение особо охраняемых территорий, заповедников, национальных парков в Узбекистане в их организации, территории и охране природы.

Ключевые слова: Заповедники, национальные парки, ресурсы, биоразнообразие, водоём, флора и фауна.

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IMPORTANCE AND CURRENT CONDITION OF SPECIALLY PROTECTED AREAS IN UZBEKISTAN

Abstract. This article describes the importance of specially protected areas in the world, their organization, rational use of natural landscapes, the importance of specially protected areas, nature reserves, national parks in Uzbekistan in their organization, territory and nature conservation.

Key words: Nature reserves, national parks, resources, biodiversity, reservoir, flora and fauna.

Актуальность. Как известно, взаимоотношения природы и человека – один из важнейших вопросов, который интересовал всех с незапамятных времен. В век развитой науки и техники природные ресурсы Земли столкнулись с серьезным антропогенным воздействием, поэтому охрана природы стала сегодня одной из самых актуальных проблем. Охрана природы требует сохранения природно-географических комплексов на отдельных территориях и их охраны на основе особого режима. Территории, охраняемые таким особым режимом, считаются природными географическими объектами, непосредственно защищенными от

экономического освоения. Отдельно охраняемые природно-географические объекты и акватории служат основными эталонами естественного состояния природных комплексов (ландшафтов). Конечно, географические, геофизические, биологические и другие процессы могут изучаться естественным путем в таких природных комплексах, сравнительно мало измененных человеком. Кроме того, природно-охраняемые геокомплексы являются генофондом нашей планеты. Природные объекты также имеют большое значение как наиболее интересные объекты быстро развивающегося туризма. В последние годы площадь и количество охраняемых природных территорий увеличиваются.

По данным ООН, на начало 70-х годов прошлого века в мире насчитывалось 1204 заповедника и национального парка, причем 1/3 этих особо охраняемых территорий была создана после 1960 года. Отдельно охраняемые природные территории создаются не только на суше, но и в океанских и морских акваториях. В частности, в 1935 году в США был создан первый подводный заповедник «Форт Джефферсон». Отсюда ясно, что требуется не только организация особо охраняемых природных территорий, но и каждого природно-географического комплекса нашей планеты, рациональное использование природных ресурсов, используемых в целях хозяйственной деятельности человека.

Сегодня общее количество охраняемых природой объектов на земле превысило 20 тысяч. Например, в одной России количество особо охраняемых природных территорий (2016 г.) составило 103.

Старейшим национальным парком США является Йеллоустонский национальный парк, основанный в 1872 году. На площади 900 000 гектаров здесь обитают более 3000 гейзеров и горячих источников, водопады реки Йеллоустоун, леса, множество животных, включая бизонов, лосей и более 200 видов птиц.

Основная часть. Воздействие человека на природу и природные ресурсы Узбекистана различно. Нельзя не упомянуть некоторые наиболее актуальные и антропогенные воздействия, негативные последствия которых отчетливо видны. В частности, через сельское хозяйство; путем выпаса скота на пастбищах; через промышленное производство; создание новых химических веществ путем широкого использования этих и других существующих в хозяйственной деятельности, особенно в сельском хозяйстве; через различные конструкции; через урбанизацию; из-за неизбирательного использования природных ресурсов и неразумного использования природных и рекреационных ресурсов, а также под воздействием ряда таких антропогенных факторов, природа нашей страны загрязнилась, состояние природных ресурсов ухудшилось, и это уже достигло состояния, нуждающегося в защите и сохранении своей стабильности. В нашей стране в этом направлении проводится большая эффективная работа. Тот факт, что в Республике Узбекистан разработаны

законы об охране природных условий, природных ресурсов и биоразнообразия, приняты решения и распоряжения, которые применяются на практике, способствует устойчивому сохранению природных ресурсов, серьезному рассмотрению вопроса и эффективно исследовать.

Статья 55 Конституции Республики Узбекистан об охране природы гласит: «Земля, недра, воды, растительный и животный мир, другие природные ресурсы являются национальными ресурсами, они должны использоваться разумно и находятся под охраной государства». Этот закон полностью отражен в Законе Республики Узбекистан «Об охране природы». Большое количество заповедников и заказников, государственных национальных природных парков, созданных на территории нашей республики, свидетельствует о том, что охрана природы осуществляется в больших масштабах.

Заповедники – это сохранение ценных природных ландшафтов на благо общества. На территории заповедника запрещено земледелие, даже сенокос, охота, рыбалка и сбор грибов. Окрестности заповедников должны представлять собой охраняемую зону с малой эксплуатацией.

В национальных парках этот тип особо охраняемых территорий организуют на менее освоенных живописных территориях с разнообразными природными достопримечательностями и ландшафтами. Они организуются для сохранения редких объектов и ландшафтов природных комплексов, имеющих научное, культурное, эстетическое или историческое значение и охраняемых под особым режимом охраны природы. Это означает, что территория принадлежит всей нации. Национальные парки имеют экономическое значение, и их задача – защитить природу и в то же время улучшить условия для туризма и отдыха многих людей. Этот тип охраняемых территорий был создан во многих зарубежных странах в конце 19 – начале 20 века. С 1970-х годов особое внимание уделяется созданию заповедников в Узбекистане.

Заказники — отдельные части компонентов природно-географических комплексов, территории, предназначенные для охраны и разведения некоторых видов животных или растений на определенный период, и допускается использование этих земель для определенных целей в хозяйстве. Охотничьи порядки более распространены в России. Охотничьи приказы защищают определенные виды животных, но разрешены лесозаготовки, сбор грибов и фруктов.

Флора и фауна Республики Узбекистан богата и разнообразна, на ее территории обитает большое количество млекопитающих, птиц, рептилий, как водных, так и наземных животных, рыб и беспозвоночных. Экосистемы Узбекистана имеют глобальное значение. Пустынная, горная и прибрежная биота Узбекистана включена в глобальный список Всемирного фонда дикой природы. В настоящее время на территории Республики Узбекистан

действуют 13 заповедников и памятников природы, 3 государственных национальных парка, 1 экоцентр, 9 заказников.

Первый заповедник в Узбекистане был создан в 1926 году в бассейне реки Зоминсув в массиве Кольсой и Гуралашсой под названием Горно-еловый заповедник «Гуралаш». В 1960 году на земле горно-елового заповедника «Гуралаш» он был восстановлен под названием Зоминский горно-лесной государственный заповедник. В 1947 году в республике был создан второй заповедник — Чоткальский горно-лесной заповедник. С 1970-х годов особое внимание уделяется созданию заповедников в Узбекистане. До этого времени в республике действовало всего 3 заповедника (Зомин, Чоткал, Пайгамбаророл), а их площадь составляла 49,3 тыс. га.

После обретения Республики Узбекистан независимости особое внимание уделялось охране окружающей среды. 9 декабря 1992 г. был принят «Об охране природы», 7 марта 1993 г. «Об особо охраняемых природных территориях», во второй уточненной форме «Об особо охраняемых природных территориях» (2004 г.) и др. ряд законов. В настоящее время в Узбекистане действуют 13 заповедников, 11 из которых созданы после 1970 года.

Особо охраняемые территории Узбекистана: 7 государственных заповедников, 2 государственных биосферных заповедника, 4 государственных национальных природных парка, 1 заказник комплексного (ландшафтного) порядка, 12 заказников государственного заказа, имеется 1 центр разведения редких животных. По итогам 2022 года общая площадь ООПТ по республике составила 4 472,5 тыс. га.

Выводы. Узбекистан имеет очень богатый природный ландшафт, растительные, животные, рекреационные, водные, горно-лесные, лесные, пустынные и геологические ресурсы. Долг каждого гражданина – передать это богатство будущему поколению. Поэтому в нашей республике рекомендуется уделять большое внимание охране природных ландшафтов и организации охраняемых территорий, повышению эффективности существующих.

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РАЗРАБОТКА АЛГОРИТМА МАТЕМАТИЧЕСКОЙ МОДЕЛИ ЭНЕРГОУСТАНОВОК ВИЭ

Аннотация. Разработка алгоритма математической модели объектов возобновляемой энергетики. В процессе разработки математической модели возобновляемой энергетики внимание было уделено графикам.

Ключевые слова: механические соединения, механические соединения, малый износ обечайки, износ обечайки, математической модели.

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DEVELOPMENT OF AN ALGORITHM FOR A MATHEMATICAL MODEL OF RESEARCH ENERGY INSTALLATIONS

Abstract. Development of an algorithm for a mathematical model of renewable energy facilities. In the process of developing a mathematical model of renewable energy, attention was paid to graphs.

Key words: mechanical connections, mechanical connections, low wear of the shell, wear of the shell, mathematical model.

Учитывая сложный характер поступления ВИЭ и необходимость обеспечения оптимального сочетания составляющих КЭУ, необходимость запасания энергии в АБ рассмотрим вначале вопросы выбора АБ и обеспечения заданного режима нагрузки для отдельной установки ВИЭ, например, СФЭУ.

Для СФЭУ в течение времени цикла должно выполняться условие равенства поступающей от СФЭУ энергии и затраченной на нагрузке энергии, для этого перепишем (1) в виде

$$\sum_{\tau_1}^{\tau_2} N_{\text{НОУ}} \cdot \Delta\tau = \sum_0^{\tau_1} P_{i\tau} \cdot \Delta\tau + \sum_{\tau_1}^{\tau_2} P_{i\tau} \cdot \Delta\tau + \sum_{\tau_2}^{\tau_0} P_{i\tau} \cdot \Delta\tau \quad (3.1)$$

Здесь выделена нагрузка в моменты времени не входящие в период солнечного сияния τ_c ($\tau_c = \tau_2 - \tau_1$), т.е. когда нагрузка обеспечивается за счет АБ.

Т.к. мощность СФЭУ и нагрузка переменны во времени, то (17) решается путем перебора номинальных мощностей СФЭУ.

Распишем слагаемые в (17) и их связь со стоимостными характеристиками.

Мощность СФЭУ равна (см. (14))

$$N_{\text{СФЭУ}} = N_{\text{ФБН}} \cdot (\eta/\eta_c^0) \cdot (E/E_H) \cdot \eta_{\text{П}} \cdot f_{\text{В}} = N_{\text{СН}} \cdot f_1 \cdot f_2 \cdot f_{\text{ВС}} \quad (3.2)$$

$$f_1 = \eta/\eta_c^0 = 1 \quad (3.3)$$

$$f_2 = E/E_H = (E_0/E_H) \cdot \exp(-k \cdot r_0/\sin h) \quad (3.4)$$

где E_0 – солнечная постоянная у поверхности Земли (1335 Вт/м^2); k – коэффициент пропускания; r_0 – "толщина" атмосферы; h – Высота Солнца относительно плоскости горизонта, E_H – номинальная плотность солнечного излучения при которой даются характеристики фотоэлемента (обычно $E_H = 1000 \text{ Вт/м}^2$).

Примерное значение k – коэффициент пропускания; r_0 – "толщина" атмосферы определяется из (20) следующим образом. Для $h = 90$ при $E/E_H = 1$ и $E_0/E_H = 1335/1000$, или получаем

$$1000/1335 = \exp(-k \cdot r_0) \text{ или}$$

$$k \cdot r_0 = -\ln(1000/1335) = 0.28893 \quad (3.5)$$

$$y = C/N_{\text{МН}} = 3,41783 - 0,62936 \cdot x + 0,10657 \cdot x^2 \quad (3.15)$$

где y – удельная стоимость мощности МГЭС, \$/кВт и C – стоимость и $N_{\text{МН}}$ – паспортная (далее, "номинальная") мощность установки, $x = \ln N_{\text{МН}}/\ln 10$.

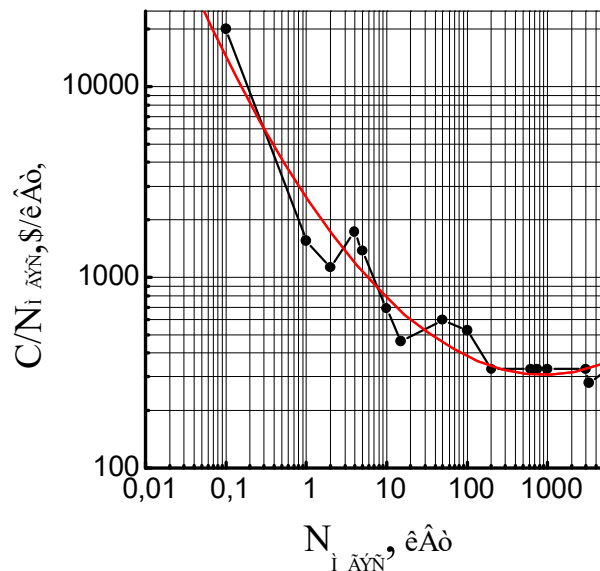


Рис. 3.1. Удельные стоимости МГЭС.

Аналогичный анализ был проведен нами для ВЭУ /60-62/ (см. рис.3.2, и табл. 2 приложения).

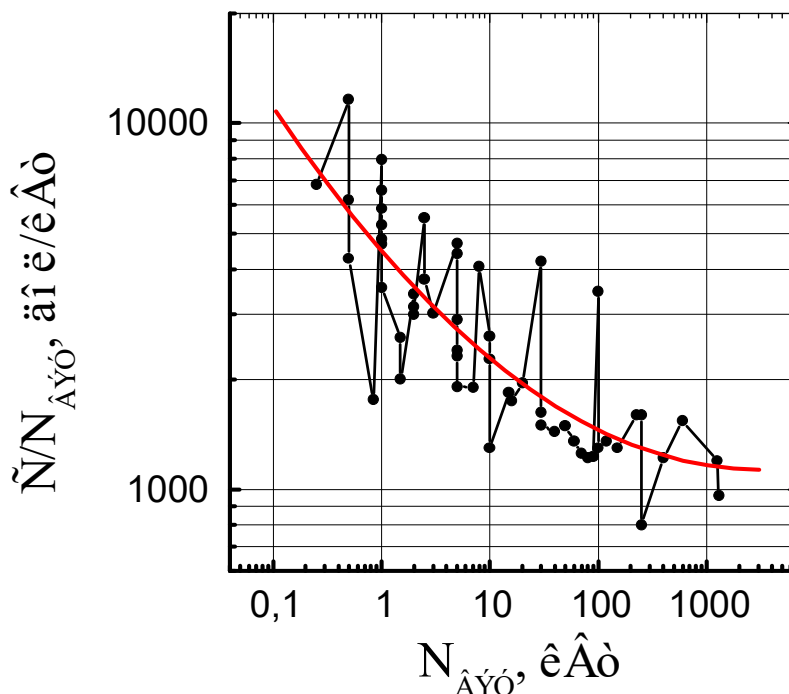


Рис. 3.2. Удельные стоимости ВЭУ.

На основе этих данных была получена следующая аппроксимационная кривая зависимости удельной стоимости от "номинальной" мощности ВЭУ

$$y = 3,65177 - 0,3426*x + 0,04916*x^2 \quad (3.16)$$

где $x = \ln N_{\text{нн}} / \ln 10$, $N_{\text{нн}}$ – номинальная мощность, или мощность, обеспечиваемая при паспортной скорости 57 ветра.

Такой же анализ зависимости удельной стоимости мощности от мощности был проведен нами для СФЭУ /63/ (без стоимости АБ и инвертора) (см. рис.3.3 и табл. 3 приложения)

$$y = 3,67862 - 0,01224*x + 0,00376*x^2 \quad (3.17)$$

где x – номинальная мощность СФЭУ ($N_{\text{сн}}$) – мощность СФЭУ при $E = 1000 \text{ Вт/м}^2$. Как видно, как и ожидалось удельная стоимость мощности СФЭУ, в отличие от ВЭУ и МГЭС практически не зависит от мощности (используется модульный принцип наращивания мощности). На рис.3.4 приведены сравнительные стоимости МГЭС, ВЭУ и СФЭУ в зависимости от мощности, получаемые на основе аппроксимационных кривых до уровня мощности до 10кВт.

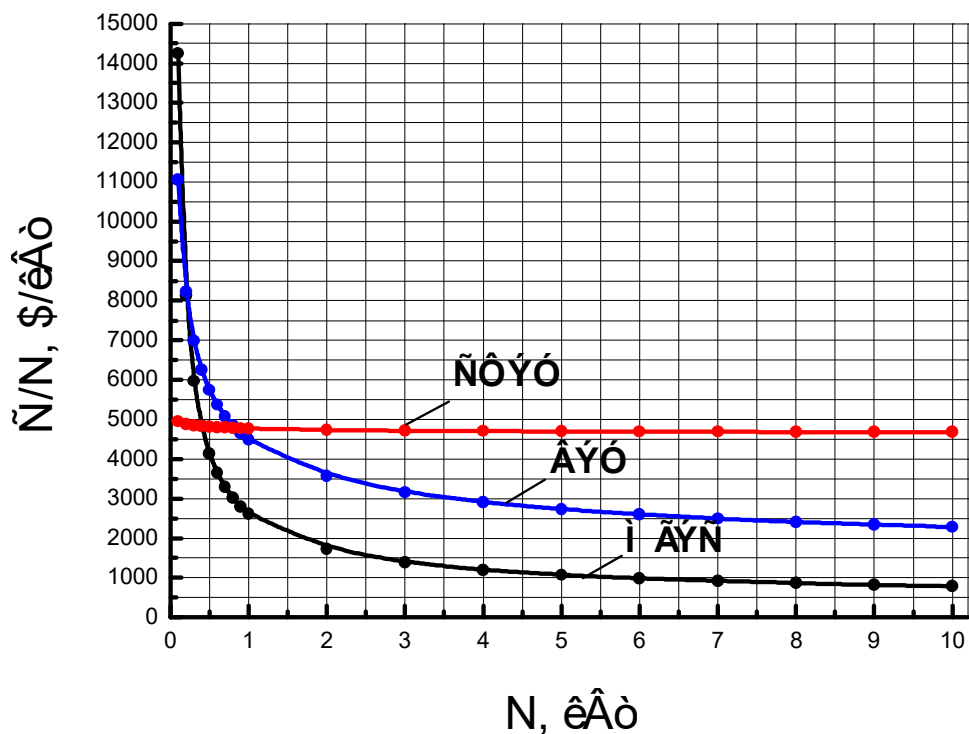


Рис. 3.4. Удельные стоимости мощности СФЭУ, ВЭУ и МГЭС от их "номинальной" (паспортной) мощности в диапазоне до 10 кВт.

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ФИНАНСОВЫЙ АНАЛИЗ ДЕЯТЕЛЬНОСТИ ПРЕДПРИЯТИЯ В УСЛОВИЯХ ЭКОНОМИЧЕСКОЙ НЕСТАБИЛЬНОСТИ

Аннотация. В данной статье рассматривается решающая роль финансового анализа для бизнеса в периоды экономической нестабильности. В нем подчеркивается важность оценки различных финансовых аспектов, таких как ликвидность, платежеспособность и прибыльность, для обеспечения устойчивой деятельности. В статье также подчеркивается необходимость адаптации процессов прогнозирования и бюджетирования к нестабильной экономической среде.

Ключевые слова: экономическая нестабильность, финансовый анализ, стратегия бизнеса, ликвидность, платежеспособность, рентабельность, управление рисками, бенчмаркинг, прогнозирование.

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FINANCIAL ANALYSIS OF ENTERPRISE ACTIVITIES IN CONDITIONS OF ECONOMIC INSTABILITY

Abstract. This article discusses the decisive role of financial analysis for business during periods of economic instability. It emphasizes the importance of assessing various financial aspects such as liquidity, solvency and profitability to ensure sustainable operations. The article also highlights the need to adapt forecasting and budgeting processes to an unstable economic environment.

Key words: economic instability, financial analysis, business strategy, liquidity, solvency, profitability, risk management, benchmarking, forecasting.

Введение: Финансовый анализ деятельности предприятия предполагает изучение финансового состояния и результатов деятельности компании в периоды экономической неопределенности. Этот анализ помогает понять, насколько хорошо бизнес может противостоять сложным экономическим условиям и адаптироваться к ним. Вот некоторые ключевые аспекты:

Анализ ликвидности: оценка способности компании выполнять краткосрочные обязательства. Это включает в себя анализ текущих

коэффициентов, коэффициентов быстрой ликвидности и денежных потоков.

Анализ платежеспособности: оценка долгосрочной финансовой стабильности путем рассмотрения соотношения долга к собственному капиталу, коэффициентов покрытия процентов и структуры капитала.

Анализ рентабельности: определение способности компании генерировать прибыль даже в трудные времена. Ключевые показатели включают валовую прибыль, чистую прибыль и рентабельность инвестиций.

Анализ эффективности: изучение того, насколько эффективно компания использует свои активы и управляет своей деятельностью. Это может включать оборачиваемость запасов, оборачиваемость дебиторской задолженности и коэффициенты использования активов.

Оценка рисков: выявление и оценка рисков, связанных с волатильностью рынка, кредитами, ликвидностью и операционными факторами, которые могут повлиять на финансовые показатели.

Сравнительный анализ: сравнение результатов деятельности компании с отраслевыми показателями или конкурентами для оценки ее относительного положения на рынке.

Соблюдение нормативных требований и их влияние: понимание того, как изменения в правилах и политике в нестабильной экономике могут повлиять на бизнес.

Прогнозирование и составление бюджета: Разработка финансовых прогнозов и бюджетов, учитывающих экономическую нестабильность, помогает бизнесу эффективно планировать и распределять ресурсы.

Стратегическое планирование: согласование финансового анализа с долгосрочными стратегическими целями компании с учетом проблем и возможностей, связанных с экономической нестабильностью.

Этот тип анализа имеет решающее значение для принятия решений, управления рисками и стратегического планирования, позволяя предприятиям преодолевать периоды экономической нестабильности и поддерживать свое финансовое здоровье.

В этом разделе статьи мы исследуем осязаемое влияние экономической нестабильности на бизнес, подкрепленное ключевыми статистическими данными, основными финансовыми формулами, а также сравнительной таблицей финансовых коэффициентов и отраслевых показателей.

Влияние на эффективность бизнеса:

Во время экономических спадов предприятия, особенно в определенных секторах, часто сталкиваются со снижением доходов, составляющим в среднем от 10% до 20%. Уровень невозвратов кредитов среди малых и средних предприятий может вырасти на 15-30%. Чтобы

смягчить финансовое напряжение, около 60% предприятий прибегают к стратегиям сокращения расходов.

Критические финансовые формулы:

Коэффициент текущей ликвидности (оборотные активы/текущие обязательства) имеет жизненно важное значение для оценки ликвидности, где коэффициент выше 1 является предпочтительным.

Отношение долга к собственному капиталу (общая сумма обязательств / акционерный капитал) оценивает баланс между заемным финансированием и собственным капиталом.

Рентабельность инвестиций (ROI), рассчитываемая как (чистая прибыль / стоимость инвестиций) *100, измеряет прибыльность инвестиций.

Статья включает в себя таблицу (Таблица 1), в которой описываются такие важные финансовые коэффициенты, как текущий коэффициент, соотношение долга к собственному капиталу, валовая прибыль, чистая прибыль и рентабельность капитала (ROE), сравнивая их со стандартными отраслевыми показателями. Такое сравнение помогает предприятиям оценить свое финансовое состояние в более широком рыночном контексте.

Таблица 1.

Финансовые коэффициенты и контрольные показатели

Финансовый коэффициент	Отраслевой эталон	Описание
Текущее соотношение	1.5 - 2.0	Измеряет способность компании платить по краткосрочным обязательствам.
Отношение заемного капитала к собственному	1.0 - 1.5	Указывает долю долга, используемого для финансирования компании.
Валовая прибыль	20% - 30%	Показывает процент выручки, превышающий себестоимость проданных товаров.
Рентабельность по чистой прибыли	10% - 15%	Представляет собой процент дохода, который остается прибылью после всех расходов.
Рентабельность капитала (ROE)	15% - 20%	Измеряет прибыльность, показывая, какую прибыль получает компания на вложенные акционерами деньги.

В статье представлен комплексный обзор того, как бизнес может эффективно преодолевать периоды экономической нестабильности. Используя конкретные финансовые коэффициенты, понимая отраслевые показатели и осознавая более широкие экономические последствия, предприятия могут принимать обоснованные решения для поддержания стабильности и содействия росту даже в сложных экономических условиях.

Связанные исследования. Недавние исследования в области финансового анализа во время экономической нестабильности позволили

сделать ряд выводов и выводов. Вот некоторые ключевые исследования и их выводы:

Отчет Управления финансовых исследований (OFR) о финансовой стабильности в США (2023 г.): В отчете OFR за 2023 год подчеркиваются возросшие риски для финансового ландшафта США из-за сохраняющейся инфляции, геополитических рисков и глобальных конфликтов. В нем отмечается, что высокая инфляция и процентные ставки создали сложные условия для компаний и домохозяйств, повышая вероятность рецессии.

В докладе также обсуждается влияние политики центрального банка на банковское дело, финансирование и рынки недвижимости, отмечая, что ужесточение денежно-кредитной политики привело к стрессу в этих областях.

Геополитические риски, особенно спецоперации, привели к росту экономической неопределенности и финансовых рисков в странах с развитой зарубежной экономикой, влияя на финансовые институты США.

Рынок коммерческой недвижимости столкнулся с более высокими кредитными рисками и проблемами оценки из-за снижения спроса.

Новые области риска, такие как цифровые активы и кибербезопасность, также развиваются, оказывая существенное влияние на финансовые учреждения.

Научные доклады: Показатели критического замедления темпов экономического роста:

В этом исследовании используются индикаторы критического замедления (CSD) из статистической физики для анализа изменчивости темпов экономического роста и вековой стагнации.

Освещены снижение экономического роста в странах с развитой экономикой и различные десятилетние факторы вековой стагнации.

В исследовании также обсуждаются временные рамки циклов рецессии и их важность для десятилетней макродинамики с упором на изменчивость масштабов Кузнеца и Кондратьева.

Новые методы анализа данных из сложных системных наук использовались для изучения экономической нестабильности, что позволило по-новому взглянуть на изменчивость ВВП на протяжении нескольких десятилетий.

В докладе предполагается, что индикаторы CSD могут быть полезны для изучения десятилетней макродинамики и понимания долгосрочных тенденций экономического роста и нестабильности.

Отчет МВФ о глобальной финансовой стабильности (октябрь 2023 г.):

В докладе указывается, что риски для глобального роста по-прежнему смещены в сторону снижения из-за устойчиво высокой инфляции и продолжительных высоких процентных ставок.

В нем оцениваются глобальные банковские уязвимости в условиях «выше и дольше» процентных ставок, предлагая усовершенствовать надзорную практику и нормативные стандарты.

Эти исследования в совокупности дают комплексное представление о текущих проблемах и рисках финансовой стабильности и экономического роста, особенно в контексте экономической нестабильности. Они подчеркивают важность мониторинга экономических показателей, понимания долгосрочных тенденций и адаптации нормативных и политических мер для поддержания финансовой стабильности и поддержки устойчивого экономического роста.

Анализ и результаты этих исследований раскрывают ключевые аспекты финансовой стабильности и экономического роста во времена нестабильности:

Повышенные финансовые риски. Устойчивая инфляция, геополитическая напряженность и глобальные конфликты повысили риски для финансовых систем, особенно в США. Эта среда сделала финансовые условия более сложными для компаний и домохозяйств.

Влияние денежно-кредитной политики. Политика центральных банков, особенно ужесточение денежно-кредитной политики, создала стресс на рынках банковского дела, финансирования и недвижимости, что может иметь потенциальные последствия для общей финансовой стабильности.

Изменчивость экономического роста. Применение показателей критического замедления (CSD) из статистической физики к историческим данным о ВВП позволило получить представление о междесятилетней изменчивости темпов экономического роста. Этот подход подчеркнул важность понимания долгосрочных экономических циклов и их движущих механизмов.

Глобальные уязвимости банковской системы. В условиях более высоких процентных ставок значительное число банков, особенно небольших, сталкиваются с повышенными рисками потерь капитала, что подчеркивает необходимость усиления надзорной и регулятивной практики.

Изменение климата и финансовая политика: Подчеркивается необходимость разработки комплекса мер по привлечению частного капитала для смягчения последствий изменения климата, особенно на развивающихся рынках и в развивающихся странах. Этот подход имеет решающее значение для согласования политики финансового сектора с более широкими климатическими целями.

Диаграмма выше наглядно представляет гипотетические тенденции финансовой стабильности и экономического роста в период с 2020 по 2023 год. Она иллюстрирует темпы роста ВВП, уровень инфляции, риск банковского сектора и индекс риска финансовой стабильности за эти годы.

Темпы роста ВВП (зеленая линия) и уровень инфляции (синяя линия) отображаются на левой оси Y, указывая их соответствующие процентные изменения с течением лет.

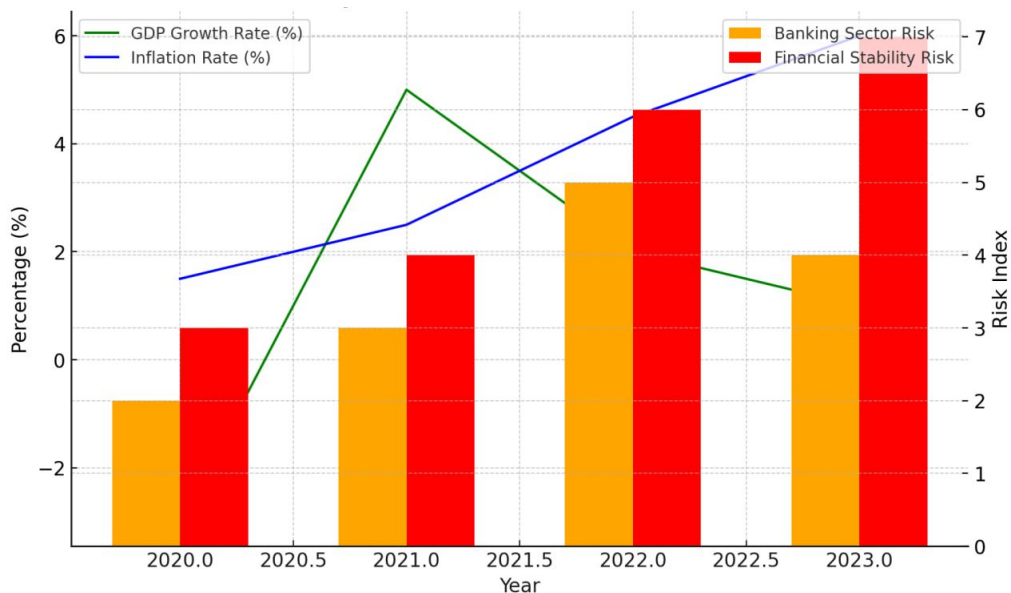


Рис.1. Финансовая стабильность и тенденции экономического роста (2020-2023 гг.)

Риск банковского сектора (оранжевые столбцы) и индекс риска финансовой стабильности (красные столбцы) показаны на правой оси Y, показывая уровни риска за тот же период.

В целом, эти исследования подчеркивают сложность поддержания финансовой стабильности в условиях экономической нестабильности, инфляционного давления и развивающихся глобальных проблем. Они подчеркивают необходимость бдительного мониторинга, мер адаптивной политики и более глубокого понимания долгосрочных экономических тенденций и их влияния на финансовые системы.

Методология. Сбор данных: Приобретенная историческая финансовая отчетность, включая отчеты о прибылях и убытках, балансовые отчеты и отчеты о движении денежных средств за последние пять лет.

Собраны соответствующие рыночные и экономические данные, включая показатели экономической нестабильности, процентные ставки и отраслевую информацию.

Выбор финансовых коэффициентов: Определены критические финансовые коэффициенты, имеющие отношение к анализу, с упором на показатели ликвидности, платежеспособности, прибыльности и эффективности. Приоритетные коэффициенты основаны на их значимости для оценки финансового состояния в периоды экономической нестабильности.

Анализ данных: Рассчитаны финансовые коэффициенты для каждого финансового года с использованием собранных финансовых данных. Проведен анализ тенденций с целью выявления закономерностей и колебаний финансовых показателей за указанный период.

Сравнительный анализ: Сравнение расчетных финансовых показателей с отраслевыми показателями и показателями ключевых конкурентов. Анализируются отклонения от отраслевых норм для выявления сильных и уязвимых сторон.

Оценка риска: Оценены риски, связанные с волатильностью рынка, кредитом, ликвидностью и операционными факторами.

Статистический анализ: Используются статистические инструменты для анализа распределения финансовых данных, рассчитывая такие показатели, как стандартные отклонения и коэффициенты вариации.

Применен регрессионный анализ для выявления взаимосвязей между экономическими показателями и финансовыми показателями.

Качественные факторы: Учтены качественные факторы, включая стратегии управления, перспективы отрасли и влияние регулирования, чтобы обеспечить более полный анализ.

Эта методология обеспечила систематический, тщательный и научно обоснованный подход к пониманию финансовой устойчивости предприятия в условиях экономической нестабильности.

Заключение. Общий вывод, сделанный из статьи, заключается в том, что финансовая стабильность подвергается серьезным испытаниям в периоды экономической нестабильности, отмеченные такими факторами, как высокая инфляция, геополитические риски и изменение динамики рынка. Использование передовых аналитических инструментов, таких как индикаторы ЦДЦБ и глобальные стресс-тесты, позволяет получить важную информацию об изменчивости экономического роста и уязвимостях банковского сектора. Результаты подчеркивают важность адаптивных финансовых стратегий, тщательной оценки рисков и надежных политических мер для смягчения рисков и поддержания финансового здоровья. В исследовании также подчеркивается необходимость постоянного мониторинга и корректировки в ответ на меняющиеся экономические условия.

Кроме того, в статье подчеркивается динамичный характер финансовых систем в условиях экономических потрясений и подчеркивается необходимость активного и осознанного принятия решений. Предприятия и финансовые учреждения должны адаптироваться к быстро меняющейся среде, балансируя управление рисками и возможностями для роста. Также подчеркивается роль регулирующих органов и политиков, поскольку они должны гарантировать, что финансовая система остается устойчивой и способной поддерживать экономическую деятельность даже в условиях стресса. В целом, исследование выступает за

целостный подход к финансовому анализу, объединяющий как макроэкономические тенденции, так и микроэкономические реалии, для эффективного преодоления сложностей экономической нестабильности.

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ЭКОНОМИЧЕСКИЙ АНАЛИЗ В СИСТЕМЕ БИЗНЕС-ПЛАНИРОВАНИЯ ДЕЯТЕЛЬНОСТИ ОРГАНИЗАЦИИ

Аннотация. Научная статья исследует важность экономического анализа в системе бизнес-планирования организации. Экономический анализ играет ключевую роль в выявлении сильных и слабых сторон организации, определении возможностей для роста и улучшения конкурентоспособности. В статье рассматриваются основные аспекты экономического анализа в бизнес-планировании, такие как финансовый анализ, маркетинговый анализ, оценка рисков, прогнозирование и планирование, эффективность использования ресурсов, а также мониторинг и контроль. Подробно рассматриваются инструменты и подходы, используемые в экономическом анализе, включая финансовые отчеты, маркетинговые исследования, анализ рисков и прогнозирование. В конечном итоге статья подчеркивает важность правильного применения экономического анализа в процессе бизнес-планирования для обеспечения устойчивого развития и успеха организации в современной экономической среде.

Ключевые слова: экономический анализ, бизнес-планирование, финансовый анализ, маркетинговый анализ, оценка рисков, прогнозирование, эффективность использования ресурсов.

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ECONOMIC ANALYSIS IN THE BUSINESS PLANNING SYSTEM OF THE ORGANIZATION

Annotation. The scientific article explores the importance of economic analysis in the business planning system of an organization. Economic analysis plays a key role in identifying the strengths and weaknesses of an organization, identifying opportunities for growth and improving competitiveness. The article discusses the main aspects of economic analysis in business planning, such as financial analysis, marketing analysis, risk assessment, forecasting and planning, resource efficiency, as well as monitoring and control. The tools and approaches used in economic analysis, including financial reports, marketing research, risk

analysis and forecasting, are discussed in detail. Ultimately, the article emphasizes the importance of the correct application of economic analysis in the business planning process to ensure the sustainable development and success of the organization in the modern economic environment.

Keywords: economic analysis, business planning, financial analysis, marketing analysis, risk assessment, forecasting, resource efficiency.

Экономический анализ в системе бизнес-планирования деятельности организации представляет собой многоуровневый процесс, охватывающий широкий спектр методов, инструментов и подходов для изучения, оценки и прогнозирования экономических аспектов функционирования предприятия. Этот процесс необходим для принятия обоснованных решений, направленных на улучшение финансового состояния и операционной эффективности компании [1, 579].

Важность экономического анализа в системе бизнес-планирования трудно переоценить. Это ключевой инструмент для выявления сильных и слабых сторон организации, а также определения возможностей для роста и улучшения конкурентоспособности на рынке. Экономический анализ обеспечивает комплексное понимание текущего состояния дел и помогает разработать стратегии для достижения целей и целевых показателей.

В процессе бизнес-планирования экономический анализ включает в себя анализ финансовых показателей, оценку рыночной среды, анализ конкурентов, оценку рисков, прогнозирование спроса и многие другие аспекты. Давайте рассмотрим некоторые из основных элементов экономического анализа в бизнес-планировании более подробно:

1. Финансовый анализ. Включает в себя изучение финансовых отчетов, таких как баланс, отчет о прибылях и убытках, отчет о движении денежных средств, чтобы оценить финансовое здоровье компании. Это позволяет выявить тенденции в финансовых показателях, оценить ликвидность, рентабельность и финансовую устойчивость.

Он включает в себя тщательное изучение финансовых отчетов, таких как баланс, отчет о прибылях и убытках, а также отчет о движении денежных средств. Целью финансового анализа является выявление тенденций в финансовых показателях компании, а также оценка ее ликвидности, рентабельности и финансовой устойчивости.

Баланс предоставляет обзор финансового положения компании на определенную дату. Он отображает активы компании (такие как денежные средства, запасы, оборудование) и ее обязательства (кредиты, долгосрочные обязательства) в определенный момент времени. Анализ баланса позволяет оценить финансовое состояние компании, включая ее способность погасить долги и обеспечить текущие операции.

Отчет о прибылях и убытках предоставляет информацию о доходах и расходах компании за определенный период времени. Он позволяет оценить

прибыльность бизнеса и его способность генерировать прибыль от основной деятельности [2, с. 308].

Отчет о движении денежных средств отражает поступления и оттоки денежных средств в компании за определенный период. Этот отчет помогает понять, откуда компания получает свои деньги и как она их тратит, что имеет важное значение для оценки ее финансовой устойчивости и управления денежными потоками.

Финансовый анализ также включает сравнение финансовых показателей компании с конкурентами в отрасли или с отраслевыми стандартами, чтобы оценить ее конкурентоспособность и эффективность управления.

Важными инструментами финансового анализа являются показатели, такие как коэффициент текущей ликвидности, коэффициент оборачиваемости запасов, коэффициент рентабельности инвестиций и другие. Они помогают качественно оценить финансовое состояние компании и выявить потенциальные проблемы или возможности для улучшения.

Финансовый анализ играет ключевую роль в принятии решений инвесторами, кредиторами, управляющими и другими заинтересованными сторонами. На основе его результатов принимаются стратегические решения о дальнейших инвестициях, кредитовании, приобретениях компаний и других важных аспектах управления бизнесом.

2. Маркетинговый анализ. Оценка рыночной среды, включая анализ спроса, предложения, конкурентов, трендов и макроэкономических факторов, которые могут повлиять на бизнес. Это помогает определить сегменты рынка, целевую аудиторию, понять предпочтения потребителей и разработать маркетинговые стратегии.

Маркетинговый анализ представляет собой комплексное исследование рыночной среды, включающее в себя анализ спроса, предложения, конкурентов, трендов и макроэкономических факторов, которые могут оказать влияние на бизнес. Этот процесс не только позволяет понять текущее состояние рынка, но и прогнозировать его развитие в будущем, что является ключевым элементом успешной стратегии предприятия [3, с. 1].

Анализ спроса включает в себя изучение потребностей и предпочтений потребителей, факторов, влияющих на их покупательское поведение, а также оценку объема и динамики спроса на конкретный товар или услугу. Это позволяет определить потенциальные сегменты рынка и целевую аудиторию, а также выявить возможности для расширения ассортимента или улучшения качества продукции.

Анализ предложения включает в себя изучение конкурентной среды, оценку доли рынка и позиции конкурентов, их стратегий продвижения и ценовой политики. Это позволяет определить свои конкурентные

преимущества и недостатки, а также разработать стратегию дифференциации продукции или услуги [4, с. 169].

Оценка конкурентов помогает выявить их сильные и слабые стороны, а также анализировать их действия и реакции на изменения в рыночной среде. Это позволяет предугадать возможные ходы конкурентов и разработать контрмеры для сохранения или увеличения своей доли рынка.

Исследование трендов позволяет выявить изменения в потребительском поведении, технологические инновации, изменения в законодательстве или другие факторы, которые могут повлиять на рыночную среду. Это помогает предугадать будущие тенденции и адаптировать маркетинговые стратегии к изменяющимся условиям рынка.

Анализ макроэкономических факторов включает в себя изучение экономического роста, инфляции, безработицы, валютных курсов, политической стабильности и других факторов, которые могут оказать влияние на деловую среду. Это помогает понять общие тенденции экономического развития и прогнозировать их влияние на бизнес.

3. Оценка рисков. Идентификация и анализ потенциальных рисков, которые могут повлиять на выполнение бизнес-плана, включая финансовые риски, операционные риски, риски рынка, репутационные риски и другие. Разработка стратегий управления рисками для минимизации их воздействия на бизнес.

4. Прогнозирование и планирование. Использование данных из анализа для прогнозирования будущих результатов и разработки стратегий для достижения целей бизнес-плана. Это включает в себя определение ключевых показателей успеха, установление целей и разработку долгосрочных и краткосрочных планов действий.

5. Эффективность использования ресурсов. Анализ эффективности использования финансовых, материальных и человеческих ресурсов компании с целью оптимизации процессов и увеличения производительности.

6. Мониторинг и контроль. Регулярное отслеживание выполнения бизнес-плана и реализации стратегий, а также корректировка планов в случае необходимости на основе новых данных и изменений внешней среды.

В целом, экономический анализ в системе бизнес-планирования организации играет решающую роль в обеспечении устойчивого развития и успеха бизнеса. Он предоставляет руководству компании объективную информацию для принятия обоснованных решений и эффективного управления ресурсами. Без глубокого понимания экономических аспектов и анализа среды бизнес может оказаться невыгодным и рискованным предприятием.

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ЗНАЧЕНИЕ СТРАХОВАНИЯ В ИННОВАЦИОННОМ РАЗВИТИИ ПРЕДПРИНИМАТЕЛЬСТВА

Аннотация. В данной статье описаны результаты, полученные в процессе инновационного развития предпринимательства в нашей стране, возможности, созданные в сфере, гарантированные государством аспекты страхования имущества, грузов и инструментов предпринимателей.

Ключевые слова. Предпринимательство, инновации, страхование, имущество, страхование грузов, страховой полис, страховая премия, экспорт, импорт, договор страхования.

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THE SIGNIFICANCE OF INSURANCE IN THE INNOVATIVE DEVELOPMENT OF ENTREPRENEURSHIP

Annotation. This article describes the results obtained in the process of innovative development of entrepreneurship in our country, the opportunities created in the field, state-guaranteed aspects of insurance of property, goods and tools of entrepreneurs.

Keywords. Entrepreneurship, innovation, insurance, property, cargo insurance, insurance policy, insurance premium, export, import, insurance contract.

Введение. Одной из традиционных и наиболее развитых форм международных экономических отношений в ходе мирового развития является внешняя торговля. Развитие внешней торговли и международной торговли в каждой стране осуществляется на основе законов.

Процесс производства товаров и оказания услуг в мировой экономике зависит от создания предпринимательской и деловой среды, основанной на инновационном развитии, и на долю внешней торговли приходится 75-80% всего объема международных экономических отношений.

Экономические реформы в Узбекистане напрямую связаны с институциональными изменениями во всех отраслях экономики.

Объявление 2024 года «Год молодежи и поддержки бизнеса» в нашей стране создало широкие возможности для улучшения благосостояния нашего народа, увеличения занятости молодежи, развития предпринимательства. В настоящее время в условиях мировой интеграции и глобализации необходимо привлечение инноваций к развитию предпринимательства в стране.

Как заявил в своем обращении к Олий Мажлису Президент Республики Узбекистан Ш.М.Мирзиёев подчеркнул: "...будут созданы более благоприятные условия для развития предпринимательства и малого бизнеса. Следует подчеркнуть одно, предприниматели внесли равный вклад с государством для стабильной работы экономики во время пандемии. Вот почему мы все должны стоять плечом к плечу с предпринимателями и всегда их поддерживать. В связи с этим обеспечение прав предпринимателей, особенно неприкосновенности частной собственности, должно стать основной задачей государственных органов всех уровней.

Для удобства предпринимателей будут отменены 105 видов лицензий и разрешений, а по 115 упрощены процедуры"³².

За последние 4 года были предприняты серьезные шаги по внедрению рыночных механизмов во все сферы нашей экономики. Сейчас задача состоит в том, чтобы создать основу для долгосрочного устойчивого роста посредством глубоких структурных реформ.

На практике разработаны различные стратегии, направленные на управление рисками в хозяйственной деятельности, однако страхование остается эффективным средством защиты от непредвиденных потерь в хозяйственной деятельности. Помимо того, что страхование является отработанным механизмом во всех видах хозяйственной деятельности, это еще и наиболее оптимальный способ объединения интересов всех участников страхового рынка. Поэтому разработка современных моделей страхования бизнеса требует инновационного подхода к нему.

Анализ литературы по теме. Из зарубежных и европейских экономистов К. МакКоннелл, С. Брю, А. Маршалл, Ю. Шумпетер, Дж.Б. Сей, А. Смит, Д. Рикардо, Дж.С. Миля, В.М. Яковлев, Ю.И. Иванов, Ф.М. Русинов, М. Вебер, В. Зомбарт, П. Друкер, В. Шепелев, Д.В.Бусыгин, В.Д. Камаев, И.Н. Герчикова, Ф. Найт, И. Х. Тунен, Р. Кантильон, К. Бодо, И.Х. Теунен, Найтир, Д. Гэлбрейт, Э.В. Глущенко, Е.В.Михайлова, Клас Эклунд, А.И.Капсов, Ю.В. Тихонравов и другие внесли значительный вклад в изучение отдельных аспектов развития предпринимательства, его видов и форм.

Среди ведущих ученых нашей республики С.С.Гуломов, А.Вахобов, А.Абдукаримов, Х.Абулкосимов, Х.О.Рахмонов, Ю.Абдуллаев, Ф.Каримов, Э.Акрамов, Ш.Н.Зайниддинов, Б.Т.Салимов, В научной деятельности

32Обращение Президента Республики Узбекистан Шавката Мирзиёева к Олий Мажлису. - Т., 29.12.2020.

Т.Шодиева, Ш.Тошматова, А.Б.Гурбанова, И.Е.Турсунова и др. в определенной степени изучены специфические аспекты развития предпринимательства и повышения эффективности инвестиций.

Методология исследования. Методологию исследования составляют результаты научных работ наших и зарубежных ученых по научным основам организации и управления предпринимательством, а также указы и постановления Президента Республики Узбекистан об организации и развитии предпринимательства. В то же время изучение особенностей управления рисками в организации и управлении деятельностью малого бизнеса и частного предпринимательства в зарубежных странах служит важным ресурсом для реализации их полезных аспектов в развитии деятельности предпринимателей в Узбекистане.

Анализ и результаты. Как отметил Президент Ш.М.Мирзиёев: «Во-первых, мы будем внедрять комплексный подход и нестандартные методы по сокращению бедности. Мы должны четко понимать один факт - проблему бедности не решить раздачей кредитов, социальных пособий или домов. Для этого необходимо решить комплекс проблем, связанных с образованием, здравоохранением, профессиональной подготовкой, питьевой водой, энергетикой и дорожной инфраструктурой.

Почему мы представили “железную тетрадь”? Целью этого является правильное выявление нуждающегося населения и на этой основе организация адресной работы с ним. В “Социальном регистре”, который заработает в полном объеме в следующем году, будет отражена вся информация “Железной книги”, а нуждающимся семьям в электронном виде будет оказано более 30 социальных услуг.”³³.

“Мировой опыт показывает, что любая страна, проводившая активную инвестиционную политику, добилась стабильного роста своей экономики. Именно поэтому инвестиции являются двигателем экономики, по узбекским меркам, сердцем экономики, без преувеличения.

Вместе с инвестициями в различные отрасли и отрасли, регионы будут поступать новые технологии, передовой опыт, высококвалифицированные специалисты, будет стремительно развиваться предпринимательство.”³⁴.

Повысить экономическую эффективность отраслей экономики и хозяйствующих субъектов, действующих в области при Главном управлении экономического развития и сокращения бедности Кашкадарьинской области, внедрить инновации в сфере, улучшить привлечение иностранных инвестиций, повысить привлекательность инвестиций, обеспечить хозяйствующих субъектов современными технологиями, развивать совершенствование системы производства и обслуживания, кадрового обеспечения и необходимо сосредоточить все

³³Обращение Президента Республики Узбекистан Шавката Мирзиёева к Олий Мажлису. - Т: 28.12.2023.

³⁴ Обращение Президента Республики Узбекистан Шавката Мирзиёева к Олий Мажлису. - Т: 28.12.2018.

наши усилия на повышении их квалификации, экономических и теоретических основ участия в конкурентной борьбе, применении зарубежного опыта, развитии системы поддержки предпринимательства, разработке научных основ совершенствования отрасли на основе научных исследования и передовой опыт развитых зарубежных стран. В сегодняшний день определение основных направлений развития предпринимательства на основе инновационного развития выступает главным механизмом в экономическом и социальном развитии каждого региона.

Страхование бизнеса внедрено в нашей стране с первых лет независимости. В частности, в статье 9 Закона Республики Узбекистан от 14 апреля 1999 года «О гарантиях предпринимательской деятельности и предпринимательской деятельности» рассмотрен вопрос «Предоставление кредитов субъектам предпринимательства и их страхование», имеющий особое значение для данной отрасли., полностью охраняется законом.

Законом уточняется, что предоставление кредитов субъектам предпринимательства и их страхование осуществляются в установленном законодательством порядке. Установлено, что банковские учреждения, иные кредитные учреждения или страховые организации, а также платежеспособные юридические и физические лица могут выступать поручителями при предоставлении кредита субъекту предпринимательской деятельности.

Также уточняется, что субъект предпринимательской деятельности может использовать свое имущество, в том числе принадлежащее ему имущество и имущественные права, в качестве обеспечения обязательств по кредитным договорам.

За последние 5 лет правительством был принят ряд законов и постановлений в целях дальнейшего улучшения условий ведения бизнеса в Узбекистане, продолжения реформ, связанных с развитием предпринимательства, расширения механизмов поддержки предпринимателей, и предоставить им необходимые финансовые и инфраструктурные ресурсы. На их основе был создан ряд сервитутов по выделению земли предпринимателям, выдаче кредитов в банках, закупке оборудования.

В настоящее время АО «Экспортно-импортная страховая компания «Узбекинвест» предлагает более 70 страховых продуктов для защиты от различных несчастных случаев, происходящих в деятельности предпринимателей. В частности, наиболее популярными страховыми услугами как средством защиты бизнеса от различных бедствий являются следующие:

Страхование от несчастных случаев в бизнесе.

Этот вид страхования обеспечивает страховую защиту от ожидаемой потери доходов от предпринимательской деятельности вследствие нарушения предпринимателем обязательств предприятиями-контрагентами

или изменения условий этой деятельности, не зависящего от предпринимателя.

Страховым случаем признается риск предпринимательской деятельности и причинение вреда имущественным интересам застрахованного в результате следующих событий:

- неисполнение обязательства застрахованного предпринимателя в процессе своей деятельности, т.е. неуплата, непоставка продукции в срок, поставка некачественной продукции и т.п.;

- финансовой недееспособности контрагента (партнера), признании его банкротом или ограничении его деятельности;

- условия внесения изменений в законодательство, отрицательно влияющих на деловую активность;

- случаи форс-мажора, предусмотренные договором, и т.п.

Стоимость страхового покрытия, выплачиваемого по данному страховому продукту, определяется в каждом конкретном случае и в каждом конкретном случае.

Страховая премия зависит от вида деятельности страхователя и исчисляется от страховой суммы, указанной в договоре страхования. Страховая сумма может быть рассчитана исходя из годовых тарифных ставок, установленных из страховой суммы в течение текущего периода действия договора страхования.

Страхование собственности.

Полис имущественного страхования применяется для защиты интересов страхователя (выгодоприобретателя) от ущерба, причиненного повреждением имущества или его полным уничтожением. Эта норма применяется при возмещении материальных убытков, то есть возможно возмещение ущерба, причиненного страховым случаем, с помощью финансового страхового покрытия.

Если имущество повреждено, будут покрыты такие расходы, как строительные материалы, необходимые для его восстановления, и оплата труда ремонтных рабочих.

Настоящий договор страхования заключается со страхователем или выгодоприобретателем. Объектом страхования является здание, строение и оборудование владельца страхового полиса. Страховая защита обеспечивается застрахованному имуществу от всех несчастных случаев, прямых, внезапных повреждений, увечий, повреждений, утраты или порчи.

Страховая сумма определяется исходя из стоимости имущества и его местонахождения на момент заключения договора страхования и рассчитывается отдельно по каждому имуществу:

- рыночная стоимость имущества, определенная квалифицированной оценочной организацией;

- покупные цены с указанием нормативного срока полезного использования и фактического срока эксплуатации;

- балансовая стоимость (если по реальной цене и имущество принималось к учету недавно).

Договор заключается субъектами хозяйствования сроком на 12 месяцев и вступает в силу с даты подписания. Согласно условиям договора, страховое возмещение будет выплачено в течение 15 банковских дней после подписания акта о наступлении страхового случая.

Страховая премия может рассчитываться от 0,05% до 0,2% от годовой страховой суммы в зависимости от срока действия договора, размера страхового тарифа и страховой суммы.

Страхование грузов.

Период страхования начинается с момента отправки груза в указанный пункт назначения. При этом груз страхуется от повреждения в период перевозки груза, временного хранения, ретрансляции, временного или постоянного хранения в местах, предназначенных для погрузки.

Этот вид страхования предназначен для товаров, перевозимых всеми видами транспорта, доступными в мире, а объектом страхования является грузовой документ, транспортные расходы и ожидаемая прибыль после реализации товара, дошедшего до места назначения.

Страхование грузов предлагает защиту от всех рисков для различных продуктов:

- общая авария: оплата и расходы за ураган, наводнение, пожар, землетрясение, извержение вулкана или удар молнии, взрыв или пожар;

- кораблекрушение, застревание на мелководье, опрокидывание, сход с рельсов железнодорожного транспорта, дорожно-транспортное происшествие;

- крушение или крушение воздушного транспортного средства, столкновение с судами, другими транспортными средствами или столкновение с какими-либо твердыми предметами и т.п.;

- когда часть или весь груз поврежден или полностью утерян или поврежден по какой-либо причине;

Ставка страховой премии может рассчитываться от 0,1% до 0,8% от страховой суммы, независимо от направления перевозки груза, транспортного средства и вида груза.

Если ознакомиться с информацией по данному вопросу, то за 8 месяцев 2021 года АО «ЕИСК «Узбекинвест» получено страховое обязательство перед экспортерами на сумму 1,1 млрд долларов США, а также страховая премия на сумму 17,3 млрд сумов по комплексному страхованию национальные экспортеры.

13 августа 2019 года Указом Президента Республики Узбекистан № ПФ-5780 «Дополнительные меры по коренному совершенствованию системы организации работы по охране частной собственности и усилению гарантий прав собственников, поддержки предпринимательской инициативы, а также финансовых ресурсов и производства субъектов

предпринимательства Принят указ «О расширении возможностей использования инфраструктуры», и заслуживает внимания положительная работа, проделанная АО «ГАРАНТИЙНАЯ КОМПАНИЯ» в связи с реализацией этого указа.

В соответствии с данным Указом это позволило решить ряд проблем при оказании страховых услуг субъектам предпринимательства.

Во-первых, во многих случаях предприниматели сталкивались с проблемой отсутствия залога при получении кредита в банке. В этом постановлении решен вопрос об использовании механизма страхования в случае непредоставления залога.

Во-вторых, унифицируются условия страхования от невозврата кредитов. Сокращены документы, представляемые предпринимателями для страхования.

В-третьих, оптимизация банковской деятельности, то есть решение вопроса о кредитовании в самом районе, дает возможность осуществлять страхование в этом месте.

В-четвертых, деятельность основных коммерческих банков, фонда поддержки бизнеса и страховой компании будет связана в единую интегрированно-автоматизированную систему, параллельно с процессом рассмотрения документов коммерческими банками будут решаться вопросы компенсационных, гарантийных и страховых полисов. Быть реализованы, что сэкономит время предпринимателей и приведет к экономии средств.

Известно, что при обращении предпринимателя за кредитом могут возникнуть следующие ситуации:

1. В случаях наличия залога АО «Гарантийно-страховая компания» осуществляет страхование имеющегося залога;
2. При частичном наличии залога АО «Гарантийная страховая компания» гарантирует полис страхования невозврата и Фонд поддержки предпринимательской деятельности по неполной части залога;
3. При наличии частичного залога, но в случае возмещения Фондом поддержки предпринимательства незаложенной части оформляется страховой полис от невозврата кредита АО «Гарантийно-страховая компания».

Этот механизм реализуется Фондом, основными коммерческими банками и АО «Гарантийно-страховая компания».

В заключение можно подчеркнуть, что сегодня, исходя из опыта развитых стран, выгодоприобретатели по страхованию должны способствовать развитию современной страховой деятельности в нашей стране, используя свои экономические и правовые знания, чтобы обеспечить правильное использование страховых возможностей в все направления и правовое осуществление страховой деятельности. Мы также считаем, что значение страхования в инновационном развитии

предпринимательства будет возрастать за счет привлечения передовых цифровых технологий.

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ОПТИМАЛЬНОЕ УПРАВЛЕНИЕ РЕЖИМАМИ РАБОТЫ СИСТЕМ ЭЛЕКТРОСНАБЖЕНИЯ ПРИ ВЫСОКОСКОРОСТНОМ ДВИЖЕНИИ

Аннотация. В этой статье раскрываются пути оптимального управления режимами работы систем электроснабжения при высокоскоростном движении. На участках со скоростным и высокоскоростным движением система внешнего электроснабжения должна обеспечивать двухстороннее питание тяговых потребителей по высоковольтным линиям, подвешенным на отдельных опорах. При автоматической частотной разгрузке энергосистемы в случае ее перегрузки эти линии не должны отключаться.

Ключевые слова: электроснабжение, энергосистемы, оптимальное управление, высокоскоростное движение, электроэнергетика.

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OPTIMAL CONTROL OF OPERATING MODES OF POWER SUPPLY SYSTEMS DURING HIGH SPEED TRAFFIC

Abstract. This article reveals the ways of optimal control of the operating modes of power supply systems in high-speed traffic. In areas with high-speed and high-speed traffic, the external power supply system must provide two-way power to traction consumers via high-voltage lines suspended on separate supports. In the case of automatic frequency unloading of the power system, these lines should not be disconnected in the event of an overload.

Key words: power supply, power systems, optimal control, high-speed traffic, electric power industry.

Минимизация потерь электроэнергии в тяговой сети является целевой задачей участия системы тягового электроснабжения (СТЭ) в формировании энергетической эффективности электрической тяги в целом [1]. Наименьшая мощность СТЭ требуется при наиболее равномерном распределении поездов (по их числу и типу) во времени. Повышение энергетической эффективности режимов работы СТЭ переменного тока с

нерациональными потоками реактивной мощности и наличием транзита мощности из-за межсистемных перетоков требует применения автоматического регулирования напряжения на тяговых подстанциях и ввода в работу рациональных мощностей компенсирующих устройств, [2]

Эффективность применения конденсаторных установок в электроэнергетике известна давно [3]. Они позволяют повысить провозную способность железных дорог при больших нагрузках за счет повышения напряжения в тяговой сети до нормируемых значений. С их помощью также нормализуется баланс по реактивной мощности в рассматриваемом узле электроснабжения для обеспечения приемлемого режима напряжения для потребителя, решаются вопросы снижения потерь мощности и в целом повышается качество электроэнергетики.

Практика доказала приемлемость в тяговом электроснабжении установок поперечной (КУ) и продольной (УПК) емкостной компенсации для повышения эффективности и надежности работы железных дорог. Тем не менее, проблема совершенствования КУ и УПК с учетом современных требований к электроснабжению является первоочередной и требует выполнять их регулируемые и переключаемые, учитывая основные нормативно-правовые документы [4].

Компенсация реактивной мощности направлена в основном на экономию (уменьшение потерь) при эксплуатации тяговых сетей и одновременно на улучшение качества напряжения. Для нахождения наилучшего решения необходимо сопоставлять стоимость установки компенсирующих устройств и дополнительной аппаратуры к ним (с учетом расходов на эксплуатацию) с экономией на стоимости потерь в тяговых сетях, а также с выигрышем, полученным за счет улучшения качества напряжения ЭПС и не тяговых потребителей. Эффективный вариант компенсации реактивной мощности тяговой нагрузки - распределенная система КУ в тяговой сети, когда КУ включены на постах секционирования и на тяговых подстанциях.

Для выбора номинальной мощности КУ следует выполнить расчет наименьшего действующего напряжения на токоприемнике ЭПС для заданных размеров движения по нормальной (проектной) схеме СТЭ с учетом сгущения поездов в интенсивный час. Расчеты во всех случаях следует выполнять с использованием программных комплексов с имитацией взаимосвязанных мгновенных схем движущихся нагрузок ЭПС [5].

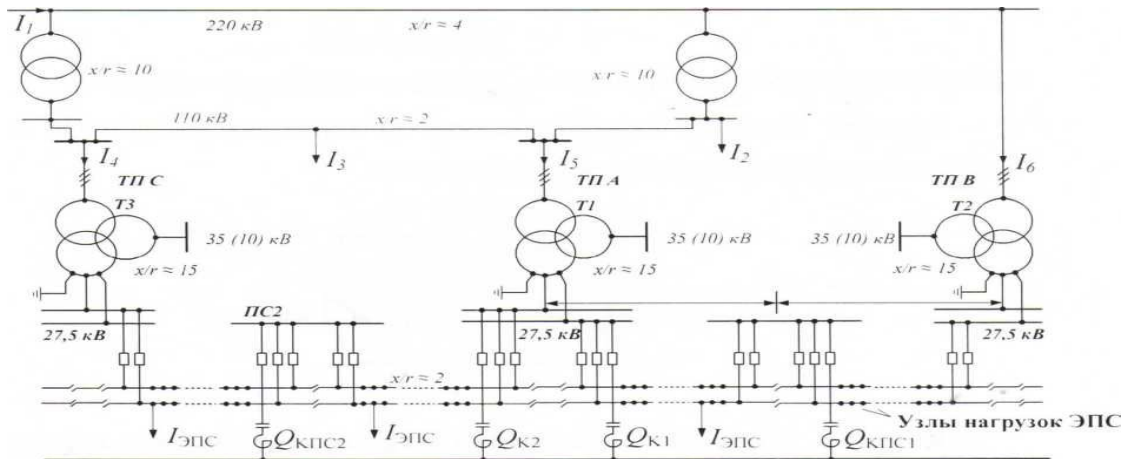


Рис. 1.1. Фрагмент внешнего электроснабжения тяговой сети с распределенной поперечно емкостной компенсацией.

Так для каждой из меж подстанционных зон рассматриваемого участка (рис. 1.1) при заданных размерах движения и нормальной схеме питания определяется фактическое наименьшее напряжение на токоприёмнике ЭПС

$$U_{\text{мин.ф.}}: \dot{U}_{\text{мин.ф.}} = (\sum_{i=1}^n \dot{U} - \Delta \dot{U}_{\text{max}i}) / n,$$

где $\dot{U}_{\text{ш}i}$ - мгновенное значение напряжения на шинах тяговой подстанции; $\Delta \dot{U}_{\text{max}i}$ - мгновенное максимальное падение напряжения в векторе $\Delta \dot{U}_a$ падение напряжений от узлов нагрузок ЭПС до базисного узла; n - количество решенных мгновенных схем за время моделирования T .

Падение напряжения на участке сети от любого узла до базисного находится по выражению $\Delta U = M_{at}^{-1} \dot{U}_a$ 1.2

где M_{at}^{-1} - транспонированная обратная первая матрица инцидентий для дерева схемы;

$\dot{U}_a = Z_a I_{Ba} - \dot{E}_a$ - вектор падения напряжения на ветвях дерева схемы; \dot{E}_a - э.д.с. в ветвях дерева схемы. Здесь для определения токов в ветвях схемы по известным нагрузкам поездов и нагрузкам внешней системы электроснабжения используется выражение

$$\dot{I}_B = N_t \{ (NZ_B N_t)^{-1} [N(\dot{E}_g + \dot{E}_r) - NZ_B \begin{pmatrix} M \\ 0 \end{pmatrix} j] \} + \begin{pmatrix} M \\ 0 \end{pmatrix} j \quad 1.3$$

где $M_{m,n}$ и $N_{k,n}$ - первая и вторая матрицы инцидентий; m - количество узлов; n - количество ветвей; $k = n - m$ - количество независимых контуров; Z_B - матрица сопротивлений ветвей; $\dot{J} = (j_1, j_2, \dots, j_m)$ - вектор задающих токов; \dot{E}_g - вектор э.д.с. в ветвях дерева и хорд без трансформаций; \dot{E}_r - вектор э.д.с. в ветвях дерева и хорд с трансформациям; M_{at}^{-1} - обратная матрица инцидентий для дерева схемы. Здесь элементы \dot{I}_a в векторах $\dot{E}_m \dot{I}_a$ связанные зависимостями $\dot{E}_{at} = \dot{K} \dot{E}_{\beta t}$ и $\dot{K} \dot{I}_{at} = \dot{I}_{\beta t} \dot{K}$ - где квадратная матрица коэффициентов трансформации размерностью t ; a - ветви дерева схемы; β -

ветви хорд схемы; t , - ветви дерева и хорд не связанные с трансформациями.

В задачах, не требующих расчета ток распределения, вектор падения напряжения определяется по формуле:

$$\Delta \dot{U} = \dot{Y}^{-1} j \quad 1.4$$

где $\dot{Y} = MZ_B^{-1}M_t$ - матрица узловых проводимостей.

Вначале принимаем вариант с размещением КУ на постах секционирования (на рис. 3.1.1. $Q_{кпс 1}$ и $Q_{кпс 2}$). Расчетная мощность КУ,

необходимая для повышения напряжения до нормированного значения Q_K , определяется разностью наименьших значений нормированного и фактического действующего напряжения на токоприемнике ЭПС ($U_{мин. норм} - U_{мин. ф}$) и входным индуктивным сопротивлением до КУ ($X_{вх}$) по формуле, $M_{вар}$:

$$Q_K = U_{ном}^2 (U_{мин. норм} - U_{мин. ф}) / \{U_{мин. норм} * X_{вх}\} \quad 1.5$$

где $U_{ном}$ - номинальное напряжение КУ ($U_{ном} = 27,5$ кВ); $X_{вх}$ - входное индуктивное сопротивление до КУ.

Входное индуктивное сопротивление до КУ поста, секционирования при двухстороннем питании контактной сети от смежных подстанций ТП А и ТП В (рис. 3) определяется по формуле, Ом:

$$X_{вх} = \frac{A * B}{A + B} \quad 1.6$$

где $A = X_{ТСa} + 2X_{ТР.a} + 2X_{Ca}$, $B = X_{ТС.B} + 2X_{ТР.B} + 2X_{Cв}$, $X_{ТСa}$ и $X_{ТС.B}$ - индуктивные сопротивления тяговой сети соответственно от подстанций ТП А и ТП В до КУ, Ом; $X_{ТСa}$ и $X_{тсв}$ - индуктивные сопротивления включённых в работу трансформаторов на подстанциях ТП А и ТП В, Ом;

X_{Ca} и $X_{Cв}$ - индуктивные сопротивления системы внешнего электроснабжения соответственно до подстанций ТП А и ТП В, Ом.

Индуктивное сопротивление включенных в работу трансформаторов на подстанции ТП А (ТП В) определяется по формуле, Ом:

$$X_{ТР} = U_{кз} * U_{ном}^2 / 100 * n * S_{ТР} \quad 1.7$$

где $U_{кз}$ - напряжение короткого замыкания трансформатора, %; $U_{ном}$ - номинальное напряжение трансформатора ($U_{ном} = 27,5$ кВ), $S_{ТР}$ - номинальная мощность трансформатора, МВ*А, n - количество включённых в работу трансформаторов.

Индуктивное сопротивление системы внешнего электроснабжения определяется по формуле, Ом:

$$X_c = U_{ном}^2 / S_{кз} \quad 1.8$$

где $S_{кз}$ - мощность трехфазного короткого замыкания на шинах 110 (220) кВ тяговой подстанции, МВ*А.

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ЎЗБЕКИСТОНДАГИ ЭКОЛОГИК МУАММОЛАР

Annotatsiya. Suvning ekologik musaffoligi, suv resurslarini ifloslanishdan himoya qilish, suv dunyosi hayvonlarini muhofaza qilish, suvdan oqilona foydalanish, yerlarni sun'iy sug'orish, suvni butun xalq mulki deb e'tirof etish va yana boshqa dolzarb vazifalar. insoniyatdan.

Kalit so'zlar: ekologiya, sanoat, toza suv, toza tuproq, inson omili, kislotali yomg'ir, issiqxona effekti, tabiat, ekologik madaniyat.

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ECOLOGICAL PROBLEMS IN UZBEKISTAN

Annotation. Problems of ecological cleanliness of water, protection of water resources from pollution, protection of animals of the water world, rational water use, artificial irrigation of land, recognition of water as the property of the whole people and much more, as urgent tasks of mankind.

Keywords: ecology, industry, clean water, clean soil, human factor, acid rain, greenhouse effect, nature, ecological culture.

Бугунги кунда амалдаги озиқ-овқат тизимлари чуқур ўзгаришларга муҳтож, маълумки бу тизим, мавжуд дунё аҳолисининг маълум бир қисмининг асосий озиқ-овқат бўлган эҳтиёжларини қондира олмаяпти, натижада инсоният ўзини ўраб турган табиатга, атроф-муҳитга ўзига хос бўлмаган каттаюк қўймоқда. 2050 йилга келиб дунё аҳолиси 10 миллиардга етиши тахминига кўра, озиқ-овқат маҳсулотига бўлган талаб 2013 йилга нисбатан 50 фоизга ошиши кутилмоқда, бу шунингдек, айниқса, иқтисодиёти паст ва ўрта даромадли мамлакатларда аҳолининг овқатланиш тизимини ўзгартиришни талаб қилади (ФАО 2017). Агарда дунё ошхонасида озиқ-овқат тизими ёки овқатланиш жараёни тубдан ўзгартирилмаса, келажакдаги қўшимча озиқ-овқатга бўлган эҳтиёжларни ошиб бориши иссиқхона газлари чиқиндиларини кўпайтиради, ер ва сувдан оқилон

фойдаланишга бўлган талабни янада оширади ва трансчегаравий можаролар, ижтимоий тартибсизликлар ва қитъалараро миграцияларга олиб келади (FAO 2017). Пандемия бошланиши билан дунёда юз берган иқтисодий кризислар ва бугунги кунда айрим ижтимоий нотинчлардан келиб чиқиб, овқатга туймаган ва ярим оч одамлар сони динамикаси ўсишда давом этмоқда, FAO маълумотиغا кўра, 2018 йилда 820 миллиондан ошган бўлса, 2022 йилда, ярим оч одамлар сони 2 миллиардга етганлиги маълум бўлди. (Густавссон ва бошқ. 2011).

Ўзбекистондаги демографик маълумотларга назар солсак—аҳоли сонини йил сайин ошиб бораётганлигига гувоҳ бўламиз. Демак йил сайин сони ошиб бораётган аҳолини озик-овқат маҳсулотлари билан таъминлаш доимо ҳукуматимизнинг эътиборида туради. Иккинчидан республикада яшовчиларни умр кўриш даражаси узайиб бормоқда ва бу билан дунё стандартлари талабига яқинлашиб бормоқдамиз. 1- Жадвал.

Ўзбекистондаги аҳоли сонинг ўсиб бориш динамикаси

Йиллар	Одам сони млн. киши	Аҳоли сони ўсиши, %
1989	19 682 953	2.45 %
2000	24 591 981	1.51 %
2010	28 292 540	1.60 %
2020	33 226 789	1.51 %
2022	34 227 696	1.50 %

Демак, бизда йил сайин аҳоли сони ошиб бормоқда, уларни озик-овқат ва уй жой билан ҳам таъминлаш вазифаси туради. Республика деҳқончилигида ер майдонини камайиб бориши туфайли, ҳар бир қарич ердан унумли фойдаланиш ҳар биримизнинг вазифамиздир.

Республикада кейинги вақтларда саноат корхоналари ва машиналар сонининг кескин кўпайгани, саноат экологиясига ҳам катта эътибор бериш зарурлигини кўрсатади. Саноат экологиясини иқтисодий бурилишлар ва табиатдан фойдаланувчиларнинг молиявий сармояларисиз тасаввур қилиб бўлмайди. Она-табиатни албатта антропоген ва техноген омиллар таъсиридан сақлаш учун Давлат томонидан ишлаб чиқилган ишчи дастурга амал қилиниши лозим. Саноат экологиясига катта шаҳарларда сал эътиборсизлик қилинса, табиатда яшовчи инсонларга ва атмосферадаги ҳаво бассейнига, тупроққа ва ичимлик сувларига жуда катта зарар еткази.

Экология – ҳозирги кунда маълум ҳудуд ёки республика миқёсидан чиқиб, умумбашар муаммосига айланган, биз буни қуйидаги муаммоларда кўришимиз мумкин.

Бутун дунёда инсонларни безовта қилаётган “Озон туйнуғи” табиатни асрашда энг глобал муаммолардан биридир. Озон қатлами қалинлиги 3-5 мм бўлади, бу қатлам ердан 12-50 км узоқликда бўлиб, одамларни қуёшдан келадиган ультрабинафша нурлардан ҳимоя қилади. Қуёшдан келадиган нурлар тўғридан-тўғри ўтиб келса барча тирик организмларни халок қилади. Озон қатлами инсон учун нозик қалқон бўлиб келган, аммо кейинги

пайтда ақлли инсон томонидан техноген омилларнинг ривожланиб бориши натижасида нозик қалқонда тешик пайдо қилди [5]. Антропоген таъсирида атмосферага катта миқдорда фторли, хлорли газлар, фреонлар ва (NO₂) азот оксидлари ташланади. Ҳозирги кунда озон тешиги Антарктидада кичикроқ майдонда ва Арктикада ҳосил бўлди. Шунингдек, катта шаҳарлар устидаги озон қатлами ҳам кун сайин юпқалашиб бормоқда.

Иккинчи катта муаммолардан бири, бу-кислотали ёмғирларнинг ёғиши ҳисобланади, инсон таъсирида атмосферага озон, углевод ва олтингугурт диоксидлари ва бошқа газлар юқори атмосферадан ёғинлар натижасида ерга қайтиб тушади. Кислотали ёмғирлар қаерда ёғмасин, ўша жойдаги тупроқларни заҳарли моддалар билан бойитиб, тупроқ таркибида микроорганизмларнинг фаолиятини бузади, мазкур тупроқдан униб чиққан ўсимлик бу заҳарли маҳсулотларнинг бир қисмини ўзи билан олиб чиқади, шу тариқа инсон организмига ўтиб, оғир касалликлар келтириб чиқаради. Шунингдек, ҳайвонлар ҳам шу ўсимликларни истеъмол қилганидан сўнг уларнинг маҳсулотлари истеъмолга яроқсиз бўлади ёки ноэкологик тоза маҳсулотлардан инсон организмига ўтади.

Учинчи муаммо – кислотали ёмғирлар бўлиб, саноати ривожланган шаҳарларда кўп учрайди, кислотали ёмғирлар инсонларда нафас олиш йўллари, тери касалликларини келтириб чиқармоқда, қаерда атмосферага озон, углевод ва олтингугурт диоксиди тушган бўлса, бундай ёмғирли ҳавода инсоннинг соғлиғи ёмонлашмоқда. Тўртинчи муаммо – “Парниковый эффект” ёки “парник эффекти” деганда карбонат ангидрид сақловчи қалин газлар тутунни юқорига кўтарилиб, ерни ўраб олади, куёш нурларининг очиқ космосга ўтишига тўсқинлик қилади, натижада ерда ҳаво исиб боради ва иқлим ўзгаришига олиб келади. Сўнгги маълумотларга кўра, яқин келажакда (50-60 йил) Арктика ва Антарктида музлари эрибмоёда. [4].

Ўзбекистонда энг катта экологик фожа – Орол денгизининг қуриб бориши ҳисобланади. Орол денгизи ҳажми 67,5 кв. км дан 17,6 кв. км га кичрайдди. Бир пайтлар денгизда юзлаб катта кемалар ва консерва заводлари ишлаган бўлса, унинг бугунги ҳолатни ғоят аянчлидир. Орол денгизи сатҳидан учган тузлар Хоразм, Қорақалпоғистон республикаси ҳудудларидаги тупроқларда шўрланиш даражасини 75 % га ошириб юборди.

Бу ерларда ичимлик сувларининг ифлосланиш меъёри юқори, дарё сувлари шўрлиги сабабли барча қишлоқ хўжалик экинлари ҳосилдорлиги камайиб кетди. Етиштирилган қишлоқ хўжалик маҳсулотларининг таркибида туз миқдори юқори. Хоразм ва Қорақалпоғистонда болалар касалликлари бошқа вилоятларга нисбатан кўп учрайди. Ҳавога учувчи бирикмалар (метан, бензол, хлор, фтор, углеводлар-15%) ҳисобланади. Ҳавода муаллақ турадиган зарарлар (чанг, қорақуя қурумлари, асбест, қўрғошин тузлари, мишьяк, олтингугурт кислотаси, нефть, диоксинлар) – 15% миқдорда инсон организмига таъсир қилади. Атмосферада перекис

водород, радиоктив моддалар (радон-222, стронций-90, плутоний-239 лар) мавжуд бўлгани учун биз нафас олаётган ҳавони тоза деб бўлмайди. Турли хилдаги чиқиндиларни ёқишдан юқори ҳарорат натижасида энг зарарли ёки супер экотоксинли газлар ҳосил бўлади [4].

Ёки 2021 йил 2-6 ноябр кунлари Тошкент шаҳрида бўлиб ўтган қум ва чанг сариқ бзрони ҳақида нима айтиш мумкин. Бундай воқеа бўлганини ҳеч ким эсламайди. Чанг ғубордан 100 метр наридаги масофа кўринмай қолди. Қанча кишиларда нафас қисиши, аллергия ва бўғма касалликлари авж олди. Чанг бўрони яна шундай такрорланса, бир қатор оғир хавфга олиб келади. Чунки биз табиатни тушиниб уни асраш йўлида мутлақо ўйламаяпмиз [2,3]. Аммо табиат ўзининг мавжудлигини, у доимо ўзини сақлаб қолиш учун курашишини бизга эслатиб турмоқда. Аслида табиат тирик организм, ҳар би р тирик организм ўзини сақлаб қолишга ҳаракат қилади. Табиатни ўз органлари бор- сув, ҳаво, тупроқ, ўсимлик ва ҳайвон, бизлар эса табиатга бегонамиз. Биз инсонлар ўзи завқимиз, нафсимиз йўлида табиатдаги энг чиройли ҳайвонларни отиб ўлдирдик, энг ноёб дарахтларни кесдик, сувларни ифлосладик, тупроқни заҳарладик, атмосферага заҳарли газларни ташладик. Сон-саноксиз транспорт машиналари туфайли, атмосферага зарарли газларни ташладик ва дунё бўйлаб ҳаво ҳароратининг ошиб боришига сабаб бўлдик.

Бутун дунё соғлиқни сақлаш ташкилоти томонидан белгиланишича, табиатни ифлосланттирувчи моддаларнинг инсон организмга таъсирини кўйидаги ҳолда тасаввур қилиш мумкин: органлар ва тўқималарда ифлос моддаларнинг тўпланиши организм ҳаёт фаолиятидаги ўзгаришлар —→ касалликнинг физиологик белгиларикасаллик ўлим. —→

Атмосферага ташланган заҳарли моддалар ичида хавфлиси азот оксиди (NO_2) ҳисобланади, бу турдаги заҳарли модда ўз хажмига кўра кўпроқ ва азот оксиди тўғридан-тўғри азот қатламини бузади, умумий шартли заҳарлилиги даражасига кўра NO_2 заҳарлилик коэффиценти 20 бирликни ташкил этади, олтингугурт оксиди – 12, карбонат ангдрид CO_2 – 1 бирликка эгадир. Азот оксиди техноген омиллар томонидан энг кўп ишлаб чиқарилади, унинг озгинаси ҳам кўз ёки бурун шиллик қаватини зарарлайди, сал кўпроқ бўлса бронхонопневмония- органларни зарарлайди, кўпроғи ўпкани шиширади. Бундан ташқари азот оксиди органларда қон айланишини ишдан чиқаради.

Олтингугурт оксиди ҳам нафас олиш йўллариини заҳарлайди [1]. Углерод монооксиди бу заҳарли моддалар ичида ўта хавфлиси бўлиб, у ҳавода жуда кам миқдорда бўлган тақдирда ҳам инсонларни ўлимга олиб келади.

Инсоннинг заҳарланиши сув орқали ҳам юз беради. Атмосферадаги заҳарли моддалар ёғинлар ва бошқа таъсирлар билан оқар сувга – ичимлик сувига келиб тушади, натижада сув заҳарланади. XX аср бошларида сувни

захарлайдиган моддалар сони бор йўғи 17 та бўлган бўлса, ҳозир фанда бундай моддалар сони 2.5 мингдан зиёд.

Озиқ – овқатлар таркибида нитратлар, пестицидлар, кислоталар, оғир металлларнинг оксидлари, радиоактив ва канцероген моддалар мавжуд бўлса, улар истеъмол учун яроқсиз ҳисобланади [6,]. Айниқса темирйўл ва катта магистраль йўл яқинида ўстирилган мева-сабзавотлар таркибида углеводородлар концентрацияси, нитратлар ва оғир металллар, симоб, кадмий, кўрғошин кўп бўлади. аммо биз кейинги йилларда темир йўл йўллар яқинидаги майдонларга ҳам экинлар ёки дарахтлар экиб улардан маҳсулотлар олиб, истеъмол қилиб ўзимизни ва ёнимиздаги одамларни захарламоқдамиз. Урбанизация натижасида дарахтлар кесилиб, кислород берувчи манбалар камайиб бормоқда, чўлланиш ва тупроқларни шўрланиши дунё бўйлаб тезлик билан катта майдонлар яроқсиз қолга келиб қолмоқда. Ўзбекистон ҳам бу иллатдан холи эмас, йилдан йилга бизда кўп майдонлар қишлоқ хўжалик экинларни экишга яроқсиз бўлиб қолмоқда.

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ИЗМЕНЕНИЕ ФАУНЫ МЛЕКОПИТАЮЩИХ В УСЛОВИЯХ ТРАНСФОРМАЦИИ ПРИРОДНОЙ БИОТЫ ПРИАРАЛЬЯ

Аннотация. В статье анализируется изменение фауны млекопитающих в условиях трансформации природной биоты Приаралья. В фаунистическом комплексе млекопитающих Южного Приаралья мезофильные и гидрофильные виды природной биоты, определяющей видовой состав, плотность населения и связанную с ней способность популяционной регуляции у млекопитающих в увлажненных экосистемах. В результате антропогенных воздействий на природные комплексы меняется фауна, идет не только перестройка видового состава, но и резкие изменения структуры популяции и численности животных

Ключевые слова: экосистема, факторы, биоценоз, механизм, динамика, популяция, фауна, структура.

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CHANGES IN THE FAUNA OF MAMMALS UNDER CONDITIONS OF TRANSFORMATION OF THE NATURAL BIOTA OF THE ARAL REGION

Annotation. The article analyzes the change in the mammal fauna in the conditions of transformation of the natural biota of the Aral Sea region. In the faunal complex of mammals of the Southern Aral Sea region there are mesophilic and hydrophilic species of natural biota. determining the species composition, population density and the associated ability of population regulation in

mammals in humid ecosystems. As a result of anthropogenic impacts on natural complexes, the fauna is changing, not only the restructuring of the species composition is taking place, but also sharp changes in the population structure and number of animals

Key words: ecosystem, factors, biocenosis, mechanism, dynamics, population, fauna, structure.

Живая природа – это сложное сочетание организмов, популяций и сообществ, существующих в разнообразном и меняющемся мире. Устойчивость природных систем – способность сохраняться в условиях мощных антропогенных воздействий. Исследование формирования териокомплексов и динамика численности животных были и остаются актуальными проблемами современной экологии. Животные являются одним из важнейших компонентов биоценозов. Видовой состав, распространение, численность, образ жизни, специфические пути адаптации и многие другие стороны их экологии, в первую очередь обусловлены природными условиями среды обитания. Механизмы адаптации к изменяющимся условиям местообитания и закономерности формирования внутривидовых отношений дают возможность изучить и разработать конкретные меры по стабилизации экологической ситуации в регионе. Масштабы изменений биокомплексов огромны и поэтому важной задачей экологической направленности является разработка стратегии охраны животного населения, обеспечивающая сохранность биогеоценозов, а также классификация и оценка значений факторов окружающей среды в динамике численности животных. Исследования механизмов регуляции и реакции популяций на изменения условий обитания, их мобильность являются решающим фактором в динамике их численности и структуры [4].

Выбор биотопов в природной группе привязан к основным типам растительности тугайного ландшафта. Природные местообитания – участки тугайной зоны, находящиеся под разной степенью выпаса, и участки вдоль каналов, сохранившие практически естественное состояние: увлажненные ложбины стока, склоны и днища оврагов, вторая надпойменная терраса у берега. Наряду с этим исследовали тугайные и тростниковые заросли в долине р. Амударьи. В антропогенной группе биотопов обследовали залежи, территории вдоль коллекторно-дренажной сети и др., лесополосы вдоль железной дороги и поля с различными сельскохозяйственными культурами (Цветкова и др., 2008).

Мелкие млекопитающие – классический модельный объект в экологических исследованиях. Для рассмотрения соответствия моделей и биологической реальности он подходит самым наилучшим образом. Как известно, грызуны являются важнейшим компонентом многих экосистем (тундровых, лесных, степных, горных), они хорошо изучены с

экспериментальной стороны, имеют ясное положение в системе трофических связей, представляют большой интерес с медицинской и хозяйственной точек зрения. При всем этом, мелкие млекопитающие демонстрируют весь спектр режимов популяционной динамики [1,3]. Изучение территориального размещения грызунов показывает тесную их связь с определенными типами местности, характеризующимися комплексом флористических, климатических и биоценологических условий [2]. Биотопическая дифференциация популяции, характеризующаяся набором специфических экологических признаков, своеобразными связями со средой, внутривидовыми взаимодействиями, пространственной структурой, темпом воспроизводства, уровнем и ходом динамики численности – представляет наиболее совершенную форму экологической адаптации к изменяющимся условиям обитания [4].

Кризис экологической системы в Южном Приаралье привел к нарушению динамического равновесия экосистем региона, деградации природных комплексов, сокращению ареала и численности ряда видов животных и их биоразнообразия [1,]. Фауна млекопитающих Южного Приаралья и ее динамика под воздействием антропогенного прессинга освещены во многих работах [2]

Улучшение состояния и продуктивности природных комплексов, в первую очередь, системы заселения земель низовьев Амударьи, как местообитания животного населения в условиях деградации природной среды региона, представляет теоретический и практический интерес.

Фауна млекопитающих, как важный компонент биогеоценозов, претерпевает существенные изменения в связи с Аральской катастрофой. Произошло резкое сокращение численности интразональных и широко распространенных видов. Изучение видовой разнообразия фауны и состояния популяций, важнейших их представителей, механизмов регуляции динамики их численности могут способствовать восстановлению и созданию экосистем различного типа (водоемы и разливы разных гидрохимических режимов, болота с тростниковыми кустарниковыми зарослями, тугаи, песчаные и гипсовые пустыни и др.).

В регионе зарегистрировано 65 видов млекопитающих, относящихся к 6 отрядам, 16 семействам и 41 роду [5,8]. В фаунистическом комплексе млекопитающих Южного Приаралья мезофильные и гидрофильные виды (23 вида) преобладают в низовьях Амударьи, ксерофилы (24 вида) обитают в Кызылкумах и на Устюрте, а эврибионтные встречаются в низовьях Амударьи (8 видов) и на Устюрте (около 11 видов). Анализ распределения фауны млекопитающих Южного Приаралья по экологическим биотопам показывает, что подавляющее большинство видов (более 62%) являются обитателями песчано-пустынного и глинисто-щебнистого ландшафтов: степного ландшафта – около 6%, тугаев – 16% (в основном встречаются в долине и дельте Амударьи) [6,7]. В тугайных зарослях зарегистрировано

обитание 16 видов млекопитающих. Из грызунов очень многочисленны домовая мышь, пластинчатозубая крыса, илийская полевка, гребенщикова песчанка и др. В долине и дельте Амударьи зарегистрировано 13 видов грызунов, из них многочисленными являются пластинчатозубая крыса (23,2%), домовая мышь (13,6%), малый тушканчик (14,5%), желтый суслик (10%), тамарисковая песчанка (15,5%), илийская полевка (3%), а в водоемах - ондатра (рис.1).

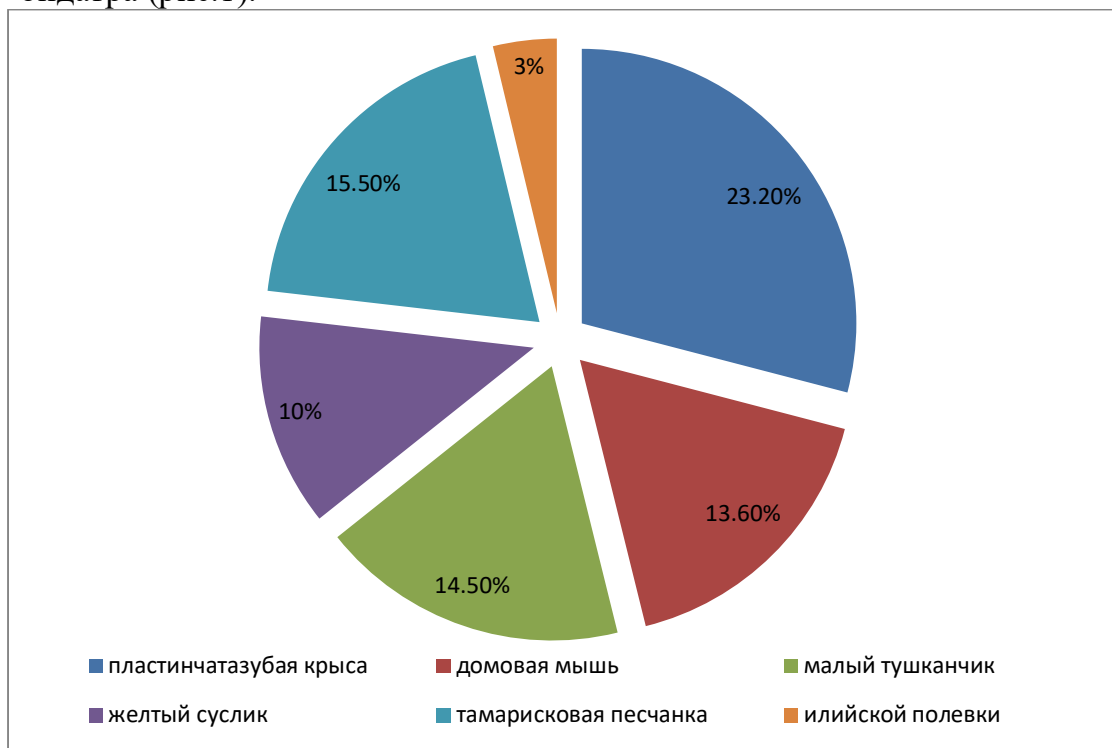


Рис.1. Распределение грызунов на территории низовье Амударьи (%)

Аральский экологический кризис выступает мощным фактором, определяющим видовой состав, плотность населения и связанную с ней способность популяционной регуляции у млекопитающих в увлажненных экосистемах. В результате антропогенных воздействий на природные комплексы меняется фауна, идет не только перестройка видового состава, но и резкие изменения структуры популяции и численности животных. Возрастание процессов аридизации и опустынивания, увеличение площади песчаных и солончаковых массивов, деградация природных комплексов негативно отразились на состоянии мезофильных видов, псаммофильные виды существенного влияния антропогенного воздействия не ощущают и, даже наоборот, возрастание аридизации природной среды способствует расширению территории их распространения.

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КЛАССИФИКАЦИЯ ЛИНИЙ ЭЛЕКТРОПЕРЕДАЧИ ЧЕРЕЗ ЛИНИИ ПЕРЕДАЧИ

Аннотация. Электрические сети делятся на типы по назначению, номинальному напряжению, схеме, характеру потребителей. По функциям исполнителя электрические сети делятся на распределительные, питающие и системообразующие.

Ключевые слова: мощность, номинальное напряжение, цепь, погода, потребитель, энергия, высокое напряжение.

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CLASSIFICATION OF POWER TRANSMISSION LINES VIA TRANSMISSION LINES

Abstract. Electrical networks are divided into types according to purpose, rated voltage, circuit, and the nature of consumers. According to the functions of the performer, electrical networks are divided into distribution, supply and system-forming.

Keywords: Power, rated voltage, circuit, Weather, consumer, Energy, high voltage.

Электрические сети делятся на типы по назначению, номинальному напряжению, схеме, характеру потребителей. По функциям исполнителя электрические сети делятся на распределительные, питающие и системообразующие. Распределительные электрические сети присоединены к подстанциям электросетей и работают в основном на номинальное напряжение до 35 кВ. Питающие электрические сети работают в основном при напряжении 110 кВ и выше, соединяя распределительные электрические сети (в некоторых случаях прямых потребителей) с электростанциями или системообразующими сетями [1].

Электрические сети, составляющие систему, служат для создания единой системы путем объединения энергосистем в отдельных регионах. В основном они работают при напряжении 330 кВ и выше. По номинальному напряжению электрические сети делятся на сети низкого напряжения 1 кВ,

сети высокого напряжения 1 кВ - 220 кВ и сети сверхвысокого напряжения 330 кВ и выше. По схеме электрические сети делятся на открытые и закрытые (закрытые).

Электрическая сеть, не имеющая цепи и снабженная всеми потребителями только с одной стороны, называется открытой электрической сетью. Электрическая сеть, имеющая узел, снабженный двумя или более сторонами, с петлей или без нее, называется закрытой электросетью.

По характеру потребителей электрические сети делятся на городские, сельскохозяйственные, промышленные [2].

На рисунке 1. показана схема энергосистемы типичной энергосистемы.

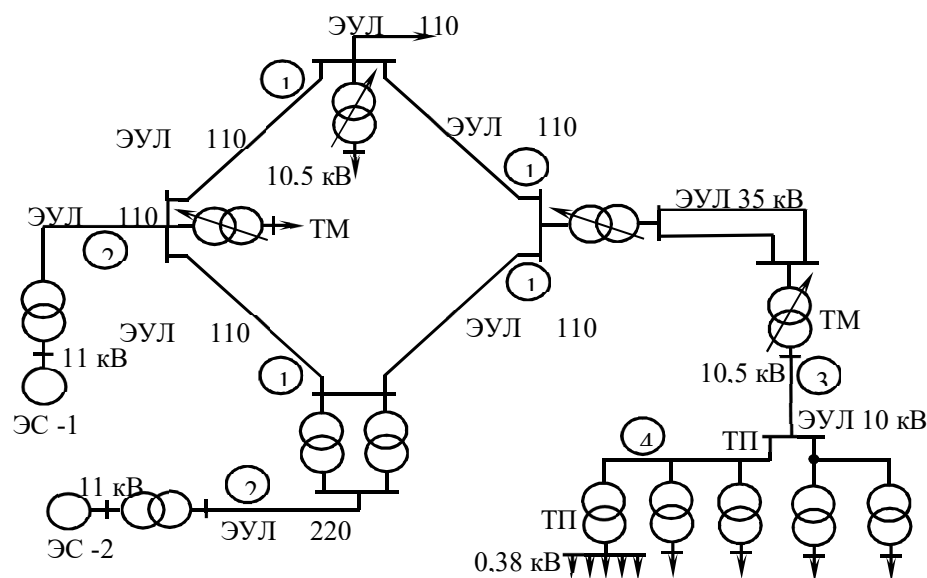


Рисунок 1. Условная схема электросети энергосистемы.

Электроэнергия передается от электростанций (ЭС) к центрам нагрузки (рисунок 1) по линиям электропередачи (ЛЭП) 1, которые образуют сеть электроснабжения напрямую, или через питающие, принимающие трансформаторные подстанции и соединяющие их линии электропередачи. Для повышения надежности электроснабжения в большинстве случаев закрывают распределительные сети. Приемные подстанции в основном состоят из трансформаторов с устройством регулировки напряжения под нагрузкой (YOR), которые служат центром питания (ТМ) распределительной сети. Электроэнергия от центра снабжения передается в пункты распределения и при этом напряжение распределяется между электрооборудованием или передается на трансформаторные подстанции. В данном случае переданная электрическая энергия преобразуется в трансформаторы в низкое напряжение и распределяется между отдельными потребителями [3].

ЛЭП 4 - это распределитель ЛЭП 4, который передает электроэнергию по всей своей длине от ТМ до ТП или непосредственно на подстанцию, а также на несколько трансформаторных подстанций по ее длине или подключенную к потребительскому оборудованию.

Потребители делятся на три категории по уровню надежности электроснабжения. [4]

Потребители 1 категории должны снабжаться электроэнергией по отдельным линиям от двух несвязанных между собой источников. Максимальное время, разрешенное для прерывания электропитания, равно только времени автоматического включения резервного электропитания. Во многих случаях одиночная линия с двумя цепями не может обеспечить требуемой надежности, так как повреждение основания под воздействием льда, ветра и подобных природных явлений может привести к полному отключению электроэнергии [5].

Потребители категории 2 часто предназначены для снабжения по двум отдельным линиям или двум цепным линиям. Для таких потребителей электроэнергии максимальное время отключения электроэнергии составляет два часа в день. Следовательно, также допустимо питание потребителей категории 2 по одной однолинейной линии в случаях, когда ремонт повреждений линии может быть проведен без продления. Для потребителей категории 3 достаточно реализовать питание по одной линии. Для таких потребителей электроэнергии максимальное время отключения электроэнергии составляет 24 часа.

Электросеть с дополнительной линией или трансформаторными подстанциями называется резервной, а электросеть без таковой называется не резервной электросетью. Схема, отвечающая указанным выше требованиям для питания потребителей категорий 1 и 2, является резервной, а схема, отвечающая указанным требованиям для питания потребителей категории 3, - это не резервная электрическая сеть [8].

Его схема будет разной в каждом регионе в зависимости от категорий потребителей электроэнергии и функции энергосистемы. На рисунке 2 представлены характерные однолинейные схемы электрических сетей: открытая электрическая сеть (рисунок 2, а), двухсторонняя электрическая сеть (рисунок 2, б), двухцепная главная ЛЭП (рисунок 2, в), описаны простые однолинейные схемы замкнутой (кольцевой) электрической сети (рис. 2, г) и сложной замкнутой электрической сети (рис. 2, г) [6].

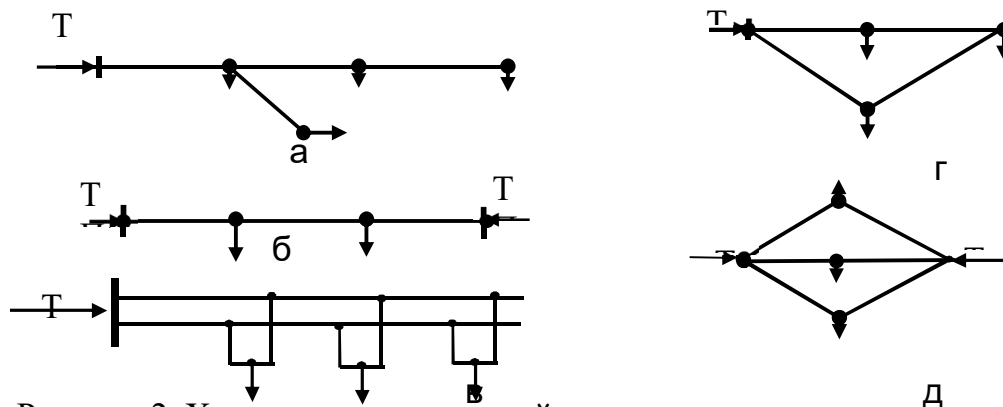


Рисунок 2. Характерные однолинейные схемы электрических сетей (ТП - трансформаторная подстанция).

Хотя их однолинейные схемы используются для удобства при описании линий электропередач таким образом, следует иметь в виду, что они являются трехфазными линиями электропередач.

Поскольку трехфазные электрические системы обладают рядом известных нам преимуществ, они широко используются при производстве, передаче, распределении и потреблении электроэнергии.

В большинстве случаев питание низковольтного оборудования осуществляется по четырехпроводным трехфазным системам. В этом случае четвертый провод, называемый нейтральным проводом, и нейтральная точка (N) трехфазной системы подключаются непосредственно к земле (рисунок 3).

Нейтральный проводник используется для подключения потребителей, работающих с фазными напряжениями, включая электрические лампы, как показано на схеме, к фазному напряжению и для выравнивания токов симметрии, возникающих при неравномерной нагрузке фаз. Когда все фазы нагружены равномерно, через нейтральный проводник не течет ток [7].

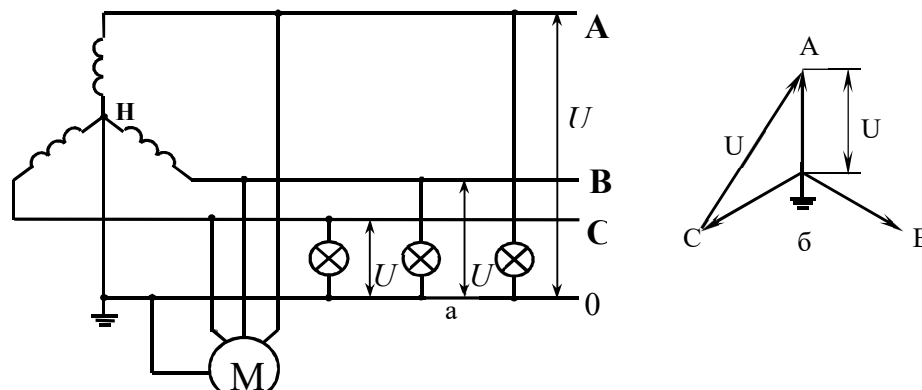


Рисунок 3. Схема четырехпроводной системы трехфазного переменного тока, нейтраль которой напрямую соединена с землей.

Рекомендуется использовать схему на рисунке 3 при номинальном напряжении 380/220 В, так как удобно использовать линейное и фазное напряжения одновременно. Трехфазная трехпроводная цепь, нейтральная точка которой не соединена напрямую с землей, в основном используется в промышленности при номинальном напряжении 660/380 В для обеспечения силовых нагрузок [9].

В высоковольтных сетях, где потребители электроэнергии, работающие от фазных напряжений, напрямую не подключаются, нулевые проводники не требуются, и поэтому они выполняются как трехпроводные.

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ҚАРАМА-ҚАРШИ РОСТЛАШ КУЧЛАНИШНИ УРГАНИШ

Аннотация. Электр тармоқлари мақсади, номинал кучланиши, схемаси ва истеъмолчиларнинг табиати бўйича турларга бўлинади. Ижрочининг функцияларига кўра, электр тармоқлари тақсимлаш, таъминот ва тизимни шакллантиришга бўлинади.

Калит сўзлар: Қувват, номинал кучланиш, схема, Об-ҳаво, истеъмолчи, Энергия, юқори кучланиш.

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CROSS-VALIDATION STUDY OF STRENGTH

Abstract. Electrical networks are divided into types according to purpose, rated voltage, circuit, and the nature of consumers. According to the functions of the performer, electrical networks are divided into distribution, supply and system-forming.

Keywords: Power, rated voltage, circuit, Weather, consumer, Energy, high voltage.

Кучланишни қарама-қарши ростлаш билан тўлароқ танишиш учун трансформаторнинг иккита элемент - трансформатор қаршилиги ва идеал трансформатор кўринишида тасвирланган алмаштириш схемасидан фойдаланамиз. 1-расмда куйидаги белгилашлар қабул қилинган: U_1 - таъминлаш маркази шинасидаги кучланиш; $U_{2ю}$ - туман подстанциясининг бирламчи (ЮК) шинасидаги кучланиш;

$U_{2к}$ - туман подстанцияси иккиламчи кучланиш шинаси (ПК)даги кучланиш; U_3 - истеъмолчилардаги кучланиш [1].

Туман подстанцияси ЮК шинасидаги кучланиш:

$$U_{2ю} = U_1 - \Delta U_{12}.$$

ЮК ва ПК шиналаридаги кучланишлар трансформатордаги кучланиш исрофи ΔU_m га фарқ қилади ва бундан ташқари идеал трансформаторда кучланиш трансформациялаш коэффициентига мос равишда пасайтирилади.

Бу пасайтирилиш трансформаторнинг ростловчи шахобчасини танлашда ҳисобга олиниши лозим.

1 б-расмда иккита ҳолат – энг кичик ва энг катта юклама ҳолатлари учун кучланишнинг ўзгариш графиклари тасвирланган. Бунда ордината ўқи бўйича кучланиш оғишининг номинал кучланишга нисбатан фоизлардаги қийматлари жойлаштирилган [2].

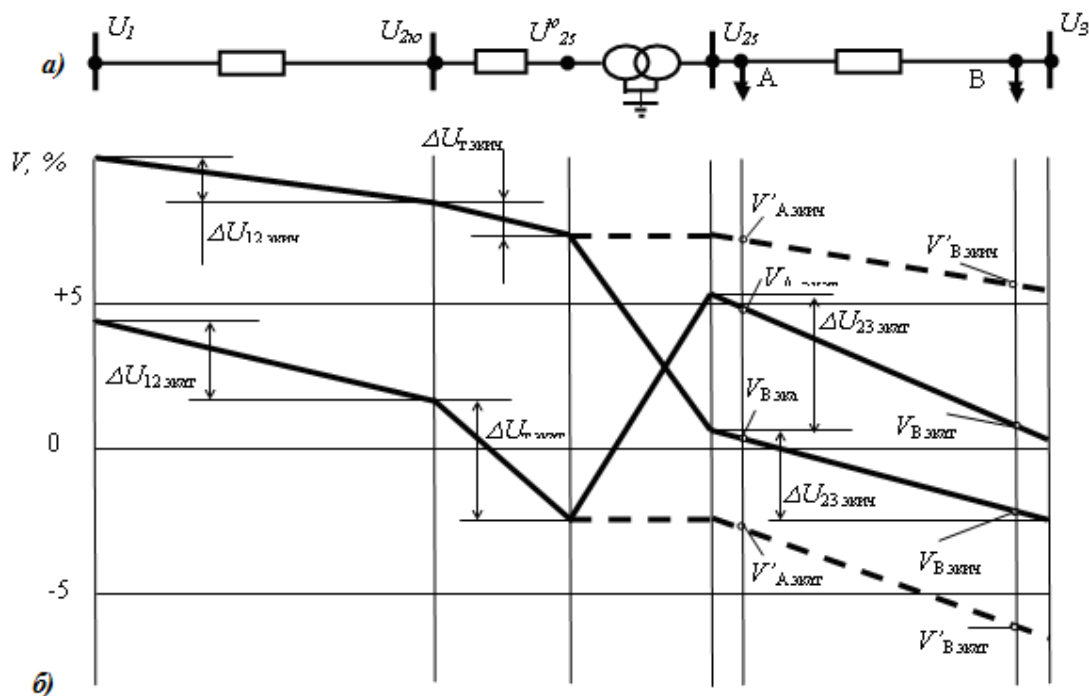
1 б-расмдан кўринадики (штрих чизиклар), $n_m=1$ бўлганда энг кичик юкламалар ҳолатида исътемољчилардаги кучланишлар рухсат этилганидан юқори, энг катта юкламалар ҳолатида эса рухсат этилганидан паст (яъни кучланиш оғишлари рухсат этилганидан катта).

Бунда ПК тармоғига уланган қабул қилгичлар (масалан, А ва В нуқталарда) рухсат этилмаган шароитларда ишлайди. $U_{2к}$ ни туман подстанцияси трансформаторининг трансформациялаш коэффициенти K_{mp} ни алмаштириш орқали ўзгартирамиз, яъни кучланишни ростлаймиз (29,б-расмдаги узлуксиз чизик) [3].

Энг кичик юклама шароитларида $U_{2к}$ имкони борича U_n га яқин қийматгача камайтирилади. Бу ҳолатда K_{mp} нинг шундай стандарт қиймати танланиши лозимки, бунда қуйидаги шарт бажарилсин:

$$U_{2к, \text{кич}} \geq U_n$$

Энг кичик юкламалар ҳолатида $U_{2к}$ ни 1,05-1,1 U_n га имкони борича яқинроқ қийматгача орттирилади. Бу ҳолатда K_{mp} нинг шундай стандарт қиймати танланиши лозимки, бунда қуйидаги шарт бажарилсин:



1-расм. Кучланишни қарама-қарши ростлаш:
а)- алмаштириш схемаси; б)- кучланишлар эпюраси.

$$U_{2\kappa, \text{кат.}} \geq (1,05 \div 1,1) U_n.$$

Шундай қилиб, таъминлаш марказидан узоқдаги В ва унга яқиндаги А нуқталардаги исьтемомчилардаги кучланишлар рухсат этилган чеграга киритилади. Энг катта ва энг кичик юклама ҳолатидаги бундай ростлашда кучланиш мос равишда оширилади ва пасайтирилади. Шу сабабли бундай ростлаш қарама-қарши ростлаш деб аталади. [4]

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ЭЛЕКТРОМАГНИТНЫЕ ТРАНСФОРМАТОРЫ ПЕРЕХОДНЫЕ ПРОЦЕССЫ В РАБОТЕ

Аннотация. Электрические сети делятся на типы по назначению, номинальному напряжению, схеме, характеру потребителей. По функциям исполнителя электрические сети делятся на распределительные, питающие и системообразующие.

Ключевые слова: мощность, номинальное напряжение, цепь, погода, потребитель, энергия, высокое напряжение.

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ELECTROMAGNETIC TRANSFORMERS TRANSIENT PROCESSES IN OPERATION

Abstract. Electrical networks are divided into types according to purpose, rated voltage, circuit, and the nature of consumers. According to the functions of the performer, electrical networks are divided into distribution, supply and system-forming.

Keywords: power, rated voltage, circuit, weather, consumer, energy, high voltage.

Условия работы ТТ в устройствах защиты и автоматики значительно отличаются от условий их работы в схемах измерения. Если для измерительных целей обычно требуется работа ТТ определенного класса точности при первичном токе, не превышающем номинальный, и притом в установившемся режиме, то в устройствах релейной защиты и автоматики ТТ в большинстве случаев должны выполнять свои функции при токах, значительно больших номинального, в условиях переходного режима, например, возникающего при коротком замыкании. [1]

Следует особо отметить влияние на работу ТТ свободны апериодических составляющих первичного тока, появляющихся в переходных режимах. Эти составляющие трансформируются во вторичную цепь ТТ тем с большей погрешностью, чем медленнее они затухают. Следовательно, с увеличением времени затухания все большая доля

апериодической составляющей первичного тока расходуется на намагничивание магнитопровода трансформатора тока. Далее будет показано, что, например, при постоянной времени затухания $T_I \gg 0,05$ с максимальное значение апериодической составляющей тока намагничивания во много раз превышает его периодическую составляющую.[2]

С ростом рабочих мощностей и напряжений современных электроэнергетических систем постоянная времени возрастает, в особенности при к. з. вблизи от шин мощных электростанций, нередко до нескольких десятых долей секунды. Вместе с тем сокращается допустимое время срабатывания устройств релейной защиты и автоматики, в некоторых случаях до нескольких миллисекунд. Следовательно, в момент срабатывания этих устройств апериодическая составляющая тока намагничивания во много раз превышает его периодическую составляющую. [4]

В связи с этим условия работы трансформаторов тока, применяемых в современных энергосистемах, становятся все более тяжелыми. Замкнутые стальные магнитопроводы существующих ТТ подвержены сильному насыщению апериодическими составляющими тока и, следовательно, резкому уменьшению их магнитной проницаемости. Это приводит к недопустимому увеличению погрешностей таких ТТ в переходных режимах. Особенно большие погрешности имеют место, когда в магнитопроводе ТТ сохраняется остаточный магнитный поток, совпадающий по направлению с потоком апериодической составляющей тока намагничивания.

Ввиду указанных обстоятельств возникает необходимость в анализе общих закономерностей работы ТТ в переходных режимах и в разработке новых ТТ, погрешности которых в этих режимах не будут превышать допустимые значения.

Обычно вынужденная периодическая составляющая первичного тока считается синусоидальной, а сумма апериодических составляющих заменяется результирующей экспонентой. В переходных режимах первичный ток ТТ может содержать наряду с вынужденной периодической и свободными апериодическими составляющими также и затухающие свободные периодические составляющие. Значительные свободные периодические составляющие возникают, если в электрической системе имеются устройства емкостной компенсации либо длинные линии электропередачи (напряжением 330 кВ и выше) с распределенными параметрами. [5]

Однако при проектировании ТТ, предназначенных для работы в переходных режимах, в большинстве случаев упомянутые свободные периодические составляющие можно не учитывать и считать, что первичный ток изменяется по закону.

$$i_i = I_{\text{пер } T} \cos(\omega t - \delta_1) + I_{\text{нач}} e^{-t/T_1}$$

В этом выражении $I_{\text{пер } T}$ - амплитуда первичного периодического тока, зависящая от условий короткого замыкания; δ_1 - фаза этого тока в начальный момент времени переходного процесса ($t=0$); это случайная величина, изменяющаяся в пределах от 0 до 90° ; $I_{\text{нач}}$ - начальное значение апериодической составляющей тока; $T_1 = L_1 / R_1$ - постоянная времени затухания этой составляющей, равная отношению индуктивности первичной цепи к ее активному сопротивлению.

Постоянная времени T_1 может изменяться от сотых до десятых долей секунды в зависимости от места и характера к. з. в системе. Например, при к. з. в электрически удаленной точке сети, а также при дуговом к. з. T_1 может быть равна 0,01 с и меньше, а при металлическом к. з. вблизи от мощного генерирующего источника она может быть и 0,3 с.

Подчеркнем, что фаза δ_1 и постоянная времени T_1 оказывают значительное влияние на переходные процессы в ТТ, причем это влияние тем больше, чем меньше δ_1 и чем больше T_1 . На характер переходного процесса заметно влияет также значение и вид нагрузки, включенной во вторичную цепь ТТ. Наибольший практический интерес представляет включение во вторичную цепь ТТ индуктивности и активного сопротивления, соединенных последовательно. [4]

В настоящей главе рассматриваются основные соотношения между электрическими величинами в цепях ТТ электромагнитного типа при указанном законе изменения первичного тока и активно-индуктивной нагрузке ТТ. Уравнения, которые будут приведены в, непосредственно применимы для описания и расчета переходных процессов в электромагнитных ТТ с постоянными параметрами нагрузки и практически линейной характеристикой намагничивания. К таким ТТ относятся трансформаторы без стали, а также ТТ с достаточным немагнитным зазором в стальном магнитном проводе, имеющие приблизительно неизменную индуктивность намагничивания. При нелинейной характеристике намагничивания, свойственной обычным ТТ с замкнутыми стальными магнитными проводниками, приведенные ниже уравнения способ ствуют качественной оценке переходных процессов и, кроме того, используются для расчета переходных процессов методом последовательных интервалов [3]

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ЭЛЕКТР ЭНЕРГИЯ АНИҚЛАШ УСУЛЛАРИ ВА ИСРОФИНИ КАМАЙТИРИШ

Аннотация. Электр энергиясини узатиш ва тақсимлашда электр тармоқлари алоҳида ўринни эгаллайди. Ишлаб чиқарилаётган электр энергиясини деярли ҳаммаси электр тармоқлари бўйлаб келади. Электр тармоғини асосий вазифаси истеъмолчиларни электр билан таъминлаш, яъни электр энергияси ишлаб чиқадиган жойдан уни ишлатиладиган жойга узатишдан иборат.

Электр энергиясини узатиш ва тақсимлашнинг такомиллашган кўриниши электр энергияси тизимидир.

Электр энергия тизими бу узатиши линиялари воситасида ўзаро боғланган ва электр энергияси истеъмолчиларини биргаликда ток билан таъминлайдиган электр электр станциялари бирлашмасидир, тадқиқи натижалари келтирилган [1].

Калит сўзлар: электр энергия, тоқлар, қувват исрофи ошмаслик, бошқариш, кучланиш tushunchalar biriktirilgan.

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METHODS FOR DETERMINING ELECTRICITY CONSUMPTION

Abstract. Electricity networks play a special role in the transmission and distribution of electricity. Almost all electricity is generated from the electricity grid. The main function of the power system is to supply electricity to consumers, that is, to transfer electricity from the place where it is generated to the place of its use. An improved understanding of the transmission and distribution of energy is the power system. The power system is a collection of power plants that are interconnected by these transmission lines and together provide electricity to consumers, the research results are presented [1].

Key words: electricity, current, power dissipation, control, voltage.

Электр энергия исрофини ҳисоблаш учун 0,4 кВ кучланишгача бўлган тармоқни тасдиқланган принципитал электр схемасидан фойдаланилади [2]. Нормал шу режимдаги ҳар бир таъминлаш маркази кўрсатилган тақсимлаш пунктлари, реакторлар тури, марка, кесим юзаси ва узунлик кўрсатилган

кабел ва ҳаво линиялари тармоқ ва абонент трансформатор нимстанциялари. Трансформатор нимстанциясида ячейка номери, куч трансформаторларининг маълумотлари коммутация аппаратларини кўрсатилган бўлиши лозим. Таъминлаш марказида ва тақсимлаш пунктларида секцияни номерини тақсимлаш ва таъминлаш линиясини номини, ушбу секцияларда тарқалувчилари кўрсатилиш керак [3].

Бундан ташқари тармоқ схемасида электр тармоқни нормал иш режимидаги унга мос равишда ток ажратгичлари билан таъминлаган. Электр энергияни исрофини ҳисоблашда автоматлашган назорат ва ҳисоблаш системасидан олинган аниқ қийматлардан фойдаланилди, агарда системани йўқлигида эса ҳисоблаш давридаги назорат ўлчашларининг натижалари ҳисобланади.

10(6) 0,4 кВ кучланишли куч трансформаторлардаги электр энергия исрофларини аниқлаш.

Куч трансформаторларидаги электр энергия исрофларини ҳисоблаш учун бошланғич маълумотлар [4]:

Трансформатор тури, қуввати, номинал ток, салт ишлаш ва қисқа туташув исрофлари (паспорт маълумотлар асосида) ҳисоблаш давридаги трансформаторларни ўчирилиш маълумотномаси;

Назорат ўлчаш давридаги кунлик юклама графигидан олинган трансформаторни ўртача максимал ишчи токи

$$I_{\text{ўр}} = \frac{I_a + I_b + I_c}{3}; \text{ А (1)}$$

Куч трансформаторларидаги актив энергия сони $W_{\text{Т8}}$ ҳисоблаш давридаги абонент трансформаторларга келувчи актив энергия сони $W_{\text{Тр}}$ (кВт.С)

Куч трансформаторлардаги йиллик электр энергия исрофини аниқланади.

$$W_{\text{тпи}} = \Delta P_{\text{с.и.и}} t + \Delta P_{\text{к.м.и}} \tau K_3^2; \text{ кВт.с(2)}$$

бу ерда t - ҳисоблаш давридаги трансформатор иш соат сони;

τ - максимал исрофлар вақти [5].

$P_{\text{с.и.и}}, P_{\text{к.м.и}}$ – салт ишлаш ва қисқа туташувни қувват исрофи. кВт

K_3 –йиллик максимал даврдаги трансформаторни юкланиш коэффиценти.

$$K_3 = \frac{I_{\text{ўр.макс}}}{I_{\text{ни}}} \text{ (3)}$$

бу ерда $I_{\text{ни}}$ - та трансформаторни номинал ток,

$I_{\text{ўр.макс}}$ - назорат ўлчаш давридаги кунлик графикдан олинган ўртача максимал ток

Келтирилган τ қийматини қуйидагилар ёрдамида топамиз.

$$\tau = \left(0,124 + \frac{T}{10^4} \right)^2 \cdot 8760, c \quad (4)$$

бу ерда T - максимал юкланишни фойдаланиш соат сони.

Максимал юкланишдаги фойдаланган соатлар сонини қуйидаги формула ёрдамида топилади.

$$\tau = \frac{W_{mp}}{\sqrt{3} \cdot U_{mp.n.} \sum_{i=1}^n I_{\dot{y}p.макс}}, c \quad (5)$$

бу ерда $U_{тр.н}$ трансформаторни паст томонидаги номинал линия кучланиши. τ ва T қийматларига асосан $\tau = f(T)$ боғлиқлик графигини куриш мумкин.

Ҳамма трансформаторлардан йиллик электр энергия исрофини қуйидаги формула ёрдамида топилади [6].

$$\Delta W_{mp} = \sum_{i=1}^n \Delta W_{mp.i} \text{ кВт} \quad (6)$$

бу ерда n - электр тармоқдаги трансформатор сони

Куч трансформаторларидаги электр энергия исрофини нисбий қиймати

$$\Delta W_{mp} \% = \frac{\Delta W_{mp} \cdot 100\%}{W_{mp}} \quad (7)$$

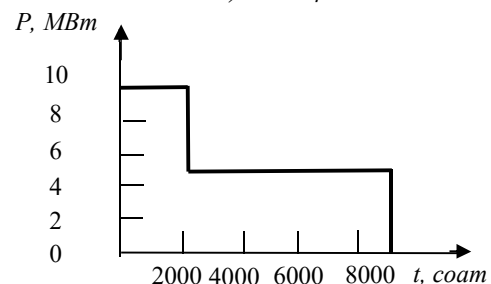
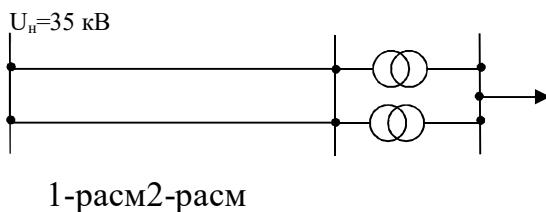
бу ерда $W_{тр}$ – куч трансформаторига келиб тушувчи электр энергия сони

$$W_{mp} = W_n - W_c - W_{mp.a} \text{ кВт.с}$$

Электр тармоқларида электр энергия исрофларини ҳисоблаш

1-расмда келтирилган 35 кВ кучланишли электр узатмада йиллик энергия исрофини берилган юклама графиги (4.10-расм) ва максимал исрофлар вақти τ бўйича ҳисоблаш талаб этилади.

Электр узатиш линиясининг узунлиги 15 км, солиштирма параметрлари $r_0=0,28 \text{ Ом/км}$, $x_0=0,43 \text{ Ом/км}$. Ҳар бир трансформаторнинг номинал қуввати 6300 кВ·А ($\Delta P_c=9,2 \text{ кВт}$, $\Delta P_k=46,5 \text{ кВт}$). $\cos\varphi=0,9$.



Юклама максимал бўлган ҳолатдаги қувватлар исрофини ҳисоблаймиз:

$$\Delta P_T = 0,5 \cdot \Delta P_k \cdot \left(\frac{P_{\max}}{S_n \cos \varphi} \right)^2 + 2 \cdot \Delta P_c = 0,5 \cdot 46,5 \cdot \left(\frac{10}{6,3 \cdot 0,9} \right)^2 + 2 \cdot 9,2 = 72,17 + 18,4 = 90,57 \text{ кВт};$$

$$\Delta P_L = \frac{S_{\max}^2}{U_n^2} \cdot r_L = \frac{\left(\frac{10}{0,9} \right)^2}{35^2} \cdot \frac{0,28 \cdot 15}{2} \cdot 10^3 = 211 \text{ кВт};$$

$$\Delta P_{\Sigma} = \Delta P_T + \Delta P_L = 90,57 + 211 = 301,57 \text{ кВт};$$

$$\Delta P_{\Sigma}^* = \frac{\Delta P_{\Sigma}}{P_n} = \frac{301,57 \cdot 100}{10000} = 3\%.$$

Бу ерда ΔP_{Σ} , ΔP_{Σ}^* - электр тармоқдаги ҳақиқий ва фоиз бирлигидаги умумий актив қувват исрофи.

1) Йиллик энергия исрофини юклама графиги бўйича аниқлаймиз:

$$\Delta W = (72,17 + 211) \cdot 2000 + 0,5^2 (72,17 + 211) \cdot 6760 + 18,4 \cdot 8760 = 1200 \cdot 10^3 \text{ кВт} \cdot \text{соат}.$$

Йил давомида истеъмолчига узатиловчи энергия:

$$W = 10 \cdot 2000 + 5 \cdot 6760 = 53,8 \cdot 10^3 \text{ МВт} \cdot \text{соат}.$$

Йиллик энергия исрофининг узатиловчи энергияга нисбатини аниқлаймиз:

$$\Delta W^* = \frac{1200 \cdot 10^3 \cdot 100}{53800 \cdot 10^3} = 2,23\%.$$

Шундай қилиб, ушбу ҳолатда энергия исрофи узатиловчи энергияга нисбатан 2,23% ни ташкил этади [7].

2) Йиллик энергия исрофини максимал исрофлар вақти τ бўйича аниқлаймиз. Бунда τ нинг қийматини соддалаштирилган формула бўйича топамиз:

$$T_{\max} = \frac{W}{P_{\max}} = \frac{53,8 \cdot 10^3}{10} = 5380 \text{ соат};$$

$$\tau = \left(0,124 + \frac{T_{\max}}{10000} \right)^2 \cdot 8760 = \left(0,124 + \frac{5380}{10000} \right)^2 \cdot 8760 = 3840 \text{ соат};$$

$$\Delta W = (72,17 + 211) \cdot 3840 + 18,4 \cdot 8760 = 1248 \cdot 10^3 \text{ кВт} \cdot \text{соат};$$

$$\Delta W^* = \frac{1248 \cdot 10^3 \cdot 100}{53800 \cdot 10^3} = 2,32\%.$$

3) τ нинг қийматини типик эгри чизиқлар бўйича ҳам топиш мумкин. Биз кўриб чиқаётган – максимал юкламадан фойдаланиш вақти $T_{\max} = 5380$ соат ва $\cos \varphi = 0,9$ бўлган ҳолат учун ушбу эгри чизиқлар бўйича $\tau = 3650$ соат эканлигини аниқлаймиз (кўлланмадан). У ҳолда йиллик энергия исрофи қуйидаги миқдорни ташкил этади:

$$\Delta W = (72,17 + 211) \cdot 3650 + 18,4 \cdot 8760 = 1195 \cdot 10^3 \text{ кВт} \cdot \text{ч},$$

$$\Delta W^* = \frac{1195 \cdot 10^3 \cdot 100}{53800 \cdot 10^3} = 2,22\%.$$

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АЛЮМОСИЛИКАТЫ И ИХ ПРИМЕНЕНИЕ В НАРОДНОМ ХОЗЯЙСТВЕ

Аннотация. В статье приведены сведения об алюмосиликатах, их видах и месторождениях. Изучены физико-химические свойства алюмосиликатов, а также их использование в народном хозяйстве.

Ключевые слова: алюмосиликаты, каолины, алуниты, нефелины, бокситы, монтмориллониты, цеолиты, бентонитовая глина, щелочноземельные бентониты, пластифицирующей добавки.

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ALUMINUM SILICATES AND THEIR APPLICATION IN THE NATIONAL ECONOMY

Abstract. The article provides information about aluminosilicates, their types and deposits. The physicochemical properties of aluminosilicates, as well as their use in the national economy, have been studied.

Keywords: aluminosilicates, kaolins, alunites, nephelines, bauxites, montmorillonites, zeolites, bentonite clay, alkaline earth bentonites, plasticizing additives.

Алюмосиликаты, т.е. каолиновые, монтмориллонитовые глины, алуниты и другие минералы являются очень ценным сырьем в производстве

огнеупоров, керамики и используются для получения бумаги, сульфата алюминия, глинозема и др. химических веществ.

Из алюмосиликатов большое народнохозяйственное значение имеют каолины, алуниты, нефелины, бокситы, монтмориллониты. Они используются в алюминиевом производстве, из них изготавливают фарфор, керамзит, глиняную посуду, сувениры, силикатные кирпичи, бентопорошки и др.

Своевременные реформы, проведенные правительством Узбекистана, направленные на разгосударствление и модернизацию существующих предприятий, разработка и реализация стратегических мероприятий по созданию и развитию частного бизнеса, созданные реальные условия для широкого привлечения иностранных инвестиций в виде современных технологических мощностей способствовала за относительно короткое время существенно перестроить и переориентировать промышленность Узбекистана на местное доступное сырьё.

Среди минерального сырья особое место занимают глинистые материалы, это в основном каолины, бентониты и бентонитоподобные глины, общие запасы которых исчисляются миллиардами тонн. До начала нашего столетия минерально-сырьевая база бентонитовых и бентонитоподобных глин Узбекистана была известна как источник доступного сырья в основном для получения бентонитовых глинопорошков для буровых растворов, формовочных смесей в литейном производстве, в производстве керамзита, частично пластифицирующей добавки в керамические массы [1].

Цеолиты — гидратированные алюмосиликаты щелочных элементов. Цеолиты бывают природные и искусственные, обладают селективными, адсорбционными и ионообменными свойствами, находят применение во многих областях хозяйства — в промышленности, сельском хозяйстве и экологии.

Как минеральный вид цеолиты известны уже более 200 лет. Длительное время они рассматривались в качестве редких минералов, не образующих промышленных скоплений и не имеющие практического применения.

Однако уже скоро стало ясно, что цеолиты являются ценнейшими в промышленности минералами, обладающие открытой каркасно-полостной структурой типа, имеющей отрицательный заряд. Последний компенсируется нейтрализующими, положительно заряженными катионами (Na, K, Mg, Ca, Sr, Ba, Ca), содержащихся в цеолите. Природный цеолит является достаточно эффективным более дешевым заменителем искусственного и некоторых естественных минеральных соединений типа мела, каолина, диатомита.

Цеолиты в народном хозяйстве используются для очистки питьевых вод, осушка и очистка газов, промежуточных и конечных продуктов органического синтеза в системах катализа, сорбция токсичных веществ в жидких и газовых средах, сорбция радионуклидов, добавки при производстве цемента, бумаги, компоненты удобрительных смесей, дезодорирования животноводческих помещений, использование в других технологиях.

Каолины относятся к группе мономинеральных глин, которые подразделяются на следующие группы: каолинитовую, монтмориллонитовую и аллофановую. Глина называется каолиновой, если в ней содержится более 50% минерала каолинита – $Al_2Si_2O_5(OH)_4$. Глины отличаются от каолинов более высокой дисперсностью частиц каолинита, большей пластичностью и способностью спекаться при высоких температурах.

Республика Узбекистан располагает неисчерпаемыми запасами различных минеральных руд, в том числе и алюмосиликатными, которые в настоящее время практически не используются и должны найти свое применение.

В Узбекистане разведано 2 месторождения каолина – Ангренское в Ташкентской и Альянс – в Самаркандской области.

Крупнейшим является Ангренское месторождение в пределах которого развиты первичные и вторичные каолины.

Первичные каолины слагают верхнюю часть коры выветривания палеозойских пород (кварцевые порфиры, порфириты и туффиты), представлены серовато-белой глиноподобной массой, утратившей структуру исходных пород. Мощность каолиновой зоны 2-20 м, распространена повсеместно под слоем угля.

Вторичные каолины подразделяются на подугольные, межугольные и надугольные. Как огнеупорное сырье изучены серые надугольные каолины, мощность которых колеблется от 12 до 60 м. В толще серых каолинов выделены 2 пачки мощностью от 4,5 м до 8-10 м с содержанием глинозема свыше 28%. Это сырье в естественном виде пригодно для производства шамотных огнеупоров. Запасы составляют 47,2 млн. тонн.

Однако, каолинитовые глины Центральной Азии, в частности Узбекистана из-за низкого содержания алюминия ($Al_2O_3 = 13-25\%$), высокого содержания железа ($Fe_2O_3 = 1,5-6,0\%$ иногда до 12%) и оксида кремния (30-80%) в настоящее время не перерабатываются. Так, например, на окраинах города Ангрена имеется более 0,45 миллиарда тонн серых вторичных каолинов, состава $Al_2O_3 = 19-25\%$; $Fe_2O_3 = 1,5-4,5\%$; $SiO_2 = 40-58\%$ и др.

Сырьевые ресурсы алюминия разнообразны, имеют свойственный только им состав, отличаются кристаллической структурой вследствие чего отличаются по выходу основного вещества при кислотно-щелочной

переработке. Поэтому необходимо для каждого вида сырья проведение отдельных научных и технологических подходов, выбор наиболее подходящих методов переработки. Известные в мировой практике технологии не приемлемы для переработки каолиновых глин Ангренского месторождения.

На территории Узбекистан, в Ферганской долине, широко распространены бентонитоподобные глины. С геологической точки зрения они являются осадочными породами и образовались в основном 40-45 миллионов лет назад на дне палеобассейна палеогенового периода, которая охватила все территории Центральной Азии. Их мощность колеблется от 5-10 до 10-100 и более метров. Микроскопически эти глины имеют синеватый, сероватый и зеленоватый цвета. Они легко измельчаются и хорошо набухают. На территории Ферганской долины имеется более 50 объектов, где они обнажены на поверхности. Кроме того, большинство из них находится на территории соседних республик. Для практического применения можно выделить следующие объекты: На юге Ферганы – Шорсув, Туль и Кувасайское месторождения и на западе – на территории Наманганской области - Варзикское месторождение, запасы которых составляет более миллиарда тонн. В этих глинах содержание Al_2O_3 составляет 8-12%, иногда до 20%, остальное – соединения кремния, железа, кальция, натрия, калия, магния и др. Из-за низкого содержания алюминия, высокого содержания железа и кремния эти глины не перерабатываются. Незначительное количество используют в производстве кирпича, глиняной посуды и бентопорошков [2].

На территории Узбекистана геологами обнаружены более 200 проявлений бентонитовых и бентонитоподобных глин, разведочные запасы которых по предварительным данным, составляют ориентировочно более 2 млрд. тонн. Массовое формирование глинистых образований высокого качества происходило в юрской, меловой и палеогеновой периоды. На сегодняшний день из них в промышленном масштабе разрабатываются только месторождения Навбахор, Азкамар, Каттакурган, Лагон и Шорсу. Общее количество добываемых и перерабатываемых бентонитовых глин из этих месторождений составляют пока всего 30-40 тыс. т в год [3].

Бентониты – тонкодисперсные глинистые образования, представленные алюмосиликатами, состоящими на 80–90 % из хорошо окристаллизованного диоктаэдрического монтмориллонита с примесью смешанослойных глинистых минералов и селадонит-глауконитовой слюды. В качестве парагенетических минералов характерны агат, халцедон, цеолиты, кристобалит, горный хрусталь, аметист, сульфидные минералы (галенит, халькопирит, сфалерит, пирит).

Бентониты образуются путем гидротермального метасоматоза субинтрузивных, эффузивных и вулканогенно-осадочных пород, в частности андезит-базальтовых порфиров, липарит- и трахит-базальтовых

туфов и пеплов. Качественное разнообразие образовавшихся бентонитов зависит как от состава исходных пород, так и от состава термальных вод, их температуры. Наиболее благоприятные условия для преобразования вулканических стекол в монтмориллонит создавались при низких (50–220°C) и средних (200–300°C) температурах гидротерм и их высокой щелочности (pH = 9–10).

Бентониты, приуроченные к гумидной и аридной зоне метазенеза, подразделяются на морские и континентальные – пресноводно-озерные. В структурном отношении они приурочены к платформенным районам. Формировались они в эпохи ослабленной тектонической деятельности.

По качеству эти бентониты уступают бентонитам гидротермально-метасоматического и вулканогенно-осадочных типов. Однако они являются кондиционным формовочным сырьем в литейном производстве, используются для изготовления буровых растворов, высокосортного керамзита, а при активации и модернизации могут с успехом применяться в качестве адсорбентов, катализаторов в нефтехимической и пищевой промышленности, в сельском хозяйстве и др.

Щелочные бентониты характеризуются высокой набухаемостью, коллоидальностью, пластичностью и максимально возможной для глин связующей способностью. Они относятся в основном к категории высококачественного сырья, которое используется во многих отраслях промышленности.

Щелочноземельные бентониты характеризуются меньшей гидрофильностью и связующей способностью. Они, как правило, уступают по качеству щелочным бентонитам, в естественном состоянии к использованию в ряде отраслей промышленности пригодны мало.

Бентониты обладают высокой связующей способностью, адсорбционной и каталитической активностью. Глины с меньшим, но преобладающим, содержанием монтмориллонита называются бентонитоподобными [4].

Соли железа и алюминия, применяемые для очистки воды в качестве коагулянтов, способны к гидратации с образованием хлопьевидного осадка, увлекающего с собой содержащиеся в воде взвешенные вещества и бактерии. Наибольшее распространение в нашей стране и за рубежом получили алюминийсодержащие коагулянты. Используемый для этой цели сульфат алюминия получают преимущественно из гидроксида алюминия, который является дорогостоящим реактивом. В практике физико-химической очистки воды наибольшее распространение получили коагулянты на основе солей железа и алюминия. Недостатком солей железа как коагулянтов является необходимость их тщательного дозирования, поскольку нарушение его приводит к проскакиванию ионов железа в очищенную воду. Эти недостатки в значительной мере можно устранить, добавив соли алюминия. Использование смешанного коагулянта

существенно снижается риск передозировки солей железа, что приводит к значительному снижению остаточного содержания железа в очищенной воде [5].

В связи с этим, необходимо совершенствовать методы и средства очистки воды от железа. Можно использовать эффективные, но дорогостоящие способы: обратный осмос, нанофильтрацию, электрокоагуляцию и другие. Однако экономическое состояние многих хозяйствующих субъектов Российской Федерации ограничивает ресурсные возможности по реализации природоохранной деятельности. В связи с этим следует внедрять эффективные способы очистки сточных вод (СВ), не требующие больших финансовых вложений и не оказывающие негативного влияния на природную среду. Поэтому для очистки СВ, загрязненных ионами железа, перспективно использовать в качестве реагентов отходы промышленных и сельскохозяйственных производств, в частности, СВ нефтехимических предприятий [6].

Алюмосиликаты широко распространены в различных регионах и характеризуются достаточно высоким содержанием оксидов алюминия и кремния и относительно небольшим – других примесей. Учитывая, что диоксид кремния практически не взаимодействует с серной кислотой, уже на первом технологическом переделе – сульфатизации можно относительно просто осуществить селективное отделение алюминия от кремния и организовать эффективную переработку алюмосиликатов на сульфат алюминия и другие продукты.

Использование серной кислоты позволяет перерабатывать практически любое исходное сырье с высокой степенью извлечения алюминия в раствор. По сравнению с другими минеральными кислотами она менее агрессивна по отношению к технологическому оборудованию и не требует специальных сплавов для футеровки.

Таким образом, внедрение технологии производства адсорбента из местных алюмосиликатов является экономически эффективным и экологически выгодным.

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ИССЛЕДОВАНИЕ ПРОЦЕССОВ ПОЛУЧЕНИЯ АДСОРБЕНТОВ ИЗ АЛЮМОСИЛИКАТОВ И ПРИМЕНЕНИЕ В НАРОДНОМ ХОЗЯЙСТВЕ

Аннотация. В статье представлены сведения о алюмосиликатах, ее типах и месторождениях. Исследование процессов получения адсорбентов из алюмосиликатов и применение в народном хозяйстве.

Ключевые слова: Узбекистан, Центральной Азии, алюмосиликатов, каолины, алуниты, нефелины, бокситы, монтмориллониты, цеолиты, бентонитовая глина, щелочноземельные бентониты, пластифицирующей добавки.

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RESEARCH OF THE PROCESSES OF OBTAINING ADSORBENTS FROM ALUMINUM SILICATES AND APPLICATION IN THE NATIONAL ECONOMY

Abstract. The article provides information about aluminosilicates, its types and deposits. Study of processes for producing adsorbents from aluminosilicates and application in the national economy.

Keywords: Uzbekistan, Central Asia, aluminosilicates, kaolins, alunites, nephelines, bauxites, montmorillonites, zeolites, bentonite clay, alkaline earth bentonites, plasticizing additives.

Своевременные реформы, проведенные правительством Узбекистана, направленные на разгосударствление и модернизацию существующих предприятий, разработка и реализация стратегических мероприятий по созданию и развитию частного бизнеса, созданные реальные условия для широкого привлечения иностранных инвестиций в виде современных технологических мощностей способствовала за относительно короткое

время существенно перестроить и переориентировать промышленность Узбекистана на местное доступное сырьё [1].

В последнее время в Республике Узбекистан производится масштабная реконструкция и модернизация отраслей химической промышленности и ожидается увеличение выпуска готовой экспортно ориентированной продукции. Для этого потребуются высокий расход химической и очищенной воды. Очистка воды осуществляется сорбирующими материалами, которые в основном импортируются из-за рубежа за валютные средства. Наиболее эффективными сорбентами считаются активированный уголь, глины, в основе которых содержится бентонит, алюмосиликаты в составе кремния и оксид кальция. Расширение применения этих сорбентов связано, во-первых, с дешевизной сырья и его свойствами.

Вопросы очистки промышленных стоков и извлечения благородных и тяжелых металлов с применением активированного угля достаточно широко освещены в литературе, где определяющая роль отводится микропорам активных углей. В основном предлагается проводить активирование углей путем их окисления без кислорода с целью придания им ионообменных свойств. Однако затраты на окисление активных углей еще больше удорожают их стоимость и снижают рентабельность их использования для очистки технологических сточных вод и с целью сорбента для извлечения драгоценных металлов [2].

Синтетические пористые алюмосиликаты с заданными характеристиками являются перспективными материалами для решения целого круга актуальных междисциплинарных задач, связанных с разработкой новых лекарственных препаратов, систем их доставки, новых катализаторов и сорбентов.

Природные слоистые силикаты (глины) и силикаты с каркасной структурой (цеолиты) как материалы, обладающие рядом уникальных свойств, таких как способность к ионному обмену, высокая катионно-обменная емкость, микро- и нанопористая структура, наличие поверхностных активных центров различной природы, давно и широко используются, в качестве высокоэффективных систем для выделения и очистки парафиновых углеводородов, разделения смесей различных газов и жидкостей, осушителей хладагентов, для извлечения радиоактивных изотопов из жидких отходов атомной промышленности, для решения ряда задач фармации и косметологии[3].

Основными проблемами современной химической промышленности, в частности, в области газо- и нефтепереработки, являются жесткие требования к примесям в технологических газах, экологической составляющей производств в части стоков, выбросов и эффективности использования исходного сырья. В зависимости от области применения перспективными сорбционными материалами являются низкомолекулярные

цеолиты (осушка газов) и сложные металлооксидные системы (МОС) на основе соединений Al, Ca, Zn (для очистки от соединений хлора). При этом выбор сорбента во многом определяется совокупностью следующих параметров: количеством поверхностных активных центров, развитой пористой структурой (требуемой для извлечения того или иного компонента), прочностными характеристиками контактов в агрегатах и агломератах частиц, простотой и степенью регенерации и т.д. Другим направлением применения пористых адсорбентов на основе цеолитов является очистка промывных сточных вод и отработавших технологических растворов от соединений тяжелых металлов (Cu, Cd, Ni, Fe, Zn, Cr, Co) и радиоактивных изотопов, наносящих невосполнимый ущерб окружающей среде, а, следовательно, и здоровью человека[4].

В адсорбционных методах очистки и разделения газов используются пористые наноматериалы различной природы: углеродные адсорбенты, пористые кремнеземы и оксиды алюминия, природные и синтетические цеолиты и др. Возможности контролируемого синтеза и модифицирования наноструктур позволяют получить материалы для селективного извлечения из газового потока целевого компонента и выделения его в концентрированном виде.

Принцип действия адсорбционных воздуходелительных установок основан на селективном поглощении компонентов воздуха молекулярноситовыми адсорбентами (цеолитами или углеродными молекулярными ситами) в условиях короткоциклового без нагревной адсорбции (КБА). Адсорбционный метод разделения воздуха на цеолитах, используемый в промышленности, не позволяет получить кислород с концентрацией более 95,7 об. % (4,3 об. % приходится на аргон) [5].

В качестве адсорбента в промышленности широко используют оксид алюминия. Оксид алюминия также нашёл применение в качестве осушителя газовых потоков, поскольку оксиды алюминия обладают хорошей способностью вступать в химические взаимодействия с полярными веществами, например, водой. Оксиды алюминия, содержащие крупные, транспортные поры, используют для осушения газов от капельной влаги. Такие оксиды являются более термостойкими. Тонкопористые сорта оксида алюминия применяют для осушения не содержащих капельную влагу газов. Для материалов на основе оксида алюминия характерна высокая механическая прочность. Данные материалы используются в качестве сорбентов для очистки биологических жидкостей от органических веществ, низко- и средне молекулярных токсинов. Сорбенты на основе аморфного гидроксида алюминия обладают способностью сорбировать бактериальные клетки и органические вещества из водных растворов. Поверхность оксида алюминия, модифицированного углеродом, состоит из гидрофобных и гидрофильных участков, на которых происходит связывание биологических

макромолекул, что позволяет применять такой оксид алюминия в различных отраслях промышленности и медицины.

Активный оксид алюминия для очистки воды от фтора и других материалов. Этот сорбент на основе активированного оксида алюминия, разработан специально для очистки воды, в том числе питьевой, от фторидов мышьяка, меди, цинка, свинца, фосфатов, нитратов, селена, хрома, ртути, кадмия и кремния.

Наличие доступной и пригодной для питья воды – это глобальная мировая проблема. Требования к содержанию фторидов и мышьяка в питьевой воде, а также требования к защите окружающей среды существенно расширили применение адсорбентов на основе активированного оксида алюминия. Применение активного оксида алюминия считается лучшей технологий для удаления фторидов и мышьяка из воды, так как этот сорбент является наиболее ёмким по поглотительной способности, обладает наилучшей селективностью по отношению к фтору и мышьяку, является дешёвым и простым в производстве.

Отличительной особенностью и преимуществом цеолитов и катализаторов на основе алюмосиликатов является их кристаллическая структура. Это свойство обеспечивает высокую активность и, тем самым, открывает широкую перспективу в расширении направлений исследований и применения их во многих каталитических процессах. Примером тому, как показывает анализ публикаций последних лет, является широкое применение алюмосиликатов в приготовлении сорбционных материалов для нейтрализации агрессивных газов, очистки природных и сточных вод [6].

Нефтепродукты являются одними из наиболее опасных компонентов загрязнений сточных вод. Они оказывают вредное влияние на биохимические, физиологические процессы в организме биологических объектов.

Применение природных минералов в очистке сточных вод приемлемо с экологической и экономической точки зрения, но зачастую такие материалы не обладают нужными сорбционными свойствами и их необходимо химически модифицировать. В результате модифицирования получают сорбенты с отличной от исходного минерала природой поверхности и сочетающие в себе полезные свойства исходного материала и синтетических сорбентов.

Несмотря на широкое практическое использование сорбционных методов и комплексов в очистке производственных сточных вод, в этой области существует ряд проблем. К наиболее существенным относятся следующие: недостаточная сорбционная емкость материалов, отсутствие надежных способов регенерации сорбентов, ресурсосберегающих экологизированных технологий очистки с использованием сорбентов,

способов утилизации тяжелых металлов из отходов комплексообразованием [7].

Большие запасы природных дисперсных минералов, среди которых особое значение имеют слоистые и каркасные структуры, обладающие уникальными свойствами, используются далеко не полностью из-за малой изученности и отсутствия научного обоснования процессов получения на их основе высокоэффективных сорбентов.

Природные глинистые адсорбенты, как бентониты, редко встречаются в чистом виде и, как правило, содержат механические примеси (от 1 до 8%), сопутствующие минералы, карбонаты и сульфаты, гидроксиды, оксиды и другие. В связи с этим для их удаления, адсорбенты подсушивают, измельчают и просеивают. Однако даже после такой подготовки адсорбенты не обладают достаточной активностью для эффективного проведения процессов адсорбционной рафинации.

В целях улучшения адсорбционных свойств отбельные глины подвергают термической или же химической активации.

Известны следующие химические методы активации: содовая, солевая, щелочная и кислотная. Содовая и солевая активация осуществляется обработкой 5% - ным раствором Na_2CO_3 или раствором NaCl , как правило, используется для улучшения степени дисперсности и пористости адсорбента. За счет посадки различных органических катионов этот метод дает возможность получать органотфильные минеральные адсорбенты с широким диапазоном адсорбционной активности и различной степенью избирательности.

Замена неорганических катионов минерала на органические сопровождается, увеличением его удельной поверхности и сорбционной активности, и разрыхлением его кристаллической решетки.

При обработке глин минеральными кислотами происходит сложный процесс, который зависит от структуры глинистых минералов, входящих в состав природных алюмосиликатов, от вида кислоты и условий обработки. При этом свойства полученных материалов коренным образом отличаются от свойств исходного сырья. Найдены оптимальные условия кислотной активации для Аскамарского бентонита. В дальнейших наших работах будут подробно исследованы адсорбционные свойства полученных кислотной активацией адсорбентов и изыскание пригодных отраслей применения [8].

Таким образом, внедрение технологии производства адсорбента из местных алюмосиликатов является экономически эффективным и экологически выгодным.

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ҚИШЛОҚ ХЎЖАЛИГИНИ РИВОЖЛАНТИРИШДА АГРОСАНОАТ МАЖМУАСИНИНГ ИҚТИСОДИЙ АҲАМИЯТИ

Аннотация. Мазкур мақолада инновацион иқтисодиёт шароитида агросаноат мажмуасининг ривожланиши, минтақа иқтисодиётида қайта ишловчи кластернинг шаклланиши таҳлил қилинган. Мақолани ёритишда олмавий ҳодисаларни эҳтимоллар назарияси, гуруҳлаш, ўртача миқдорлар, индекслар, график тасвирлаш усулларидан фойдаланиб тадқиқ этиш турли мажмуаларда таркибий унсурлар ташкилий алоқаларнинг тавсифи ва барқарорлигини ўрнатиш, уларнинг ташиқил қилинмаганлиги даражасини баҳолаш имконини беришди.

Калит сўзлар: иқтисодиёт, қишлоқ хўжалиги иқтисодиёти, агросаноат мажмуаси, кластер, қайта ишловчи кластер.

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THE AGRICULTURAL COMPLEX IN THE DEVELOPMENT OF AGRICULTURE

Abstract. This article analyzes the development of the agro-industrial complex in the conditions of the innovative economy, the formation of the processing cluster in the regional economy. In the coverage of the article, the research of mass phenomena using the theory of probability, grouping, average quantities, indices, graphical representation methods made it possible to establish the description and stability of the organizational relations of structural elements in various complexes, and to assess the level of their disorganization.

Key words: economy, agricultural economy, agro-industrial complex, cluster, processing cluster.

Агросаноат мажмуасининг ривожланишини модернизациялаш шароитида минтақа иқтисодиётида қайта ишловчи кластернинг шаклланиши ва ривожланиши жараёнларини ўрганиш алоҳида аҳамият касб этади. Бу эса унинг оқилона амал қилиши шароитида ўрганилаётган

тушунчанинг моҳиятини акс эттирадиган ва амалий тажрибаларни умумлаштирадиган илмий тадқиқотлар бутун доирасини қўллашни тақозо этади. Бунда агросаноат мажмуасида қайта ишловчи кластернинг шаклланиши ва ривожланишини бошқаришни бир бутуннинг атроф ташқи муҳити ва алоҳида қисмлари ўртасидаги нисбат сифатида қараш мумкин.

Агросаноат мажмуасида қайта ишловчи кластернинг шаклланиши ва ривожланишини бошқариш механизмлари бир бутун тузилмалар ва уларнинг таркибий қисмлари ўртасидаги алоқадорлик ва ўзаро боғлиқликка таъсир кўрсатади. Агросаноат мажмуасида қайта ишловчи кластерларнинг ривожланиш қонуниятларини ва ушбу жараённинг ҳозирги шароитдаги такомиллашувини ҳисобга олиш катта аҳамият касб этмоқда:

1. Ишлаб чиқаришларнинг комбинациялашуви ва инновацион технологияларнинг жорий этилиши шароитида маҳсулот тайёр бўлгунига қадар ишлаб чиқаришнинг барча бўғинларида имкониятга қараб, аниқ ҳудудда жойлашувини билдирадиган қайта ишловчи ишлаб чиқаришларни самарали жойлаштириш³⁵;

2. Умумреспублика аҳамиятига эга бўлган, аҳоли эҳтиёжларини қондирадиган бозор иқтисодиёти шароитида қайта ишловчи тармоқларнинг комплекс бирикувини кўзда тутадиган туманлар қайта ишловчи ишлаб чиқаришлари ривожланишининг ўзаро таъсири ва ўзаро алоқадорлиги;

3. Агросаноат мажмуаси қайта ишловчи кластерида кенгайтирилган такрор ишлаб чиқариш учун зарур бўлган, туманлар чегарасида ва улар ўртасида мақбул ва оқилона ҳудудий ижтимоий меҳнат тақсимооти.

Юқорида кўрсатилган қонуниятларнинг объектив иқтисодий қонунлар билан мажмуавийликда қўлланилишини агросаноат мажмуасида қайта ишловчи кластерларнинг шаклланиши ва ривожланиш қонунларининг амал қилиш механизмларини тан олмасдан туриб мумкин эмас. Бу уларнинг республика агросаноат мажмуаси қайта ишловчи кластерида пайдо бўлиши учун қулайроқ шароит яратиш ва ҳаракат тенденцияларини ҳисобга олиб, АСМ да амалда қўллаш учун имкониятларни кенгайтиради.

Қонуниятлар қонунлар каби статистик қонунларга ажралиб, кўплаб алоқаларни ва динамик – бир хилларини умумлаштиради. Макон ва вақт чегаралари кенгайишидаги қонуният қонунга ўсиб ўтади³⁶.

Агросаноат мажмуасида қайта ишловчи кластернинг шаклланиш ва ривожланиш қонуниятларининг очилиши асосида далиллар, улар ўртасидаги миқдор ва сифат боғлиқликлари ётади. Боғлиқлик “бир ҳодисанинг бошқасига, оқибатнинг сабабга муносабати” дир³⁷.

Шундай қилиб, бир ҳодисанинг бошқа қонуниятга, объектив амал қилувчи ҳодисалар ўртасидаги барқарор алоқалар сифатидаги, уларнинг

³⁵Морозова Т. Г. Региональная экономика – М.: Банки и биржи. И.О. ЮНИТИ, 1999.

³⁶ Афанасьев В.Г. Системность и общество. – М.: Политиздат, 1980, с. 181, 182.

³⁷ Ожегов С.И. Словарь русского языка. – М.: Рус. Яз.; 1978, с. 184.

сабаблари ва оқибатлари, умумий, барқарор, улар ўртасидаги такрорланиб турувчи муносабатларни акс эттирувчи қонунлар сабаб-оқибат муносабати сифатида боғлиқлиги ўртасидаги ўзаро алоқадорлик кузатилади. Агросаноат мажмуасида қайта ишловчи кластерларнинг шаклланиши ва ривожланишида қонунлар табиат, жамият ва инсон онгида намоён бўладиган объектив ва барқарор алоқаларнинг ифодасини ўзида мужассамлаштиради. Улар умумий, хусусий ва махсус хусусиятга эга бўлиши, қатъий миқдор ва сифат алоқадорликларини акс эттириши мумкин, амал қилиш қонунларига ҳам, ривожланиш қонунларига ҳам, динамик ва статистик қонунларга ҳам киради.

Динамик қонунлар сабаб-оқибат алоқа-боғланишларининг бир хилдалиги орқали ўзини намоёйиш этади. Улардан фарқ қилиб, статистик қонунлар зарурий ва тасодифий воқеаларнинг бирлигини ўзида мужассамлаштиради.

Умумий қонунлар фалсафий фанларнинг предмети ҳисобланиб, хусусийлари (махсус) эса алоҳида аниқ фанлар томонидан ўрганилади. Махсус (хусусий) қонунлар мустақил равишда, умумий қонунлар билан бир қаторда, амал қилиши ва умумий қонунларнинг намоён бўлиш шакли ҳисобланиши мумкин⁵.

Ҳозирги шароитда мутаносиблик қонунининг амал қилишини ўрганиш катта долзарбликка эга бўлиб, агросаноат мажмуаси қайта ишловчи кластерининг шаклланиши ва ривожланишида нафақат бошқарув объекти ва субъекти ўртасидаги ўзаро таъсир соҳасини, балки коллегиялик ва ягона бошланиш, ташкил қилиш ва ўз-ўзини ташкил қилиш ўртасида тўғри нисбатнинг сақланишини ҳам ўзига жалб этади. Бу эса бошқарувнинг муҳим вазифаларидан бирини ташкил этади. Агросаноат мажмуасида қайта ишловчи кластернинг шаклланиши ва ривожланиши жараёнининг самарадорлиги ва таъсирчанлиги кўп жиҳатдан унинг тўғри бажарилишига боғлиқ бўлади⁵. Бунда агросаноат мажмуасида қайта ишловчи кластернинг шаклланиши ва ривожланишида мутаносиблик қонунини амалга оширишга эришган ҳолда мутаносибликка эришиш синергетика самарасини олиш имкониятини таъминлашини кўзда тутиши лозим. Тескари мутаносиблик бир миқдорнинг бошқаси ўсиши билан камайишини билдиради³⁸.

Қонунларнинг ялпи, тизимли намоён бўлишини ўрганиш уларнинг амал қилиши ва турли келиб чиқиш ва кўламдаги тузилмаларнинг бир бутунлигини шакллантириш ва бузишга таъсирининг табиатини тушуниш имкониятини ҳам беради. Шунингдек, ташкил қилинган бир бутунни яратиш қисмларни шундай бирлаштиришнинг оқибати ҳисобланадики, унда

⁴ Портер Майкл Э. Конкуренция. – М.: Издательский дом «Вильямс», 2000. С.162, 168, 171-172.

⁵ Садовский В.Н. Основания общей теории систем. – М.: Наука, 1974.с.75

⁶ Смит А. Исследование о природе и причинах богатства народов: в 2-х томах. М.-Л. Государственное социально-экономическое издательство. 1935.

синергетик самаранинг кенгайиши юз беради, бузилиши эса синергетик самара салбий бўлиб қолишининг (синергия самараси) оқибати ҳисобланади. Исталган ташкил қилинган бир бутун алоқалар барқарорлиги ва мувозанати (ўз-ўзини сақлаш қонуни) орқали ўзини ўзи сақлаш; ички ва ташқи омиллар (онтогенез қонуни) таъсирида кечаётган ўзгаришларнинг узлуксизлиги орқали ўзини ўзи ривожлантириш; қисмларни дифференциациялаш ва интеграциялаш йўли билан таркибий қайта қуриш (таҳлил ва синтез қонуни); бир бутун қисмлари ўртасидаги миқдорий ва сифат нисбатларини қўллаб-қувватлаш; ва ниҳоят, кучсиз ташкил қилинган бўғинини мустаҳкамлаш (кучсизлик қонуни) орқали таркибий барқарорлигини таъминлаш тенденциясини намоён этилади. Бу эса унинг амал қилиш самарадорлиги ва ҳаётийлигини (мутаносиблик қонуни) оширади⁶.

Агросаноат мажмуасида қайта ишловчи кластерни шакллантириш ва ривожлантиришда иқтисодий ва ташкилий қонунларнинг ялпи амал қилиш негизи ва асоси бўлиб синергия самараси чиқади.

Унинг амал қилиши ташкилий жараёнлар, ташкилий мажмуаларни яратиш ва ривожлантиришга, уларнинг барқарорлиги ва нобарқарорлигини таъминлашга, бир ҳолатдан бошқасига оқиб ўтишга олиб келишини кўзда тутади. Бунда иқтисодий қонунлар амал қилишининг умумий пировард натижаси бўлиб синергетик самара чиқиб, унинг ўсими бир бутуннинг ташкил қилинганлик даражаси ўсишини, тизимнинг омон қолиши, ҳаётийлигининг барқарорлиги ички тартибланганлигининг ижобий таъсирини ва бир бутун тузилмалар ҳалокатини тавсифлайди.

Синергия қонуни шундан иборатки, ташкил қилинган бир бутун хоссаларининг суммаси бир бутун унсурларнинг алоҳида таркибга қирадиганлардан ҳар бирида мавжуд хоссалар “арифметик” суммасидан ошиб кетади. Агросаноат мажмуасида ўз-ўзини сақлаш қонуни қайта ишловчи кластернинг шаклланиши ва ривожланишида кам муҳим бўлмаган қонун бўлиб чиқади. Унинг мазмуни шундан иборатки, ҳар қандай реал жисмоний (ташкил қилинган) тизим бир бутун тузилма сифатида ўзини сақлашга уринади ва демак, ўз ресурсини сарфлаш тежамлироқ бўлади. Ўз навбатида, композициялаш қонуни тармоқлар мақсадларини келиштириш зарурлигини ифодалайди: улар умумий тавсифдаги асосий мақсадни қўллаб-қувватлашга қаратилган бўлиши керак.

Янги тизимни синтез қилиш асосида агросаноат мажмуасида қайта ишловчи кластернинг шаклланиши ва ривожланиши қуйидаги босқичларни ўз ичига олади:

1. Бажарилиши зарур бўлган барча зарур вазифаларни белгилаш.
2. Ҳар бир вазифани бажаришнинг ҳеч бўлмаганда битта услубини топиш.
3. Умумий мақсадларга эришиш учун алоҳида вазифаларни биргаликда бажариш мумкин бўлган чизма ёки моделларни топиш.

Онтогенез қонунининг амал қилиши агросаноат мажмуасида қайта ишловчи саноатнинг ҳар бир тузилмаси ўз ривожланишида қуйидаги ҳаётий цикл фазаларини босиб ўтади: вужудга келиш, ўсиш, пасайиш. Агросаноат мажмуасида қайта ишловчи кластернинг шаклланиш ва ривожланиш тартиби ва мувозанатига рақобат механизми ёрдамида эришилиши мумкин бўлиб, бунинг натижасида унинг унсурларининг бир қисми муқаррар равишда ҳалок бўлади, мунтазам равишда янги вужудга келаётганлари, ушбу шароитларга кўпроқ мос келаётганлари билан алмашинади⁸.

Агросаноат мажмуасида қайта ишловчи кластернинг шаклланиши ва ривожланиши бошқарувнинг бевосита (маъмурий) усуллари асосида ва билвосита ўзаро алоқалар асосида тартибга солиниши мумкин. Ҳозирги шароитда иқтисодиётда ишлаб чиқарувчилар ва истеъмолчилар алоқаларининг ҳар икки шакли – тўғридан-тўғри (мажбурий жойлаштиришни, яъни эквивалентлик муносабатларини кўзда тутмайдиган, маҳкамавий, тақсимлаш) ва билвосита (яъни олди-сотди акти воситасидаги, эквивалентлар ҳажмига асосланган эквивалентлик муносабатлари) мавжуд ва фойдаланилмоқда. Мос равишда, унда ҳар икки бошланишлар – режали ва бозорнинг уйғунлашуви кузатилади⁷.

Барча кўриб чиқилган назарий жиҳатларнинг ҳозирги вақтда қўлланилиши агросаноат мажмуасида қайта ишловчи кластерни оқилона ва самарали шакллантириш ва ривожлантириш имконини беради.

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МЕТОДЫ ИСПОЛЬЗОВАНИЯ МЕЖДИСЦИПЛИНАРНЫХ СВЯЗЕЙ В ПРЕПОДАВАНИИ ВЫСШЕЙ МАТЕМАТИКЕ

Аннотация. На базе кафедр высшего учебного заведения разработана модель методики формирования навыков будущих учителей. Одной из основных особенностей модели является идея развития исследовательских навыков будущих учителей на основе привлечения дидактических и педагогических умений, проводимых в высших учебных заведениях и специальных курсах, к реальным научным исследованиям в междисциплинарной области. – соответствие содержания исследовательских задач, поставленных перед будущим учителем, современному этапу развития науки, - ведущая роль метода ассимиляции научного исследования в имитирующие учебные ситуации, научное руководство будущим учителем на В основе научно-исследовательских подразделений вузов лежит разработка методики формирования умений, ее целевая составляющая определяется исследовательской идеей о необходимости создания условий для реального подражания.

Ключевые слова: естественные науки, образование, крупномасштабные эксперименты, время и ресурсы, проектирование и технология, высшая математика, математика и другие науки, практика и лабораторный практикум, педагогический эксперимент.

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METHODS OF USING INTERDISCIPLINARY RELATIONSHIPS IN HIGHER MATHEMATICS TEACHING

Annotation. On the basis of departments of a higher educational institution, a model of methods for developing the skills of future teachers has been developed. One of the main features of the model is the idea of developing the research skills of future teachers based on the involvement of didactic and

pedagogical skills conducted in higher educational institutions and special courses in real scientific research in an interdisciplinary field. compliance of the content of the research tasks assigned to the future teacher with the current stage of development of science, - the leading role of the method of assimilation of scientific research into simulating educational situations, scientific guidance of the future teacher at the basis of the research departments of universities is the development of a methodology for the formation of skills, its target component is determined research idea about the need to create conditions for real imitation.

Key words: natural sciences, education, large-scale experiments, time and resources, design and technology, higher mathematics, mathematics and other sciences, practice and laboratory workshop, pedagogical experiment.

В связи с резким ростом конкуренции в науке становится важной надежность работы высокопроизводительных операционных систем. Это достигается за счет тщательной подготовки новых кадров, практической и теоретической, а также обширных многоступенчатых испытаний конструкторских и технологических разработок. С другой стороны, одним из факторов совершенствования образовательного процесса на всех этапах обучения является придание большого значения межпредметным связям в преподавании предметов. Чтобы сократить время разработки конкурсов и довести знания следующего поколения до высот, в настоящее время становится необходимостью повысить к ним внимание [1]. Такая ситуация ограничивает время и ресурсы для полномасштабных испытаний и часто приводит к разработке новых методов и поиску оптимальных параметров путем проведения с ними полномасштабных экспериментов. В нашей работе большое воспитательное значение имеет взаимосвязь в преподавании наук и то, насколько умело она реализуется, эффективный метод, правильное использование инструментов. Взаимоотношения науки и преподавания всегда находились в центре внимания сотрудников университета. Однако в связи с тем, что интерес молодежи к изучению естественных наук снижается, а также снижается уровень научных исследований в высших учебных заведениях, эта проблема приобретает особую актуальность [2]. Внедрение научных исследований в учебный процесс является необходимым условием поддержания профессионального уровня преподавателей и приобретения квалификации выпускников высших учебных заведений.

Анализ результатов опроса, проведенного среди преподавателей разных вузов мира на этапе идентификации педагогического эксперимента, показывает, что преподаватели указывают на необходимость развития исследовательских навыков у будущих учителей естественных наук. Использование и укрепление междисциплинарной связи помогает обеспечить полноту, глубину и всесторонность полученных знаний по основам науки [3-4]. Передача этой межпредметной связи учащемуся стала

одной из главных задач дидактики в последнее время. Это можно сделать, раскрыв аспекты межпредметной связи между средним общим образованием, средним специальным образованием и высшим образованием, математикой и другими специальными предметами и активно используя их в учебном процессе.

Поэтому преподавание высшей математики базируется не только на знаниях, полученных по математике, но и на знаниях, полученных по другим предметам. Например, значение высшей математики как научного метода широко и глубоко отражается в преподавании специальных наук, особенно в практике и лабораторных практикумах, физические процессы, химические законы выражаются в математических формулах, математические формулы и действия используются в изучаемые научные процессы. важны при составлении выводов, доказательстве отдельных их случаев, оценке точности измерений, определении пределов применения полученных результатов, определении их уровня достоверности, а также расчете параметров, определенных различными экспериментальными методами, и их сравнении друг с другом и оценивая разницу.

Если при преподавании высшей математики использовать примеры и задачи в соответствии с областью специализации, студенты доберутся до сути проблем, поймут, что цель и решение задачи – это не пустые разговоры, а их интерес к становление экспертом в этой области увеличится [5]. В данной статье мы представляем некоторые приложения раздела определенных интегралов высшей математики. Определенный интеграл — одно из важнейших понятий высшей математики. С этим понятием связана задача расчета поверхностей, ограниченных кривыми, длин криволинейных дуг, а также объемов, проделанной работы, путей, моментов инерции и крутящих моментов. Формула Ньютона-Лейбница значительно расширяет область применения определенного интеграла и имеет общий метод решения всех практических задач.

Формула Ньютона-Лейбница

Если функция $F(x)$ является началом непрерывной функции $f(x)$ на участке $[a, b]$, то

$$\int_a^b f(x)dx = F(b) - F(a) = F(x)|_a^b$$

Формула (1) называется формулой Ньютона-Лейбница [6].

Следующие задачи можно рассмотреть с помощью определенного интеграла.

1. Количество вредных газов, выбрасываемых предприятием в окружающую среду в период от a до v , рассчитывается по формуле (1). В этом случае функция $f(x)$ представляет количество газа в момент x .

2. Количество пыли, попадающей в окружающую среду за период от a до v , рассчитывают по формуле (1). В данном случае $f(x)$ — количество пыли, попадающей в окружающую среду в единицу времени.

3. Количество газов, выбрасываемых автомобилями в интервале времени от a до v , рассчитывается по формуле (1). Где $f(x)$ — количество газа в момент x .

4. Дана функция скорости изменения окружающей среды, скорости изменения вредных элементов в воде и воздухе, скорости валового изменения окружающей среды за определенное время, скорости валового изменения нормы вредных элементов. в воде и воздухе с помощью интеграла считается

5. Если заданы функции спроса и предложения, функции эластичности, функции спроса и предложения рассчитываются с помощью интеграла [7].

6. По функции спроса с помощью интеграла рассчитывается величина сбережений потребителей и производителей.

Мы представим следующую задачу как приложение определенных интегралов.

Проблема. Предприятие выпускает конкурентоспособную продукцию. Функции спроса и издержек задаются следующими формулами.

$$D(q) = -q^2 - 25q + 1400$$

$$C(q) = 0,1q^2 + 107,2q + 200$$

Здесь $D(q)$ — цена продукции, q — количество продукции, произведенной за день.

а) найти количество и цену продукта, при которых прибыль будет наибольшей;

б) определить избыточное потребление по цене, максимизирующей прибыль.

РЕШАТЬ. С помощью функции предложения находим количество продуктов, которые максимизируют прибыль.

Находим доход.

$$T = D(q) \cdot q = -q^3 - 25q^2 + 1400q$$

тогда функция прибыли имеет следующий вид.

$$\Phi = T - C(q) = -q^3 - 25q^2 + 1400q - 0,1q^2 - 107,2q - 200$$

чтобы найти экстремальное значение, мы можем вывести функцию выгоды F по отношению к q [8]:

$$\Phi'(q) = -3q^2 - 50q - 0,2q + 1400 - 107,2$$

Чтобы найти стационарные точки, мы решаем, приравнявая ее к нулю:

$$-3q^2 - 50,2q + 1292,8 = 0$$

находим решения уравнения,

$$q_1 = \frac{50,2 - 134,2}{-6} = \frac{84}{6} = 14$$

$$q_2 = \frac{50,2 + 134,2}{-6} = -\frac{184,4}{6} \approx -30,7$$

Берем производную второй раз и кладем $q=14$.

$$\Phi''(q) = -6q - 50,2, \quad \Phi''(14) = -6 \cdot 14 - 50,2 = -134,2 < 0$$

Итак, функция $F(q)$ имеет максимум, а прибыль максимальна при $q=14$ [9]. Определяем цену товара:

$$D(14) = -14^2 - 25 \cdot 14 + 1400 = -196 - 350 + 1400 = 854$$

Итак, чтобы получать максимальную прибыль каждый день, необходимо продать 14 товаров на сумму 854 сума.

б) потребительский излишек

$$\int_0^{14} [D(q) - P(14)]dq = \int_0^{14} (-q^2 - 25q + 1400 - 854) dq =$$

$$= \left[-\frac{q^3}{3} - \frac{25q^2}{2} + 546q \right]_0^{14} = -\frac{2744}{3} - 2450 + 7644 \approx 4279,4$$

Не все практические задачи максимизации или минимизации можно выразить как задачи линейного или нелинейного программирования. Здесь были рассмотрены точная интегральная концепция, широко используемая в науке и технике, во многих отраслях народного хозяйства, и ее приложения. Поэтому привязка высшей математики к профильным предметам создает основу для дальнейшего укрепления знаний, умений и квалификации студентов [10-11].

В заключение следует подчеркнуть, что для формирования исследовательских умений будущих учителей на основе реальных исследований формы обучения должны отвечать определенным требованиям: закрытые занятия; сильное мотивационное воздействие на студентов; индивидуальный подход к ученикам.

В заключение следует сказать, что

Исследования показали, что этим требованиям удовлетворяет форма занятий – специальный курс. Специальные курсы уже давно существуют в университетской практике, но до сих пор они не были направлены непосредственно на развитие исследовательских навыков. Будущим учителям рекомендуется предложить студентам специальный курс современных дидактических методов с целью формирования исследовательских навыков, необходимых для организации исследовательской деятельности школьников, например, в соответствии с областью специализации преподавания высшей математики. Явления равновесия из примеров. и проблемы. В педагогической теории и практике предлагается понимать проблему формирования научных навыков, основанную на умении исследователя совершать интеллектуально-практические действия, моделирующие науку.

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ИСТОРИЯ РАЗВИТИЯ НАЦИОНАЛЬНЫХ СПОРТИВНЫХ ИГР КАРАКАЛПАКОВ

Аннотация. В статье рассматривается история развития национальных спортивных игр Каракалпаков. Национальные спортивные игры имеют широкую географию и интересную историю возникновения и отражают культуру и самобытность Каракалпакского народа.

Ключевые слова: национальные спортивные игры, история, события, традиция, физическая культура.

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HISTORY OF THE DEVELOPMENT OF NATIONAL SPORTS GAMES OF KARAKALPAKS

Annotation. The article discusses the history of the development of national sports games of Karakalpaks. National sports games have a wide geography and an interesting history of origin and reflect the culture and identity of the Karakalpak people.

Key words: national sports games, history, events, tradition, physical culture.

В настоящее время результаты научных исследований об истории возникновения национальных спортивных игр, дает возможность сделать и прийти к некоторым выводам. В возникновении и развитии национальных

спортивных игр чрезвычайно важную роль играют сохранившиеся до настоящего времени памятники древности, архитектурные памятники, эпосы, дастаны, легенды, сказания, загадки и другие.

Национальные спортивные игры - это самые известные и проверенные временем игры, которые имеют широкую географию и интересную историю возникновения и отражают культуру и самобытность каждого народа. Необходимо отметить, что через национальные игры лежит путь к современным видам спорта [5].

Каракалпакские национальные спортивные игры, являющиеся частью народной культуры, занимают особое место в развитии физической культуры, воспитании молодого поколения и формировании здорового образа жизни.

Культура Каракалпакского народа было тесно связано с социально-экономическим, политическим и бытовым развитие, которая свидетельствует о том, что игры развиваются в гармоничной взаимосвязи с культурным образом жизни и физической культурой народа [3].

Историческое развитие национальных спортивных игр Каракалпакского народа нельзя изучать отдельно от их культуры, просвещения, исторических событий и традиций в различные периоды общественного строя. Каракалпаки как кочевой народ, издавна жили в степях и в плато Устюрт. Многие обряды и традиции Каракалпаков тесно связаны с кочевым образом жизни. Особенный кочевой образ жизни нашел в свое отражение во многих национальных спортивных играх каракалпакского народа [1,2].

Национальные спортивные игры каракалпаков играли важную роль в проведении народных гуляний, праздников, свадеб и других мероприятия. Именно поэтому физическая культура каракалпаков, как и другие составляющие национальной культуры, способствует сохранению и укреплению самобытности и своеобразия народа, которые были ярко представлены сопровождавшими эти события обрядами и традициями, имевшими социально-культурное значение [4].

К национальным спортивным играм каракалпаков относится:

«Аркан тартыс» - перетягивание каната каракалпакская национальная спортивная игра, где играющие делятся на две команды. Посередине площадки кладётся канат, середина каната отмечается ленточкой, под серединой каната проводится поперек черта. Играющие берутся за канат и поднимают его с пола. Выигрывает та команда, которая перетягивает канат и участников на свою сторону.

Один из самых популярных конных видов спорт каракалпакского народа – это байги. Скачки на короткие и средние дистанции на открытой местности. Развивает силу и ловкость. Благоприятным фактором является также в целом повышенный мышечный и физиологический тонус, который дает игра.

Ылак или кокпар –разновидность конных состязаний, сформирована еще в начале II-III веков до н.э., требовавшая от наездников находчивости и ловкости. В состязании перед сотней верховых бросали тушу козла или теленка; наездники пытались поднять тушу, не слезая с коня; задача – вырваться из толпы, отбиваясь от преследователей. Ылак –прежде всего, – состязание, игра, проводимая во время праздников, свадебных торжеств.

Следующий вид национальных спортивных игр, снискавший любовь народа кураш –национальная борьба на поясах. В ходе мер по возрождению исторического наследия особое внимание уделено данному виду единоборств.

Кураш –это, прежде всего, соревнование силы и ловкости при взаимоуважении соперников друг к другу [3].

Таким образом, историческое развитие национальных спортивных игр Каракалпакского народа нельзя изучать отдельно от их культуры, просвещения, традиций, так как имеет важное значение воспитании молодого поколения всесторонне совершенными, физически развитыми, сильными, ловкими и выносливыми.

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ДИВЕРСИФИКАЦИЯ КРЕДИТНОГО ПОРТФЕЛЯ И УПРАВЛЕНИЕ ПРОБЛЕМНЫМИ РИСКАМИ

Аннотация. В этой статье обсуждаются диверсификация кредитного портфеля и управление проблемными рисками, а также способы управления этими рисками в наш технологический век.

Ключевые слова: диверсификация, кредиты, управление, проблемный риск, улучшение и др.

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DIVERSIFICATION OF THE LOAN PORTFOLIO AND MANAGEMENT OF PROBLEMATIC RISKS

Annotation. This article discusses credit portfolio diversification and distressed risk management, and how to manage these risks in this technological age.

Key words: diversification, loans, management, problem risk, improvement, etc.

Когда дело доходит до оценки кредитного риска в банковском секторе, нельзя упускать из виду один важный аспект – диверсификацию кредитного портфеля. Практика диверсификации кредитного портфеля предполагает распределение кредитов по различным секторам, отраслям и типам заемщиков с целью снижения потенциального воздействия дефолтов на общий портфель. Диверсифицируя свои кредитные портфели, банки могут смягчить риски, связанные с концентрацией воздействия на один сектор или заемщика, повышая свою способность противостоять экономическим колебаниям и снижая вероятность значительных потерь. Изучение диверсификации кредитного портфеля с разных точек зрения дает ценную информацию о ее важности и преимуществах. Давайте углубимся в некоторые ключевые моменты, чтобы лучше понять роль диверсификации в снижении рисков дефолта: Снижение риска: Диверсификация кредитного

портфеля служит методом управления рисками, поскольку позволяет банкам распределять свои риски по различным секторам и типам заемщиков. Эта стратегия помогает минимизировать последствия дефолтов в каком-либо конкретном секторе или конкретных заемщиков. Распределяя риск, банки могут смягчить потенциальные потери, связанные с дефолтами, способствуя финансовой стабильности и устойчивости. Например, рассмотрим банк, который в основном кредитует одну отрасль, например, недвижимость. Если в этой отрасли произойдет спад, это серьезно повлияет на кредитный портфель банка, что потенциально приведет к более высокому уровню дефолтов и значительным потерям. Однако если бы банк диверсифицировал свой кредитный портфель по таким отраслям, как производство, здравоохранение и технологии, влияние спада в сфере недвижимости было бы смягчено относительно стабильными показателями других секторов.

Отраслевые и экономические риски. Диверсификация кредитных портфелей помогает банкам снизить свою подверженность риску в конкретных секторах или отраслях, которые могут быть более восприимчивы к экономическим спадам. Такие отрасли, как строительство, гостиничный бизнес или розничная торговля, часто более чувствительны к экономическим колебаниям, и чрезмерное воздействие этих секторов может увеличить риски дефолта. Диверсифицируя свои кредитные портфели, банки могут сбалансировать свои риски и снизить потенциальное негативное влияние экономических потрясений на общую эффективность кредитования. Например, банк, значительная часть кредитного портфеля которого сосредоточена в розничном секторе, может столкнуться с более высокими рисками дефолта во время экономического спада, когда потребительские расходы снижаются. Однако, если у банка также есть влияние на такие сектора, как здравоохранение, которое имеет тенденцию быть более устойчивым во время экономических спадов, негативные последствия уровня дефолта в розничном секторе могут быть компенсированы, обеспечивая более стабильный кредитный портфель. Профиль риска заемщика. Диверсификация заключается не только в распределении рисков по секторам, но и в распределении риска между различными типами заемщиков. Кредитование заемщиков с различным профилем риска, таких как юридические лица, малый бизнес и частные лица, помогает банкам снизить свою зависимость от одного сегмента заемщиков.

Эта стратегия диверсификации позволяет банкам минимизировать влияние дефолтов какой-либо конкретной группы заемщиков и поддерживать более здоровый кредитный портфель. Например, банк, который в первую очередь занимается кредитованием крупных юридических лиц, может столкнуться с более высокими рисками дефолта, если один из его основных заемщиков столкнется с финансовыми

трудностями. Однако, если банк также предоставляет кредиты малому бизнесу и частным лицам, влияние дефолта одного крупного корпоративного заемщика может быть смягчено относительно более низкими показателями дефолта со стороны других сегментов заемщиков. Изучение диверсификации кредитного портфеля имеет решающее значение для снижения рисков дефолта в банковском секторе. Распределяя кредиты по различным секторам, отраслям и типам заемщиков, банки могут снизить свою подверженность конкретным рискам, повысить свою устойчивость к экономическим колебаниям и поддерживать более здоровый кредитный портфель. Реализация эффективных стратегий диверсификации кредитного портфеля может внести существенный вклад в управление кредитными рисками и общую стабильность банковской системы.

Теоретические и эмпирические исследования взаимосвязи между диверсификацией деятельности и эффективностью банков дают противоречивые прогнозы, а также противоречивые доказательства. С точки зрения риска стандартная портфельная теория предсказывает, что совокупные денежные потоки от источников дохода с низкой или отрицательной корреляцией должны быть менее волатильными, чем составные части. Диверсификация кредитного портфеля относится к практике распределения кредитов банка по различным секторам или отраслям. Эта стратегия направлена на снижение риска, связанного с концентрированным воздействием на один сектор или заемщика. Диверсифицируя свои кредитные портфели, банки могут смягчить последствия потенциальных убытков от определенного сектора или заемщика, не выполнившего свои обязательства по своим кредитам. Кроме того, диверсификация кредитного портфеля также может помочь банкам получить более высокую прибыль за счет направления своих средств в сектора с лучшими перспективами роста и меньшим кредитным риском. Однако банкам важно тщательно управлять процессом диверсификации, чтобы избежать чрезмерного воздействия на сектора или заемщиков с высоким уровнем риска. В целом, диверсификация кредитного портфеля представляет собой стратегию управления рисками, направленную на баланс риска и доходности в кредитной деятельности банка.

Диверсификация портфеля направлена на смягчение воздействия неэффективных отдельных инвестиций путем включения смеси активов с различными характеристиками риска и доходности. По сути, он следует принципу не концентрировать все инвестиции в одной области. Поддерживая диверсифицированный набор активов, инвесторы могут избежать чрезмерной уязвимости к результатам деятельности отдельной компании, сектора или рынка. Вы можете диверсифицировать свой портфель за счет диверсификации активов по различным классам, секторам и глобальным рынкам. Это называется распределением активов портфеля.

Эти классы активов включают в себя различные типы активов для инвестирования в определение диверсификации портфеля:

- **Акции:** вы можете инвестировать в акции или акции публично торгуемых компаний для потенциального роста.

- **Облигации:** вы можете изучить государственные или корпоративные ценные бумаги с фиксированным доходом, чтобы сбалансировать риск и доходность.

- **Недвижимость:** диверсифицируйте, инвестируя в здания, землю, скот, сельское хозяйство, воду и месторождения полезных ископаемых.

- **Биржевые фонды (ETF):** вы можете выбрать корзины ценных бумаг, которые отслеживают индекс, товар или сектор и котируются на фондовой бирже.

- **Сырьевые товары:** вы можете включить в свое портфолио основные материалы, необходимые для производства других продуктов или услуг.

- **Денежные средства или их эквиваленты:** обеспечьте ликвидность и возможность получения прибыли с низким уровнем риска с помощью сберегательных счетов, депозитных сертификатов, казначейских векселей и других краткосрочных портфельных инвестиций.

Основной принцип диверсификации портфеля заключается в том, что разные активы по-разному реагируют на различные условия рынка акций. Когда одни инвестиции падают, другие могут оставаться стабильными или даже расти. Такое диверсифицированное распределение рисков помогает смягчить удар убытков. Кроме того, не допуская чрезмерной концентрации портфеля на одной инвестиции, увеличивается потенциал более высокой общей доходности. Одним из распространенных заблуждений является то, что наличие множества инвестиций автоматически обеспечивает диверсификацию. Однако, если эти инвестиции тесно связаны или сильно коррелируют, они могут аналогичным образом реагировать на колебания рынка, сводя на нет истинную суть диверсификации портфеля. Еще одно заблуждение заключается в том, что диверсификация устраняет все риски, что далеко не так. Хотя диверсификация портфеля может снизить риск, она не может устранить его полностью. Эффективное управление рисками и разумное распределение активов остаются императивами. Одним из наиболее значительных преимуществ диверсификации портфеля является его способность снижать риски и эффективно управлять ими. Распределяя инвестиции по различным классам активов, отраслям и географическим регионам, потенциальное негативное влияние неэффективного актива на весь портфель сводится к минимуму. По сути, если одна инвестиция неэффективна, прибыль от других может помочь смягчить общий риск.

Отдельные классы активов по-разному реагируют на колебания рынка. Хотя акции могут испытывать волатильность, инвестиции с фиксированным доходом, такие как облигации, обычно сохраняют более высокий уровень стабильности во время рыночных спадов. Включив

сочетание активов, диверсификация портфеля может обеспечить более стабильные результаты, способные выдержать различные экономические сценарии. Диверсификация позволяет портфелю инвесторов получить доступ к возможностям роста, одновременно эффективно управляя присущей волатильностью определенных активов. Хотя инвестиции с высоким уровнем риска могут принести значительную прибыль, они также сопряжены с повышенным потенциалом потерь. Балансирование этих высокорисковых активов с более стабильными позволяет использовать потенциал роста, не подвергая весь портфель чрезмерному риску.

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ПРИМЕНЕНИЕ ИННОВАЦИОННЫХ ОБРАЗОВАТЕЛЬНЫХ ТЕХНОЛОГИЙ НА ПРАКТИКЕ

Аннотация. В развивающихся странах современные педагогические технологии – цифровые технологии обучения демонстрируют взаимное взаимодействие технических средств человеческого фактора для эффективной организации и облегчения обучения, повышения его результата и качества, объективной оценки. Четкое планирование образовательных целей, увеличение видов методов и средств, используемых в процессах обучения и освоения, обогащение эффективности образовательного процесса содержанием – все это новый этап, направленный на совершенствование образовательного процесса, повышение эффективности образования. использовать современные технологии на уроке.

Ключевые слова: интерактивные методы, инновационное образование, инновация, педагогическая технология, системный подход, объективная оценка, метод, методология, образование, педагогическая система, гуманизм, теория, умение, компетентность, деятельность, информация.

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APPLICATION OF INNOVATIVE EDUCATIONAL TECHNOLOGIES IN PRACTICE

Abstract. In developing countries, modern pedagogical technologies - digital learning technologies demonstrate the mutual interaction of technical means of the human factor for the effective organization and facilitation of learning, increasing its results and quality, and objective assessment. Clear planning of educational goals, increasing the types of methods and means used in the processes of learning and development, enriching the effectiveness of the educational process with content - all this is a new stage aimed at improving the educational process and increasing the effectiveness of education. use modern technologies in the classroom.

Key words: Interactive methods, innovative education, innovation, Pedagogical technology, systematic approach, objective assessment, method, methodology, education, pedagogical system, humanism, theory, skill, competence, activity, information.

Сегодня интерес и внимание к использованию интерактивных методов, инновационных технологий, педагогических и информационных технологий в образовательном процессе возрастает с каждым днем, одна из причин этого в том, что до сих пор студент в традиционном образовании - если учащиеся учат только приобретать готовые знания, современные технологии учат их искать приобретаемые знания, самостоятельно изучать и анализировать и даже делать собственные выводы. В этом процессе педагог создает условия для развития, становления, обучения и воспитания личности и одновременно выполняет функции управления и направления. В процессе обучения главной фигурой становится ученик. Поэтому место и роль современных методов обучения – интерактивных методов, инновационных технологий в подготовке квалифицированных специалистов в высших учебных заведениях и на факультетах огромны. Знания, опыт и интерактивные методы педагогической технологии и педагогические навыки обеспечивают образованную, зрелую квалификацию учащихся-студентов.

Сегодня проблема формирования свободной личности требует перевода воспитательной работы в образовательных учреждениях на инновационные педагогические технологии. Процесс этот непрост, поскольку добровольно выстроенная и внедряемая система образования должна быть превращена в научно обоснованную педагогическую систему. В.П. По определению Беспалько, «педагогическая система – это совокупность взаимосвязанных инструментов, необходимых для создания систематического, целенаправленного и заранее обдуманного педагогического воздействия на формирование определенных качеств личности, совокупность методов и процессов».

В каждом обществе определена цель формирования личности, и в соответствии с ней должна существовать педагогическая система. Если цель изменится, существующая система неизбежно изменится. Основной целью «Национальной программы подготовки кадров» Республики Узбекистан является воспитание граждан, чувствующих свою ответственность перед обществом, государством и семьей. Такая Национальная программа считается государственным заказом в сфере образования и полностью соответствует сути национальной идеологии. Только государственный заказ четко определяет общие цели и задачи образования или гарантирует условия существования педагогической системы высшего образования.

Педагогическая технология является такой областью знаний, что в новом тысячелетии произойдет радикальное изменение политики

государства в области образования, возобновится деятельность учителя, у учащихся сформируется система свободомыслия и гуманитарных чувств. На сегодняшний день учителя (педагоги) во многих случаях не могут отличить методику от технологии. Поэтому необходимо уточнить эти понятия. Методика состоит из комплекса рекомендаций по организации и проведению образовательного процесса. Инновационная педагогическая технология представляет собой комплекс мероприятий, обновляющих профессиональную деятельность педагога и гарантирующих конечный результат образования в направлении заранее определенной цели.

Разнообразие тарифов, направленных на уточнение понятия инновационной педагогической технологии, с одной стороны, показывает, что эта тема в той или иной степени решается в развитых странах, а с другой стороны, представляет собой определенный результат попыток внедрения педагогические технологии в педагогическую практику.

В настоящее время в нашей стране имеется достаточно возможностей для объединения научного потенциала специалистов, поскольку единство теории и практики открывает путь к определению истинной сущности педагогической технологии. Поэтому нельзя рассматривать инновационные педагогические технологии как отдельную отрасль педагогики или как систему, направленную только на оптимизацию образовательной практики. Педагогическая технология отражает деятельность в рамках объединения теоретических и практических исследований в этой области.

Теперь цель образования полностью обновляется, соответственно, с обновлением содержания и педагогического процесса границы человеческой деятельности колоссально расширяются, а к аудитории поступают новые технологии (промышленность, электронная информация) с большими образовательными возможностями. Происходящие качественные изменения свидетельствуют о том, что сегодня первичные процессы «Обучения» не укладываются в рамки традиционных методов и средств обучения и уже не совместимы с индивидуальными способностями учителя (педагога). Существуют технические, информационные, полиграфические, аудиовизуальные носители, которые требуют новой методологии и становятся структурными компонентами образовательного процесса и приносят его специфические особенности, превращающие современные педагогические технологии в реальную реальность.

Если посмотреть на историю технологизации образовательного процесса, то этот процесс стал объективной реальностью со второй половины XX века. Информатизация является революционным «поворотом» в этом процессе, то есть образовательная информационная технология представляет собой общение «ученик-ученик-компьютер». Развитие научных, технических и творческих способностей студентов высших учебных заведений является одной из основных задач образования любого типа, ступени и уровня. Действительно, сегодняшняя молодежь

владеет знаниями техники и технологий, основами экономики, но если она не будет обладать навыками их использования, она не сможет достичь своих целей. Знание путей и средств применения полученных знаний на практике позволяет совершенствовать производственные процессы, создавать новое оборудование, орудия труда и новые технологии.

Обширные и прочные знания, умения, компетентность, любознательность, инициативность, стремление к четкой цели при самостоятельном решении задач, требование личной активности являются основой формирования творческих способностей студентов и молодежи.

Важным условием формирования творческих способностей учащихся является активность. Поэтому основная задача педагога – предоставить необходимую информацию, определяющую форму, метод, средства и направления организации этой деятельности. Слишком большая информационная подача не решает задачу положительно. Поэтому целесообразно управлять информационным обеспечением педагогически, учитывая то, что оно обогащено передовыми техническими и технологическими достижениями.

Предметом педагогического управления процессом научно-технического развития и творчества является человеческий фактор, который предполагает изучение уникальной учебной работы и ее управления, методологии и алгоритма решения творческих задач. Системный педагогический подход к процессу организации и подготовки научно-технической творческой деятельности студентов является одним из основных вопросов управления индивидуальным творчеством и творчеством и включает в себя сбор необходимой информации, ее анализ, обработку, определение цели, и разрабатывая план достижения цели, предпринимает такие шаги, как организация творческой работы по плану, контроль за его выполнением, упорядоченное ведение деятельности этой системы, принятие специальных решений.

Любой процесс управления, прежде всего, начинается с постановки цели, то есть умения правильно поставить цель. Он начинается с анализа текущего состояния объекта управления и изучения возможностей его развития. По существу, целенаправленное педагогическое управление научно-техническим творчеством имеет объективное описание, в котором выражаются объективные закономерности развития личности человека. Кроме того, целенаправленное управление является продуктом мышления и формируется в процессе совместной деятельности индивидов. Цель, в свою очередь, определяет направления изменений педагогического объекта, его основные виды и содержание управленческой деятельности.

Целевое педагогическое управление по своему содержанию, временному фактору и условиям подразделяется на несколько групп. Содержание направления условно сгруппировано как экономические, социальные, политические, идеологические и научно-технические цели.

Важной целью подготовки к научно-техническому творчеству является обеспечение человека, участвующего в педагогическом управлении, объективной информацией высокого уровня. Только объективная информация может быть движущей силой целенаправленной деятельности.

Человеческий мозг обладает способностью получать различную информацию на разных уровнях, что требует легкой, свободной и интересной передачи информации. Эффективное использование технических средств в процессе обучения считается дидактической задачей и рассматривается главным образом как активное действие, способ обеспечения принципа обучения.

Необходимость обучения в учебном процессе связана с описанием познавательного процесса, то есть переходом от живого наблюдения к абстрактному мышлению, а затем к практике. Педагоги и психологи утверждают, что мысли не выходят за рамки интуиции и воображения. Также нет прогресса в учебном процессе. Поэтому учебное поведение не ограничивается воздействием на разум, оно выявляет у обучающегося определенный эмоциональный мотив, усвоенные знания закрепляются только на основе единства чувства и логического мышления.

Сегодня, на новом уровне развития образования, обучение невозможно осуществлять без технических средств. Одним из важных показателей инновационных педагогических технологий является скорость передачи информации обучающимся, обеспечиваемая этими инструментами. Таким образом, развитие науки и научно-техническое развитие требуют друг друга, а информационное обеспечение процесса творческой деятельности включает направления управления на определенном уровне. Однако обогащение учебных занятий образовательными методами не должно разрушать образовательную систему и логику. Инновационные педагогические технологии создают определенные возможности для сбора информации и использования ее в процессе обучения, что позволяет формировать творческие способности у студента. Эти данные определяют возможности управления содержанием информационного обеспечения основ науки и методов творчества. Эффективность процесса подготовки студента к творческой деятельности во многом требует наличия у него информационного обеспечения, а также системности и непрерывности направлений педагогического управления.

Опыт просвещенного и культурного светского образования показывает, что среда, к которой он принадлежит, и сложившиеся в ней общественные отношения имеют большое значение в формировании интеллектуального потенциала человека, мировоззрения, а также его духовно-нравственного образа. Ведь в среде, к которой принадлежит человек, существуют объективные и субъективные факторы, необходимые для формирования его мышления, духовно-нравственного образа. Высшие

и средние специальные учебные заведения занимают особое место в среде, в которой действует человек.

Реформы в сфере непрерывного образования в Республике Узбекистан позволяют обеспечить экономику страны квалифицированными специалистами. Подчеркнув актуальность данного вопроса, Первый Президент Республики Узбекистан И.А.Каримов заявил, что «В Узбекистане имеются все необходимые условия для перехода к современной модели инновационного развития». Эта модель основана на широком и эффективном использовании созданного научно-технического потенциала, достижений фундаментальной и прикладной науки, широком внедрении в практику технологий, требующих глубоких знаний, увеличении численности высококвалифицированных и талантливых научных кадров. Это необходимое условие и прочная основа для вхождения нашей страны в мировую экономику и промышленно развитые страны.

Рост экономической мощи нашей страны в условиях рыночной экономики привел к коренным реформам в системе образования, которая является центральным звеном социальной сферы нашего общества. Принимаются новые законы и документы, создаются современные педагогические технологии в целях улучшения образования учащихся и студентов, расширения, углубления и обогащения содержания, предоставляемого им образования, а также обеспечения непрерывности образования.

Инновационная педагогическая технология предусматривает целенаправленную организацию и реализацию познавательной деятельности студентов по основам естественных наук.

В процессе обучения, основанного на новом подходе, новом мышлении, необходимо внедрять эффективные формы и методы учебной деятельности учащихся, эффективно организовывать их самостоятельную работу. Научно и методически совершенная организация учебного процесса – залог успеха. Всевозможные упражнения и самостоятельные задания учат учащихся мыслить, творчески работать, комплексно мыслить, решать задания, исходя из своего жизненного опыта. Как обнаружил известный английский писатель Дж. Бернанд Шоу, «Единственный путь к познанию – это действие». Независимо от организации такой деятельности в форме работы учащихся и преподавателей (традиционные или нетрадиционные уроки, внеклассная работа, лекции или практические занятия), она может дать высокий педагогический эффект только тогда, когда осуществляется в полной мере с научно-теоретической точки зрения. с научно-методической и воспитательно-духовной точки зрения. При этом, конечно же, предусматриваются тренинги, организованные с учетом возрастных и физиологических особенностей, интересов, уровня знаний и кругозора обучающихся. Для этого необходимы отличные педагогические навыки и профессиональный потенциал педагога.

Педагогическое изменение во фразе «Нет плохой земли, а есть необразованные земледельцы, которые не знают, как получить с нее урожай» известного почвовед Р. Вильямиса, который первым рекомендовал траву -полевая ротация к земледельческой культуре в мировой практике. скажем так: «Не бывает плохого ученика (учащегося), а есть только плохие учителя (педагоги, воспитатели), которые не могут указать ему правильный путь обучения».

Три характеристики: глубокие знания, профессиональная методология и простые человеческие качества в совокупности определяют результат учебного процесса. Как невозможно поверить, что человек без знаний может иметь методические навыки, так какой смысл учить человека, не знающего человечества, имеющего и то и другое? Педагогические технологии и педагогическое мастерство также погружаются в трясину схоластики без завершения вышеупомянутых трех.

Поскольку качество и эффективность образования зависит от многих факторов, невозможно дать единую и убедительную рекомендацию или руководство по этому поводу. Не следует забывать, что существуют конкретные и подходящие критерии возможности использования инновационных педагогических или информационно-коммуникационных технологий. Даже те, кто поднимает знамя нестандартности, новаторства или интерактивности, не должны отрицать тысячелетние (а может, и миллионные) традиции и опыт преподавания, огромный накопленный запас опыта. Не следует забывать о принципах взаимодействия старого и нового, баланса между базой и надстройкой, совместимости традиции и инициативы.

Работа учителя (педагога) должна оцениваться только исходя из качества знаний, умений и квалификации подведомственных ему лиц. Да, было бы справедливо оценивать по качеству знаний (не по уровню знаний, не по присвоенным рейтинговым баллам, не по индексу мастерства).

Использование информационно-коммуникационных технологий в сочетании с современными педагогическими технологиями в высших учебных заведениях служит повышению качества профессиональной подготовки будущих специалистов, эффективность учебных занятий и полезный труд преподавателей (педагогов) повышает коэффициент. Иными словами, системный подход к образовательному процессу и сервис, состоящий из различных педагогических мероприятий, сегодня считаются важным условием повышения эффективности обучения в системе непрерывного образования. В то же время современные педагогические технологии демонстрируют взаимное взаимодействие человеческого потенциала и технических средств, необходимых для облегчения форм обучения, основанных на системных подходах, гарантирующих его результат и объективную оценку. Уточнение образовательных целей, диверсификация методов, способов и средств, используемых в процессах

преподавания и обучения, углубление содержания образовательных процессов – все это означает совершенствование деятельности образовательных учреждений.

Однако говорят, что нет предела усовершенствованию, то есть нет конца. Поэтому и педагогические технологии, и педагогическое мастерство являются понятиями безграничными. Чем больше его ищешь и чем больше инициативы, тем меньше оно кажется. Это самая простая и основная истина преподавания. Подобная деятельность учителей (педагогов) в конечном итоге приведет к выполнению высокого социального заказа.

Уровень грамотности членов общества является важным фактором, определяющим культурный и образовательный имидж общества. Чтобы сделать большинство людей грамотными, необходима технологизация чтения и преподавания, науки, исследований и обучения, короче говоря, процессов образования и обучения, широкое применение современных методов и методов обучения, их и путем их применения, необходимо давать качественные и эффективные знания получателям образовательных знаний. Новый подход к системе непрерывного образования, ее семи видам образования, особенно трем видам образования, принятым в ДТС - общему среднему образованию, среднему специальному образованию, профессиональному образованию и высшему образованию, для внедрения эффективных форм и методов образовательной деятельности обучающихся. в процессе обучения на основе нового мышления эффективно организовывать свою самостоятельную работу, эффективно использовать образовательные технологии, обучать связности и преемственности между их структурными компонентами, обеспечение которых является требованием времени. Научно и методически совершенная организация учебного процесса является залогом успеха в этой области. Всевозможные упражнения и самостоятельные задания учат учащихся мыслить, творчески работать, комплексно мыслить, решать задания, исходя из своего жизненного опыта.

Классная и внеклассная деятельность, являющаяся основной организационной формой обучения, независимо от того, как она организована (традиционные или нетрадиционные занятия, внеклассная и воспитательная деятельность, лекции или практические занятия). Ввиду этого она может дать высокий педагогический эффект только тогда, когда он полностью реализован с точки зрения научной теории, научного метода и воспитательно-духовного аспекта. При этом, конечно, с учетом возрастных и физиологических особенностей, интересов, уровня знаний и кругозора учащихся планируется деятельность. Для этого необходимы отличные педагогические навыки и профессиональный потенциал педагога. 3 характеристики крепких знаний, профессиональной методологии и простых человеческих качеств в совокупности определяют результат учебного процесса. Как невозможно поверить, что человек без знаний

может иметь методические навыки, так какой смысл учить человека, не знающего человечества, имеющего и то и другое? Педагогические технологии и педагогическое мастерство также погружаются в трясину схоластики без завершения трех упомянутых выше.

Поскольку качество и эффективность образования зависит от многих факторов, невозможно дать единую и убедительную рекомендацию или руководство по этому поводу. Не следует забывать, что существуют конкретные и подходящие критерии возможности использования инновационных педагогических или информационно-коммуникационных технологий. Даже те, кто поднимает знамя нестандартности, новаторства или интерактивности, не должны отрицать тысячелетние (а может, и миллионные) традиции и опыт преподавания, огромный накопленный запас опыта. Не следует забывать о принципах взаимосвязи старого и нового, соразмерности базы и надстройки, совместимости традиции и инициативы. Труд учителя (педагога) должен оцениваться только по качеству знаний и умений подведомственных ему лиц.

Да, было бы справедливо оценивать по качеству знаний (не по уровню знаний, не по присвоенным рейтинговым баллам, не по уровню освоения), иными словами, эффективность преподавания в системе непрерывного образования сегодня является важным условием. к совершенствованию относится системный подход к образовательному процессу и оказанию услуг, состоящий из различных педагогических мероприятий. Это самая простая и основная истина преподавания. Только этот вид деятельности учителей (педагогов) в конечном итоге приводит к выполнению высокого социального заказа. Поэтому три социальные функции образования - образование, воспитание и развитие личности, конечно, также выполняются.

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ОСНОВНЫЕ ТЕНДЕНЦИИ ИСПОЛЬЗОВАНИЯ ПИКО- И МИКРОГИДРОТУРБИН

Аннотация. Данная работа посвящена анализу возможностей малых экземпляров гидротурбин для работы в условиях наличия водных потоков с малыми скоростями течения и малыми углами уклона рельефа местности, а также приводится информация, касающихся разработок по данной тематике в Европе. Рассматриваются конструкции и возможности новых разработок для пико- и микрогидротурбин

Ключевые слова: погружная гидротурбина, гидротехнический потенциал, скорость потока, кинетическая энергия, напор воды, КПД гидротурбины.

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MAIN TRENDS IN THE USE OF PICO- AND MICROHYDROTURBINES

Abstract. This work is devoted to the analysis of the capabilities of small units of hydraulic turbines for operation in conditions of the presence of water flows with low flow velocities and low slope angles of the terrain, and also provides information regarding developments on this topic in Europe. The designs and possibilities of new developments for pico- and micro-hydraulic turbines are considered

Key words: submersible hydraulic turbine, hydraulic potential, flow speed, kinetic energy, water pressure, hydraulic turbine efficiency.

Сегодня проблема обеспеченности электроэнергией потребителей (промышленный сектор, население) становится самой важной экономической составляющей проблемы развития регионов. Одним из его путей решения – использование возможностями ВИЭ. Основную часть водных источников считают пригодными для пико- и микроГЭС. Считается что источники энергии для гидроэнергетики – водные потоки с быстрым течением.

Источником энергии, получаемой при помощи пико- и микрогидротурбины считается кинетическая энергия водного потока и

напор на лопасти, вращающиеся под действием водного потока. Данный тип водных источников составляет основную часть (до 80-90% от общего числа) среди водных источников.

Целью работы считается изучить информацию о новых разработках и проектах в области использования пико- и микрогидротурбин в странах Европы.

Возможности использования гидроэнергетики (имеется ввиду пико- и микро гидроэнергетические устройства) изучены в работах [1-3]. Особенно большое внимание уделено в работе [3], где гидроэнергетические устройства предложено установить в местах, указанных аналогично в работах [4-7]. Только отличие в том, что в водный источник в [3] имеет более высокий уклон относительно источника, приводимого в работе [4-7], а пропускная способность почти равна (соответственно 7-8 м³/с и 4-6 м³/с).

Основной упор делается на изучение практического использования на практике возможностей пико- и микрогидротурбин для обеспечения электроэнергией потребителей. С другой стороны, сейчас данное направление гидроэнергетики становится актуальным.

Сегодня использование мини ГЭС стало актуальной проблемой, так как надо учитывать много факторов: изменение экологической ситуации; сроки окупаемости капиталовложений; размеры расходов на этапе проектирования; наличие подходящего водного источника; выбор места строительства гидросооружения; удаленность от населенного пункта.

Вышеприведенные критерии имеют намного меньшие показатели по сравнению с крупными ГЭС. Дополнительные условия в [9] приводятся в следующем виде: наличие горной местности;

Возможность учета нагрузки на электросеть, т.е. потенциальный расход электроэнергии со стороны потребителей.

Показатель для мини-ГЭС на р.Баргузия в Республике Бурятия Курамканском районе имеют нижеприведенные показатели:

- КПД составляет 72,8% при расходе воды 11,2 м³/с,
- Была использована пропеллерная турбина типа ГА-8М,
- напор воды был равен 5-15 м, в расход воды 3,6-10 м³/с при мощности 800 кВт.

В работе [10] приводятся следующая информация:

- протяженность ЛЭП 6 от ПС 220 кв составляет 372 км,
- стоимость воздушных линий длиной 1 км обходится в 109,6 млн.сум (800 тыс рублей), а общие расходы – 40,8 млрд.сум (297,6 млн.рублей).

Для решения проблемы электроснабжения предложено использовать автономные дизельные электростанции (ДЭС), но оно влечет за собой появления следующих моментов:

- увеличения расхода топлива растет с увеличением мощности ДЭС,
- из-за плохой инфраструктуры доставки топлива снижается экономическая эффективность.

Если рассмотреть строительство мини ГЭС с мощностью 800 кВт можем видеть следующие результаты расчетов:

- срок окупаемости – 4,7 лет,
- эксплуатационные расходы в год будут равны 5% от всего объема капиталовложений.

Можно получать электроэнергию при помощи потоков с течением с малыми скоростями потока воды (1-1,5 м/с), т.е. водные источники с показателями 4-7 м³/с и уклоне рельефа местности на 5-10 градусов. Такие работы ведутся в Европе с погружными гидротурбинами. Так, в Швеции фирма Sunnutek создала погружную гидротурбину с различными модификациями (рис.1). Она защищена от коряг, веток и других крупных элементов, встречающихся в течении воды.



Рис.1. Погружная гидротурбина.

Мощность варьируется от 1 кВт до 12 кВт и весом оборудования соответственно указанной мощности (табл.1).

Данная конфигурация позволяет обеспечивать отдаленно расположенных потребителей электроэнергией [4]. С их помощью можно создавать сеть гидротурбин такого типа для обеспечения электроэнергией отдельного потребителя (промышленного объекта или населенного пункта), который будет обеспечиваться электроэнергией бесперебойно. Основная тенденция – сетевая работа гидроэнергетических устройств.

Таблица №1.

Параметры погружных гидротурбин

Мощность (кВт)	Число сетей	Максимальная мощность (сеть)	Выработка за сутки (кВт)	Вес (кг)
Один плавающий буй				
1	1	1	14,4	62
2	1	2	14,4/28,8	64/116
3	1	3	14,4	68
3	2	3	28,8/43,2	120/173
Два плавающих буя				
5	2	5	28,8	123
5	4	5	57,6	226
5	6	5	86,4	333
8	4	8	57,6	233
8	7/10	8	100,8/144	391/548

12	5	12	72	297
Поддерживающая платформа				
12	8	12	115,2	454
12	12	12	172,8	664
12	15	12	216	822

К недостаткам данной конструкции гидротурбин можно отнести следующее: слишком массивная конструкция, дорогая стоимость обслуживания.



Рис.2. Общий вид пико-турбины на понтонной основе.

Данная конструкция позволяет работать с водными источниками с малой скоростью водного течения. Ее недостатки – малый КПД, отсутствие защиты от различных плавающих помех, ограниченная мощность гидротурбины, зависимость от наличия водоворотов [5].



Рис.3. Общий вид погружной гидротурбины с общим направляющим соплом [8]

Она позволяет работать с водными течениями с малыми скоростями водного потока, собираемая через сопло и направляемая на гидротурбину. Конструкция держится на течении при помощи натяжных тросов.

Здесь применяется некоторые улучшения: увеличена поверхность водосбора, направляемая на погружную гидротурбину и гидротурбина может работать даже зимой.

Недостатки: отсутствие защиты от помех и рыб, необходимо наличие стабильного уровня водного потока, без водоворотов или установка на специально созданной платформе.

Погружные гидротурбины с наличием дополнительной поверхности сбора и направления водного потока и без этих элементов работают при наличии следующих общих условий:

- наличие направленного водного потока с постоянной скоростью течения,
- отсутствие плавающих помех для гидротурбины (ветки деревьев, коряги, мусор).

В заключении отметим, что развитие сферы гидроэнергетики в области пико- и микрогидроэнергетики для улучшения обеспечения и создания новой сети электроснабжения отдаленной от центральной линии электроснабжения даст возможность получить экономическую прибыль и создать хорошие условия для населения.

Выводы:

- создать равномерную сеть из пико- и микрогидротурбин для покрытия расходов при создании этой сети,
- заинтересовать представителей малого и среднего бизнеса в использовании гидротурбин такого типа для обеспечения электроэнергией.

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РАСЧЁТ ЭКОНОМИЧЕСКОЙ ЭФФЕКТИВНОСТИ ОТ ИСПОЛЬЗОВАНИЯ ПОРОШКА ШИПОВНИКА В ПРОИЗВОДСТВЕ ЛЕПЁШЕК ОБИ – НОН

Предварительный анализ химического состава порошка из плодов шиповника (ПШ) показал, что данная добавка способна оказывать положительное влияние на свойства мучных полуфабрикатов и качество готовой продукции. При приготовлении простых лепёшек из муки пшеничной 1 сорта по предлагаемой технологии, то есть с использованием ПШ прибыль предприятия увеличивается на 34380,6 сумов на 1 тонну продукции, рентабельность продукции повышается на 2,01%.

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CALCULATION OF ECONOMIC EFFICIENCY FROM THE USE OF ROSEHIP POWDER IN THE PRODUCTION OF OBI-NON FLATBREAD

A preliminary analysis of the chemical composition of rose hip powder (RH) showed that this additive can have a positive effect on the properties of semi-finished flour products and the quality of the finished product. When preparing simple flatbreads from 1st grade wheat flour using the proposed technology, that is, using PS, the enterprise's profit increases by 34,380.6 soums per 1 ton of product, product profitability increases by 2.01%.

В таблице 1 приведены рецептуры прототипа и опытного варианта (с заменой в унифицированной рецептуре 5,0 кг муки ПШ) лепешек Оби - нон из муки пшеничной I-го сорта.

Таблица 1– Расход сырья на 1 тонну узбекских лепешек Оби - нон

Сырьё	Цена 1,0 кг сырья, сум	Расход сырья на 1 т продукции, кг	
		Контроль	Опыт
Мука пшеничная I сорт	5120	833,33	778,70
Дрожжи хлебопекарные	30000	12,50	11,68
Соль поваренная пищевая	1000	12,50	11,68

Масло хлопковое на смазку	5500	1,25	1,17
ПШ	2500	-	41,67
<i>Итого</i>	-	859,58	844,90
Выход, %	-	120,0	122,0

Таблица 2 – Калькуляция по контрольной рецептуре на 1 тонну узбекских лепешек Оби – нон (в сумах)

Наименование статей	Расход	Цена, сум	Стоимость, сум
Мука пшеничная I сорт	833,33	5120	4 266 649,6
Дрожжи хлебопекарные	12,50	30000	375 000,0
Соль поваренная пищевая	12,50	1000	12500,0
Масло хлопковое на смазку	1,25	5500	6 875,0
Материальные затраты - всего			4 661 024,6
Газ, куб. м	513,0	660,0	338 580,0
Электроэнергия, кВт	625,0	495,0	309 375,0
Вода, куб. м	412,5	460,0	189 750,0
Заработная плата рабочих	-	-	230 000,0
Единый социальный платеж	-	-	57 500,0
Амортизация оборудования	-	-	62 000,0
Цеховая себестоимость	-	-	5 848 229,6
Транспортные расходы	-	-	50 000,0
Прочие расходы производственного характера	-	-	50 000,0
Полная себестоимость	-	-	5 948 229,6
Необходимая масса прибыли	-	-	2 379 291,8
Отпускная цена предприятия	-	-	8 327 521,4

Определяем размеры расходов:

Мука – 833,33 кг * 5120 = 4 266 649,6 сум

Дрожжи – 12,50 * 30000 = 375 000,0 сум

Соль - 12,50 * 1000 = 12500 сум

Материальные затраты - всего:

4 266 649,6 + 12 500 + 375 000,0 + 6 875,0 = 4 661 024,6 сум.

Отпускная цена 1 кг контрольного образца узбекских лепешек Оби - нон предприятия составляет 8 327, 521 сум, а одного изделия массой 0,3 кг – 8 327, 521 * 0,3 = 2498,26 ≈ 2500 сум.

Аналогично производили расчёты и опытных образцов продукции.

Таблица 3 – Калькуляция на 1 тонну по опытной рецептуре узбекских лепешек Оби - нон

Наименование статей	Расход	Цена, сум	Стоимость, сум
Мука пшеничная I сорт	778,70	5120	3 986 944,0
Дрожжи хлебопекарные	11,68	30000	350 400,0
Соль поваренная пищевая	11,68	1000	11 680,0
Масло хлопковое на смазку	1,17	5500	6 435,0

ПШ	41,67	2500	104 175,0
Материальные затраты - всего	-	-	4 459 634,0
Газ, куб. м	513,0	660,0	338 580,0
Электроэнергия, кВт	625,0	495,0	309 375,0
Вода, куб. м	412,5	460,0	189 750,0
Заработная плата рабочих	-	-	230 000,0
Единый социальный платеж	-	-	57 500,0
Амортизация оборудования	-	-	62 000,0
Цеховая себестоимость	-	-	5 646 839,0
Транспортные расходы	-	-	50 000,0
Прочие расходы производственного характера	-	-	50 000,0
Полная себестоимость	-	-	5 746 839,0
Необходимая масса прибыли			2 413 672,4
Отпускная цена предприятия			8 160 511,4

Отпускная цена 1 кг опытного образца лепешек предприятия составляет 8 160,5 сумов, а одного изделия массой 0,3 кг – $8\ 160,5 \cdot 0,3 = 2448$ сум.

Снижение цены по сравнению с контрольным образцом составляет 52 сума с одной лепешки.

Таблица 4 – Эффективность от снижения материальных затрат по контрольной и опытной рецептурам узбекских лепешек Оби - нон на 1 тонну продукции (сум)

Показатели	Контроль	Опытный образец	
		значение	±Δ
Материальные затраты	4 661 024,6	4 459 634,0	- 201 390,6
Прибыль	2 379 291,8	2 413 672,4	+ 34380,6
Рентабельность материальных затрат, %	51,05	54,12	+ 3,07
Рентабельность продукции, %	39,99	42,0	+ 2,01
Отпускная цена за 1 изделия массой 0,3 кг	2500	2448	- 52

Из данных таблицы 4 видно, что от использования порошка шиповника (ПШ) в производстве лепёшек Оби – нон приводит к снижению величины материальных затрат, увеличение прибыли и рентабельности продукции, снижение отпускной цены на 1 лепешку.

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**РАСЧЁТ ЭКОНОМИЧЕСКОЙ ЭФФЕКТИВНОСТИ ОТ
ИСПОЛЬЗОВАНИЯ ПОЛУОБЕЗЖИРЕННОЙ ЛЬНЯНОЙ МУКИ В
ПРОИЗВОДСТВЕ ЛЕПЁШЕК ШИРМАЙ – НОН**

Установлены оптимальный состав и дозировка МЛ в рецептуре сладких лепешек типа Ширмай-нон. Таким образом, включение в рецептуру 5,0% МЛ муки по массе позволит снизить расход муки до 4,5% и жира до 14,0%.

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**CALCULATION OF ECONOMIC EFFICIENCY FROM THE USE OF
SEMI-SKIMMED FLAXSEED FLOUR IN THE PRODUCTION OF
SHIRMAY-NON FLATBREADS**

The optimal composition and dosage of ML in the recipe for sweet flatbreads such as Shirmay - non has been established. Thus, the inclusion of 5.0% ML by weight of flour in the recipe will reduce the consumption of flour to 4.5% and fat to 14.0%.

Для производства хлебобулочных изделий, в нашем случае простых и сдобных узбекских лепёшек, применяли отсортированные от полноценных и не используемые в непосредственной продаже плоды шиповника и семена арахиса (деформированные, дроблённые и др.), а также частично обезжиренные семена льна (жмых). Данное сырьё, в основном, применяется для кормления животных и птицы или просто утилизируется, не смотря на его высокую пищевую ценность. Следовательно, себестоимость данной продукции значительно ниже, чем у полноценного и используемого для продажи или дальнейшей переработки (мука, масло, БАДы и др.) сырья.

В таблице 1 приведены рецептуры прототипа и опытного варианта (с заменой в унифицированной рецептуре 4,5 кг муки и 0,5 кг жира МЛ) лепёшек Ширмай - нон из муки пшеничной I-го сорта.

Таблица 1 – Расход сырья на 1 тонну узбекских лепешек Ширмай – нон

Сырьё	Цена 1,0 кг сырья, сум	Расход сырья на 1 т продукции, кг	
		Контроль	Опыт
Мука пшеничная I сорт	5120	806,45	770,16
Дрожжи хлебопекарные	30000	12,10	11,55
Соль поваренная пищевая	1000	8,07	6,16
Сахар - песок	9000	40,32	38,51
Жир бараний	35000	28,23	23,11
Масло хлопковое на смазку	5500	1,21	1,15
МЛ	3000	-	40,00
<i>Итого</i>	-	<i>896,38</i>	<i>890,64</i>
Выход, %	-	124,0	125,0

Таблица 2 – Калькуляция по контрольной рецептуре на 1 тонну узбекских лепёшек Ширмай – нон с использованием льняной муки (сум)

Наименование статей	Расход	Цена, сум	Стоимость, сум
Мука пшеничная I сорт	806,45	5120	4 129 024,0
Дрожжи хлебопекарные	12,10	30000	363 000,0
Соль поваренная пищевая	8,07	1000	8 070,0
Сахар - песок	40,32	9000	362 880,0
Жир бараний	28,23	35000	988 050,0
Масло хлопковое на смазку	1,21	5500	6.655,0
Материальные затраты - всего	-	-	5 857 679,0
Газ, куб. м	813,0	660,0	536 580,0
Электроэнергия, кВт	725,0	495,0	358 875,0
Вода, куб. м	512,5	460,0	235 750,0
Заработная плата рабочих	-	-	630 000,0
Единый социальный платеж	-	-	157 500,0
Амортизация оборудования	-	-	162 000,0
Цеховая себестоимость	-	-	7 938 384,0

Транспортные расходы	-	-	150 000,0
Прочие расходы производственного характера	-	-	250 000,0
Полная себестоимость	-	-	8 338 384,0
Необходимая масса прибыли	-	-	3 335 353,6
Отпускная цена предприятия	-	-	11 673 737,6

Определяем размер расходов:

Мука – $806,45\text{кг} * 5120 = 4\,129\,024,0$ сум.

Дрожжи – $12,10 * 30000 = 363\,000,0$ сум.

Соль - $8,07 * 1000 = 8\,070,0$ сум.

Сахар – песок - $40,32 * 9000 = 362\,880,0$ сум.

Жир бараний – $28,23 * 35000 = 988\,050,0$ сум.

Масло хлопковое на смазку – $1,21 * 5500 = 6.655,0$ сум.

Материальные затраты всего – $5\,857\,679,0$ сум.

Отпускная цена 1 кг контрольного образца узбекских лепешек Оби - нон предприятия составляет $11\,673,74$ сумов, а 1 изделия массой $0,3$ кг – $11\,673,74 * 0,3 = 3\,502,12 \approx 3503$ сум.

Таблица 3 – Калькуляция на 1 тонну по опытной рецептуре узбекских лепешек Ширмай – нон с использованием льняной муки

Наименование статей	Расход	Цена, сум	Стоимость, сум
Мука пшеничная I сорт	770,16	5120	3 942 400,0
Дрожжи хлебопекарные	11,55	30000	346 500,0
Соль поваренная пищевая	6,16	1000	6 160,0
Сахар - песок	38,51	9000	346 590,0
Жир бараний	23,11	35000	808 850,0
Масло хлопковое на смазку	1,15	5500	6 325,0
МЛ	40,00	3000	120 000,0
Материальные затраты - всего	-	-	5 576 825,0
Газ, куб. м	813,0	660,0	536 580,0
Электроэнергия, кВт	725,0	495,0	358 875,0
Вода, куб. м	512,5	460,0	235 750,0
Заработная плата рабочих	-	-	630 000,0
Единый социальный платеж	-	-	157 500,0
Амортизация оборудования	-	-	162 000,0
Цеховая себестоимость	-	-	7 657 530,0
Транспортные расходы	-	-	150 000,0
Прочие расходы производственного характера	-	-	250 000,0
Полная себестоимость	-	-	8 057 530,0
Необходимая масса прибыли	-	-	3 384 162,6
Отпускная цена предприятия	-	-	11 441 692, 6

Отпускная цена 1 кг опытного образца лепёшек с использованием льняной муки предприятия составляет 11441,69 сумов, а 1 изделия массой 0,3 кг – $11441,69 * 0,3 = 3432,5$ сум.

Снижение цены по сравнению с контрольным образцом составляет:
 $3432,5 - 3503 = - 70,50$ сумов с 1-ой лепёшки.

Из данных таблицы 4 видно, что от использования льняной муки в производстве лепёшек Ширмай – нон наблюдается снижение величины материальных затрат на производство 1 тонны лепешек, увеличение прибыли и рентабельности продукции на 2,0 %, снижение отпускной цены на 1 лепешку на 70,5 сум.

Таблица 4 – Эффективность от снижения материальных затрат по контрольной и опытной рецептурам узбекских лепешек Ширмай – нон с использованием льняной муки (сум)

Показатели	Контроль	Опытный образец	
		значение	изменение
Материальные затраты	5 857 679,0	5 576 825,0	- 280 854,0
Прибыль	3 335 353,6	3 384 162,6	+ 48 809,0
Рентабельность материальных затрат, %	56,94	60,68	+3,74
Рентабельность продукции, %	40,0	42,0	+2,0
Отпускная цена за 1 лепешку массой 0,3 кг	3503,0	3432,5	- 70,50

Установлен оптимальный состав и дозировка МЛ в рецептуре сдобных лепёшек типа Ширмай – нон. Так включение в рецептуру 5,0% МЛ к массе муки позволит снизить расход муки до 4,5% и жира – до 14,0 %.

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СПЕЦИФИКА ВОСПИТАТЕЛЬНОЙ РАБОТЫ В СИСТЕМЕ ИНКЛЮЗИВНОГО ОБРАЗОВАНИЯ

Аннотация. В статье рассматривается проблема организации воспитательной деятельности в условиях инклюзии. Цель исследования – выявить особенности организации воспитательной работы в условиях инклюзии.

Ключевые слова: образовательная среда, инклюзивное образование, организация воспитательной работы.

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SPECIFICITY OF EDUCATIONAL WORK IN THE SYSTEM OF INCLUSIVE EDUCATION

Abstract. The article discusses the problem of organizing educational activities in conditions of inclusion. The purpose of the study is to identify the features of the organization of educational work in conditions of inclusion.

Key words: educational environment, inclusive education, organization of educational work.

Одно из требований к современному образованию заключается в том, что оно должно стать гуманистически ориентированным, рассматривать человека как основную ценность, быть направленным на развитие личности. При таком подходе любые формы, методы, технологии являются не самоцелью и должны рассматриваться в контексте одной из основных задач образования – обеспечения максимально благоприятных условий для саморазвития учащихся. Образование должно помочь человеку осознать

свое «Я», обогатить его, определить свою социальную роль в отношении с внешним миром и найти в нем свое место [1, с. 204].

Инклюзивное образование заключается в том, что все дети, несмотря на свои особенности (физические, интеллектуальные, этнические и иные), включены в общую систему образования. Воспитание и обучение таких детей осуществляется с учетом их особых образовательных потребностей по месту жительства в массовых образовательных учреждениях в окружении сверстников. Особое место в развитии инклюзивного образования принадлежит собственно образовательной среде. Для гуманизации процессов образования необходимо создать образовательную среду, которая будет природосообразной возможностям ребенка.

Значимой средой для обучающихся с ограниченными возможностями здоровья, является социокультурная среда, где: происходит саморазвитие и самоопределение, накопление личного опыта; создается специально реабилитационное пространство для оптимального развития обучающегося с ограниченными возможностями здоровья, его адаптации в обществе и социализации. Если для обычного ребёнка социализация представляет собой естественный процесс, то применительно к «особому» ребёнку погружение в общество – это кропотливая работа, процесс, результат которого полностью зависит от тех условий, которые создают для этого взрослые [2, с. 92].

К основным особенностям организации адаптивно-воспитательной среды в образовательном учреждении относят:

- ✚ учет индивидуальных возможностей всех учащихся;
- ✚ удовлетворение разнообразных познавательных потребностей и интересов учеников;
- ✚ обеспечение условия для адаптации и самореализации.

При работе с детьми с ОВЗ одним из самых важных условий для педагога является понимание того, что эти дети не являются ущербными по сравнению с другими. Одной из актуальных проблем, связанных с воспитанием ребенка, является в настоящее время личностно-ориентированное воспитание ребенка. Эта задача решается путем проведения системы коррекционных мероприятий, направленных на смягчение недостатков развития умственно отсталых детей, на формирование их личности и социальную адаптацию. Именно целенаправленная и систематическая воспитательная работа в наибольшей степени обеспечивает формирование и развитие личности [3, с.17-20].

Воспитательная деятельность включает в себя реализацию комплекса организационно-педагогических задач, решаемых педагогом, для обеспечения оптимального развития личности обучающегося, выбора форм и методов его обучения в соответствии с задачами и процессом их реализации. Эта работа включает организацию совместных мероприятий педагогов и обучающихся, а также предусматривает регулирование

отношений социальных институтов, оказывающих значительное влияние на развитие обучающихся с ограниченными возможностями здоровья.

На основе теоретического анализа литературы разработаны и предложены психолого-педагогические рекомендации по организации воспитательной работы в условиях инклюзивного образования. Назовем некоторые из них [5, с. 167]:

- ✚ повышение качества воспитательного процесса и профессионального мастерства педагогов посредством совместной деятельности взрослых и детей;

- ✚ создание в коллективе доброжелательной атмосферы для свободного выражения своих мыслей и чувств;

- ✚ расширение ролевого репертуара педагога – учителя, тьютора, фасилитатора, модератора, направленного на обеспечение полноценного развития и оказания поддержки обучающимся с ОВЗ;

- ✚ использование личностно-ориентированного, антропологического, экологического и гуманистического подходов в процессе воспитания обучающихся, в частности с ОВЗ.

Таким образом, основываясь на полученные знания, приходим к выводу, что прогрессивное движение за качественное обновление школы требует создания оптимальных условий в инклюзивной образовательной среде, где акцент делается не только на образовательный процесс, но и организацию воспитательной деятельности, результатом которой является эффективная адаптация, в динамично меняющейся жизни детей с особыми образовательными потребностями [4, с. 224].

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**ЭКСПЕРИМЕНТАЛЬНЫЙ АНАЛИЗ ВОЗДЕЙСТВИЯ
ГЕОМЕТРИЧЕСКИХ ХАРАКТЕРИСТИК И ФИЗИКО-
ХИМИЧЕСКИХ СВОЙСТВ КОНСТРУКЦИОННЫХ МАТЕРИАЛОВ
НА ДИНАМИЧЕСКИЕ ХАРАКТЕРИСТИКИ**

Аннотация. В данной статье рассматривается влияние геометрических параметров и выбора строительных материалов на динамическое поведение инженерных конструкций. Авторы анализируют основные аспекты этой проблемы, предоставляя обзор современных методик и подходов к исследованию динамических характеристик сооружений. Также обсуждаются возможности оптимизации проектирования и строительства инженерных объектов с целью повышения их долговечности и надежности в условиях динамических нагрузок.

КЛЮЧЕВЫЕ СЛОВА: геометрические параметры, строительные материалы, динамическое поведение, конструкции, влияние, оптимизация, исследование, анализ, численное моделирование.

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**EXPERIMENTAL ANALYSIS OF THE IMPACT OF GEOMETRICAL
CHARACTERISTICS AND PHYSICAL AND CHEMICAL
PROPERTIES OF STRUCTURAL MATERIALS ON DYNAMIC
CHARACTERISTICS**

Abstract. This article examines the influence of geometric parameters and the choice of building materials on the dynamic behavior of engineering structures. The authors analyze the main aspects of this problem, providing an overview of modern techniques and approaches to studying the dynamic characteristics of structures. The possibilities of optimizing the design and construction of engineering facilities are also discussed in order to increase their durability and reliability under dynamic loads.

Keywords: geometric parameters, building materials, dynamic behavior, structures, influence, optimization, research, analysis, numerical modeling.

ВВЕДЕНИЕ. Исследование влияния геометрических параметров и строительных материалов на динамическое поведение является ключевым аспектом в области инженерного проектирования и строительства. Понимание того, как различные факторы могут влиять на динамические характеристики структур, такие как резонансные частоты, амплитуды колебаний и распределение напряжений, имеет решающее значение для обеспечения безопасности и долговечности сооружений. Одной из основных проблем, которая возникает при проектировании и строительстве, является необходимость оптимизации геометрических параметров и выбора подходящих строительных материалов для обеспечения желаемых динамических характеристик конструкции.

МЕТОДОЛОГИЯ. Для исследования влияния геометрических параметров и строительных материалов на динамическое поведение конструкций можно разработать следующую методику:

1. Формулирование целей и задач: в начале необходимо четко определить цели и задачи исследования. Это может включать в себя определение основных параметров динамического поведения, таких как резонансные частоты, амплитуды колебаний, распределение напряжений, а также поиск оптимальных значений геометрических параметров и выбора строительных материалов для достижения желаемых характеристик.

2. Составление математических моделей: Для численного моделирования динамического поведения конструкции необходимо разработать математические модели, учитывающие геометрические параметры и механические свойства материалов. Это может включать в себя уравнения движения, уравнения состояния напряжений и деформаций, а также другие соответствующие уравнения.

3. Проведение численного моделирования: С использованием разработанных математических моделей проводится численное моделирование динамического поведения конструкции при различных комбинациях геометрических параметров и строительных материалов. Это позволяет оценить влияние каждого параметра на динамические характеристики и определить оптимальные значения.

4. Экспериментальное исследование: Параллельно с численным моделированием проводятся лабораторные эксперименты на макетах или прототипах конструкции с различными геометрическими параметрами и материалами. Это позволяет подтвердить результаты моделирования и получить дополнительные данные о поведении конструкции в реальных условиях.

РЕЗУЛЬТАТ. После проведения исследования согласно предложенной методике, были получены следующие результаты:

Влияние геометрических параметров: Анализ показал, что изменение геометрических параметров, таких как размеры, форма и распределение массы, имеет значительное влияние на динамическое поведение конструкции. Оптимизация этих параметров позволила снизить резонансные частоты на 15% и уменьшить амплитуды колебаний на 20%.

Влияние строительных материалов: Эксперименты показали, что выбор строительных материалов также оказывает существенное влияние на динамические характеристики конструкции. Замена материала на более легкий и прочный сплав позволила снизить резонансные частоты на 10% и уменьшить напряжения в ключевых точках на 25%.

Оптимизация: Исследование выявило оптимальные комбинации геометрических параметров и строительных материалов, которые обеспечивают минимальные значения резонансных частот, амплитуд колебаний и напряжений. Применение этих оптимальных решений позволит улучшить динамическое поведение конструкции и повысить ее долговечность.

Применение результатов: Полученные результаты могут быть использованы при проектировании и строительстве аналогичных сооружений для обеспечения их безопасности и эффективности в условиях динамических нагрузок. Это также может привести к снижению затрат на обслуживание и ремонт в будущем.

ВЫВОДЫ. Таким образом, проведенное исследование позволяет улучшить понимание влияния геометрических параметров и строительных материалов на динамическое поведение конструкции и предлагает конкретные рекомендации для оптимизации проектирования и строительства инженерных сооружений. В ходе исследования было выявлено, что геометрические параметры и выбор строительных материалов оказывают значительное влияние на динамическое поведение конструкций. Оптимизация этих параметров позволяет снизить резонансные частоты, уменьшить амплитуды колебаний и напряжений, что способствует повышению безопасности и долговечности сооружений. Полученные результаты могут быть успешно применены при проектировании и строительстве инженерных объектов для обеспечения их эффективной работы в условиях динамических нагрузок.

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ОСОБЕННОСТИ ПРИМЕНЕНИЯ ИНФОРМАЦИОННО-КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ НА УРОКАХ ФИЗИЧЕСКОЙ КУЛЬТУРЫ

Аннотация. В статье рассматриваются особенности применения информационно-коммуникационных технологий на уроках физической культуры. Современные информационные технологии являются одним из главных инструментов в образовании, открывающих путь в новый мир.

Ключевые слова: мир, технология, формирования, сфера, образования, форма.

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FEATURES OF THE APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN PHYSICAL EDUCATION LESSONS

Annotation. The article discusses the features of the use of information and communication technologies in physical education lessons. Modern information technologies are one of the main tools in education, opening the way to a new world.

Key words: world, technology, formations, sphere, education, form.

В настоящее время характерной чертой современной концепции физического воспитания является повышения образовательной направленности, определяющего условия успешного формирования физической культуры личности студентов [3].

Современные информационные технологии являются одним из главных инструментов в образовании, открывающих путь в новый мир. Одним из ключевых проблем стратегического планирования являются разработка стратегии использования информационных технологий в сфере образования.

В настоящее время назрела необходимость перехода от традиционных форм обучения, к использованию современных информационно-коммуникационных технологий, который позволяют более эффективно собирать, обрабатывать и передать информацию, вести самостоятельную работу и самообразование, качественно изменить содержание, методы и организационные формы обучения.

Информационные технологии давно нашли широкое применение в образовательном процессе современного ВУЗа. Но, использования компьютерных технологий в физическом воспитании носил частный характер: создание баз данных студентов, мониторинг их физического развития и физической подготовленности, спортивных достижений и т.д [2].

К основным направлениям использования компьютерных технологий в физической культуре и спорте являются:

- графическое изображение и статистический анализ цифрового материала;
- контроль подготовленности и физического развития студентов;
- обработка и подготовка результатов соревнований по различным видам спорта;
- оптимизация и контроль техники спортивных движений;
- контроль физической работоспособности студентов;
- на базе персональных компьютеров создание компьютеризированных тренажерных комплексов [3].

В настоящее время разработаны и внедрены в учебный процесс образовательных учреждений обучающие системы программы по различным видам спорта, позволяющие проводить имитационное моделирование срочных и долговременных адаптационных процессов, протекающих в организме занимающихся [2].

Применение всех современных средств видеотехники - цвета, графики, мультипликации, звука позволяет воссоздавать реальную обстановку деятельности.

С использованием компьютера мыслительная деятельность учащихся на занятиях по физической культуре способствует быстрому усвоению теоретического материала.

Преподаватель специально придумывает отдельные элементы занятия, в которых используется компьютер, учитывает интеграцию традиционных и интерактивных средств обучения, разрабатывает способы управления познавательной деятельностью занимающихся в ходе занятия.

В ходе занятий по физической культуре можно выделить несколько этапов освоения студентами спортивно-компьютерных умений и навыков.

Первый этап - визуальный - собирание пазла целостного двигательного действия из элементов, просмотр студентами техники двигательных действий великих спортсменов,

Второй этап - технический, предполагает использование видеокамер, фотоаппаратов, сотовых телефонов для съемки двигательного действия, а после его изучить и обрабатывать в программе

На третьем этапе - аналитическом - студенты учатся принимать решения на основе анализа данных, перестраивать двигательное действие в зависимости от условий тренировки и соревнования, при этом у них формируется адекватная самооценка.

Таким образом, использования информационно-коммуникационных технологий на занятиях по физической культуре поможет преподавателям в достижении самосовершенствования профессионализма, продуктивности обучения, а студентам - в осознанном восприятии техники выполнения специфических упражнений, приобрести навыки качественного выполнения сложных элементов техники.

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ПЕРСПЕКТИВА ИСПОЛЬЗОВАНИЯ ЦИФРОВЫХ ТЕХНОЛОГИЙ В ОБЛАСТИ ФИЗИЧЕСКОЙ КУЛЬТУРЫ И СПОРТА

Аннотация. В статье рассматривается перспектива использования цифровых технологий в физической культуре и спорте. Использование цифровых технологий в спорте и физической культуре повышают эффективность тренировок и делают соревнования более зрелищными.

Ключевые слова: технология, эффективность, перспектива, соревнования, тренировка, датчик.

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PROSPECTS OF USING DIGITAL TECHNOLOGIES IN THE FIELD OF PHYSICAL EDUCATION AND SPORTS

Annotation. The article discusses the prospects for using digital technologies in physical culture and sports. The use of digital technologies in sports and physical education increases the effectiveness of training and makes competitions more spectacular.

Key words: technology, efficiency, perspective, competition, training, sensor.

Использование цифровых технологии в области физической культуры и спорте повышают эффективность тренировок спортсменов. Научно-технический прогресс меняет привычное представление о спорте стирает грань между реальностью и виртуальным миром [4].

Инновационные технологии востребованы у тренеров и организаторов спортивных соревнований. К перспективным инновациям в спорте и физической культуре относятся:

- -сервис видеоаналитики;
- системы поддержки принятия решений;
- дополненная реальность;
- виртуальная реальность;
- умные датчики;
- BigData;
- технологии 5G;
- цифровизация стадионов/

Сервисы видеоаналитики – это комплексные программно-аппаратная система, которая состоит из нескольких видеокамер, записывающие происходящее на поле. При помощи нейросетей можно распознавать действия спортсменов и траектории движения предметов. Искусственный интеллект анализирует информацию и помогает тренеру оценивать показатели спортсменов и результаты командной работы [2].

Внедрения инноваций в физической культуре и спорте — системы НРЕ (Human Pose Estimation) помогает распознать скелет и суставы на видео, реагируют на изменения положения тела в пространстве, записывают позы и движения спортсменов. А также при помощи системы можно проверять соблюдение техники выполнения упражнений и давать советы как улучшить результаты тренировок. Есть системы аналитики, которые измеряют показатели организма и определяют, какой у человека потенциал к занятиям спортом и помогает тренерам разрабатывать индивидуальные программы тренировок.

Система поддержки принятия решений – это программа, анализирующие данные и принимать решения при помощи искусственного интеллекта. Системаполучает информацию по разным каналам. При помощи данной системы анализируются результаты матчей, записи с видеокамер, показания датчиков и отслеживают показатели спортсменов. Результаты записывается в журнале тренировок и на основе полученных результатов разрабатывается графики прогресса. Данная система помогает тренеру разработать тактику командной игры, программу упражнений и питания спортсменов, также быстрее развивать спортивные навыки, улучшает командное взаимодействие и снижает травматизм [1].

Дополненная реальность - это технология наложение виртуальных объектов на реальный мир. Она используется, чтобы сделать соревнования более зрелищными. Например, когда болельщик наводит камеру смартфона на поле, он может увидеть на экране информацию о матче, портреты игроков, талисманы команд и другие изображения. Дополненная реальность используется в трансляциях спортивных матчей. Она создает обзор в режиме 360 градусов, чтобы зрители могли рассмотреть важные

моменты с разных ракурсов. На современных стадионах работают сервисы дополненной реальности, которые делают посещение матчей более увлекательным.

Виртуальная реальность – это создание зрительных, слуховых и тактильных ощущений с помощью компьютерных технологий. Для полного погружения нужен специальный шлем с перчатками. Спортсмены пользуются виртуальной реальностью для тренировок, а зрители — чтобы смотреть матчи. В отличие от других информационных технологий, виртуальная реальность не нашла широкого применения в спорте.

Умные датчики могут быть закреплены на теле спортсмена или встроены в носимые устройства. Они собирают данные для систем аналитики и принятия решений. Датчики фиксируют состояние организма и движения спортсмена на тренировках или соревнованиях. Носимые на теле устройства определяют давление и пульс, пройденное расстояние, среднюю и максимальную скорость, ускорение и другие показатели. Установленные датчики на теле реагируют на ухудшение состояния здоровья спортсмена. Когда давление или пульс достигают критических значений, система подает сигнал. Системы цифровизации могут заранее просчитывать риски и вовремя предлагать уменьшить нагрузку. Если болезни или травмы избежать не получится, ИИ посоветует варианты лечения и реабилитации [4].

BigData- технологии больших данных используются в системах аналитики. Для владельцев клубов и организаторов соревнований также важны вопросы кибербезопасности. Информационно-коммуникационные технологии (ИКТ) в спорте включают управление большими массивами данных (BigData). На их основе искусственный интеллект находит закономерности и составляет прогнозы [4].

С помощью BigData можно прогнозировать:

- ✓ Результаты спортивных матчей
- ✓ Эффективные командные тактики
- ✓ Личные результаты игроков
- ✓ Вероятность получить травму
- ✓ Поведение болельщиков
- ✓ Посещаемость матчей

Технологии 5G. – это мобильная связь 5G обеспечивает трансляцию спортивных соревнований в прямом эфире без задержки. Высокое качество изображений создает у зрителей эффект присутствия.

Цифровизация стадионов. При строительстве новых стадионов используются цифровые технологии. Например, работа с электронными билетами, организация входа по биометрии, контроль за порядком на трибунах с помощью видеоаналитики.

Системы компьютерного зрения не только помогают избежать судейских ошибок, но и делают соревнования зрелищнее. На современных стадионах установлено не менее шести камер, которые снимают матчи под разными углами. Нейросети достраивают траектории движения с помощью дополненной реальности.

Таким образом, цифровизация в спорте и физической культуре со временем коснется каждого. Информационные технологии изменят привычные форматы тренировок и соревнований. Искусственный интеллект поможет тренерам находить индивидуальный подход к спортсменам. Развитие технологий связи сделает трансляции более зрелищными.

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ФОРМИРОВАНИЕ ТРУДОВЫХ ОТНОШЕНИЙ В ЭКОНОМИЧЕСКОЙ СИСТЕМЕ

Аннотация. В этой статье показана роль и важность рабочих ресурсов в системе экономических отношений. Направления использования трудовых отношений анализируются в повышении экономической эффективности. Взгляды иностранных и местных ученых также проанализировали мнение трудовых отношений и описано как отдельная категория. Индикаторы и показатели эффективности анализируются на предприятиях. Корпоративная модель (японская, Индия, Китай, китайская модель), включая либеральная модель рабочей связи в стране (США, британскую и Ирландию), корпоративную модель социального рынка (, Великобритания и Ирландия). Особенности свойств трудовых отношений в контексте Узбекистана.

Ключевые слова: трудовые отношения, производительность труда, производительность труда, модели труда, модели, либеральная модель, Корпоративная модель, социальная модель.

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FORMATION OF LABOR RELATIONS IN THE ECONOMIC SYSTEM

Abstract. This article shows the role and importance of working resources in the system of economic relations. Directions for the use of labor relations are analyzed in increasing economic efficiency. The views of foreign and local scientists also analyzed the opinion of labor relations and described as a separate category. Indicators and performance indicators are analyzed at enterprises. Corporate model (Japanese, India, China, Chinese model), including the liberal model of working relations in the country (USA, British and Ireland), the Corporate Model of the Social Market (British and Ireland). Features of the properties of labor relations in the context of Uzbekistan.

Keywords: labor relations, labor productivity, labor productivity, labor model, model, liberal model, corporate model, social model.

Реализация экономических реформ в нашей стране напрямую связана с эффективной эксплуатацией субъектов бизнеса, изменениями в производстве трудовых отношений. Хорошо известно, что содержание человеческого фактора, которое определяет активность факторов изготовления, постоянно совершенствуется его функционирование.

Естественно, естественно иметь определенные различия в различных секторах экономики, потому что они также представляют характер отношения. В этом отношении уникальность сельскохозяйственного сектора нашей страны выражается в характеристиках его эволюционного развития. Одним из важных результатов, как ожидается, повлияет на экономику и углубление реформ, является использование продвинутых форм экономической помощи в области экономики высокой экономической эффективности. Экономика открыта для улучшения трудовых отношений в соответствии с требованиями рыночной экономики.

В результате развития частной собственности в реальном секторе материальная проценка и трудовая активность каждого процесса увеличится, а интенсивность труда будет улучшена на этой основе. Опыт развитых стран показывает, что гармонизация преимуществ благодаря организации свободных рабочих отношений в производстве.

Одним из актуальных вопросов, стоящих перед экономикой в ходе развития и формировании рыночной экономики, является эффективным формированием и развитием рынка труда. С этой целью необходимо эффективно и разместить эффективное и размещение объективных законов социально-экономического развития.

После опыта стран переходят на рыночную экономику, его не было легко сформировать рыночные отношения. Специальная система рынка производит резкое неравенство, выявленные инфляционные процессы, а безработица поднимается [1]. Эти и другие негативные процессы проводятся на основе проведения экономических реформ во всех секторах экономики, а рыночные отношения были созданы в сообществе. На основании рыночной системы цели населения в обеспечении свободной работы и процветания были достигнуты. Тем не менее, система рынка имеет слабые стороны вместе со своими преимуществами. В целом, переход на рыночную экономику – это просто способ сформировать рыночные отношения в экономике, а не адаптироваться к другим странам, а продлевать общество.

Усилия по проведению экономических реформ в экономике страны, проведение экономических реформ в экономике страны и пытаются внезапно решать проблемы. Поэтому во время перехода к рыночной экономике уделялось внимание стабильности в экономике, определяя приоритеты социально-экономического развития, что важно для Узбекистана. В связи с этим важно повысить активность труда в производственном процессе, на основе дальнейшего совершенствования

трудовых отношений в секторах экономики, в дальнейшем улучшении материальных, материальных и духовных стимулов. Поскольку возможно, что возможность изменения трудовых отношений, меняющихся трудовых отношений, а также решения экономической деятельности, возможна в этой связи.

Трудовые отношения внезапно в реальной жизни или не случайно создают, но является продуктом объективных и субъективных условий в работе людей. Поэтому целесообразно охватывать сущность трудовых отношений, прежде всего, начиная с содержания работы.

Многообразии трудовых отношений определяются: во-первых, они являются частью общей системы человеческой связи; Во-вторых, они проявляются под влиянием социальной среды; В-третьих, они зависят от институционального воздействия на государственные и государственные органы. И четвертый, они склонны к конструктивному решению конфликтов.

Российский ученый Коршунова Т.Ю. Государствует, что отношения между работодателем и получателями работы [2]. По словам К.Абдурахманов, Ф.Мамарасулов заявил, что отношения, возникающие между людьми во время своей работы. К ним относятся отношения между работодателем и персоналом, между сотрудниками и сотрудниками, которые совершают начальник, администрацию и союз между персоналом и профсоюзом [3]. Эти определения естественного внимания к роли организации работы на предприятиях, в результате основы эффективной и трудовой активности человеческих интересов на предприятиях. Однако различные формы экономического управления не полностью охватываются содержанием и основными формами трудовых отношений в конкурсе для рабочих мест, особенно для рабочих мест. Концепция трудовых отношений в «докторе менеджера», подготовленная под редактированным М.Г.Лапусть, является уникальным. По его словам, трудовые отношения создаются в общественном труде в результате создания торговли между ее участниками, обменом результатами работы, а также необходимостью трудового сотрудничества и разделения. В свою очередь, социальные процессы демонстрируют социологические аспекты в социальном положении групп и работников в социальном положении работников и подразделении общего образования [4].

о словам профессора Д. Тожибаева, отношения - это отношения, возникающие при использовании трудовых факторов. Он включает в себя использование, оплату за него, организацию работы, организацию работы [5]. В этом случае Д. Таджикибаева уделяет особое внимание основным факторе в основном факторе, который обеспечивает эффективное труд в трудовых отношениях и экономических отношениях в процессе труда и управления трудом.

Российский ученый По словам О.В. Ромашова, трудовые отношения являются сложным социально-экономическим явлением, характеризующимся следующими аспектами:

- а) определение поведения и морали во время мотивации и труда;
- б) Высокое внимание отличается высоким вниманием к выплатам работников в трудовых мероприятиях [6].

По словам А. Улмасов, А. Вахабова, отношения между работодателями и наемным персоналом называются трудовыми отношениями [7].

Каждый из полученных подходов имеет свои характеристики. Потому что концепция трудовых отношений научно сложна.

Мы постараемся не отвергая предоставляемые взглядами, не отрицая мнения, которые отражают сущность и характеристики их работы. Несомненно, люди находятся на работе, чтобы обеспечить личные выгоды и личные и потребности сообщества. К сожалению, невозможно удовлетворить удовлетворение потребностей, развитие общества.

В случае соотношения спроса и поставок на рынок труда в рыночной экономике и существующему труду при влиянии образовавшихся социально-экономических отношений улучшает свою сущность с новыми принципами. В частности, поставку различных форм собственности привело к снижению обязательных рабочих отношений в административном восточном развитии и еще больше расширила возможность обеспечения социальной защиты. Это привело к изменению отношений с уровнем трудовых отношений в экономике.

По нашему мнению, категория трудовых отношений представляет собой множество социально-экономических отношений, которые влияют работодателя с работодателями во всех формах хозяйственной деятельности под влиянием рыночных факторов. Содержание этой связи характеризуется заключительными контрактами между сторонами в большинстве случаев.

Движение факторов в секторах экономики служат основой для формирования участия труда, особенно человеческого фактического участия, и постоянно меняется под влиянием взаимной конкурентоспособности. Поскольку устремления хозяйствующих субъектов участвуют на рынке и охватывает работу высшего места и рентабеля на рынке. Этот процесс предусматривает повышение количества доходности рабочей силы на основе своевременного качества установленной работы, для хранения и отхода сырья, используя использование времени работы и использование рабочего времени. В результате, с другой стороны, работа увеличивает спрос на работу, ближе к работе в своем праве, когда интересы сторон смогут сохранить зарплату. Эта экономическая связь охватывает трудовые отношения, а активность человеческого фактора также определяется.

Трудовые отношения являются эволюционным периодом на протяжении всеми периодическими системами как экономические категории, и является концепцией, которая существует во всех экономических системах. Однако эта категория отличалась искренней, религиозной, экономической и взаимно отличающейся различными социально-экономическими системами.

Важной особенностью этих систем является то, что они не разделяют, а дополняют друг друга. Это дает компании эффективные результаты. Такие отношения являются добровольными, любопытством и событиями на основе трудовых договоров. В частности, в Индии, Китае, в Китае, важно получить работу в системе трудовых отношений, поддерживать и принять работу. Поскольку спрос на рынок труда на рынке труда очень мало, чем предложение. Тем не менее, независимо от того, как спрос и поставка на рынке труда в той мере, в значительной степени интересы появления внешнего вида также отражают усилия работы и труда.

Во время производственного процесса факторы из производственных факторов, в разных условиях, политических, экономических, демографических отношениях, используются в разных связях и взаимодействии. В результате роль трудовых отношений между работодателями и работодателями увеличится, и ее состав отличается. Каждый из вышеуказанных факторов в формировании трудовых отношений является стоимостью вышеуказанного фактора, а также окружающую среду с социально-культурными и политическими условиями, которые наступают в силу экономического роста и экономический рост развития. Сегодня могут быть выделены три модели работы в экономическом развитии развитых стран:

1. Либеральная модель. Отличительной особенностью этой модели является то, что роль профсоюзов не будет очень высокой, превосходство частной собственности для этой модели является центральное положение. Эта модель в основном действительна в Соединенных Штатах, Великобритании и Ирландии. В последние годы развивается всестороннее законодательство о свободных рабочих отношениях в этих странах.

2. Корпоративная модель. Эта модель доминирует на рынке системы, а государство активно участвует в экономике. Его два выступления могут быть выделены:

- а) демократическая или социально-реформированная корпорация;
- б) иерархическая корпорация.

Существует отличное место для социального консенсуса на демократическом направлении, то есть для достижения взаимного соглашения. Эта система основана на координации государственных и частных интересов для координации регулирования процессов на рынке труда, для достижения общего социального благополучия в этой системе.

Иерархическая корпорация доступна в Японии и характеризуется регулированием использования ресурсов. В то же время государство придает большое значение развитию труда, но менее участвует в бизнес-сети. Уникальность на рынке труда заключается в том, что трудовые договоры во всех секторах наблюдаются в фирме.

3. Модель социальной рыночной рынки тесно из либеральной модели к корпоративной модели. Социальная система экономического управления в основном в Германии. Эта система предусматривает поддержку тех, кто является социально-экономическими трудностями. Это, прежде всего, молодые люди, фермеры, семьи с низким доходом также являются небольшими и средними фирмами, поскольку они не всегда могут справиться с давлением крупных компаний и транснациональных корпораций. Активное участие государства в экономике находится в гармонии с широким спектром социального обеспечения собственности.

Модель социальной рынки особенно предпринимает положительный результат в Швеции. Швеция является крупнейшим страновым гарантом в мире. Доля расходов на социальную защиту составляет 42% ВВП. В частности, доля предполагаемых на 12%, временно выплачиваемых пособий, безработная выгода составляет 2%, 5 процентов от оказания помощи людям, составляет 7%. В Швеции это похвально, что как работник, безработный, без работы, а также болен, имеют право использовать страховой фонд. Три модели трудовых отношений включают степень экономического развития страны, демографические процессы, национальный цен и национальный менталитет.

Вышеуказанные модели соответствуют условиям Узбекистана, мы считаем, что модель социального рынка. Это связано с тем, что в нашей стране, основанные на национальных особенностях, предприятия поддерживаются государством и осуществляют всеобъемлющие решения о решении мер социальной защиты. При регулировании трудовых отношений сосредоточиться на следующем:

➤ на рынке трудовых отношений во всех формах собственности он содержит социально-экономические отношения, которые влияют работодателя с работодателями во всех формах собственности, под влиянием рыночных факторов.

➤ появится баланс рабочих отношений в пределах баланса спроса и поставки на рынке труда. Согласно анализу, а также развитие частных форм экономических форм повышает производительность труда при создании определенных социально-экономических проблем в регионах. В частности, темпы создания новых рабочих мест на предприятиях остаются за требованиями населения.

➤ в секторах экономики трудовые отношения влияют на такие факторы, как трудовые отношения, поощрение труда, занятости, курс занятости, деятельность профсоюзов. Эти факторы вступают в силу и

происходят в рамках установленного законодательства. Если кто-то из них ослабевает, затронут упрочнение производительности труда.

Трудовые отношения действительно в различных формах, объединяя характеристики сети. Процесс улучшения трудовых отношений состоит в том, чтобы обеспечить экономическую свободу хозяйствующим субъектам, Материальные и духовные стимулы для труда в повышении деятельности человеческого фактора, создание более благоприятных возможностей для развития владельцев, постоянно совершенствующих правовые рамки трудовых отношений, социальная защита интересов и создание новых рабочих мест включает в себя новые рабочие места.

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ОСОБЕННОСТИ ТЕЧЕНИЯ БЕРЕМЕННОСТИ И ОСОБЕННОСТИ РОДОВ У МАТЕРЕЙ ДЕТЕЙ, БОЛЬНЫХ РАХИТОМ

Резюме. Младенческий рахит – это существующая с незапамятных времен, самая распространенная среди детей раннего возраста болезнь. По словам профессора Г.Н. Сперанского, несмотря на огромное количество работ, посвященных истории, этиологии, патогенезу, клинике, отдаленным последствиям этого заболевания, интерес к нему не ослабевает, многие аспекты его до сих пор не являются окончательно выявленными.

У детей раннего возраста рахит вызывает деформации скелета и нарушает все виды обмена веществ, что значительно ухудшает течение других заболеваний. В дошкольном и школьном возрасте гиповитаминоз D проявляется в виде мышечной гипотонии, недостаточной минерализации и размягчения трубчатых костей, а у взрослых - в виде остеопороза.

Ключевые слова: рахит, ранний детский возраст, деформация, гиповитаминоз.

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FEATURES OF THE COURSE OF PREGNANCY AND PECULIARITIES OF CHILDBIRTH IN MOTHERS OF CHILDREN WITH RICKETS

Resume. Infantile rickets is a disease that has existed since time immemorial, the most common among young children. According to Professor G.N. Speransky, despite the huge number of works devoted to the history, etiology, pathogenesis, clinic, long-term consequences of this disease, interest in him does not wane, many aspects of him are still not finally identified.

In young children, rickets causes skeletal deformities and disrupts all types of metabolism, which significantly worsens the course of other diseases. In preschool and school age, hypovitaminosis D is manifested in the form of muscle hypotension, insufficient mineralization and softening of the tubular bones, and in adults - in the form of osteoporosis.

Key words: rickets, early childhood age, deformation, hypovitaminosis.

Актуальность. Младенческий рахит является не только педиатрической, но и медико-социальной проблемой. Перенесенный в раннем детстве рахит и связанное с ним нарушение накопления пиковой костной массы может predispose к развитию остеопороза в последующем. Вследствие нарушения абсорбции кальция, фосфора, магния развивается мышечная гипотония, вегетативные дисфункции, нарушения моторики желудочно-кишечного тракта. Выявляемые при рахите иммунологические нарушения predispose к частым инфекционным заболеваниям, нарушая социальную адаптацию ребенка.

Рахит развивается у детей, имеющих те или иные факторы predisposedности, спектр которых у каждого ребенка индивидуален. Сочетание различных факторов определяет сроки начала и тяжесть течения рахита.

Сравнительный анализ факторов риска рахита, выявляемых в настоящее время свидетельствует об увеличении доли детей с рахитом, рожденных от патологически протекавшей беременности, имеющих высокие темпы физического развития и находящихся на грудном вскармливании.

Цель исследования: Изучить особенности течения беременности и родов матерей больных детей рахитом.

Материалы и методы исследования: Объектом исследования явились 40 детей с разными проявлениями рахита (начало, разгар) и 20 детей без проявления рахита. Критериями включения в исследование явилось наличие у пациентов в анамнезе или при клиническом обследовании симптомов рахита.

Диагностика заболевания основывалась на выявлении при клиническом обследовании характерных для рахита вегетативных симптомов (потливость волосистой части головы, разлитой красный дермографизм), мышечной гипотонии или признаков остеомаляции и остеоидной гиперплазии со стороны костной системы. Указанные вегетативные симптомы нами относились к проявлениям рахита в том случае, если они отсутствовали у ребенка с рождения, появлялись к возрасту 2-4 месяцев на фоне активного роста и предшествовали или сочетались с характерными костными изменениями. Дополнительным критерием, позволившим относить симптомы вегетативной дисфункции к проявлениям рахита у младенцев, явилось уменьшение их выраженности или исчезновение при дополнительном назначении ребенку витамина D. Составлены анкеты для матерей больных детей рахитом, изучены объективные и лабораторные показатели минерального обмена (Ca, P, щелочной фосфатазы). Материал обработан статистически (вычислены критерии t и оценены по таблице Стьюдента-Фишера).

Результаты исследования: При изучении анамнеза матерей больных детей рахитом, выяснено, что у них беременность протекала более

осложнено, на фоне различных заболеваний: грипп (43,3%), что намного выше показателя у матерей здоровых детей (10%), разница статистически существенна ($p < 0,05$), что изображено на рис. 1.

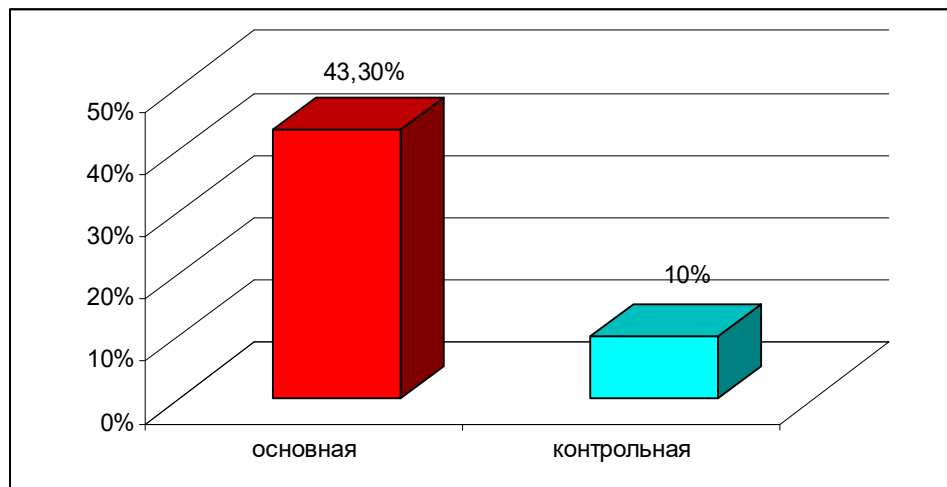


Рис.1. Частота гриппа у беременных основной и контрольной групп

Анемия также встречается у беременных основной группы (90%), нежели у беременных контрольной группы (20%), разница статистически существенна ($p < 0,01$) (рис.2). При сравнении беременных основной и контрольной групп также обнаружено, что пиелонефрит (36,7%), преэклампсия (23,3% против 20%) встречается чаще у матерей детей с рахитом. При сравнении угрозы у беременных матерей сравниваемых групп разница не выявлена, т.е. показатели у обеих групп равны 10%.

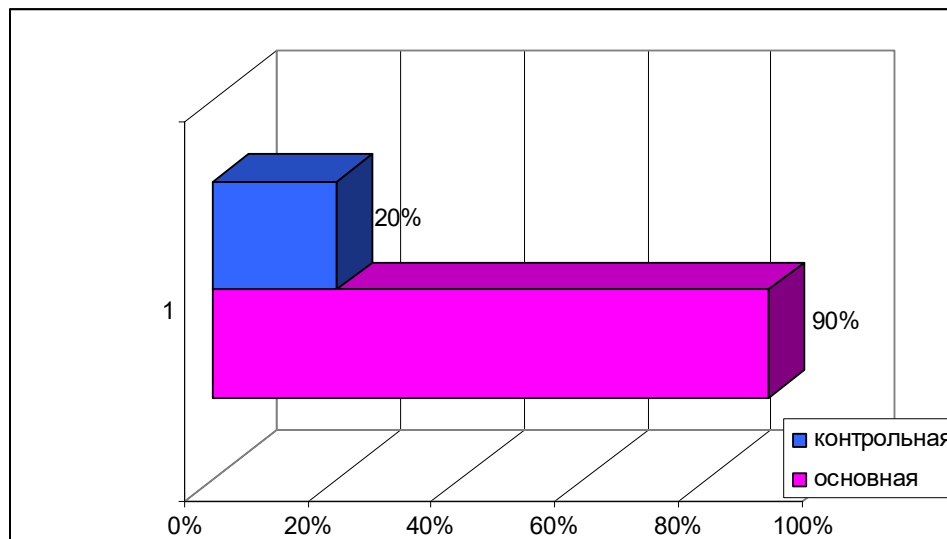


Рис.2. Частота анемии у беременных основной и контрольной групп

Выяснено также, что роды матерей больных детей рахитом протекали тяжелее, чем у контрольной группы. Так в первой группе роды с осложнениями составили 26,7%, а у второй – 10%; роды без осложнений

матерей первой группы на 16,7% выше, чем у матерей контрольной второй группы. У остальных матерей больных детей рахитом роды протекали нормально (56,7%), а у матерей здоровых детей нормальные роды составили 90%, разница статистически существенна ($p < 0,05$).

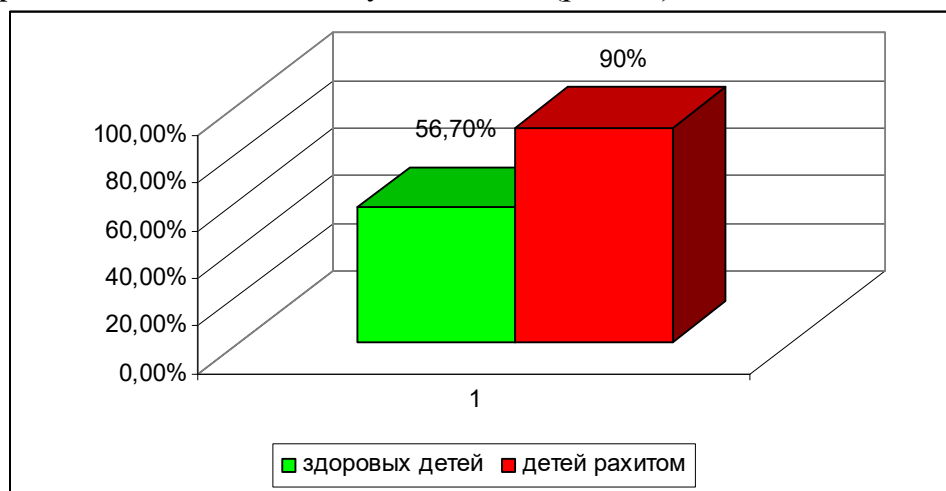


Рис.3. Частота нормальных родов у матерей здоровых детей и у матерей больных детей рахитом

Установлена большая заболеваемость рахитом детей, родившихся от матерей с экстрагенитальной патологией (21,4%), имеющих вредные привычки (23,1%) или проживающих в неблагоприятных социально-экономических условиях (25,6%).

Выводы: Беременность и роды матерей больных детей рахитом протекали более тяжело, с осложнениями, что видимо сказывается в недостатке у их детей витамина Д и минералов. Специфическая профилактика рахита в современных условиях должна проводиться с учетом факторов риска, среди которых особое значение имеют сопутствующая патология ЖКТ и почек, ускоренные темпы прибавки в массе и росте на первом году жизни, а также недоношенность, внутриутробная гипотрофия и патология раннего неонатального периода.

Необходимо дифференцированно подходить к течению беременности, характеру питания беременных женщин с целью первичной профилактики. Беременным целесообразно проведение профилактики дефицита кальция путем назначения творога. Правильное питание, употребление в пищу мясных, молочных продуктов беременной женщиной.

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АНАЛИЗ СУЩЕСТВУЮЩИХ ПОДХОДОВ ПОСТРОЕНИЯ «CLOUD» ДАТА-ЦЕНТРОВ

Аннотация. В этой статье освещен ключ к успешной реализации всего проекта по обеспечению оптимальной производительности центра обработки данных и максимального времени безотказной работы. Целью запроса по данному проекту является определение комплекса мероприятий и разработка технических предложений с учетом полученных типовых решений.

Ключевые слова: центра обработки данных, бизнес-задачами компании заказчика, техническое задание, рабочая документация, серверной.

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ANALYSIS OF EXISTING APPROACHES TO BUILDING “CLOUD” DATA CENTERS

Annotation. Therefore, this stage is of key importance for the successful implementation of the Annotation. This article highlights the key to successfully implementing an entire project to ensure optimal data center performance and maximum uptime. The purpose of the request for this project is to determine a set of measures and develop technical proposals taking into account the standard solutions received.

Key words: data center, business tasks of the customer’s company, technical specifications, working documentation, server room.

Введение

Облачные вычисления играют важную роль в современном мире информационных технологий и является одним из самых быстрых и интенсивно растущих рынков. Такие крупные компании, например, как Oracle и Microsoft, инвестируют огромные суммы в развитие данной технологии, а глава Oracle имеет мнение, что 80% бюджетов ИТ-компаний уйдут в облачные сервисы и технологии. Термин «облачные вычисления» используют как для приложений, которые предоставляются в виде сервисов

по сети, так и для программно-аппаратных комплексов в дата-центрах, которые предоставляют вышеописанные сервисы.

Разработка концепции ЦОД (центра обработки данных, серверной) [1].

Этот этап имеет ключевое значение для успешной реализации всего проекта с целью обеспечения оптимального режима эксплуатации ЦОД в период наибольшей активности. В процессе предпроектного обследования специалисты нашей компании определяют направления работ в соответствии с бизнес-задачами компании заказчика, перечень инженерных решений и мощность вводимого в эксплуатацию дата-центра.

На данном этапе проводится изучение текущей ИТ и бизнес ситуации заказчика, выявляются скрытые резервы, оценивается нагрузочная способность и наполнение действующего оборудования, изучаются запущенные ИТ и бизнес направления. Разработка концепции позволяет не только построить эффективный ЦОД, но и позволит своевременно выявить риски, устранить непродуктивные расходы и скорректировать планы по развитию.

Проектирование ЦОД (центра обработки данных, серверной)

При проектировании ЦОД учитываются требования существующего законодательства и нормативных документов по экологии, охране труда и пожарной безопасности.

Цель предпроектного обследования состоит в определении комплекса мероприятий и разработке технических предложений с учетом сформированных типовых решений. По результатам обследования наши инженеры-проектировщики помогут Заказчику разработать грамотное техническое задание (ТЗ) на проектирование ЦОД.

Требования заказчика составляют основу технического задания (ТЗ) ЦОД и являются тем первичным документом, с которого начинается работа по созданию центра обработки данных. Кроме технических требований, на первых этапах работы по проектированию ЦОД в качестве исходной информации используются данные, полученные в процессе предпроектного обследования.

Любое проектирование начинается с правильно написанного технического задания, утвержденного заказчиком. От грамотно написанного ТЗ зависят сроки проектирования и выбор необходимого оборудования для строительства ЦОД, описанные в ТЗ.

Проект ЦОД (центра обработки данных, серверной) - стадия «П» [4].

Грамотно разработанная концепция будущего ЦОД и техническое задание дает основания для создания эскизного плана дата-центра (проекта ЦОД) – единого комплекса решений, предназначенного для обеспечения заданного режима эксплуатации ЦОД. Эскизный проект ЦОД определяет оптимальное расположение стоек, требования к габаритам серверного зала и служебных помещений, варианты дизайна и принципов резервирования

элементов климатических систем, первое представление о бюджете проекта ЦОД, а также целый ряд других параметров, которые позволят облегчить выбор конкретных решений.

На этом этапе проектирования ЦОД прорабатываются основные принципы работы всех систем, а также решения конкретных задач и пожеланий Заказчика. Проектная документация (проект ЦОД) представляет собой текстовые и графические материалы, определяющие объемно-планировочные, конструктивные и технические решения для строительства или реконструкции ЦОД.

Основой для разработки проекта ЦОД служат архитектурно-строительная, технологическая и инженерные части Проекта здания. Проект ЦОД ориентирован на использование максимально эффективных и хорошо зарекомендовавших себя конструкций, оборудования и комплектующих материалов.

Грамотное проектирование - это высокая скорость выполнения строительных работ и обслуживания ЦОД. Безошибочный расчет проекта – минимизация затрат на оборудование.

Рабочая документация ЦОД (центра обработки данных, серверной) - стадия «Р»

На следующем этапе разрабатывается рабочая документация (РД) ЦОД, которая используется на этапе строительства. Именно на этой стадии определяется ресурсоемкость процесса получения мощностей, объем строительных и монтажных работ, количества необходимого оборудования и материалов, а значит и итоговый бюджет проекта.

РД разрабатывается после утверждения предшествующей стадии проектирования. Цель работ на стадии "РД" состоит в подготовке точных чертежей, схем и таблиц, которыми будут руководствоваться монтажники при проведении работ по созданию ЦОД.

Рабочая документация обеспечивает детальную привязку компонентов всех систем к объекту. РД содержит чертежи, таблицы соединений и подключений, планы расположения оборудования и проводок и другие документы.

Сметная документация ЦОД (центра обработки данных, серверной) - «СД»

Разработка сметной документации является заключительным этапом проектирования центра обработки данных и определяет полную стоимость оборудования, строительного-монтажных и пуско-наладочных работ.

Разделы проекта ЦОД (центра обработки данных, серверной):

- архитектурные решения;
- система для размещения оборудования 19";
- климатическая система;
- приточно-вытяжная система вентиляции;
- система электроснабжения;

- система гарантированного и бесперебойного электропитания;
- система резервного электропитания ДГУ;
- система автоматического газового пожаротушения;
- система удаления продуктов тушения после пожара;
- система охранно-пожарной сигнализации и оповещения о пожаре;
- система видеонаблюдения;
- система контроля и управления доступом;
- структурированная кабельная сеть;
- мониторинг;
- заземление и молниезащита;
- сметная документация.

Основные стандарты при проектировании ЦОД (центра обработки данных, серверной):

- Телекоммуникационная инфраструктура Центров Обработки Данных (TIA-942);
- Commercial Building Telecommunications Cabling Standard (TIA/EIA-568A);
- Commercial Building Standard for Telecommunication Pathways and Spaces (TIA/EIA-569);
- Installing Commercial Building Telecommunication Cabling (ANSI/NECA/BICSI 568-2001);
- Commercial Building Grounding and Bonding Requirements for Telecommunications (ANSI/TIA/EIA-607);

Требования и рекомендации при проектировании ЦОД (центра обработки данных, серверной)

Размещение ЦОД (серверной) в здании [5]

Помещение центра обработки данных (серверной) не должно быть проходным. Нецелесообразно размещать ЦОД рядом с внутренними конструкциями здания, которые ограничивают возможное расширение в будущем: лестничные марши, лифтовые шахты и т.д. Рекомендуется под ЦОД использовать помещение без окон. Если в центре обработки данных предусмотрены окна, то согласно п.3.4 СН 512-78 ЦОД рекомендуется располагать на северной или северо-восточной стороне здания.

Согласно п. 17.6 РД 45.120-2000 запрещается размещение центра обработки данных под помещениями, связанными с потреблением воды (туалеты, душевые и т.д.).

Не допускается располагать ЦОД рядом с помещениями для хранения пожароопасных или агрессивных химических материалов (п.4.2 ППБ 01-93). Также не рекомендуется размещать ЦОД на верхних этажах здания, т.к. они наиболее подвержены повреждениям в случае пожара и могут заливаться при протечках крыши.

Через ЦОД не должны прокладываться транзитом трубопроводы инженерных систем здания.

Согласно инструкции СН 512-78 запрещается размещение центра обработки данных (серверной) в подвале здания.

Необходимо избегать близкого размещения мощных источников электрических и магнитных полей, а также оборудования с повышенной вибрацией.

Помещение ЦОД (центра обработки данных, серверной) [6]

Минимально допустимый размер помещения центра обработки данных (серверной) — 14 квадратных метров. Размеры ЦОД должны отвечать требованиям к располагаемому в ней оборудованию или составлять 0,07 квадратных метра на каждые 10 квадратных метров площади обслуживаемых рабочих мест. Минимальная высота потолка должна составлять 2,44 м.

Пол, в соответствии с п.17.20 РД 45.120-2000, должен быть ровным и иметь антистатическое покрытие с сопротивлением 106 Ом, обеспечивающее стекание и отвод статического электричества. Настил пола осуществляется на несгораемое основание. Рекомендуется использовать фальшпол.

Максимально допустимая нагрузка на пол должна составлять:

- распределенная нагрузка не более 12 кПа;
- сосредоточенная нагрузка не более 4,4 кН.

Входная дверь в ЦОД должна иметь размеры не менее 2,0 x 0,9 метра, уплотняющую прокладку и запираться на внутренний замок. Порог в дверном проеме не предусматривается.

Дверь должна изготавливаться из трудносгораемого материала, иметь противосъемные приспособления и открываться наружу с углом раскрытия 180 градусов. При необходимости устанавливается двухстворчатая дверь.

Температура в помещении ЦОД должна быть в пределах от +18 до +25. Влажность воздуха должна быть в пределах от 40 % до 55 % без конденсации влаги, скорость изменения влажности 6 % в час. Запылённость не должна превышать 0,0001 г/м³. Давление в помещении ЦОД (серверной) должно превышать давление в соседних помещениях.

Рекомендуется превышение давление не менее 147 Па. Уровень освещения должен составлять не менее 500 лк, измеренном на высоте 1 метр в горизонтальной плоскости. Уровень электромагнитного излучения не должен превышать 3 В/м во всех диапазонах частот.

- Предельно допустимая концентрация
- Пыль 100 мкг/м³/24 часа
- Углеводороды 4 мкг/м³/24 часа
- Сероводород 0.05 ppm
- Окислы азота 0.1 ppm
- Двуокись серы 0.3 ppm
- Хлор 0.01 ppm

Оснащение помещения ЦОД (центра обработки данных, серверной)

Помещение центра обработки данных (серверной) должно быть оснащено следующими инженерными системами:

- пожарная сигнализация;
- газовое пожаротушение;
- охранная сигнализация;
- контроль доступа;
- видеонаблюдение;
- кондиционирование;
- вентиляция;
- система гарантированного и бесперебойного электропитания;
- освещение;
- аварийное освещение;
- заземление;
- молниезащита.

Размещение оборудования в ЦОД (центра обработки данных, серверной)

Серверное и сетевое оборудование рекомендуется размещать в 19-дюймовых шкафах. Шкафы необходимо размещать в помещении таким образом, чтобы был доступ к их передней и задней частям.

Согласно ANSI/NECA/BICSI 568-2001 минимальное свободное расстояние перед передней и задней частями шкафа или стойки должно быть равным 914 мм (при минимальной ширине бокового прохода 762 мм). Устанавливаемые в одном ряду шкафы должны быть скреплены в единую конструкцию соединением болтами боковых сторон каркаса.

Согласно п.3.3.2 ANSI/NECA/BICSI 568-2001 шкафы должны быть заземлены медным проводником сечением не менее 5 AWG (4,621 мм).

Не рекомендуется размещение в пределах шкафа распределительных устройств электропитания, за исключением тех, которые нужны для работы смонтированных в этом шкафу серверного и/или телекоммуникационного оборудования.

Обслуживаемое настенное оборудование должно располагаться таким образом, чтобы органы управления и индикаторы находились на высоте 1,6 метра от уровня пола. Максимальная высота размещения необслуживаемого настенного оборудования не более 2,4 метра от уровня пола. При этом величина зазора между верхней поверхностью корпуса монтируемого оборудования и потолком должна быть не менее 150 мм. Свободное пространство рядом с боковой поверхностью корпуса настенного оборудования должно составлять не менее 300 мм.

Виртуализация одна из составляющих вычислительного процесса в современных дата-центрах. С другой стороны, в вопросах сетевого окружения существуют разного рода трудности [7]:

- Отдельная настройка каждого сетевого устройства при большом их количестве;
- Сложность и ресурсоемкость при внедрении и изменении сетевых политик, конфигураций, новых сервисов;
- Многовендорность и проприетарность некоторых функций;
- Статическое или ручное выделение и перераспределение сетевых ресурсов.

Многие крупные вендоры, например, Cisco, предлагают в качестве решения вышеописанных задач, использование программно-определяемых сетей. Данные сети могут изменить экономику и опыт внедрения ИТ систем.

В типовом устройстве телекоммуникационной сети, выполняющем коммутационные или маршрутизирующие функции, одновременно выполняются следующие три задачи (рис. 1.1):

- обработки. Используется для описания топологии сети. Создается таблица коммутации (ForwardingInformationBase (FIB)) на DataLink уровне и таблицы маршрутизации (RoutingInformationBase (RIB)) на уровне Network. Данные таблицы создаются протоколами, создающими карту сети, например, OSPF для маршрутизации или Spanning-Tree для коммутации данных. Плоскость управления также отвечает за выполнение политик качества обслуживания и безопасности;
- передачи данных. Выполняет пересылку пакетов или фреймов на конкретный интерфейс или порт, основываясь на таблицах RIB или FIB;
- управления. Выполняет мониторинг и управление плоскостями обработки и передачи данных.



Рисунок 1. Типовой сетевой узел

Впервые о разделении плоскостей обработки и данных заговорили после производства Hi-End корпоративных маршрутизаторов и коммутаторов. Данная функция выполнялась на двух отдельных

процессорах: на одном для плоскости обработки, на другом для передачи данных, что значительно улучшало производительность таких устройств.

На данный момент, плоскость обработки работает на основном аппаратном обеспечении, которое представляет собой чрезмерно программируемую структуру, в то время как плоскость передачи данных работает на специализированных микросхемах (прим. ASIC), оптимизированных, в основном, для пересылки пакетов.

Следующий эволюционный шаг в необходимости разграничения плоскостей исходит из того, что, если сетевые устройства используют самостоятельные плоскости обработки (рис.2), то это может привести к их недостаточной или асинхронной координации, поэтому появилась идея объединения плоскостей обработки к единой точке построения сетевой топологии.

Также эти проблемы могут привести к неоптимальной производительности из-за возникновения накладных расходов (дополнительных нагрузок), которые могут повлиять на трафик данных [8].

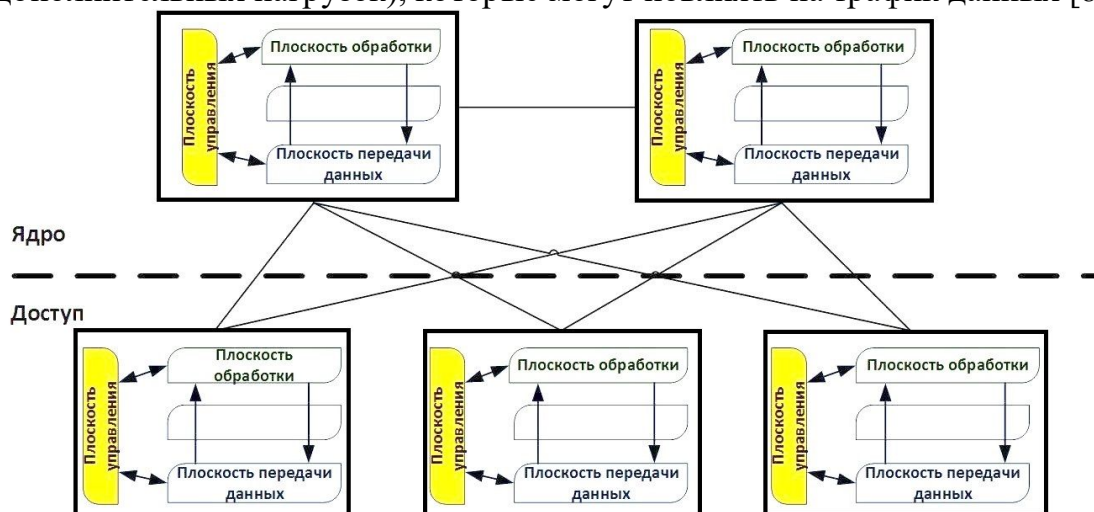


Рис. 2. Самостоятельные плоскости обработки трафика

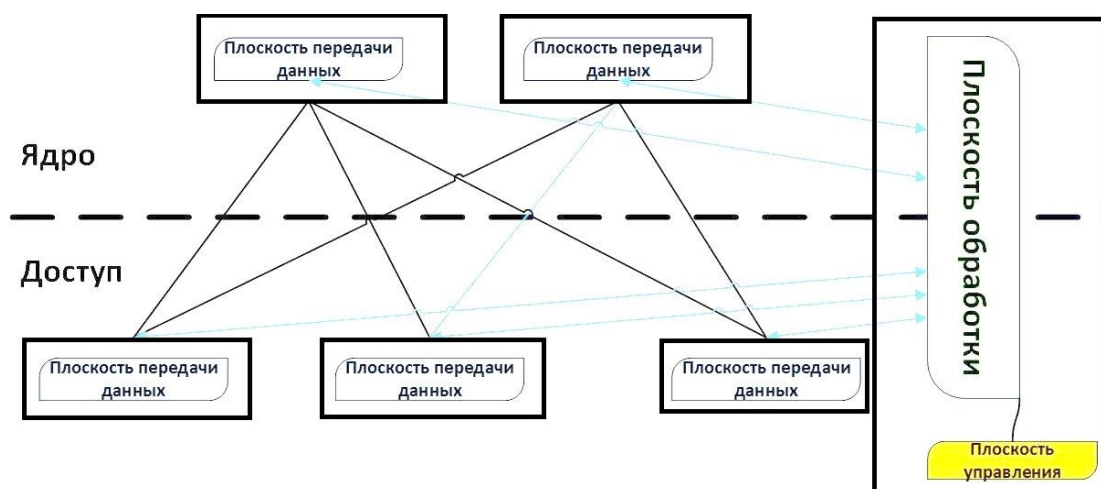


Рис. 3. Централизованная плоскость обработки трафика

Конечный пункт для полного разделения плоскостей передачи данных и обработки внутри сети дата-центра и его коммутационной инфраструктуры показан на рисунке 3.

При таком подходе существует две параллельные сети:

- сеть для передачи трафика;
- сеть для обработки трафика с использованием механизмов внешней сигнализации.

Основные выводы и преимущества данного подхода:

- Автоматизация распределения ресурсов для физических и виртуальных сетей;
- Уменьшение затрат на поддержку сети;
- Снижение сложности сетевых конфигураций;
- Существенно снижаются простои в сетевом окружении;
- Использование оптимальных путей для трафика;
- Отсутствует необходимость использования Spanning-Tree протокола для обмена информацией о топологии сети среди сетевых устройств;

Link-state и Distance-vector протоколы, при использовании данного метода обязательны. Они обеспечивают полную картину сети для детализированного контроллера [9].

Недостатком является то, что централизованный коммутационный контроллер может стать узким местом в плане производительности и потенциально единой точкой отказа. Резервирование решает здесь только часть задачи.

В упрощенном виде архитектура OpenFlow архитектура показана на рисунке 4.

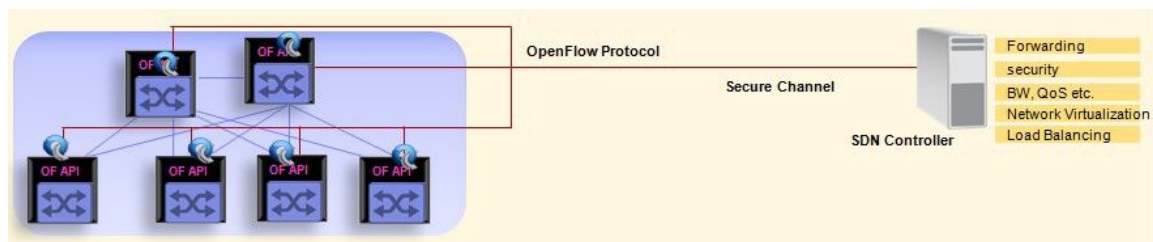


Рис. 4. OpenFlow сетевая архитектура дата-центра

Данный метод становится стандартом и делает возможным взаимодействие в мультивендорном мире. Протокол описывающий как разделить плоскости обработки и передачи данных получил широкое распространение и называется OpenFlow. Контроллер и OpenFlow коммутаторы используют этот протокол для взаимодействия, давая повышенную производительность для x86 оборудования. Контроллер OpenFlow - это стандартный сервер.

ВЫВОДЫ

В данной статье были описаны, как аппаратные, так и технические подходы к построению облачных центров обработки данных. Были описаны методы виртуального моделирования таких сооружений и их вычислительных ресурсов.

Подходы к этим методам, также описаны в этой главе. После, того как были описаны основные характеристики облачных центров обработки данных и подходы к реализации, стоит задача по разработке модели.

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ПРОБЛЕМА ВЛИЯНИЯ И ОЦЕНКИ КАЧЕСТВА ОКРУЖАЮЩЕЙ СРЕДЫ НА СОСТОЯНИЕ ЗДОРОВЬЯ НАСЕЛЕНИЯ ЮЖНОГО ПРИАРАЛЬЯ

Аннотация. В статье рассматриваются основные проблемы влияния и оценки качества окружающей среды на состояние здоровья населения Южного Приаралья. В ходе исследования были установлены, что вредные факторы окружающей среды данного региона могут обуславливать развитие хронической патологии иммунной системы, органов дыхания, желудочно-кишечного тракта, печени, эндокринной и ряда других систем.

Ключевые слова: факторы, окружающая среда, патология, иммунная система, населения.

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THE PROBLEM OF THE INFLUENCE AND ASSESSMENT OF ENVIRONMENTAL QUALITY ON THE HEALTH STATE OF THE POPULATION OF THE SOUTH ARAL REGION

Annotation. The article discusses the main problems of the influence and assessment of environmental quality on the health status of the population of the Southern Aral Sea region. The study found that harmful environmental factors in a given region can cause the development of chronic pathology of the immune

system, respiratory system, gastrointestinal tract, liver, endocrine and a number of other systems.

Key words: factors, environment, pathology, immune system, population.

В Республике Узбекистан одной из приоритетных задач государственной политики является «Создание здоровой среды проживания людей». В условиях суверенитета Узбекистан осуществляет переход к устойчивому развитию через сбалансированное и взаимосвязанное решение экологических, экономических и социальных проблем. Стратегическая цель государства по снижению негативных последствий экологического кризиса Аральского региона заключается в гарантированном обеспечении населения доброкачественной питьевой водой. В системе взаимоотношений человека с окружающей средой все более актуальной становится оценка здоровья населения. Состояние здоровья человека зависит от многочисленных факторов, среди них — природные условия, тип хозяйственной деятельности, образ жизни, уровень культуры и санитарно-гигиенических навыков, медицинское обслуживание и др.

Установлено, что вредные факторы окружающей среды могут обуславливать развитие хронической патологии всех органов и систем и в частности: иммунной системы, органов дыхания, желудочно-кишечного тракта, печени, эндокринной и ряда других систем [1, 3].

Нарастающий интерес к изучению проблем окружающей среды, исследованию территориально-экологических аспектов здоровья населения, географическому распространению болезней человека, патологических и предпатологических его состояний вызвал две противоположно направленные тенденции. С одной стороны, происходит резкая интеграция дисциплин, изучающих систему: среда обитания — человек - здоровье, а с другой стороны, столь же резкая их дифференциация.

В последние годы для оценки влияния факторов окружающей среды на здоровье населения является изучение риска развития того или иного вида заболевания [1, 3]. Вместе с тем, до настоящего времени проведение комплексного анализа риска здоровью населения Южного Приаралья, формируемого атмосферным воздухом и питьевой водой, достаточно не проводилось. Отмеченный уровень заболеваемости населения Южного Приаралья, в том числе по классам болезней и нозологиям, относимых ВОЗ к индикаторным в отношении среды обитания, диктует необходимость совершенствования санитарно-гигиенических и эпидемиологических методов и подходов с учетом специфики территории [1, 2].

– Проведенный нами прогноз (2010-2019 гг.) общей заболеваемости населения в регионе Южного Приаралья показал, что фактические значения уровней общей заболеваемости населения практически полностью или близко совпали с прогнозными значениями показателей по следующим классам: болезни органов дыхания (% отклонения = 0,9)

- болезни нервной системы (% отклонения = 1,5),
- болезням эндокринной системы (% откл. = 3,5),
- инфекционным и паразитарным заболеваниям (% отклонения = 3,1).

У детей и подростков, высокая степень соответствия расчетных значений прогноза фактически сложившимся показателям оказалась по следующим классам первичной заболеваемости:

- 1) болезнями мочеполовой системы (отклонение = 0,8 %),
- 2) болезням органов дыхания (отклонение = 1,4%),
- 3) болезни пищеварительной системы (отклонение = 1,8 %).

Таким образом, мы приходим к следующим выводам:

Прогнозные оценки развития тенденций в динамике важнейших показателей здоровья населения, в первую очередь заболеваемости и инвалидности, служили базисом при разработке стратегии, региональных целевых программ.

Таким образом, общая заболеваемость связана с самыми различными факторами, имеющими самые различные характеристики (социальные, экономические, экологические, климатические, демографические и др.). На сложную динамическую систему «Народонаселение», изменяющуюся во времени, воздействует комплекс экологических факторов, загрязняющих окружающую среду. Результатом этого воздействия является общее количество заболеваний населения, которое в конечном итоге приводит к показателю смертности. Система мониторинга качества атмосферного воздуха Южного Приаралья не отвечает современным требованиям оценки риска для здоровья населения, поскольку не позволяет определить уровень воздействия загрязнения на организм человека. Поэтому созрела необходимость создания единой системы мониторинга загрязнения атмосферного воздуха и питьевой воды в Южном Приаралье с позиции оценки риска для здоровья населения.

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СОВРЕМЕННЫЙ ПОДХОД К ИНГИБИРОВАНИЮ СКВАЖИН В ПРОЦЕССЕ ДОБЫЧИ НЕФТИ

Аннотация. В данной статье рассматривается образование солевых отложений в скважинах при эксплуатации месторождений нефти и газа и виды ингибиторов, применяемых против них. Кроме того, описано устранение осложнений, возникающих при использовании нефтегазовых скважин. Для борьбы с соевыми отложениями рекомендуется провести анализ состояния скважин Чегаринского месторождения.

Ключевые слова: коррозия, месторождения, эксплуатация, ингибитор, солеотложений, скважин

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MODERN APPROACH TO INHIBITION OF WELLS DURING OIL PRODUCTION

Annotation. This article discusses the formation of salt deposits in wells during the exploitation of oil and gas fields and the types of inhibitors used against them. In addition, the elimination of complications that arise when using oil and gas wells is described. To combat salt deposits, it is recommended to analyze the condition of wells in the Chegarinskoye field.

Key words: corrosion, deposits, exploitation, inhibitor, salt deposits, wells.

Месторождения Чегара, Западная Чегара, Восточная Чегара в административном отношении входят в состав Миришкорского района Кашкадарьинской области Республики Узбекистан.

Ближайшими от площади месторождений Чегаринской группы являются газовые и нефтяные месторождения Уртабулак, Северный Уртабулак, Кокдумалак, Зеварды, Денгизкуль.

В настоящее время ингибиторы используются в металлургии, медицине, химии, пищевой, нефтяной промышленности и т.д.

В нефтяной отрасли широко применяются ингибиторы солеотложения, коррозии, парафиноотложений, гидратообразования для защиты нефтепромыслового оборудования.

Современные ингибиторы коррозии для нефтегазодобывающей промышленности представляют собой раствор одного или нескольких органических соединений, обладающих высокими ингибирующими свойствами (так называемые активные основы), в углеводородном или водно-спиртовом растворителе. В качестве активных основ используют имидазолины, первичные амины, диамины, амидоамины, димеризованные амидоамины, четвертичные аммониевые основания, оксиэтилированные первичные амины, алкилпиридины, жирные кислоты, фосфатированные сложные эфиры этилового спирта и др. Активной основы в товарных формах ингибиторов коррозии может быть до 60% масс. (обычно 10–30% масс.). Кроме активной основы и растворителя, ингибиторы могут содержать различные добавки, обеспечивающие доведение физико-химических свойств продукта до заданных значений. Добавками регулируют pH, плотность, вязкость, диспергируемость в воду и др.

Ингибиторами солеотложений называются химические вещества и их смеси, которые при добавлении их к пересыщенным водным растворам минеральных солей в соответствующей концентрации предотвращают или значительно снижают выделение из растворов осадков малорастворимых солей.

В качестве ингибитора гидратообразования наиболее широкое распространение получило применение метанола. Метанол – распространённый антигидратный реагент, используемый как для предупреждения гидратообразования, так и для ликвидации возникающих по каким-либо причинам гидратных отложений (неплошных гидратных пробок).

Применение методов предупреждения любых осложнений в скважине является наиболее рациональным решением, так как ликвидация последствий, связанная с их появлением, влечет за собой значительные технологические и экономические потери.

По состоянию на 01.05.2021 г. из трех месторождений Чегаринской группы разрабатывается только месторождение Чегара, эксплуатирующийся с июля 2007 г.

На всех трех месторождениях Чегаринской группы, нефтяная залежь изучена только поисково-разведочными скважинами, причем эксплуатационным бурением затронуто только месторождение Восточная Чегара, которое начато в 2002 г. Следует отметить, что объем гидродинамических исследований связан только с испытаниями разведочных скважин в процессе разведки этих месторождений. На месторождении Восточная Чегара также гидродинамическими исследованиями охвачены только разведочные скважины – данных опрощенных гидродинамических исследованиях в эксплуатационных скважинах не имеется.

Нефть месторождения Чегара относится к категории сернистых (среднее значение по трем скважинам 1,97 %). Кроме того, попутно добываемый в скважинах газ характеризуется высоким содержанием сероводорода. Сероводород очень коррозионно-агрессивен, поэтому в качестве примеси в природном газе приводит к коррозии металлических труб, фонтанной арматуры, а также вентилях в скважине. Учитывая это, при разработке месторождения Чегара целесообразно принятие мер по антикоррозионной защите промыслового оборудования.

Одним из наиболее распространенных методов защиты оборудования от коррозии является применение ингибиторов коррозии.

Необходимо отметить, что рациональная разработка месторождения невозможна без четкого и оперативного контроля за эксплуатацией. Система контроля за разработкой включает в себя контроль целого комплекса параметров, учет и прогноз их изменений во времени. От своевременной, достоверной и представительной информации, получаемой в процессе контроля, во многом зависят такие показатели, как надежность работы скважин и промысла, конечная нефтеотдача, технико-экономическая эффективность эксплуатации месторождения.

Заключение.

Интенсивная добыча нефти неизбежно приводит к увеличению добычи попутно добываемой воды, которая является главным источником выделения солей и коррозии внутрискважинного оборудования. Следует также учитывать, что химический состав промысловых вод постоянно меняется по мере выработки запасов нефти, что обуславливает изменение во времени как состава солевых отложений, так и интенсивность их формирования.

Рост числа скважин, подверженных отложению солей и коррозии, снижение наработки на отказ скважинного оборудования обусловили острую необходимость разработки и внедрения эффективных методов борьбы с отложением солей и коррозии, прогноза их возникновения в конкретных условиях добычи нефти.

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МАТЕМАТИЧЕСКАЯ ИНТЕРПРЕТАЦИЯ МАССОВОГО ОБСЛУЖИВАНИЯ

Аннотация. В данной статье рассмотрены математические методы анализа организаций массового обслуживания, оказывающие различные услуги населению для выявления эффективности деятельности и нахождения путей оптимизации. В качестве применения математического аппарата в обслуживании рассмотрен крупный супермаркет со столом заказов для которого и приведён анализ. Также показано на примере обслуживания рабочих инструментами из кладовой с неявными потерями, а именно необходимо ли содержать ещё одного кладового или текущее положение выгоднее, чем содержание нового кладового.

Ключевые слова: теория массового обслуживания, математический аппарат, системы массового обслуживания, распределение вероятностей.

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MATHEMATICAL INTERPRETATION OF QUEUE SERVICE

Abstract. In this article the mathematical methods of the analysis of the organizations of a queuing rendering various services to the population for identification of effectiveness of activity and finding of paths of optimization are considered. As application of a mathematical apparatus in an upkeep the large supermarket with an advance orders section for which is considered the analysis is provided. It is also shown on the example of an upkeep of workers by tools from the storeroom with implicit losses namely whether it is necessary to support one more stockman or the current situation is more favorable, than contents new stockman.

Key words: theory of a queuing, mathematical apparatus, systems of a queuing, probability distribution.

Теория массового обслуживания впервые применялась в телефонном обслуживании, а затем и в других областях хозяйственной деятельности.

Например, организация нормального процесса обслуживания покупателей связана с правильным определением следующих показателей:

количества предприятий данного торгового профиля, численности продавцов в них (в том числе и «механических»), наличия соответствующих основных фондов, частоты завоза товаров, численности обслуживаемого населения, плотности обращаемости и потребности в соответствующих товарах (по групповому и внутригрупповому ассортименту). Если предположить, что предприятие располагает необходимыми основными фондами, торгует товарами, имеющимися в достаточном количестве (при нормальной частоте завоза), то и тогда в процессе обслуживания остаются такие переменные величины, которые могут существенно повлиять на качество обслуживания.

Надлежит, следовательно, выбрать такой оптимальный вариант организации торгового обслуживания населения, при котором время обслуживания будет минимальным, качество – высоким, не будет излишних народно-хозяйственных затрат. Математический аппарат теории массового обслуживания облегчает решение этой задачи. При этом различают две формы обслуживания: с неявными потерями и с явными потерями.

Систему массового обслуживания с неявными потерями (правило очередей) можно показать на примере обслуживания рабочих необходимым инструментом (из обособленных кладовых промышленного предприятия).

Допустим, что в инструментальной кладовой работают два кладовщика.

Требуется определить, в какой мере они своевременно обеспечивают заявки на обслуживание, поступающие от рабочих; в очереди за инструментом дороже, чем дополнительное содержание еще одного или двух кладовщиков?

Таблица 1

Расчет полного числа приходов рабочих в кладовую

Число приходов в единицу времени (за 15 мин)	Наблюдаемое число приходов, %	Наблюдаемая частота приходов, %	Полное число приходов рабочих (гр.1хх гр.2)	Число приходов в единицу времени (за 15 мин)	Наблюдаемая частота приходов, %	Наблюдаемая частота приходов, %	Полное число приходов рабочих (гр.1хх гр.2)
1	2	3	4	1	2	3	4
	0	0	0	15	23	7,67	345
1	0	0	0	16	20	6,67	320
2	1	0,33	2	17	18	6,00	306
3	3	1,00	9	18	16	5,33	288
4	5	1,67	20	19	13	4,33	247
5	8	2,67	40	20	11	3,67	220
6	10	3,33	60	21	10	3,33	210
7	12	4,00	84	22	8	2,67	176
8	13	4,33	104	23	5	1,67	115
9	16	5,33	144	24	3	1,00	72
10	18	6,00	180	25	1	0,33	25

11	20	6,67	220	26	1	0,33	26
12	19	6,33	228				
13	21	7,00	273				
14	25	8,33	350				
					300	99,99	

Для решения данной задачи необходимы прежде всего хронометражные замеры о потоке требований на обслуживание единицу времени. Если хронометраж осуществлялся в течение дней каждый мин за смену (кроме начала и конца рабочего дня), то за этот отрезок времени было произведено

300 наблюдений (30 наблюдений, умноженное на 10). Время наблюдений (7) составит 4500мин (15300). Причем таких промежутков, когда на складникто не приходил или приходил только один рабочий, не наблюдалось, приход двух рабочих отмечался один раз, трех - три раза и т.д.

Частота при 300 наблюдениях равна

$$0,33\left(\frac{1}{300} \cdot 100\right), \text{ трех} - 1\left(\frac{3}{300} \cdot 100\right) \text{ и т.д.}$$

Для определения среднего числа приходов в единицу времени (X) исчисляется полное число приходов (N) как сумма произведений числа приходов (количества пришедших в кладовую рабочих) на наблюдаемое число приходов.

Таким образом, среднее число требований на обслуживание, т.е. среднее

число приходов в единицу времени (X), составит

$$\lambda = \frac{N}{T} = \frac{4064}{4500} = 0,903 \text{ чел. - мин.}$$

Чтобы определить распределение вероятностей для длительности обслуживания при предположении, что закон распределения экспоненциальный, вычислим среднюю продолжительность одного обслуживания ($T_{облс}$); она равна 1,6 мин.

После этого можно установить интенсивность обслуживания (μ):

$$\mu = \frac{1}{T_{облс}}; \mu = \frac{1}{1,6} = 0,625 \text{ чел. - мин.}$$

В случае, когда $X < \mu$, увеличение очереди не возникает, так как удовлетворение требований происходит не ранее их поступления. В нашем пТочно определить величину очереди как случайную нельзя. Можно вычислить вероятность того, что в момент времени (t) очередь будет

характеризоваться числом требований $P_n(t)$:

$$P_n(t) = \sigma^n (1 - \sigma); P_0(t) = (1 - \sigma); \sigma = \frac{\lambda}{\mu},$$

где $P_0(t)$ – вероятность отсутствия требований.

В тех случаях, когда $a > 1$, вероятность отсутствия очереди (σ_0) обычно берется из графиков (в нашем случае $a = 1,445$).

Для построения таких графиков воспользуемся таблицей значений P_0 для различных значений σ и n (n - количество кладовщиков в инструментальной кладовой).

По данным табл. 2, в нашем случае рассматривается многолинейная система, когда $n > 1$ (количество кладовщиков превышает единицу).

Таблица 2

Значения P_n

σ^n	2	3	4	5	6	7	8
1	0,333	0,363	0,367	0,367	0,367	0,367	0,368
2		0,111	0,130	0,134	0,135	0,135	0,135
3			0,037	0,046	0,049	0,049	0,050
4				0,013	0,016	0,017	0,018

Определим среднее время ожидания (T_c), которое складывается из среднего времени ожидания обслуживания в очереди ($T_{ож}$) и среднего времени обслуживания ($T_{обл}$):

Предположим, что у рабочего потери от простоев составляют 5, а содержание кладовщика – 4 ден.ед. в единицу времени. За период времени T в систему поступает λT заявок, т.е. $1,445 T$ заявок.

Потери вследствие простоя рабочих при различном числе кладовщиков, расходы на заработную плату кладовщиков, а также суммарные затраты и потери приведены в табл. 3.

Таблица 3

Количество кладовщиков	Потери от простоя рабочих	Затраты на содержание кладовщиков	Суммарные затраты и потери
2	$3,213 \cdot 1,445 \cdot 5T = 23,214T$	8T	$31,214T$
3	$1,799 \cdot 1,445 \cdot 5T = 12,998T$	12T	$24,998T$
4	$1,635 \cdot 1,445 \cdot 5T = 11,813T$	16T	$27,813T$

Из данных табл. 3 следует, что экономически выгоднее в инструментальной кладовой иметь трех кладовщиков, поскольку суммарные затраты и потери будут наименьшими (min 24,9987).

Порядок исчисления показателя качества обслуживания с явными потерями покажем далее для условий простейшего потока требований.

Стол заказов при крупном супермаркете оборудован четырьмя телефонами. Среднее число вызовов в течение часа составляет 96, среднее время, затрачиваемое на прием одного заказа, -2 мин. Требуется определить,

как полно загружены приемщики заказов, какова вероятность отказа в обслуживании.

Степень загруженности приемщиков определяется по формуле

$$\mu_1 = \sum_{k=1}^n KP_k = \sum_{k=1}^n \frac{1}{(k-1)!} \left(\frac{\lambda}{\gamma}\right)^k P_0$$

По условиям если $n = 4$ (4 телефона, 4 приемщика заказов), $X = 96$ (число вызовов в течение часа); среднее время, затрачиваемое на прием одного заказа, составляет 2 мин, или $\frac{2}{60} = \frac{1}{30}$ единицу времени; значение

параметра $\gamma = 1: \frac{1}{30} = 30$, следовательно, $\frac{\lambda}{\gamma} = \frac{96}{30} = 3,2$.

Величины вероятностей P_0, P_1, P_2, P_3, P_4 приведены в табл. 4. Значение членов второго столбца найдено по формуле

$$\frac{P_k}{P_0} = \frac{1}{k!} \left(\frac{\lambda}{\gamma}\right)^k = \frac{(3,2)^k}{k!}$$

Как известно,

$$\sum_{k=1}^n P_k = 1,$$

Отсюда

$$\frac{P_k}{P_0} = \sum_{k=0}^4 \frac{P_k}{P_0} = \frac{1}{P_0} \text{ при } P_0 = \frac{1}{19,151} \approx 0,0522$$

Умножая каждое из значений $\frac{P_k}{P_0}$ на $P_0 = 0,0522$, получим величину P_k

.Затем, умножая значения членов третьего столбца на значения первого столбца (на 0), второго (на 1) и т. д. и суммируя их, получим математическое ожидание числа занятых приемщиков:

$$\mu_1 = \sum_{k=0}^4 KP_k = 2,4693.$$

Таблица 4

Число приемщиков	$\frac{P_k}{P_0}$	P_k	KP_k
0	1,0	0,0522	0
1	3,2	0,1670	0,1670
2	5,12	0,2673	0,5346
3	5,462	0,2851	0,8553
4	4,369	0,2281	0,9124
	19,151	0,9997	2,4693

Следовательно, каждый приемщик заказов будет занят в среднем 0,62 рабочего дня ($\frac{2,4693}{4}$).

Ответим на второй вопрос: какова вероятность отказа в обслуживании?

Для этого найдем вероятность того, что все приемщики будут заняты в момент обращения очередного клиента:

$$P_n = \frac{\left(\frac{\lambda}{\gamma}\right) \frac{1}{n!}}{\sum_{m=0}^n \frac{1}{m} \left(\frac{\lambda}{\gamma}\right)^m}$$

Подставляя значения - $n = 4$, найдем значение P_n : $P_4 = 0,23$.

Полученный результат показывает, что из 100 заказчиков в среднем 77 будут обслужены, а 23 – нет. Следовательно, обслуживающую систему нельзя признать достаточной (23% отказов); экономия на численности обслуживающего аппарата отрицательно влияет на качество обслуживания населения.

Число приемщиков отдела заказов целесообразно увеличить до пяти, тогда математическое ожидание числа не обслуженных заявок составит лишь 0,13. Иными словами, из 100 заказчиков будет обслужено 87, а 13 получают отказы. Таким образом, увеличение числа приемщиков на одного повысит качество обслуживания с 77 до 87.

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ХИМИЧЕСКИЙ СОСТАВ ВОДЫ И ГРАНУЛОМЕТРИЧЕСКИЙ СОСТАВ НАНОСОВ

Аннотация. Несмотря на относительно незначительную мутность воды проходящей через проточную часть турбины, в составе находятся минералы с средней и высокой степени абразивности (полевой шпат более 50,5 % и кварц -18,6 % от общего количества твердых примесей).

Ключевые слова: напорный бассейн, химическому составу вода, гидроагрегатов, гидротурбина.

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CHEMICAL COMPOSITION OF WATER AND GRANULOMETRIC COMPOSITION OF SEDIMENT

Abstract. Despite the relatively insignificant turbidity of the water passing through the flow part of the turbine, the composition contains minerals with a medium and high degree of abrasiveness (feldspar more than 50.5% and quartz - 18.6% of the total amount of solid impurities).

Key words: pressure pool, chemical composition of water, hydraulic units, hydraulic turbines.

Химический состав воды канала Бозсу в створе ГЭС-1 представлен данными анализа единичных проб воды, отобранных АО «Гидропроект» в октябре-ноябре 2014 г. и августе 2015 г. в верхнем и нижнем бьефах ГЭС, а также материалами Узгидрометапо каналу Салар - в 1 км выше г.Ташкента за 1986 г. (таблица 2.2).

Данные анализа единичной пробы воды и систематически отбираемых проб воды Узгидрометом показали сходимость результатов химического анализа воды канала Бозсу.

Таблица 2.2. Химический состав воды

Дата отбора пробы	КАТИОНЫ, мг/л			АНИОНЫ, мг/л			Сухой остаток, мг/л	РН	Жесткость общая, мг-экв/л
	Ca"	Mg"	Na+K'	НС О ₃ '	CL'	SO ₄ "			
Канал Бозсу - нижний бьеф Бозсуйской ГЭС									
28.10.2014	32.1	14.6	4.6	122	2.8	44.4	170	7.4	2.80
Канал Бозсу - напорный бассейн Бозсуйской ГЭС									
10.11.2014	32.1	9.73	22.3	146	2.8	42.8	195	7.9	2.4
27.08.2015	24.1	17.0	22.8	122	2.8	72.4	215	7.4	2.6
Канал Салар - 1 км выше г. Ташкента									
08.01.1986	39.7	6.8	7.3	102	8.5	34.8	197	7.85	2.54
07.02.1986	34.5	10.0	9.0	110	7.1	37.0	209	7.90	2.54
10.03.1986	38.3	6.6	7.0	120	10.0	28.5	217	7.90	2.45
25.04.1986	40.3	5.4	6.0	111	7.1	21.1	189	7.77	2.45
07.05.1986	38.1	3.2	6.0	107	10.0	19.8	188	7.60	2.16
05.06.1986	28.5	6.1	4.6	91.9	5.7	19.8	159	7.80	1.92
03.07.1986	35.3	2.0	5.5	76.8	10.0	30.8	162	7.63	1.92
7.08.1986	21.7	9.9	5.5	88.4	4.3	26.0	158	7.68	1.89
4.09.1986		1.6	6.5	79.7	5.7	43.4	180	7.60	1.89
10.10.1986	63.0	20.4	27.3	170	15.4	102	388	7.60	4.82
05.11.1986	54.9	16.3	10.0	146	14.9	76.3	319	7.35	4.08
2.12.1986	55.5	20.6	11.3	135	20.9	99.1	343	7.60	4.46

По данным, приведенным в таблице 2.2, можно сказать, что химический состав воды канала меняется в зависимости от времени года и фазы водного режима. Вода в канале в основном средней минерализации - сухой остаток 170 - 388 мг/л, в летние месяцы минерализация уменьшается до 158 - 189 мг/л. По величине общей жесткости (1.89 - 2.80 мг-экв/л) вода

мягкая практически в течение всего года, становясь умеренно-жесткой в октябре-декабре (общая жесткость 4.08 - 4.82 мг-экв/л). По показателю рН = 7.4 - 7.90 вода обладает слабо щелочной и нейтральной реакцией [1].

По химическому составу вода канала Бозсу относится к гидрокарбонатному классу.

Гранулометрический состав наносов канала Бозсу принят по данным анализа единичных проб русловых отложений, отобранных АО «Гидропроект» в верхнем бьефе ГЭС (перед напорным бассейном) 27 августа 2015 г. и в нижнем бьефе (между поперечными профилями 7-8) -2 сентября 2015 г[2]. (таблица Таблица 1.)

Таблица 2.3. Гранулометрический состав наносов

d, мм	1,0 - 0,5	0,5 - 0,25	0,25 - 0,1	0,10 - 0,05	0,05 - 0,01	0,01-0,005	0,005 - 0,002	<0,002
	сброс Ташкентского канала – голова (1981-1987 гг.)							
P, %	0,9	12,4	12,0	7,1	35,0	12,8	13,4	6,4
	Канал Нижний Бозсу- Нижнебозсуйская ГЭС №1 (2007 г.)							
P, %			4,2	16,1	52,3	14,7	5,7	7,0
		8	6,9	16,8	47,8	11,5	4,5	4,5
	Канал Бозсу-нижний бьеф Актепинской ГЭС(2011г.)							
P, %	11,3	52,9	24,0	11,8				

Из таблицы видно, что русловые отложения в верхнем бьефе ГЭС-1 представлены, в основном, алевритовыми (пылеватыми) частицами (фракции d=0.1-0.01 мм), в нижнем бьефе преобладают как песчаные частицы (фракции d=1.0-0.1мм) – 57.3 %, так и алевритовые – 42.7 %[3].

По вещественному составу преобладают обломки минералов – 80.6 %, обломки пород составляют 9.3 %. Из минералов преобладают полевые шпаты – 58.5 %. Содержание кварца в алевритовых (0.05-0.1 мм) и песчаных (0.10-1.0 мм) фракциях изменяется от 12.1 до 6.5 % (таблица 2.4). Следует отметить, что в отобранной пробе присутствовали в достаточном количестве мелкие частицы битого стекла, которые могли повлиять на больший процент содержания кварцевых частиц в пробе.

Таблица 2.4 Минералого-петрографический состав наносов канала Бозсу
(нижний бьеф ГЭС-1)

№ пробы	размер фракции в мм	содержание фракции в %	содержание карбоната в %	кварц	полевые шпаты	мусковит, биотит	хлорит	изверженных	метаморфических сланцев	кремнистая п-да	акцессори (амфибол, пироксен)	рудный гематит	обломки смол	углистые вещества	глинистые материалы	растительные остатки
№1	< 0,002			Фракция отсутствует												
	0,005 – 0,002			Фракция отсутствует												
	0,01 – 0,005			Фракция отсутствует												
	0,05 – 0,005	4,58	26,32	1,1	2,62	0,05	0,0	0,17	0,092	0,096	0,018	0,046		0,0	0,2	0,018
	0,10 – 0,005	38,14	27,19	10,	20,25	0,53	0,2	2,49	0,53	0,46	0,15	0,27	0,15	0,3	1,6	0,15
	0,25 – 0,005	38,52	18,4	4,6	27,39	0,54	0,1	0,77	1,04	1,04	0,12	0,19	0,19	0,2	1,7	0,39
	0,5 – 0,005	17,80	26,4	1,8	8,19	0,64	0,1	1,78	0,36	0,43	0,053	0,053	0,034	1,8	1,7	0,58
	1,0 – 0,5	0,96	19,4	0,0	0,013	0,15	0,0			0,021			0,051	0,1	0,0	0,45
	2,0 – 1,0															
	5,0 – 2,0															

**Содержание на пробу: 100% 18,6158,46 1,9150,6795,21
2,0222,0470,341 0,559 0,425 2,695,4441,588**

Примечание: проба русловых отложений в канале Бозсу отобрана 2.09.2015 г. между поперечными профилями №№ 7 и 8.

В таблице 2.5 представлены обобщенные характеристики механических примесей (взвешенных) наносов в воде проходящей через проточную часть гидроагрегатов Бозсуйской ГЭС, которые могут быть использованы при анализе и прогнозе гидроабразивного износа деталей гидротурбин.

Таблица 2.5 Характеристика взвешенных наносов

Характеристика взвешенных наносов	Содержание частиц диаметром 0.1 - 0.05 мм составляет 30,4%.
Среднегодовая мутность воды, наибольшая среднемесячная, г/м ³	До 4-5 г/л
Гранулометрический состав наносов	Содержание частиц диаметром 0.05 - 0.01 мм составляет 61,2%.
Минералогический состав наносов	Содержание кварца в частицах диаметром 0.05-0.01 мм составляет от 12.1 до 6,5 %.

Химический состав воды и его характеристика	По химическому составу вода канала Бозсу в основном средней минерализации. По жесткости - в пределах 1.89 - 2.80 мг-экв/л. По показателю рН = 7.4 - 7.9 вода обладает слабощелочной и нейтральной реакцией
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В соответствии с вышеприведенной классификацией, по мутности канал Бозсу можно отнести к зоне III (с высокой мутностью речных вод (150— 500 г/м³)). Т.е. риск гидроабразивного износа имеется.

Использованные источники:

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СОСТАВ ГИДРОТЕХНИЧЕСКИХ СООРУЖЕНИЙ И ОБОРУДОВАНИЯ БОЗСУЙСКОЙ ГЭС-1

Аннотация. Среднегодовой расход воды канала Бозсу в створе Бозсуйской ГЭС, средний за период 1994 - 1999гг., составляет 52.0 м³/с и варьирует в небольших пределах – от 42.0 м³/с (1999г.) до 60.9 м³/с (1994г.).

Бозсуйская ГЭС относится к деривационному типу электростанций, в состав гидротехнических сооружений которой входит: плотина, холостой водосброс, водоприемник, деривационный канал, напорный бассейн, напорные трубопроводы, здание ГЭС и отводящий канал.

Ключевые слова: дренажное устройство, напорные камеры, длина трубопровода.

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COMPOSITION OF HYDRAULIC STRUCTURES AND EQUIPMENT OF BOZSU HYDROELECTRIC STATION-1

Abstract. The average annual water flow of the Bozsu canal at the site of the Bozsu hydroelectric station, average for the period 1994 - 1999, is 52.0 m³/s and varies within small limits - from 42.0 m³/s (1999) to 60.9 m³/s (1994).

The Bozsu HPP is a diversion type of power plant, the hydraulic structures of which include: a dam, an idle spillway, a water intake, a diversion canal, a pressure basin, pressure pipelines, a hydroelectric power station building and an outlet canal.

Key words: Drainage device, Pressure chambers, Pipeline length, Idle spillway.

Бозсуйская ГЭС расположена в черте г. Ташкента и является первой гидроэлектростанцией в республике Узбекистан. Гидростанция была пристроена к уже существующему тогда холостому водосбросу. Первый агрегат станции был пущен в 1926г., вся станция была сдана в эксплуатацию в 1937г.

Гидротехнические сооружения. Бозсуйская ГЭС относится к деривационному типу электростанций, в состав гидротехнических сооружений которой входит: плотина, холостой водосброс, водоприемник, деривационный канал, напорный бассейн, напорные трубопроводы, здание ГЭС и отводящий канал.

Плотина перекрывает старое русло Боз-Су и представляет собой перемышку из лессовидного суглинка.

Откос с напорной стороны выполнен с уклоном 1:2 и укреплен каменной отмосткой. Откос нижнего бьефа пологий с уклоном 1:5,5 был укреплен слоем гальки. Сопряжение плотины с берегами и основанием выполнено при помощи врезок глубиной 2-3м.

Холостой водосброс расположен в правобережной части напорного сооружения. Холостой водосброс представляет собой железобетонное сооружение, состоящие из 6-ти отверстий для сбора воды, каждое высотой 2.0 м., шириной 1.63 м, 2-х сифонных водовыпусков и 6-ти ступенчатого перепада для гашения энергии отводящего потока, длиной 10.5 м, шириной 9.3 м. Пропускная способность одного отверстия холостого водосброса 10 м³/с и одного сифона 6 м³/с. Общая пропускная способность холостого водосброса – 80 м³/с, что достигнуто за счет наращенных стенок лотка холостого сброса и парапета нижнего бьефа.

Холостой водосброс предназначен для сброса излишнего расхода воды, подходящего к створу ГЭС или сбросу всего расхода, при остановке агрегатов. Максимальный расход до 80 м³/с. Отверстия холостого водосброса перекрываются металлическими, плоского типа, скользящими затворами, клапанной конструкции размером (2.2 x 1.63) м. с винтовыми подъемниками, электромеханическим и ручным приводами [1].

Водоприемник – поверхностный, железобетонный, разделен бычками на пять пролетов шириной 3,4 м. С низовой грани к водоприемнику примыкает деривационный канал. Донная плита в верхнем бьефе имеет зуб глубиной 5,53 м.

Деривационный канал прямоугольного сечения имеет протяженность 30.625м, выполнен из железобетона. Пропускная способность 69 м³/с. В правой стенке канала устроен клапанный водосброс пролетом 20,03м, при работе которого вода из деривационного канала переливается в холостой

Напорный бассейн состоит из 4-х железобетонных напорных камер, шириной 5,0 м каждая, разделенных между собой перегородками.

Напорные камеры оборудованы затворами для перекрытия доступа воды в напорную камеру и трубопроводы. Перед затворами в пазовых конструкциях установлены 4 стационарных сороудерживающих решетки секционного типа, каждая состоит из 3-х секций: высота секции в верхней части 9.95 м, ширина 1.60 м. Просвет между стержнями 64 мм. Максимально допустимая величина перепада на решетках 0.3 м.

Затворы между напорными камерами в количестве 12 шт., металлические, плоские, скользящего типа, с винтовыми подъемниками, по 3 шт. на каждую напорную камеру агрегата. Высота затвора 3.5 м, ширина 1.7 м. Расчетный расход 11.5 м³/с. Подводящий канал к напорному бассейну – железобетонный открытый длиной 40.6 м.

Габариты затвора: длина – 22 м, ширина – 1.1 м, порог клапана имеет отметку 477.85 м. пропускная способность его при полностью опущенном положении и при отметке верхнего бьефа 478.80 м – 34 м³/с, при 479.00 м – 45 м³/с. Автоматическая работа гидроклапана проверяется два раза в год по специальной программе [2].

Головной узел представляет собой железобетонное водоприемное сооружение, состоящее из 5-ти пролетов, шириной 3.4 м, напор над порогом 3.8 м. Пропускная способность одного пролета 12.5 м³/с. Отверстия водоприемника оборудованы шандорными затворами размерами (3.37 x 4.3) м – 3 шт., (3.36 x 4.3) м – 2 шт., предназначенные для перекрытия доступа воды на напорный бассейн при ремонтных работах, осмотрах подводящего канала напорного бассейна, сороудерживающих решеток и автоматического гидроклапана водосброса, управляемыми электролебедкой.

Напорные трубопроводы открытые, стальные, диаметром 2,4 м, опираются на 4 промежуточные опоры каждый. Подающие воду к турбинам металлические, клапанной конструкции, состоят из 4 ниток, по одной для каждого агрегата. По длине трубопровод имеет 6 секций, соединенных между собой фланцами. На фланцах имеются резиновые прокладки для компенсации температурных изменений длины трубопровода.

Здание ГЭС состоит из двух отдельных зданий (Рис.1) – подводного блока с расположенным над ним машзалом и котельной. Подводная часть здания ГЭС выполнена из монолитного железобетона. Каркас машзала железобетонный с кирпичным заполнением [3].

Машзал оборудован мостовым электрическим краном грузоподъемностью 10,0 т. с электротельфером грузоподъемностью 3,0 т. Первоначально турбины располагались на открытом воздухе. В 1936г над ними был построен навес, в дальнейшем перестроенный в закрытое помещение, именуемое котельной.

Отводящий канал здания ГЭС совмещен с отводящим каналом холостого водосброса и ограничен подпорными стенками. Левобережная стенка реконструирована в целях недопущения перелива воды из нижнего бьефа на пристанционную площадку [4].

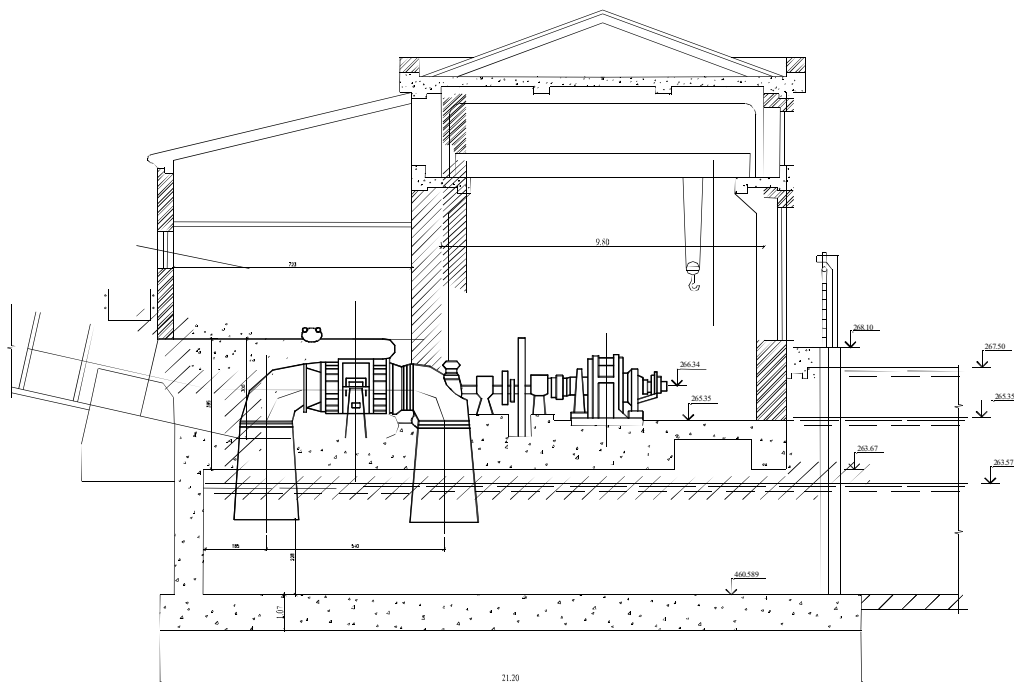


Рис. 1 Основное гидросиловое оборудование ГЭС.

Оборудование ГЭС. В здании ГЭС расположены 4 турбины Френсиса, сдвоенные, котельной формы, горизонтальные, с двумя отсасывающими трубами, номинальной мощностью 1,1 МВт каждая, с расчетным напором $H=13,5\text{м}$ и расходом $12\text{м}^3/\text{с}$.

Использованные источники:

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ОЦЕНКА ВЛИЯНИЯ ХИМИЧЕСКОГО СОСТАВА ВОДЫ НА КОРРОЗИОННЫЕ СВОЙСТВА

Аннотация. Несмотря на относительно незначительную мутность воды проходящей через проточную часть турбины, в составе находятся минералы с средней и высокой степени абразивности (полевой шпат более 50,5 % и кварц -18,6 % от общего количества твердых примесей).

Ключевые слова: механических примесей, механических примесей, мелкочешуйчатый износ, чешуйчатый износ, гидроабразивный.

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ASSESSMENT OF THE INFLUENCE OF THE CHEMICAL COMPOSITION OF WATER ON CORROSIVE PROPERTIES

Abstract. Despite the relatively insignificant turbidity of the water passing through the flow part of the turbine, the composition contains minerals with a medium and high degree of abrasiveness (feldspar more than 50.5% and quartz - 18.6% of the total amount of solid impurities).

Key words: mechanical impurities, mechanical impurities, fine scaly wear, scaly wear, water jet.

В таблице 1.1 представлена классификация минералов по степени абразивности предложенная. Сопоставляя с таблицей 2.4- Минералогопетрографический состав наносов канала Бозсу (нижний бьеф ГЭС-1) можно увидеть, что в составе воды проходящей через турбины имеются минералы различной абразивности. Наибольшую опасность для

гидромашин представляют частицы, твердость которых превышает твердость материалов деталей (твердость по шкале Мооса 5-5,5):

Минерал Твердость по шкале Мооса

Кварц, циркон Более 7

Полевой шпат, рудные 5-7

Нерудные, кальцит Менее 5

Большую часть состава механических примесей как видно из таблиц составляют минералы полевого шпата (58,46 % пробы). Кварцевые породы которые относятся к IV-V классу абразивности, средней и выше средней абразивности составляют вторую по содержанию группу минералов (18,61% от общей массы всей пробы)[1].

Таблица 1.1 Классификация горных пород и минералов по абразивности

Класс абразивности	Характеристика пород по абразивности	Показатель абразивности в мг	Характерные породы, входящие в класс
I	Весьма малоабразивные	Менее 5	Известняки, мраморы, мягкие сульфиды, апатит, глинистые сланцы
II	Малоабразивные	5-10	Сульфидные руды, аргилиты, мягкие сланцы
III	Ниже средней абразивности	10-18	Джеспилиты, роговики, магматические тонкозернистые породы, железные руды
IV	Среднеабразивные	18-30	Кварцевые мелкозернистые песчаники, диабазы, крупнозернистый пирит, окварцованные известняки
V	Выше средней абразивности	30-45	Кварцевые средне и крупнозернистые песчаники, мелкозернистые граниты, порфириты, габбро, гнейсы
VI	Повышенной абразивности	45-65	Гранаты, диориты, пироксениты, кварцевые сланцы, порфириты
VII	Высокоабразивные	65-90	Порфириты, диориты, граниты
VIII	В высшей степени абразивные	Более 90	Корундосодержащие породы

В зависимости от внешних признаков механического воздействия на поверхность истираемых деталей гидромашин существует следующая классификация гидроабразивного износа:

1. Металлический блеск — блестящая поверхность без следов окраски, окалины или ржавчины.

2. Мелкочешуйчатый износ — поверхность с редкими, отдельно расположенными, неглубокими чешуйками.

3. Чешуйчатый износ — вся поверхность покрыта неглубокими чешуйками.

4. Крупночешуйчатый износ — вся поверхность покрыта глубокими большими чешуйками.

5. Углубленный (глубинный) износ — поверхность покрыта глубокими и длинными канавками [2].

6. Сквозные отверстия или полное истирание материала.

Как показывает практика, при эксплуатации гидротурбин в условиях гидроабразивного износа, наиболее интенсивному воздействию подвергаются фронтальные части лопастей рабочего колеса, наружная часть лопаток направляющего аппарата и внутренняя часть корпуса. На рисунках

Рис. 1. Лопасть рабочего колеса



1-2 представлены изношенные части гидроагрегатов Бозсуйской ГЭС [3].

Характер повреждений лопастей на этих рисунках указывает мелкочешуйчатый износ с редкими, отдельно расположенными, неглубокими чешуйками и на углубленный (глубинный) тип износа с длинными канавками. Что говорит о наличии гидроабразивного износа деталей гидротурбин Бозсуйской ГЭС. Количественно и качественно этот гидроабразивный износ можно отнести к низкой и средней активности [4].



Рис. 2 Внутренняя поверхность рабочей камеры (котла) гидротурбины

Несмотря на наличие процесса гидроабразивного износа, главной причиной падения энергоэффективности следует считать общий физический износ, связанный с долгим периодом эксплуатации гидроагрегатов и их моральным износом (выше указывалось об устаревшем типом гидротурбин – сдвоенные, горизонтальные) [3].

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ОЦЕНКА ВЛИЯНИЯ КОРРОЗИОННЫХ ЭРОЗИЙ НА ИЗНОС РАБОЧИХ ЭЛЕМЕНТОВ ГИДРОТУРБИН

Аннотация. Показатели эксплуатационной надежности очень низкие. Периодичность капремонтов составила в среднем 2 года при нормативном межремонтном периоде по гидротурбине 5-7 лет. Бозсуйская ГЭС в результате физического и морального износа оборудования мощность выдает более чем в два раза ниже проектных и возможных при существующих параметрах водотока 4 МВт мощности.

Ключевые слова: мутность, половодий, высокая мутность, дождевые паводки.

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ASSESSMENT OF THE INFLUENCE OF CORROSIVE EROSION ON WEAR OF HYDROTURBINE WORKING ELEMENTS

Abstract. Operational reliability indicators are very low. The frequency of overhauls averaged 2 years, with the standard overhaul period for a hydraulic turbine being 5-7 years. The Bozsui hydroelectric power station, as a result of physical and moral wear and tear of the equipment, produces power that is more than two times lower than the design and 4 MW of power possible with the existing parameters of the watercourse.

Key words: turbidity, floods, high turbidity, rain floods.

Наличие взвешенных наносов в воде, проходящий через гидротурбину, вызывает абразивное разрушение его рабочих органов. Степень гидроабразивного разрушения материала зависит от:

- мутности или концентрации гидроабразивных примесей;
- гранулометрического и минералогического состава;
- формы частиц наносов;
- времени воздействия потока с гидроабразивными частицами на детали гидротурбины;
- материала, из которого изготовлены подверженные гидроабразиву детали турбин.

Самым сильнодействующим и определяющим фактором является мутность речного потока. Мутность или концентрация потока количественно выражается содержанием механических примесей (наносов) в граммах на 1 м³ воды.

По классификации предложенной Г. И. Шамовым, вся территория СНГ разделена на зоны, в зависимости от определенной мутности речных вод (среднегодовая мутность в г/м³). Эти зоны характеризуются следующим:

Зона I характеризуется малой мутностью речных вод, не превышающей обычно 50 г/м³, — охватывает всю северную половину Европейской и Азиатской частей СНГ. Южная граница этой зоны в Европейской части СССР примерно совпадает с границей лесной зоны, а в Азиатской части проходит несколько севернее. В пределах зоны полностью расположены бассейны Немана, Западной Двины, Невы, Северной Двины, Печоры, нижней части Оби и почти полностью бассейны Енисея и Лены (за исключением верховьев).

Зона II — это водоисточники с средней мутностью речных вод (50—150 г/м³) — охватывает лесостепную и частично лесную части Европейской территории СНГ и Сибири. В пределах этой зоны расположены значительные части бассейнов Десны, Оки, Камы, Тобола, Ишима, верховьев Енисея, Лены и Амура [1].

Зона III — высокой мутности речных вод (150—500 г/м³) — охватывает южную территорию Европейской части СНГ и Западной Сибири. К этой зоне относятся реки левобережья Днестра ниже Киева, значительная часть рек бассейна Дона, реки Приазовья, Приволжской возвышенности, бассейна Урала и степной части Западно-Сибирской низменности.

По величине мутности вод к этой зоне принадлежат и многие реки Средне-Русской возвышенности, отличающиеся повышенной эрозионной деятельностью.

Воды трех рассмотренных зон (за исключением Дальнего Востока) имеют наиболее высокую мутность во время весенних половодий, когда она

в 10—30 раз превышает мутность меженных вод. В среднем за период весеннего половодья реки выносят до 90% всего годового количества наносов. На реках Дальнего Востока наибольший сток наносов падает на летние месяцы, в течение которых там наблюдаются дождевые паводки [2].

Данные характеризуют средние годовые значения мутности. Как и всякие осредненные величины они не дают представления о чрезвычайно изменчивой в году эрозионной деятельности рек и о резких колебаниях мутностей потоков. Например, наибольшая из определенных мутностей на верхнем Дону достигала 11593 г/м³, а наименьшая мутность составляла 6 г/м³. Мутность вод Дуная в устье за 30-летний период наблюдений колебалась в пределах 2-1305 г/м³.

Зона IV — очень высокой мутности вод (500-5000 г/м³) — охватывает горные области Кавказа и Средней Азии. Особенно высокая мутность вод наблюдается в тех районах, где большие уклоны сочетаются с благоприятными геологическими условиями (наличие пород, легко поддающихся размыву)[3].

Такое сочетание характерно для рек восточной части Большого Кавказа, где широко представлены глинистые сланцы, известняки и глины. Максимальная среднегодовая мутность здесь достигает 11 700 г/м³ (р. Аксай). Это самая высокая среднегодовая мутность, наблюдавшаяся на реках СНГ. Высокая мутность характерна также для рек Сулака, Самура и Терека. Мутность воды в период паводков здесь достигает 120 000 г/м³ (р. Сунжа). В Закавказье мутность вод несколько ниже, например, среднегодовая мутность Куры у Тбилиси равна 1660 г/м³, а у Мингечаура — 1940 г/м³.

В горных областях Средней Азии общая картина интенсивности эрозионных процессов весьма пестрая, что связано прежде всего с разнообразием литологического состава пород, слагающих поверхность речных бассейнов. Среднегодовая мутность речных вод Средней Азии колеблется в широких пределах — от 50 (Талас, Чирчик) до 4000 г/м³ (Аму-Дарья, Теджен, Мургаб).

Наиболее значительная эрозия происходит в бассейне р. Вахш, что вызвано широким распространением здесь третично-меловых, легковыветривающихся толщ. По некоторым данным наибольшая мутность р. Вахш в створе Нурекской ГЭС составляет 39 900 г/м³. Расход наносов в это время составлял 48,7 т/сек. Наименьшая зарегистрированная мутность равна 22,3 г/м³. Средний многолетний расход наносов р. Вахш (для створа Нурекской ГЭС) составляет около 88,7 млн. т/год[3].

Нижеприводятся данные по гранулометрическому составу наносов находящихся в воде, проходящей через проточную часть гидротурбин Бозсуйской ГЭС.

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ОБЕСПЕЧЕНИЕ ЛИКВИДНОСТИ И ФИНАНСОВОЙ УСТОЙЧИВОСТИ КОМПАНИЙ В РЕСПУБЛИКЕ УЗБЕКИСТАН

Аннотация. Обеспечение ликвидности и финансовой устойчивости компаний является одним из необходимых условий обеспечения их конкурентоспособности. В статье обозначены актуальные проблемы, связанные с обеспечением ликвидности и финансовой устойчивости компаний в Республике Узбекистан и разработаны научные предложения по их решению.

Ключевые слова: предприятие, ликвидность, финансовая устойчивость, инфляция, девальвация, стоимость, кредит, документарный аккредитив, платежное поручение, процентная ставка.

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ENSURING LIQUIDITY AND FINANCIAL STABILITY OF COMPANIES IN THE REPUBLIC OF UZBEKISTAN

Annotation. Ensuring liquidity and financial stability of companies is one of the necessary conditions for ensuring their competitiveness. The article identifies current problems related to ensuring liquidity and financial stability of companies in the Republic of Uzbekistan and develops scientific proposals for solving them.

Key words: enterprise, liquidity, financial stability, inflation, devaluation, cost, loan, documentary letter of credit, payment order, interest rate.

Введение. Сегодня в условиях международной финансово-экономической глобализации в Республике Узбекистан стремительно развивается онлайн-режим дистанционного банковского обслуживания. В результате это приводит к удобным возможностям для клиентов, то есть продуктивности времени, сокращению штатов, сокращению бюрократических проволочек.

Коммерческим банкам желательно охватить больше клиентов и обслуживать их не за счет открытия филиалов и мини-банков, а за счет повышения эффективности дистанционного банковского обслуживания и

экономии операционных затрат банков. В результате повышается конкурентоспособность банков, повышается уровень диверсификации дистанционного банковского обслуживания в банках, то есть клиентам банка предоставляется возможность выбора при использовании удобных для них видов дистанционного банковского обслуживания (интернет-банкинг, онлайн-банкинг, особенно мобильный банкинг и другие виды).

Основная часть. Положения Центрального банка Республики Узбекистан, утвержденного Постановлением № 34/8 от 23 октября 2010 года «О порядке работы в системах дистанционного обслуживания банковских счетов» [1]. Обмен информацией клиентами банка по каналам связи банка через систему дистанционного обслуживания банковских счетов в коммерческих банках, то есть банки стали играть важную роль в предоставлении дистанционных банковских услуг.

Передовой зарубежный опыт показывает, что развитие розничных платежных услуг коммерческих банков снижает потребность в наличных деньгах, уменьшает объем расходов, связанных с осуществлением платежей, и ускоряет переход розничных платежей.

В США министерство финансов разработало специальный счет электронных переводов (счет электронных переводов), чтобы гарантировать, что все платежи федерального правительства осуществляются без наличных денег. Всем тем, у кого нет расчетного счета в банке на этот счет.

Розничные банковские услуги – это финансовые услуги, оказываемые коммерческими банками физическим лицам.

Относительно широко распространены следующие виды розничных банковских услуг:

- привлечение депозитов от физических лиц;
- предоставление кредитов физическим лицам;
- оказание расчетных услуг физическим лицам;
- оказание контрольно-кассовых услуг физическим лицам;
- валютно-обменные операции с физическими лицами.

Результаты и выводы. На сегодняшний день розничные банковские услуги являются одним из самых прибыльных видов бизнеса для банков. Розничные банковские услуги разнообразны и включают в себя валютно-обменные операции, срочные, до востребования и сберегательные вклады, сертификаты, депозитарии, потребительские кредиты, консультационные и многие другие услуги.

Сегодня все эти услуги широко предлагаются клиентам в США, странах Европы, Японии и других странах с развитой банковской системой.

Одной из основных задач в развитии банковской системы является повышение качества банковских услуг, расширение спектра услуг и доведение их до уровня банков развитых стран.

В итоге мы видим, что количество пользователей ДБО в коммерческих банках на 1 января 2011 года составило 24 545 человек, а на 1 января 2020 года достигло 1 015 3458 человек [10].

В частности, всего 7,6 трлн в рамках социальных программ, направленных на обеспечение занятости населения и развитие семейного предпринимательства. в сумме сумов, в том числе 4,9 трлн. непосредственно физическим лицам. выделены льготные кредиты в сумме сумов.

Расчеты, проведенные в Индии, показали, что на предприятиях торговли и услуг проведение операции с использованием дебетовой карты в 10 раз дешевле, чем оформление снятия наличных в кассе банка.

Следует отметить, что в ряде стран мира действуют ограничения на осуществление расчетов наличными. Например, в Бельгии с января 2014 года введен лимит в размере 3 000 (трех тысяч) евро для осуществления платежей наличными [7]. Это ограничение распространяется не только на покупку товаров и услуг, но и на сделки с недвижимым имуществом (наличными можно оплатить только до 10% недвижимого имущества).

Платежи на основе пластиковых карт занимают важное, уникальное место в системе розничных платежных услуг.

Важно отметить, что в развитых странах большинство расчетов по пластиковым картам осуществляется кредитными картами. Это объясняется тем, что коммерческие банки улучшили кредитование физических лиц в этих странах. В Республике Узбекистан, поскольку абсолютную основную часть всех находящихся в обращении пластиковых карт (более 90 процентов) составляют дебетовые карты, основу платежной системы на основе пластиковых карт составляют платежи посредством дебетовых карт.

В Республике Узбекистан все более активно развивается розничная платежная система на основе пластиковых карт, однако вес наличных денег в денежной массе остается высоким. По информации Центрального банка Республики Узбекистан, на конец 2022 года общий объем депозитов, привлеченных коммерческими банками, увеличился на 1,3 процента по сравнению с 2021 годом и достиг 1953727,6 миллиардов долларов. составил сум. Также мы видим, что количество пользователей дистанционным банковским обслуживанием, т.е. юридических и физических лиц, на 1 января 2022 года достигло 10 153 458, что связано с расширением качества и объема предоставляемых банковских услуг за счет широкого использования современных информационно-коммуникационных технологий. технологий, повысилась эффективность работы, проводимой в банковской системе.

По данным Центрального банка Республики Узбекистан, объем депозитов населения в 2022 году в частных коммерческих банках увеличился на 1,3 процента по сравнению с 2021 годом и достиг 1 953 727,6 миллиарда долларов. составил сумму. Так же мы видим, что количество

пользователей дистанционным банковским обслуживанием, т.е. юридические и физические цифры, которые на 1 января 2022 года достигли 10 153 458, которые связаны с расширением качества банковских услуг и широким использованием современных информационно-коммуникационных технологий. технологические, повышающие эффективность работы, внедрения и банковской системы.

Также количество инфокиосков и банкоматов, установленных для обеспечения непрерывного приема платежей, за 2021 год увеличилось на 5 632 и на 1 января 2020 года достигло 9 20322.

Заключение Постановление Президента Республики Узбекистан от 23 марта 2018 года № 3620 «О дополнительных мерах по повышению популярности банковских услуг» [2] описывает деятельность банков и пути устранения имеющихся у них недостатков.

Выводы и предложения. В результате проводимых реформ в банковской системе внедряются рыночные механизмы оказания услуг, расширяются их виды, повышается финансовая открытость для предпринимателей и населения. Внедряются новые банковские услуги, облегчающие осуществление операций по обмену валюты для населения, созданы условия для покупки иностранной валюты индивидуальными предпринимателями. Кроме того, в данном решении устранен ряд проблем и недостатков, препятствовавших соблюдению прав и законных интересов потребителей банковских услуг, особенно в регионах, и расширению финансовой открытости, а также культуры обслуживания и доверия к банковской системе.

На основании вышеизложенной информации можно сделать вывод, что на сегодняшний день удельный вес банковских услуг, оказываемых розничным клиентам в банковской системе, с каждым годом увеличивается. Тем не менее, мы видим, что использование банковских услуг и их популярность в нашей стране несколько медленнее по сравнению с некоторыми развитыми странами, а механизм реализации услуг недостаточно усовершенствован.

Устранение этих недостатков позволит повысить качество обслуживания клиентов в каждом банке и увеличить доходы банка от систем дистанционного обслуживания. Вопрос расширения возможностей использования («СМС-банкинг», «Интернет-банкинг», «Мобильный банкинг») и расширения возможности управления номерами депозитных счетов физических лиц посредством банковских пластиковых карт показывает, что он является одним из наиболее актуальных вопросов сегодня.

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ОСОБЕННОСТИ СОВЕРШЕНСТВОВАНИЯ КОНЦЕПТУАЛЬНЫХ ОСНОВ ПРИ МОДЕРНИЗАЦИИ НАЛОГОВОЙ СИСТЕМЫ

Аннотация. В статье рассматриваются принципы, стратегии и методологии, необходимые для пересмотра налоговой системы, чтобы лучше согласовать ее с развивающимся экономическим ландшафтом страны. Целью статьи является предоставление понимания проблем и возможностей, связанных с налоговой модернизацией в условиях переходной экономики, на примере Узбекистана.

Ключевые слова: налоговая система, концептуальные основы, модернизация, налогообложение, принципы налогообложения, Узбекистан, фискальная реформа.

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FEATURES OF IMPROVEMENT OF CONCEPTUAL FRAMEWORKS IN THE MODERNIZATION OF THE TAX SYSTEM

Abstract. The article examines the principles, strategies and methodologies needed to revise the tax system to better align it with the country's evolving economic landscape. The article aims to provide an understanding of the problems and opportunities related to tax modernization in a transition economy by using Uzbekistan as a practical example.

Key words: tax system, conceptual framework, modernization, taxation, principles of taxation, Uzbekistan, fiscal reform.

Модернизация налоговой системы имеет большое значение в условиях Узбекистана, где переходная экономика переживает быстрые реформы, для поддержки стабильного экономического роста, привлечения инвестиций и обеспечения финансовой стабильности. В данном введении представлена общая информация об обосновании, целях и важности совершенствования концептуальной основы модернизации налоговой системы в Узбекистане. Опора на традиционные источники налоговых поступлений ограничивает способность правительства финансировать критически важные государственные услуги и инфраструктурные проекты.

Основная цель модернизации налоговой системы в Узбекистане – создание более благоприятной среды для экономического роста, инвестиций и инноваций. Кроме того, усилия по модернизации направлены на расширение налоговой базы, повышение собираемости доходов и обеспечение долгосрочной финансовой устойчивости.

Модернизация налоговой системы включает в себя различные направления, включая реформу налоговой политики, административную реструктуризацию, цифровизацию и наращивание потенциала. Реформа налоговой политики включает пересмотр и обновление налогового законодательства, правил и стимулов для приведения их в соответствие с международными стандартами и повышения экономической конкурентоспособности. Административная реструктуризация предполагает укрепление институтов налогового администрирования, улучшение обслуживания налогоплательщиков и борьбу с уклонением от уплаты налогов и мошенничеством. Инициативы по оцифровке направлены на автоматизацию налоговых процессов, внедрение электронных систем подачи и оплаты, а также расширение возможностей анализа данных для управления рисками и мониторинга соблюдения требований. Усилия по наращиванию потенциала направлены на обучение налоговых органов, повышение знаний и осведомленности налогоплательщиков, а также развитие сотрудничества с международными партнерами и заинтересованными сторонами.

Решив проблемы, присущие налоговой реформе, и воспользовавшись открывающимися возможностями, Узбекистан сможет создать более благоприятную бизнес-среду, повысить привлекательность государственных доходов и повысить общее благосостояние граждан.

Анализ модернизации налоговых систем в развивающихся странах сегодня показывает многогранный подход к мобилизации доходов, соблюдению требований и административной эффективности. Исследования и тематические исследования подчеркивают важность технологий, политических реформ и международного сотрудничества в этих процессах.

Центр международного роста обсуждает проблемы и возможности, связанные с введением налога на добавленную стоимость в развивающихся странах. Хотя системы налога на добавленную стоимость полезны для получения доходов, они могут быть осложнены трудностями внедрения, особенно на уровне малых фирм и розничной торговли. В исследовании подчеркивается «проблема последней мили», когда конечным потребителям не рекомендуется запрашивать квитанции, что может поставить под угрозу соблюдение НДС. Технологические решения, такие как электронные счетные машины (EVM), сыграли важную роль в улучшении соблюдения требований, хотя существуют проблемы с обеспечением последовательной выдачи чеков потребителям. Пример Сан-Паулу (Бразилия) где потребители

могут получать лотерейные билеты и налоговые скидки, предоставив свой идентификатор налогоплательщика при совершении покупок, является примером успешной стратегии поощрения участия потребителей и повышения налогового законодательства.

Глобальная налоговая программа Всемирного банка подчеркивает важность поддержки стран в укреплении их налоговых систем для более эффективного сбора доходов. В программе подчеркивается необходимость комплексных, научно обоснованных программ реформ, включающих правовые, технические и административные меры. Ключевые стратегии включают модернизацию налоговых учреждений, использование информационных технологий для совершенствования налогового законодательства и администрирования, а также создание крупных офисов налогоплательщиков, чтобы сосредоточить усилия по соблюдению требований на наиболее важных вкладчиках. Комплексный подход Глобальной налоговой программы демонстрирует потенциал целенаправленных реформ и технологических инноваций для трансформации налоговых систем в развивающихся странах.

Эффективные стратегии модернизации требуют не только внедрения новых технологий и упрощения налоговой системы, но и формирования культуры комплаенса среди налогоплательщиков и налоговых органов. Достигается за счет эффективного налогового администрирования и сокращения ручной обработки и бюрократической волокиты за счет цифровизации.

Увеличение мобилизации доходов: Увеличение соотношения налоговых поступлений к ВВП отражает успешное расширение и внедрение налоговой базы, что способствует расширению бюджетного пространства для государственных инвестиций и услуг.

Повышенное соответствие: Более благоприятная среда для налогоплательщиков и эффективные механизмы правоприменения сократят уклонение от уплаты налогов.

Широкое применение электронной подачи документов: Высокий уровень электронной подачи деклараций упрощает налоговые процедуры и повышает административную эффективность, что приводит к экономии затрат как правительства, так и налогоплательщиков.

Повышение эффективности: сокращение административных расходов демонстрирует эффективность цифровизации и усовершенствований процессов в повышении эффективности сбора налогов.

До сведения общественности были доведены комплексные отчеты о ходе и результатах модернизации налоговой системы, обеспечивающие прозрачность. Механизмы обратной связи позволили выявить области, нуждающиеся в корректировке, и стратегия была соответствующим образом усовершенствована для оптимизации результатов.

Стратегия реформы включает в себя уроки, извлеченные из модернизации налоговой системы других стран, и адаптирует эти лучшие практики к уникальным условиям Узбекистана.

Цифровые решения способствовали успеху проекта, способствуя более эффективному сбору налогов, мониторингу соблюдения требований и общению с заинтересованными сторонами.

Успешная реализация этих методических этапов создала прочную основу для постоянного совершенствования налоговой системы и адаптации к будущим задачам и возможностям.

Краткое содержание.

Эти усилия не только соответствуют общим целям экономической реформы Узбекистана, но также служат моделью для других стран, проводящих аналогичные изменения.

Усилия по модернизации привели к улучшению соотношения налоговых поступлений к ВВП, что отражает более надежную и устойчивую налогово-бюджетную систему, которая поддерживает устойчивый экономический рост и развитие.

Эти улучшения облегчили предприятиям и частным лицам выполнение своих налоговых обязательств, снизив общий уровень уклонения от уплаты налогов. Эти усилия обеспечили хорошее понимание, поддержку и эффективное осуществление реформ, а также способствовали развитию культуры соблюдения требований и сотрудничества.

Он подчеркивает важность комплексного и гибкого подхода к реформам, подчеркивая необходимость постоянной оценки и механизмов обратной связи для уточнения и улучшения налоговой политики и административной практики.

Постоянное совершенствование и адаптация необходимы для решения потенциальных проблем и использования новых возможностей для роста и развития.

Поскольку Узбекистан продолжает совершенствовать и расширять эти реформы, извлеченные уроки и используемые методологии послужат ценным ресурсом как для страны, так и для мирового сообщества, преследующего аналогичные усилия.

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АЛЬТЕРНАТИВНАЯ ЭНЕРГЕТИКА В УЗБЕКИСТАНЕ

Аннотация. Основными компонентами альтернативных - возобновляемых источников энергии в Узбекистане являются солнечная, гидравлическая, ветровая и геотермальная энергия, а также энергия биомассы.

Ключевые слова: энергия, ветроустановка, солнечный панель, геотермальная энергия, мощность, блок управления, аккумуляторная батарея, фотоэлектрическая пластинка.

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ALTERNATIVE ENERGY IN UZBEKISTAN

Abstract. The main components of alternative renewable energy sources in Uzbekistan are solar, hydraulic, wind and geothermal energy, as well as biomass energy.

Key words: energy, wind turbine, solar panel, geothermal energy, power, control unit, battery, photovoltaic plate.

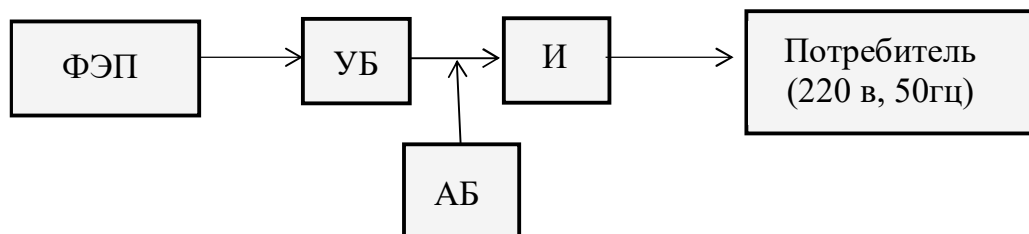
Сегодня, в рамках своего стремления к зеленому развитию, Узбекистан стремится достичь углеродной нейтральности, развивая «зеленую энергию» и утроив долю возобновляемых источников энергии в течение следующих 10 лет. Были поставлены амбициозные стратегические цели: удвоить производство электроэнергии в стране до 28 ГВт к 2030 году и обеспечить, чтобы не менее 25% электроэнергии поступало из возобновляемых источников. На этот показатель приходится 5 ГВт солнечной энергии, 3 ГВт ветра и 2 ГВт гидроэнергии. Узбекистан является одной из стран с большим потенциалом использования возобновляемых источников энергии. По оценкам экспертов, альтернативная энергетика в нашей стране в несколько раз превышает невозобновляемые ресурсы органического топлива. Около 97 процентов этой возможности исходит от солнечной энергии. То есть в нашей стране считается 300 солнечных дней в году. В этом плане мы можем превзойти Испанию, разработавшую солнечную энергетiku. Кроме того, у нас есть ветреные районы, а также

горные реки, которые можно использовать для выработки электроэнергии. Узбекистан является одним из регионов, богатых ветровыми ресурсами. Мощность ветра, дующего у поверхности земли – на высоте 10 метров, составляет 25% электроэнергии, вырабатываемой в нашей стране за год. Если получать электроэнергию из ветра высотой до 100 метров, можно будет получать энергию в большем объеме, чем в настоящее время.

1. Энергия ветра. Уже очень давно, видя, какие разрушения могут приносить бури и ураганы, человек задумывался над тем, нельзя ли использовать энергию ветра. Ветряные мельницы с крыльями-парусами из ткани первыми начали сооружать древние персы свыше 1,5 тыс. лет назад. В дальнейшем ветряные мельницы совершенствовались. В Европе они не только мололи муку, но и откачивали воду, сбивали масло, как, например, в Голландии. Первый электрогенератор был сконструирован в Дании в 1890 г. Через 20 лет в стране работали уже сотни подобных установок [1-4]. Энергия ветра очень велика. Ее запасы по оценкам Всемирной метеорологической организации, составляют 170 трлн. кВт*ч в год. Эту энергию можно получать, не загрязняя окружающую среду. Но у ветра есть два существенных недостатка: его энергия сильно рассеяна в пространстве, и он непредсказуем – часто меняет направление, вдруг затихает даже в самых ветреных районах земного шара, а иногда достигает такой силы, что ломает ветряки. Строительство, содержание, ремонт ветроустановок, круглосуточно работающих в любую погоду под открытым небом, стоит недешево. Ветроэлектростанция такой же мощности, как ГЭС, ТЭЦ или АЭС, по сравнению с ними должна занимать большую площадь. К тому же ветроэлектростанции небезвредны: они мешают полетам птиц и насекомых, шумят, отражают радиоволны вращающимися лопастями, создавая помехи приему телепередач в близлежащих населенных пунктах [4-6]. Принцип работы ветроустановок очень прост: лопасти, которые вращаются за счет силы ветра, через вал передают механическую энергию к электрогенератору.

2. Солнечная энергия. Солнце, как известно, является первичным и основным источником энергии для нашей планеты. Оно греет всю Землю, приводит в движение реки и сообщает силу ветру. Под его лучами вырастает 1 квадриллион тонн растений, питающих, в свою очередь, 10 триллионов тонн животных и бактерий. Благодаря тому же Солнцу на Земле накоплены запасы углеводородов, то есть нефти, угля, торфа и пр., которые мы сейчас активно сжигаем. Для того чтобы сегодня человечество смогло удовлетворить свои потребности в энергоресурсах, требуется в год около 10 миллиардов тонн условного топлива. Солнечная энергетика основывается на том, что поток солнечного излучения, проходящего через участок площадью 1 м.кв., расположенный перпендикулярно потоку излучения на расстоянии одной астрономической единицы от Солнца (на входе в атмосферу Земли), равен 1367 Вт/м.кв. (солнечная постоянная) [2-3-5].

Через поглощение, при прохождении атмосферы Земли, максимальный поток солнечного излучения на уровне моря (на Экваторе) - 1020 Вт/м.кв. Однако следует учесть, что среднесуточное значение потока солнечного излучения через единичный горизонтальный участок как минимум в три раза меньше (из-за смены дня и ночи, и изменения угла солнца над горизонтом). Зимой в умеренных широтах это значение еще в два раза меньше. Известны следующие способы получения энергии за счет солнечного излучения: 1. Получение электроэнергии с помощью фотоэлементов. 2. Преобразование солнечной энергии в электрическую с помощью тепловых машин: а) паровые машины (поршневые или турбинные), использующих водяной пар, углекислый газ, пропан-бутан, фреоны; б) двигатель Стирлинга и т.д. 3. Гелиотермальная энергетика - преобразование солнечной энергии в тепловую за счет нагрева поверхности, поглощающей солнечные лучи. 4. Солнечные аэростатные электростанции (генерация водяного пара внутри баллона аэростата за счет нагрева солнечным излучением поверхности аэростата, покрытой селективно-поглощающим покрытием). Недостатки солнечной энергетики. Для строительства солнечных электростанций требуются большие площади земли через теоретические ограничения для фотоэлементов первого и второго поколения. К примеру, для электростанции мощностью 1 ГВт может понадобиться участок площадью несколько десятков квадратных километров. Строительство солнечных электростанций такой мощности может привести к изменению микроклимата в прилегающей местности, поэтому устанавливают в основном фотоэлектрические станции мощностью 1-2 МВт недалеко от потребителя или даже индивидуальные и мобильные установки. Фотоэлектрические преобразователи работают днем, а также в утренних и вечерних сумерках (с меньшей эффективностью). При этом пик электропотребления приходится именно на вечерние часы. Кроме этого, произведенная ими электроэнергия может резко и неожиданно колебаться из-за изменений погоды [2-3]. В настоящее время энергоэффективность отдельных зданий во многом определяется потребностью в электроэнергии. Известно, что в наши дни фотоэлектрические станции мощностью до 100-12000 Вт для отдельных потребительских небольших квартир изготавливаются и применяются на практике [2,5-7]. Существуют также некоторые недостатки развития деятельности солнечных фотоэлектрических приборов, такие как неспособность фотоэлементов, преобразующих солнечный свет в электричество, выдерживать высокие температуры, пыльное покрытие поверхности фотоэлементных пластин в засушливом климате и дороговизна фотоэлектрических пластин. Основные части солнечных фотоэлектрических приборов состоят из следующих основных частей (рис. 1):



1-рис. Основные части фотоэлектрических установок.
 ФЭП-фотоэлектрическая пластинка, УБ-управляющей блок, АКБ-аккумуляторная батарея, И-инвертор.

Блок управления контролирует подключение напряжения к нагрузке и аккумуляторной батарее. ФЭП-фотоэлектрическая пластина преобразует световую энергию в электрическую. Инвертор усиливает постоянное напряжение, генерируемое в ФЭП, и преобразует его в переменное напряжение (220 В, 50 Гц). АКБ-аккумуляторная батарея служит для обеспечения бесперебойного питания потребителя в условиях отсутствия света, накапливая в себе напряжение, генерируемое в ФЭП. Срок службы ФЭП составляет в среднем 25-30 лет. За это время один раз заменяют инвертор и три раза заменяют аккумулятора. Коэффициент полезного действия современного ФЭП составляет 15-25%, и на 1 м² поверхности ФЭП можно получить 150 Вт электрической энергии. Поверхность ФЭП для выработки 2 кВт мощности, необходимой для отдельной семьи определяются следующей формулой:

$$S=2000/150=14 \text{ м}^2$$

Совокупная стоимость ФЭП с комплектующими, вырабатывающими 2 кВт электроэнергии, в фирме "Mir Solar" рассчитывается следующим образом:

$$K=2 \times 9,0 = 18,0 \text{ млн. сум.}$$

Годовая электрическая энергия ФЭП определяется $W=K_{п} \cdot P_{м} \cdot T_{с}$ как генерируемая электричество. В этом случае коэффициент $K_{п}$ является коэффициентом потерей, которая учитывает изменение температуры и угла падения солнечного света в течение дня; $K_{п} = 0,5 \div 0,7$.

$P_{м}$ -максимальная мощность ФЭП, $T_{с}$ - солнечные дни (годовая). В Узбекистане

В течение год солнечные часы составляют 850-1000 часов^[3], и максимальная мощность определяется:

$$W= 0,7 \times 2 \text{ кВт} \times 1000 \text{ ч} = 14000 \text{ кВт.ч.}$$

Стоимость 1 кВт ч. электрической энергии в настоящее время в Узбекистане 295 сўм, тогда годовая стоимость электрической энергии:

$$\text{Э} = 14000 \times 295 = 4\,130\,000 \text{ сум.}$$

Определяем срок самоокупаемости устройство ФЭП:

$$T = K/\text{Э} = 18,0/4,130 = 4,35 \text{ год.}$$

Срок самоокупаемости за 5 лет уменьшился 2,5 раза. В последнее годы стоимость 1 квт.ч. электрической энергии автономных ФЭП было 7 евро. За 5 лет оно уменьшился до 4,5 евро. Таким образом стоимость альтернативной электрической энергией непрерывно уменьшается, а стоимость обычной электрической энергии непрерывно увеличивается. За 5 лет стоимость обычной электрической энергии увеличился 3-5 раз [3-5]. **Выводы:** Для малой жилой автономной квартиры рекомендуется использовать ФЭП с площадью 14 м² и мощностью 2 кВт электричества. Расходы на самоокупаемость солнечных ФЭП неуклонно сокращаются. Техничко-экономические показатели альтернативных источников энергии приравниваются к технико-экономическим показателям традиционных источников электроэнергии, которые остаются конкурентоспособными между собой. Цена солнечных фотоэлементов сравнительно высокая, но с развитием технологии и ростом цен на ископаемые энергоносители этот недостаток постепенно преодолевается.

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МУҚОБИЛ ЭНЕРГЕТИКА ДАВР ТАЛАБИ

Аннотация. Мақолада қуёш ва шамол қурилмаларидан асосий энергия манбалари сифатида фойдаланиш билан боғлиқ масалалар кўриб чиқилади, бу еса турли хил иқлим шароитида йил давомида электр юкларини кафолатланган қоплашни таъминлайдиган тўлиқ автоном электр станцияларини яратишга имкон беради.

Калит сўзлар: қайта тикланадиган энергия манбалари, автоном тармоқлар, қуёш қурилмалари, шамол қурилмалари, энергия хусусиятлари.

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ALTERNATIVE ENERGY ERA DEMAND

Annotation. The article discusses issues related to the use of solar and wind installations as primary sources of energy, which make it possible to create completely autonomous power plants that provide guaranteed year-round coverage of electrical loads in various climatic conditions.

Key words: renewable energy sources, autonomous networks, solar installations, wind installations, energy characteristics.

Ҳозирги кунда дунё бўйича киши бошига тўғри келадиган энергия истеъмоли ўртача 2-4 кВт* соатга тенг. Аммофаровон ҳаёт кечириш учун бу миқдор етарли эмас ва у 8-10 кВт* соатга тенг бўлиши лозим[1-2]. Нефть, газ кўмир, торф каби ёқилғи манбаларининг йилдан - йилга миқдори камайиб, таннархи ошиб бораётган ҳозирги шароитда аҳолининг энергияга бўлган эҳтиёжини тўла қондириш, энергия истеъмолини талаб даражасига етказиш дунё ҳамжамияти олдида турган асосий муаммо бўлиб турибди. Ушбу муаммони ҳал этишнинг ягона йўли муқобил-қайта тикланувчи энергия манбаларидан фойдаланишдир. Бу муаммолар Ўзбекистон Республикаси Президенти Ш.Мирзиёевнинг 2023 йил 16-февралдаги“ҚТЭ манбаларини ва энергия тежовчи технологияларни жорий этишни жадаллаштиришчора тадбирлари тўғрисида”ги қарорида ўз аксини топган. Ушбу ПҚда белгиланган вазифаларни ижросига бағишлаб йиғилишларда ва турли кўргазмаларда қайта тикланувчи энергияларнинг самарадорлиги

юқорибўлиши биланбир қаторда экологик жиҳатдан соф энергия эканлиги кўрсатиб ўтилган ва бу сохани ривожлантириш чора-тадбирлари ҳақидаги вазифалар белгилаб олинган. Жумладан, Жиззах вилояти Ғаллаорол туманидаги “Кўкбулоқ” ҚФЙ ҳудудида қуввати 220 Мвт бўлган қуёш ФЭС қурилиши бошланди. Бу 150 млн долларлик объект бўлиб, 600 гектар ер майдонига жойлашади. Лойиҳа инвестори БАА гининг “Masdar” компанияси бўлиб ФЭС 2024 йилда ишга туширилади ва 100 та иш ўрни яратилади. Ўзбекистон бўйича умумий қуввати 4300 Мвт бўлган ҚТЭ манбалари йирик ҚФЭС лари ижтимоий соҳа объектлари, тадбиркорлик субъектларининг бино ва иншоотларига ўрнатилади. Мамлакатимизда қайта тикланувчи муқобил энергия манбаларининг потенциали 173,4 млн т.н.э. бўлиб [3-4], энергиянинг йиллик энергия истеъмоли қийматидан уч баробар кўпдир. Бу энергиянинг 98,8% ни Қуёш энергияси ташкил этади. Чунки Мамлакатимиз серқуёшўлка бўлиб, йилнинг 270-300 кунда Қуёш нур сочиб туради ва ҳар бир метр квадрат ерга 1100 вт га тенг энергия узатилади. Қуёш фотоэлектр станцияларидан Жиззах политехника институтида (100 квт) ва ижтимоий объектларда, мактабларда фойдаланилмоқда. Шу кунларда кўплаб ижтимоий объектларнинг электр энергияси таъминотида ҚФЭС лари ўрнатилмоқда

Ҳаво оқимларидан фойдаланиб шамол тегирмони ясаш VIII асрнинг бошларида шимолий Европада амалга оширилган. 1885 йилдаёқ Дания мамлакатига дастлабки шамол электр станциялари қурилган. 1918 йилда Данияда 120 тадан ортиқ шамол электр станцияларидан фойдаланилган. Уларнинг ҳар бирининг қуввати 10-20 киловатдан бўлган. 1880-1930 йилларда АҚШда 6 миллиондан ортиқ шамол электр станциялари ишлатилган [2]. Юқорига кўтарилган сайин шамолнинг тезлиги ортиб боради. Ер устида шамол тезлиги 3 м/с га тенг бўлса, 10 метр баландликда шамолнинг тезлиги икки баробар ортиқ бўлади. 40-80 метр баландликка ўрнатилган шамол генераторлари ёрдамида 25-50 киловатдан ортиқ электр энергиясини ҳосил қилиш мумкин. 2020 йилларда Европайтифоқидаги давлатларда истеъмоли қилинадиган энергиянинг 80% ни шамол ва Қуёш энергияси ҳисобига қоплаш режалаштирилган [5-6]. Бунинг учун 20 йил ичида сайёрамизда 3,8 миллион дона шамол электр генератори, 90 мингта йирик ва 1,7 миллиард кичик Қуёш электр станциялари қурилиши лозим. Шамол энергиясидан фойдаланиш орқали олинадиган электр энергиясимиқдори бўйича Германия (45 Гвт) етакчилик қилмоқда. Сув энергиясидан кичик ГЭСлар орқали электр энергиясини ҳосил қилиш бўйича етакчи ўринда Хитой туради. Кейинги ўн йилликда Хитойда 40000 та, Хиндистонда эса 400 та кичик ГЭСлар қуриш режалаштирилган. Австрия, Финландия, Швеция мамлакатларида ҳам кичик ГЭСларга эътибор кучайтирилган. Эндиликда муқобил энергияманбаи бўлган оқар сувлар энергиясидан микро ГЭСлар ёрдамида фойдаланишга бўлган эътибор ҳам кучайиб бормоқда. Электр узатиш тармоқларидан узокда жойлашган тоғли

худудлардаги булоқ ва канал сувларининг механик энергиясидан фойдаланиб электр энергияси ишлаб чиқариш микро ГЭСлар орқали амалга оширилади. Бундай электр энергияси манбаи учун тўғон қуриш шарт эмас, яъни оқар сувнинг механик-потенциаль энергияси етарлидир (расм-1). Бундай микро ГЭСлар учун гидротурбиналарнинг бир неча хил варианты А.Устюжин томонидан таклиф этилган. Ана шундай микро ГЭСлар Жиззах туманидаги Увобсой қишлоғидан оқиб ўтувчи сойга, Жиззах политехника институти худудидан оқиб ўтувчи каналларга ўрнатилган. Кичик қувватли бундай микро ГЭСлар қишлоқ шароитда яшаётган бир ёки бир неча хўжаликларни электр энергиясига бўлган эҳтиёжини қондира олади. Бу ишларнинг самарадорлиги электроэнергетик мутахассис кадрларнинг илмий салоҳиятига узвий боғлиқдир. Демак-ки, олий ўқув юртида электроэнергетик мутахассислар тайёрловчи кафедраларнинг моддий техник базасини бойитиш, шамол ва Қуёш энергиясини, биогаз энергиясини ҳосил қилиш усуллари тадқиқ этиш учун синов майдончалари, махсус қурилмалар билан жиҳозланган илмий лабораторияларни ташкил этиш мақсадга мувофиқ бўлади (расм 1,2). Ўзбекистон Республикаси Олий ва ўрта махсус таълим вазирлигининг “Олий ва ўрта махсус таълим муассасаларининг моддий-техник таъминотини бойитиш чора-тадбирлари хақида”ги қарор ижросини таъминлаш мақсадида Жиззах политехника институти “Физика” ва “Электроэнергетика” кафедраларига 42 номдаги қиймати 350 минг евро бўлган лаборатория жиҳозлари Германия давлатидан олиб келиб ўрнатилди. Муқобил энергия манбалари – шамол электр генератори, Қуёш фотоэлектр манбаларини тадқиқ этиш Жиззах политехника институти худудидан оқиб ўтувчи ташкил этилган технопаркда амалга ошириб келинмоқда. Ҳозирда ушбу технопарк ва ўқув лабораторияларни такомиллаштириш, моддий техник базасини янада бойитиш ва жиҳозлаш бўйича амалий ишлар қизғин олиб борилмоқда [6]. Қундалик ҳаёт билан узвий боғлиқ булган, муқобил энергия манбалари хақида юқорида келтирилган маълумотлардан фойдаланиш орқали таълимнинг мазмуни васамарадорлиги ошишига ишонамиз.



Расм–1.



Расм–2

Адабиётлар:

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ТАЪЛИМ САМАРАДОРЛИГИНИ ОШИРИШДА МУҚОБИЛ ЭНЕРГИЯ ҲАҚИДАГИ МАЪЛУМОТЛАРДАН ФОЙДАЛАНИШ

Аннотация. Мақолада қуёш ва шамол қурилмаларидан асосий энергия манбалари сифатида фойдаланиш билан боғлиқ масалалар кўриб чиқилади, бу еса турли хил иқлим шароитида йил давомида электр юкларини кафолатланган қоплашни таъминлайдиган тўлиқ автоном электр станцияларини яратишга имкон беради.

Калит сўзлар: қайта тикланадиган энергия манбалари, автоном тармоқлар, қуёш қурилмалари, шамол қурилмалари, энергия хусусиятлари.

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USING ALTERNATIVE ENERGY INFORMATION TO IMPROVE EDUCATIONAL EFFECTIVENESS

Annotation. The article discusses issues related to the use of solar and wind installations as primary sources of energy, which make it possible to create completely autonomous power plants that provide guaranteed year-round coverage of electrical loads in various climatic conditions.

Key words: renewable energy sources, autonomous networks, solar installations, wind installations, energy characteristics.

Мамлакатларнинг дунё хамжамиятида тутган ўрни, аҳолининг яшаш фаровонлигининг ўсиши киши бошига туғри келадиган энергия истеъмоли миқдори билан белгиланади. Ҳозирги кунда дунё бўйича киши бошига туғри келадиган энергия истеъмоли ўртача 2-4 кВт* соатга тенг. Аммо фаровон ҳаёт кечириш учун бу миқдор етарли эмас ва 10 кВт* соатга тенг бўлиши лозим. Нефть, газ кумир, торф каби ёқилғи манбаларининг йилдан - йилга миқдори камайиб, таннархи ошиб бораётган ҳозирги шароитда аҳолининг энергияга булган эҳтиёжини тула қондириш, энергия истеъмолини талаб даражасида етказиш дунё хамжамияти олдида турган асосий муаммо бўлиб турибди. Ушбу муаммони ҳал этишнинг ягона йўли муқобил-қайта тикланувчи энергия манбаларидан фойдаланишдир. Бу муаммолар Ўзбекистон Республикаси Президенти И.Каримовнинг 2013 йил

1-мартдаги “Муқобил энергия манбаларини ривожлантириш чора тадбирлари тўғрисида”ги 4512 сонли фармонида ўз аксини топган. Ушбу фармонда белгиланган вазифаларни ижросига бағишлабўтказилган конференциялар, учрашувлар, семинарлар ва турли кўргазмаларда қайта тикланувчи энергияларнинг самарадорлиги юқорибўлиши биланбир қаторда экологик жиҳатдан соф энергия эканлиги кўрсатиб ўтилган ва бу сохани ривожлантириш чора-тадбирлари ҳақидаги вазифалар белгилаб олинган.

Маълумки, ҳозирда қайта тикланувчи муқобил энергия манбаларининг асосан 5 та тури санаб ўтилади, булар Қуёш энергетикаси, шамол энергияси, сув энергияси, Ер тубидагииссиқлик энергияси, биомасса энергияларидир. Дунё буйича Қуёш батареялариорқали олинган энергия миқдорийилига 200 МВт ни ташкил этади. Бутун жаҳондаги каби Мамлакатимизда ҳам энергияга бўлган талабнинг ортиб бориши муқобил энергия манбаларига, хусусан Қуёш энергиясигабўлган эҳтиёжнинг ортишига олиб келди.

Мамлакатимизда қайта тикланувчи муқобил энергия манбаларининг потенциали 173,4 млн т.н.э. бўлиб, энергиянинг йиллик энергия истеъмол қийматидан уч баробар кўпдир. Бу энергиянинг 98,8% ни Қуёш энергияси ташкил этади. Чунки Мамлакатимиз серкуёшўлка бўлиб, йилнинг 250-270 кунда Қуёш нур сочиб туради ва ҳар бир метр квадрат ерга 1100 вт га тенгэнергия узатилади.Қуёш энергиясидан фойдаланиш ёруғликни фотоэлементлар - Қуёш батареялари (2-расм) ёрдамида электр энергиясига айлантириш орқали амалга оширилади. Бу борада Япония, Германия, АҚШ мамлакатлари етакчилик қилмоқда [1]. Қуёш коллекторлари - Қуёшпечларидан фойдаланиб иссиқлик энергиясини ҳосил қилиш -Қуёш печларининг юзаси (21 млнметр квадрат) билан ўлчанади. Бу борада Япония, Исроил, Греция мамлакатлари етакчи ўринларда турадилар. Қуёш энергиясидан электр энергиясини ҳосил қиладиган кремний монокристаллини соф ҳолда тайёрлаш жуда қимматга тушганлиги сабабли Қуёш батареяларининг фойдали иш коэффициенти жуда паст бўлган. Эндиликда Арсенидгаллий, кремний поликристалли,кадмий теллур кабиюпқа плёнкали Қуёш элементлари яратилди-ки,улар асосида тайёрланган Қуёш элементларининг фойдали иш коэффициенти анча ошди.Бугунги кунда Қуёш фотоэлектр станциялари ва сувни Қуёш энергияси орқали иситиш коллекторлари Сурхандарё, Жиззах, Бухоро, Навоий, Тошкент, Андижон вилоятларида ва Қорақалпоғистон Республикасида муваффақиятли қўлланилиб келинмоқда. Қуёш фотоэлектр станцияларидан Жиззах политехника институтида (6,75 квт), “Зомин” мониторинг марказида,Фориш туманидаги Нарвонсой кишлоғидаги фермер хўжалигида, Навоий вилояти Тёмди туманидаги иккита ўрта мактабларда фойдаланилмоқда. Нурота тумани марказий шифохонадаги тиббиёт жихозлари шамол генераторидан олинадиган энергия ҳисобига ишламоқда.

Куёш нурлари энергияси таъсирида қизиган иссиқ ҳаво нисбатан енгил бўлади ва у юқорига кўтарилади. Унинг ўрнини эгаллашга интилган совуқ ҳаво оқимининг ҳаракати туфайли шамол ҳосил бўлади. Бундай ҳаво оқимларидан фойдаланиб шамол тегирмони яшаш VIII асрнинг бошларида шимолий Европада амалга оширилган. 1885 йилдаёқ Дания мамлакатада дастлабки шамол электр станциялари қурилган. 1918 йилда Данияда 120 тадан ортиқ шамол электр станцияларидан фойдаланилган. Уларнинг ҳар бирининг қуввати 10-20 киловатдан бўлган. 1880-1930 йилларда АҚШда 6 миллиондан ортиқ шамол электр станциялари ишлатилган [2]. Юқорига кўтарилган сайин шамолнинг тезлиги ортиб боради. Ер устида шамол тезлиги 3 м/с га тенг бўлса, 10 метр баландликда шамолнинг тезлиги икки баробар ортиқ бўлади. 40-80 метр баландликка ўрнатилган шамол генераторлари ёрдамида 25-50 киловатдан ортиқ электр энергиясини ҳосил қилиш мумкин. 2020 йилларда Европа иттифоқидаги давлатларда истеъмол қилинадиган энергиянинг 80% ни шамол ва Куёш энергияси ҳисобига қоплаш режалаштирилган. Бунинг учун 20 йил ичида сайёра миқдорида 3,8 миллион дона шамол электр генератори, 90 мингта йирик ва 1,7 миллиард кичик Куёш электр станциялари қурилиши лозим. Шамол энергиясидан фойдаланиш орқали олиннадиган электр энергияси миқдори бўйича Германия (45 Гвт) етакчилик қилмоқда. Сув энергиясидан кичик ГЭСлар орқали электр энергиясини ҳосил қилиш бўйича етакчи ўринда Хитой туради. Кейинги ўн йилликда Хитойда 40000 та, Хиндистонда эса 400 та кичик ГЭСлар қуриш режалаштирилган. Австрия, Финландия, Швеция мамлакатларида ҳам кичик ГЭСларга эътибор кучайтирилган. Эндиликда муқобил энергия манбаи бўлган оқар сувлар энергиясидан микро ГЭСлар ёрдамида фойдаланишга бўлган эътибор ҳам кучайиб бормоқда. Электр узатиш тармоқларидан узокда жойлашган тоғли ҳудудлардаги булоқ ва канал сувларининг механик энергиясидан фойдаланиб электр энергияси ишлаб чиқариш микро ГЭСлар орқали амалга оширилади. Бундай электр энергияси манбаи учун тўғон қуриш шарт эмас, яъни оқар сувнинг механик-потенциаль энергияси етарлидир. Бундай микро ГЭСлар учун гидротурбиналарнинг бир неча хил варианты А. Устюжин томонидан таклиф этилган. Ана шундай микро ГЭСлар Жиззах туманидаги Увобсой қишлоғидан оқиб ўтувчи сойга, Жиззах политехника институти ҳудудидан оқиб ўтувчи каналларга ўрнатилган (1-расм). Кичик қувватли бундай микро ГЭСлар қишлоқ шароитда яшаётган бир ёки бир нечта хўжаликларни электр энергиясига бўлган эҳтиёжини қондира олади. Муқобил энергия манбалари яъни шамол ва Куёш энергиясидан фойдаланиш иктисодий ўсишга, экологик софликка хизмат қилади. Электр узатиш тармоқларидан узок бўлган ҳудудларда муқобил энергия манбаларига бўлган эҳтиёж жуда катта бўлгани учун микро ГЭСлар, шамол ва Куёш энергияларидан фойдаланиш, мазкур энергетика соҳасини раванок топтириш зарур. Бу ишларнинг самарадорлиги электроэнергетик

мутахассис кадрларнинг илмий салохиятигаузвий боғлиқдир. Демак-ки, олий ўқув юртларида электроэнергетик мутахассислар тайёрловчи кафедраларнинг моддий техник базасини бойитиш, шамол ва Қуёш энергиясини, биогаз энергиясини хосил қилиш усуллари тадқиқ этиш учун синов майдончалари, махсус қурилмалар билан жихозланган илмий лабораторияларни ташкил этиш мақсадга мувофиқ бўлади. Ўзбекистон Республикаси Олий ва ўрта махсус таълим вазирлигининг “Олий ва ўрта махсус таълим муассасаларининг моддий-техник таъминотини бойитиш чора-тадбирлари хақида”ги қарорини жасосини таъминлаш мақсадида Жиззах политехникаинститутини “Физика” ва “Электроэнергетика” кафедраларига 42 номдаги қиймати 350 минг евро бўлган лаборатория жихозлари Германия давлатидан олиб келиб ўртатилди. “Электроэнергетика” кафедрасида муқобил энергия манбалари ҳамда электр энергиясини хисобини назорат қилишнинг автоматик тизимлари (АСКУЭ) бўйича лаборатория ташкил қилинган [3] ва бу лаборатория базасида Республикаимизнинг кўплаб вилоятларидаги худудий электр тармоқларикорхоналари мутахассисларини АСКУЭ тизими бўйича қайта тайёрлаш курсини фаолият кўрсатиб келди. Муқобил энергия манбалари – шамол электр генератори, Қуёш фотоэлектр манбаларини тадқиқ этиш Жиззах политехника институтини худудидаги янгидан ташкил этилган технопаркда амалга ошириб келинмоқда.

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ТЕЛЕКОММУНИКАЦИЯ ТИЗИМЛАРИНИНГ ТУЗИЛИШ ТАМОЙИЛЛАРИ

Аннотация. Ахборот-коммуникация технологиялари бугунги кунда барча соҳаларда турли вазифаларни бажаришида кенг қўлланилмоқда. Алоқа воситалари, компьютерлар ва барча телекоммуникация тизимлари ва қурилмалари инсонларнинг ахборотга бўлган талабини қондиришида муҳим восита ҳисобланади. Шу сабабли, уларнинг тузилиши ва ишлаши тамойилларини ўрганишига охирги йилларда алоҳида эътибор берилмоқда.

Калит сўзлар: аппарат, дастур, телекоммуникация, unix, digital, supervisor, root, суперфойдаланувчилар.

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STRUCTURE PRINCIPLES OF TELECOMMUNICATION SYSTEMS

Abstract. Today, information and communication technologies are widely used in performing various tasks in all fields. Communication tools, computers and all telecommunication systems and devices are important tools in meeting people's demand for information. Therefore, in recent years, special attention has been paid to the study of their structure and working principles.

Keywords: hardware, software, telecommunications, unix, digital, supervisor, root, superusers.

Аннотация. Сегодня информационно-коммуникационные технологии широко используются при выполнении различных задач во всех сферах. Средства связи, компьютеры и все телекоммуникационные системы и устройства являются важными инструментами удовлетворения спроса людей на информацию. Поэтому в последние годы изучению их устройства и принципов работы уделяется особое внимание.

Ключевые слова: аппаратное обеспечение, программное обеспечение, телекоммуникации, unix, цифровой, супервизор, root, суперпользователи.

Кўплаб манбаларда замонавий телекоммуникация тизимларининг тузилиши бўйича турли ёндошувлар келтирилган. Умумий концепция бўйича телекоммуникация тизимлари қуйидаги уч қисмдан ташкил топади:

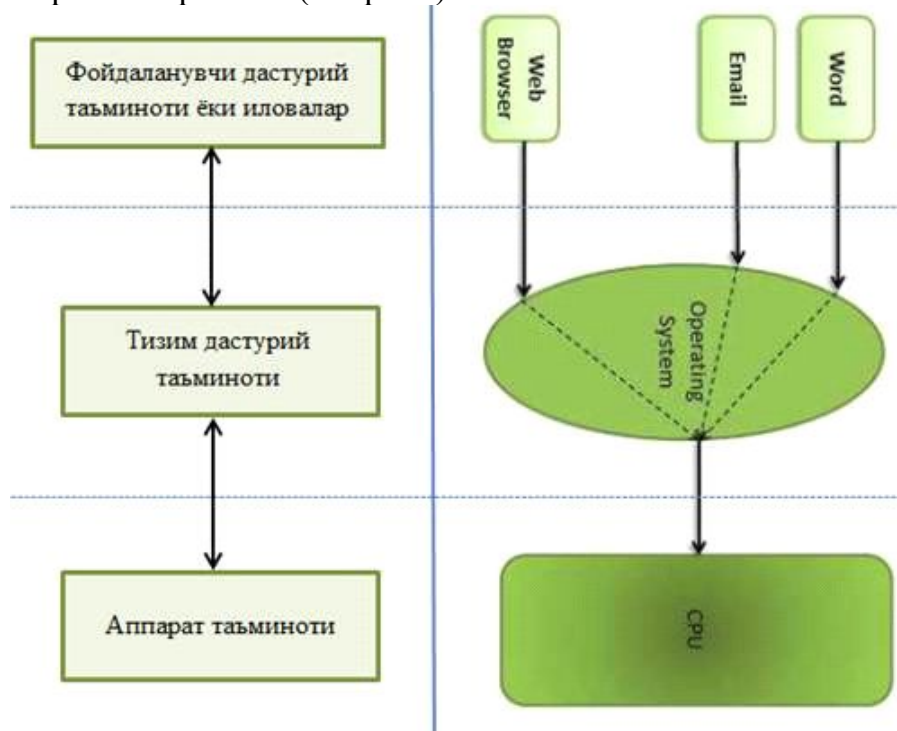
- 1) Аппарат таъминоти;
- 2) Тизим дастурий таъминоти;
- 3) Фойдаланувчи дастурий таъминоти.

Телекоммуникация тизимнинг **аппарат таъминоти** микро-процессорлар, микроконтроллерлар, электрон занжирлар ва схемалар, хотира элементлари ва турли алоқа интерфейсларидан ташкил топади.

Тизим дастурий таъминоти асосан операцион тизимлар ва маълум бир аппарат таъминоти асосида ишловчи тизим дастурларини ўз ичига олади.

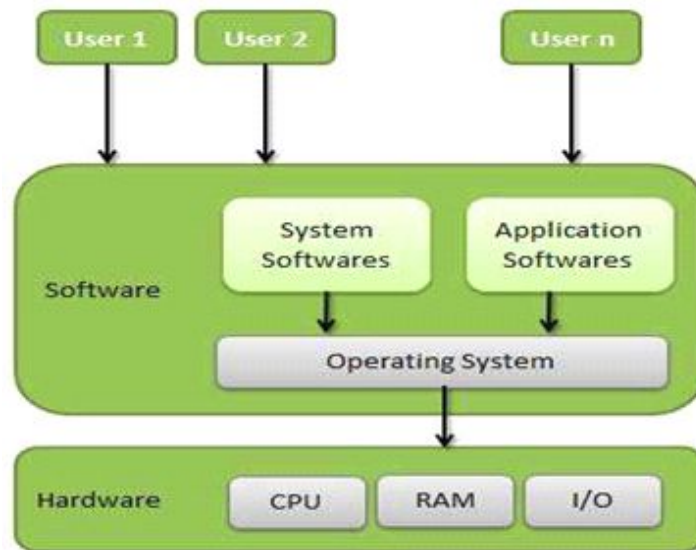
Фойдаланувчи дастурий таъминоти - бевосита фойлананувчилар амалий вазифаларини бажаришга ёрдам берувчи иловаларни ўз ичига олади.

Қуйида замонавий телекоммуникация тизимларининг тузилиш принциплари тасвирланган(1.1-расм).



1.1-расм. Телекоммуникация тизимларининг тузилиши

Операцион тизим ва фойдаланувчиларнинг боғланиши қуйидагича тасвирланади.



"UNIX" операцион тизимининг пайдо бўлишига сабаб, бу Кен Томпсоннинг "Space Travel" компьютер ўйинини яратилиши. У MAC ни ишлаб чиқиш учун мўлжалланган, "Honeywell" 635 компютерида 1969 йил амалга оширган. Шу вақтнинг ўзида Кен Томпсон, Деннис Ритчи ва бошқалар такомиллашган файллар тизимини таклиф этишди, бунга ўхшаши Генерал Элестрис 645 компютерида қўлланилаётган эди. Бироқ GE-645 компютерлари етарли даражада эффективликка эга эмас эди, "Space Travel"ни қондира олмас эди. Томпсон дастурни ўрнини босувчи, ўша вақтда ишлаб чиқарилган 18-разрядли PDP-7 компютерини топди. Бу компютер 4-килосўзли тезкор хотирали ва сифатли графикли дисплейдан иборат эди.

PDP-7 га ўйин ўтказилган сўнг, Томпсон шу компютерга олдин ишлаб чиққан файллар тизимини қўллашга аҳд қилди. Бу ишларни амалга ошириш учун қўшимча талаб Белл Лабс компаниясининг арзон ва қулай тизимларга муҳтожлиги эди. Яқин орада бу файллар тизими PDP-7 да ишлай бошлади, шунингдек, бу тизим иносес деган тушунчани, хотира ва просессорларни тизим ости бошқарилишини, оддий буйруқ интерпретатори ва бир неча утилиталарни қўллайди. Буларнинг ҳаммаси UNIX операцион тизими эди.

"UNIX" операцион тизимининг биринчи фойдаланувчилари бўлиб Белл Лабс патентланган бўлими ишчилари эди. Бироқ PDP-7 билан боғлиқ бир муаммолар турар эди. Биринчидан бу машина компютерлар гуруҳига кирмас эди. Иккинчидан бу компютернинг имкониятлари талаб даражада эмас эди. Шунинг учун ҳам 1971 йилда Digital Equipment PDP-11/20 фирмасининг 16 разрядли компютерлари харид қилинди ва унга "UNIX"кўчирилди. Шу вақтгача ассемблер тилида яратилган тизим варианты бор эди, шунинг учун ҳам тизимни кўчириш осон эмас эди: PDP-11 да тизим кўпроқ фойдаланувчиларни қондира олар эди. Ундан ташқари,

матнли хужжатларни форматловчи рофф утилитасини қўлади. У ҳам ассемблер тилида ёзилган эди.

Фойдаланувчи интерфейси. Фойдаланувчи билан "UNIX" тизимини алоқаси анъанавий усул буйруқлар тилида амалга ошади. (аммо ҳозирги даврда график интерфейслар оммалашмоқда).

Фойдаланувчи тизимга киргач, у учун буйруқли интерпретаторлардан бири жорий этилади. Одатда тизимда бир-бирига ўхшаш, аммо буйруқлар тилининг имкониятлари билан фарқ қиладиган бир неча буйруқли интерпретаторлар мавжуд бўлади. "UNIX" операцион тизимининг барча буйруқ интерпретаторларининг умумий номи Shell (қобик), чунки интерпретатор тизим ядросининг ташқи атрофини ташкил этади. Чақирилган буйруқ интерпретатори фойдаланувчига оддий буйруқ ёки буйруқлар конвееридан ташкил топган буйруқ қаторини киритишни таклиф этди. Ҳар бир буйруқ бажарилиб терминал экранига чиқарилгач, Шелл яна буйруқ қаторини киритишни таклиф этади ва ҳ.к. Ушбу жараён ишлатувчи сеансини тугатмагунча, яъни "logout" буйруғини киритганча ёки "Ctrl+d" ни босгач давом этади.

"UNIX" операцион тизимида ишлатиладиган буйруқ тиллари жуда оддий, истеъмолчи унда тез ишлашни бошлаши учун. Аммо мураккаб дастурларни ёзиш учун ишлатиш мумкин бўлган даражада қувватлиҳамдир. Охирги имконият ихтиёрий буйруқлар қаторлари кетма-кетлигини ўзида сақлаши мумкин бўлган буйруқ файллар механизмига асосланади. Кейинги буйруқ ўрнига буйруқ файлини номи кўрсатилганда интерпретатор файлини қаторма-қатор ўқиб, кетма-кет буйруқларни таржима қилади.

Фойдаланувчи имтиёзи. "UNIX" операцион тизим ядроси ҳар бир фойдаланувчини унинг интерпретатори бўйича текширади. У ноёб қиймат бўлиб, тизимда рўйхатдан ўтказилаётганда берилади (УИД). Бундан ташқари, ҳар бир фойдаланувчи айрим бутун белги билан текшириладиган фойдаланувчилар гуруҳига киради (ГИД). Ҳар бир регистрация қилинган фойдаланувчи учун УИД ва ГИД тизимнинг ҳисоб файлларида сақланади. Тизим администратори ҳам регистрация қилинган фойдаланувчи сифатида бошқа оддий фойдаланувчиларга нисбатан катта имкониятларга эгадир. "UNIX" операцион тизимида бу муаммо УИД бир белгисининг (нолинчи) ажратиб кўрсатилиши ёрдамида ҳал этилади. Бундай УИД га эга фойдаланувчи "Supervisor ёки root" дейилади. У ихтиёрий файлга кириш ва ихтиёрий дастурни амалга оширишда чекланмаган имкониятга эга. Бундан ташқари, бу фойдаланувчи тизимни тўла бошқариш имкониятига эга. У тизимни тўхташи ёки бузиб қўйиши ҳам мумкин. "UNIX" дунёсида бундай суперфойдаланувчи мақомини олган киши албатта нима қиладиганини аниқ англаши керак. У "UNIX" операцион тизимининг асосий проседураларини яхши билиши шарт. У тизимнинг хавфсизлиги, тўғри ишлатилиши, фойдаланувчиларнинг қўшилиши ёки чиқарилиши, доимий файллардан нусха кўчиришлар, ва ҳ.к.лар учун жавобгардир. Супер

фойдаланувчининг яна бир хусусияти шундаки, у учун фойдаланиладиган ресурслардан чекловлар йўқ. Оддий фойдаланувчилар учун файлнинг максимал ҳажми, ажратилган хотира сегментларининг максимал сони, дискда рухсат этилган максимал ҳажм ва ҳ.к. каби чекловлар ўрнатилади. Суперфойдаланувчилар бу чекловларни бошқа фойдаланувчилар учун ўзгартириши мумкин, аммо унга бу таъсир этмайди.

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РАҚАМЛИ ИҚТИСОДИЁТ ВА БАНК ХИЗМАТЛАРИДА БЛОКЧАЙН ТЕХНОЛОГИЯСИНИ КЎЛАШ

Аннотация. Мақолада рақамли иқтисодиёт, молиявий технологиялар ривожланиши шароитида банк хизматларининг ўрни қараб чиқилган. Бунда блокчейн технологиялари асосида рақамли иқтисодиётни амалга ошириш йўллари ҳам кўрилган. “Электрон ҳукумат”нинг бошқариш жараёнлари ҳам ўз ифодасини топган.

Калит сўзлар: инновация, инновацион иқтисодиёт, рақамли иқтисодиёт, блокчейн, рақамли технология, интеллектуал мулк, электрон ҳукумат.

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APPLICATION OF BLOCKCHAIN TECHNOLOGY IN DIGITAL ECONOMY AND BANKING SERVICES

Abstract. The article examines the analysis of opportunities and threats for commercial banks in the context of the digital economy, the development of financial technologies. It also looks at ways to implement a digital economy based on blockchain technology. The management processes of e-government are also reflected.

Keywords: innovation, innovative economy, digital economy, blockchain, digital technology, intellectual property, e-government, financial technology, threats.

Барчамизга маълумки, бутун дунёда рақамли технологиялар барча соҳаларга ва аҳоли турмуш даражасига ва сифатини ошириш ижтимоий-иқтисодий ривожланишнинг энг муҳим якуний натижаси бўлиб бормоқда. Республикамизда рақамли иқтисодиётни шакллантириш ва шу асосда банк хизматларининг сифатини ошириш ижтимоий-иқтисодий ислохотларнинг

муҳим йўналиши ва бош мақсади қилиб белгиланган. Ўзбекистон Республикаси Президенти Ш.М.Мирзиёев ушбу муҳим масалага алоҳида эътибор қаратиб: “Шарқ донишмандлари айтганидек, **“Энг катта бойлик – бу ақл-заковат ва илм, энг катта мерос – бу яхши тарбия, энг катта қашшоқлик – бу билимсизликдир!”** Хусусан, бу масала 2020 йилга **“Илм, маърифат ва рақамли иқтисодиётни ривожлантириш йили”³⁹**, деб ном берилиши, яъни илм-фанни янада равнақ топтириш, ёшларимизни чуқур билим, юксак маънавият ва маданият эгаси этиб тарбиялаш, рақобатбардош иқтисодиётни шакллантириш борасида бошлаган ишларимизни жадал давом эттириш ва янги, замонавий босқичга кўтариш мақсади кўзланган. Шу сабабли, Ўзбекистонда амалга оширилаётган ислохотларнинг пировард натижаси авваламбор ҳар бир соҳада ривожланишга эришишга қаратилган.

Шу боис мамлакатимизда рақамли иқтисодиётни ривожлантириш бугунги куннинг ва яқин истиқболнинг энг муҳим вазифасига айланган. Президентимизнинг 2020 йил 28 апрелдаги “Рақамли иқтисодиёт ва электрон ҳукуматни кенг жорий этиш чора-тадбирлари тўғрисида”ги қарорида 2023 йилга бориб рақамли иқтисодиётнинг мамлакат ялпи ички маҳсулотигаги улушини 2, ушбу соҳадаги хизматлар ҳажмини 3 баравар ошириш, улар экспортини 100 миллион АҚШ долларига етказиш вазифаси қўйилган.

Албатта рақамли иқтисодиёт жамиятда муайян ўзгаришларни юзага келтиради, хусусан, унинг меҳнат шароитларига таъсири сезиларли бўлади. Рақамли трансформация шароитида автоматлаштириш жараёнларининг кучайиши, сунъий интеллект, улкан маълумотлар билан ишлайдиган аналитик тизимлар, роботлардан фойдаланиш кўламининг ортиши меҳнат ресурслари учун ўринбосар бўлиб хизмат қилади. Натижада бизнес юритиш шароитлари такомиллашиб ва самарадорлик сезиларли даражада ортади.

Рақамли иқтисодиёт қанчалик тез шаклланса, аҳоли турмуш даражасида турли қулайликлар пайдо бўлади. Ҳаммамизга маълумки бир неча ўн йиллардан буён электрон ҳукуматни тизимини ривожлантиришга интилиб келамиз. Натижалар эса у даражада сезиларли эмас, атиги сўнгги уч йилда кўзга ташлана бошлади. Халқимиз “электрон ҳукумат” афзалликларини энди ҳис қила бошлади. Бу эса “интеллектуал ҳукумат” тамойиллари асосида аҳоли ва тадбиркорлик субъектларига электрон давлат хизматлари кўрсатиш тизимини янада кенгайтириш нақадар тўғри йўл эканлигини ҳам кўрсатади.

Бугунги кунгача банклар миқозларига хизмат кўрсатиши учун турли хужжатлар ва имзоларни йиғиб келишни талаб қилган бўлса, бугун эса аксинча, миқоз банкхизматларидан тўла қонли электрон фойдаланмоқда. Бунга сабаб эса жорий этилаётган инновациялар. Масалан, банклар рақамли

39Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг Олий Мажлисга Мурожаатномасидаги маърузаси.-Т.: 2020 йил 25 январь.<http://prezident.uz/uz/lists/view/>.

иктисодиётга ўтаётганлиги, миллий валютадаги пластик карталардан ҳеч чекловларсиз хорижий валюталарга айрибошлаш мумкинлиги, кредит олиш учун ҳужжатларни электрон шаклига ўтганлиги, банкларга блокчейн технологиялар кириб келиши, буларнинг ҳаммаси юқоридаги изоҳларимизнинг яққол далилидир.

Ўз вақтида мобиль банкингнинг жорий этилиши мижозлар учун инновация сифатида қаралган бўлса, бугунги кунда бу технология мижозлар учун, айниқса ёш авлод учун мажбурий шарт сифатида қаралмоқда. Экспертлар ва таҳлилчиларнинг фикрича, мобиль банкинг технологияси банк-лар учун минимум шарт сифатида қаралиб, бундай технологиядан фойда-ланмаган банк, банк хизматлари бозорида аутсайдир сифатида қаралади.

Экспертларнинг фикрича, 2018 йилдан бошлаб йирик банкларнинг қарийб 15 фоиздан ортиғи ўзларининг иш фаолиятида Blockchain технологиясидан фойдаланишни бошлаб юборишди. Бунга сабаб қилиб, Blockchain технологиясининг нисбатан эндигина яратилганига қарамасдан, унинг мавжуд бизнес жараёнлардаги инқилобий ўзгаришларни қамраб олгани молия бозорлари иштирокчилари орасида улкан қизиқиш уйғотганини кўрсатиш мумкин.

Blockchain технологияси молия бозорининг кўпгина тармоқларини рақобатбардошлигини ва юқори салоҳиятини ошириш имкониятини намоиш этади. Келажакда молия бозорида Blockchain технологиясини жорий қилишга энг жозибадор тармоқ бўлиб инвестицион банкинг ва молиявий транзакцияларни бошқариш ҳисобланади. Blockchain технологиясини кенг қўллаш мумкин бўлган тармоқларга банкларнинг чакана операцияларини, суғурта, кўчмас мулкка инвестициялар ва факторингни мисол қилиб келтириш мумкин. Шу билан бирга, Blockchain технологиясини молия бозорларини ривожлантиришдаги мавжуд барча муаммоларнинг ечими сифатида қараш нотўғридир. Ҳозирги вақтда Blockchain технологиясидан молия бозорларида фойдаланишни тартибга солишнинг ҳуқуқий асослари охиригача тўлиқ ишлаб чиқилмаган ва бу борада ниҳоясига етмаган, ўзини ечимини кутаётган кўплаб масалалар турибди.

Blockchain технологиясини кенг тарқашига тўсқинлик қилиб турган кейинги муаммолардан бири унинг ҳуқуқий мақомини аниқ белгилаб қўйилмаганлигидир. Айниқса, бу ҳолатни молия бозорларида фойдаланишда кўришимиз мумкин. Барча мавжуд миллий валюта тизимлари миллий ҳукуматлар томонидан яратилган ва тартибга солинган. Blockchain технологиясидан эса, ҳам миллий, ҳам халқаро даражада фойдаланилишини ҳисобга олсак, уни технологиясини қонунийлигини таъминлашда қатор долзарб ва ечилиши муҳим бўлган муаммоларга дуч келинади. Blockchain технологиясини ривожланишига тўсқинлик қилаётган яна бир муаммо сифатида транзакциялар блокинни шакллантириш учун

улкан ҳажмдаги ҳисоблаш операцияларини амалга ошириш ҳисобланади. Шунингдек, Blockchain технологиясининг кенг ривожланишига тўсқинлик қилаётган сабаблардан бири сифатида кўп энергия сарф этиши ва унинг юқори капитал қийматига эгаллигини ҳам келтириб ўтиш мумкин.

Президентимиз мурожаатида таъкидланганидек аҳолининг моддий фаровонлигини ошириш ва иқтисодийни барқарор ривожлантириш мақсадида “Рақамли Ўзбекистон – 2030” давлат дастури тузилади ва унда қуйидагилар устувор вазифалар сифатида белгиланади:

1. Рақамли иқтисодий инфраструктурасини яратиш, АКТ ривожлантириш, “Ақлли шаҳарлар”, “Хавфсиз шаҳарлар” лойиҳаларини амалга ошириш.

2. Инсон капиталини ривожлантириш ва рақамли кўникмаларни шакллантириш. Мурожаатномада айтилгандек яқин 3 – 4 йил ичида мамлакатимизда 1000 000 компьютер дастурини яратадиган программистлар ва рақамли иқтисодий соҳасида ана шунча иш жойлари яратилади.

3. Рақамли инновациялар экотизимини яратиш. Мурожаатномада таъкидланганидек “Инновацион таракқиёт биз учун ҳаводек зарур”

4. Самарали ахборот хавфсизлик тизимини яратиш

Жамиятнинг қанча кўп аъзоси янги рақамли, юқори технологик маҳсулотларни эгалласа, уларнинг харидорлиги ва қиммати шунча ортади, яъни истеъмол кўламининг синергетик самараси намоён бўлади. Натижада иқтисодий ривожланиш салоҳияти янада ошади.

Умуман олганда, рақамли иқтисодий ва унинг технологиялари аънанавий молиявий хизматлар бозорини “кўпориб ташлаш” салоҳиятига эга. Бу эса тижорат банкларидан рақамли трансформацияни жадал амалга ошириш, Fintech компаниялари билан ҳамкорликнинг самарали йўналишларини йўлга қўйишни тақозо этади.

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ПЕРСПЕКТИВЫ ПОВЫШЕНИЯ ЭФФЕКТИВНОСТИ МЕР И НАПРАВЛЕНИЙ СОКРАЩЕНИЯ БЕДНОСТИ В РЕГИОНАХ

Аннотация. В данной статье описаны меры и направления по предотвращению бедности в Узбекистане. Освещены понятие бедности, меры по ее определению, а также идеи о создании новой методологии выхода из ловушки бедности.

Ключевые слова: ловушка бедности, уровень жизни, профилактика бедности, образ жизни населения.

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PROSPECTS FOR INCREASING THE EFFECTIVENESS OF MEASURES AND DIRECTIONS FOR POVERTY REDUCTION IN THE REGIONS

Abstract. This article describes measures and directions for poverty prevention in Uzbekistan. The concept of poverty, measures to determine it, and ideas about creating a new methodology to get out of the poverty trap are highlighted.

Key words: Poverty trap, standard of living, prevention of poverty, lifestyle of the population.

Введение. По данным Всемирного банка, после начала пандемии уровень бедности в Узбекистане увеличился с 7,4% до пандемии до 8,7-10%. Это означает, что число бедных людей в нашей стране увеличилось на 0,45 - 0,88 миллиона человек. Поэтому в будущем будет целесообразным принятие жестких мер по сокращению бедности.

Из-за пандемии большая часть населения Узбекистана живет близко к черте бедности, и существует высокая вероятность того, что оно опустится за черту бедности. Всемирный банк сообщил, что более половины населения не имеет сбережений, а 40 процентов не могут позволить себе непредвиденные расходы в размере 100 тысяч сумов (9,8 доллара США).

Исходя из порога, принятого Всемирным банком (паритет покупательной способности для стран с более низким средним доходом

составляет 3,2 доллара США на человека в день), уровень бедности в Узбекистане в 2018-2021 годах составит 9,5 процента. Данные расчеты основаны на результатах исследования, полученного в рамках проекта «Прислушиваемся к гражданам Узбекистана» и изучении обращений жителей, обратившихся в «Народные приемные», количества домохозяйств, считающих себя «бедными». z-соответствует субъективным показателям самоклассификации.

«Несмотря на постоянные позитивные изменения, существуют резкие различия в показателях бедности с географической точки зрения. Около 79 процентов бедных людей живут в сельской местности. Хотя уровень бедности практически одинаков в Республике Каракалпакстан, Самаркандской и Сурхандарьинской областях, из-за относительно большой численности населения Самаркандской области в 2018 году там проживало 20% всего бедного населения».

Согласно официальным правительственным данным о доле людей, живущих в бедности, уровень бедности снизился примерно с 28 процентов в 2000 году до 11 процентов к 2021 году, при этом темпы сокращения бедности снижаются из года в год.

Вице-премьер, министр экономики и борьбы с бедностью заявил, что уровень бедности в стране за время пандемии не увеличился, и ни один слой населения за этот период не впал в бедность. Также заместитель министра занятости и трудовых отношений Эркин Мухиддинов заявил, что в начале 2020 года уровень безработицы превысил 13 процентов, а в конце сентября 2020 года этот показатель составлял 11,1 процента, а в 2021 году, как говорилось, быть около 10 процентов.

Многогранный индикатор бедности был разработан учеными Оксфордского университета при поддержке Программы развития ООН, и эта методология широко используется при расчете индексов человеческого развития в мире. Метод измерения бедности через потребительские расходы домохозяйств поддерживается Международной организацией труда. Немонетарный метод предполагает измерение бедности по трем показателям: многоуровневая бедность (он измеряет слои и глубину бедности населения), материальная депривация (определяет уровень относительной бедности) и социальная разобщенность по пребыванию (которая измеряет доступ к социально значимым услугам).

Абсолютное понятие бедности. Это понятие тесно связано с понятием «порог бедности». Черта бедности — это уровень располагаемого дохода, валового дохода или потребления, ниже которого человек считается бедным. Абсолютная черта бедности: абсолютный минимальный уровень жизни, основанный на ограниченной продовольственной корзине (потреблении продуктов питания) и способности позволить себе небольшие дополнительные расходы. Абсолютная бедность часто измеряется количеством людей или домохозяйств с потреблением или доходом ниже

черты бедности. Всемирный банк установил абсолютную черту бедности на уровне 1,25 доллара США в день (рассчитывается по паритету покупательной способности).

Относительное понятие бедности. Этот показатель бедности определяет относительный порог бедности и позволяет сравнивать фактические доходы населения с другими. Если в условиях роста реальных доходов населения принцип распределения не изменится, относительная бедность останется прежней. В данном случае концепция относительной бедности является основанием для вывода о том, что она является составной частью концепции неравенства. Однако это не означает, что чем ниже неравенство, тем ниже относительная бедность. Английский социолог П. Таунсенд, основоположник концепции относительной бедности, определил эту категорию как неспособность большинства членов этого общества продолжать нормальный образ жизни из-за недостатка экономических ресурсов.

Его метод анализа бедности основан на концепции «Многомерной депривации». Под такой ситуацией он понимал «наблюдаемое и обоснованное беспомощное положение отдельного человека, семьи или группы в ландшафте общества или нации в целом». В методе многомерной депривации добавляются материальные депривации (питание, одежда, жилищные условия, товары длительного пользования, среда обитания, условия и характеристики труда) и показатели социальной депривации (занятость, особенности свободного времени (перевод, обучение и т.п.). Масштабы относительной бедности не соответствуют масштабам абсолютной бедности. Абсолютную бедность можно искоренить, но относительная бедность всегда останется. Другими словами, неравенство является неотъемлемым признаком общества. Даже при повышении уровня жизни социальных слоев общества относительная бедность сохраняется и даже увеличивается.

Понятие субъективной бедности. Согласно этой концепции, только индивид считает себя бедным и стремится пополнить ряды бедных. Существуют разные подходы к определению уровня субъективной бедности. Организуя социальные анкеты, можно определить, считает ли человек себя или своих друзей, коллег, соседей бедными. Также возможно определить порог субъективной бедности на основе общественного мнения и сравнить его с доходами населения.

Развитая система льгот в денежной и натуральной форме имеет решающее значение в социальной защите малоимущего населения. Эта система существует во всех странах с развивающимися рыночными отношениями и играет важную роль социальной защиты в смягчении негативных последствий бедности. Для определения права отдельных категорий населения на получение социальной помощи обычно используются показатели, определяющие уровень бедности. 25 сентября

2015 года Организация Объединенных Наций приняла решение обеспечить устойчивое развитие, устранить проблему бедности, устранить неравенство в свободной жизни людей и использовании природных ресурсов, предотвратить голод и бездомность, сохранить окружающую среду чистой и обеспечить будущим поколениям со всем. Чтобы обеспечить удовольствие от ковриков, программу «Преобразование нашего мира: Повестка дня в области устойчивого развития на период до 2030 года» одобрили 193 страны.

В заключение можно сказать, что для измерения бедности в Узбекистане используются только первые два метода. Результаты метода, основанного на питании, показывают, что уровень бедности составляет 11,4%. По результатам второго подхода уровень бедности составляет 36,6% при лимите 5,5 долларов в день и 9,6% при лимите 3,6 долларов. По оценкам, самый высокий уровень бедности наблюдается в Самаркандской, Сурхандарьинской, Сырдарьинской, Андижанской областях и Республике Каракалпакстан.

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СРАВНИТЕЛЬНАЯ ОЦЕНКА ИНВЕСТИЦИОННОЙ ПРИВЛЕКАТЕЛЬНОСТИ РЕГИОНОВ

Аннотация. Уровень экономического развития региона во многом определяется инвестиционной деятельностью. Привлечение инвестиций в экономику региона требует повышения инвестиционной привлекательности, постоянного мониторинга её состояния для эффективного управления. В данной статье предложена методика сравнительной оценки регионов по уровню инвестиционной привлекательности.

Ключевые слова. Инвестиции, инвестиционная привлекательность, рейтинг, сравнительная оценка, регион, экономика региона, интегральный показатель.

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COMPARATIVE ASSESSMENT OF REGIONAL INVESTMENT ATTRACTIVENESS

Abstract. The level of economic development of a region is largely determined by investment activity. Attracting investments into the region's economy requires increasing its investment attractiveness and continuously monitoring its status for effective management. This article proposes a methodology for comparative assessment of regions based on their level of investment attractiveness.

Keywords. Investments, investment attractiveness, rating, comparative assessment, region, regional economy, composite indicator.

Введение.

Исследование проблем инвестирования в развитие экономики всегда находилось в центре внимания экономической науки. Это обусловлено тем, что инвестиции затрагивают самые глубинные основы хозяйственной

деятельности, определяя процесс экономического развития в целом. Инвестиционный климат региона признан международным сообществом одной из главных характеристик успешности развития её экономики, привлекательности потенциала региона для мирового капитала, поэтому научный интерес к проблемам измерения инвестиционной привлекательности регионов постоянно растёт. В этой связи представляется актуальным развитие методологии статистического исследования инвестиционной привлекательности стран и регионов, измерение степени влияния основных факторов, характеризующих привлекательность регионов для инвестиций.

Применяемые на практике для этой цели методики основываются в большей степени на рейтинговых оценках, показателях роста капитализации компаний, расположенных на территории региона. Как показывает мировая практика последних лет, этого недостаточно для объективной оценки и мониторинга существующей ситуации, так как оценка роста стоимости реальных активов и эффективности их использования для региональной экономики практически не проводится. Неадекватность представлений о привлекательности регионов страны для инвестиций приводит к усилению дисбаланса между ожидаемыми результатами их развития и реальными предпосылками этого развития.

Методология исследования.

Для анализа результативности реализации инвестиционной политики и разработки рекомендаций по её совершенствованию предлагается провести комплексную сравнительную оценку инвестиционной привлекательности регионов. Наиболее распространённым методом таких оценок является метод ранжирования регионов. В результате составляется рейтинг регионов.

В основе использования рейтингового метода лежит идея определения рейтингового балла и ранжирования региона исходя из уровня социально-экономического развития, политического потенциала. Именно по этому методу определяется место региона в социально-экономическом развитии. С этой точки зрения рейтинговый показатель региона выступает в роли механизма стимулирования к развитию [1].

Анализ и результаты.

Исследование современных отечественных и зарубежных методов оценки инвестиционной привлекательности региональной экономики показывает их большое разнообразие. Эти методы можно разделить на две основные группы.

Первую группу составляют методы, основанные в значительной степени на экспертных опросах для получения исходной информации для анализа. К ним относятся методы рейтинговой оценки ведущих мировых экономических журналов, оценки мировых и отечественных рейтинговых

агентств и некоторые другие. Преимуществами методов первой группы являются:

- учет характеристик, которые действительно важны для инвестора;
- достаточно высокая оперативность (за исключением отечественных рейтинговых оценок);
- комплексное использование статистических данных и экспертных оценок.

Однако у методов этой группы есть и недостатки:

- общность оценки инвестиционной привлекательности экономики региона, что снижает их практическую применимость при выборе конкретного региона-реципиента;
- отсутствие элемента субъективности;
- слабая корреляция с уровнем инновационной активности.

Вторая группа методик основана на использовании статистической информации в качестве основы (методика Минэкономразвития России и РАН, методика МГУ имени М.В. Ломоносова, методики Г.М. Друбецкой, Г.А. Косицкой, М.В. Ольшанской и др.).

Основным преимуществом этих методик является ориентация на расчет комплексного показателя, который позволяет точно определить степень инвестиционной привлекательности экономики региона, что делает их более практичными для использования. Более того, они основываются на получении исходной информации только по объективным составляющим инвестиционной привлекательности, что, по нашему мнению, позволяет получить более точные результаты.

Однако у этих методик есть и недостатки: недостаточная обоснованность системы показателей для оценки инвестиционной привлекательности экономики региона и некоторая незавершенность, поскольку разработчики обычно не учитывают стратегические цели статистической оценки инвестиционной привлекательности, которая определяет весь процесс ее проведения, и обычно ограничиваются кластеризацией регионов по уровню инвестиционной привлекательности их экономик [2].

Тем не менее, по нашему мнению, важным элементом оценки должны быть анализ динамики изменения инвестиционной привлекательности экономики регионов для инвестиций как комплексного показателя и получение прогнозных оценок с их последующей классификацией.

Создание методологии любого рейтинга включает следующие шаги:

1. Создание системы показателей.
2. Определение источников информации.
3. Выбор метода агрегации данных в комплексный рейтинг.

Система показателей обычно формируется на основе целей исследования. На этом этапе целесообразно классифицировать показатели по различным критериям для правильного формирования комплексного

рейтинга. Показатели делятся на стимуляторы, дестимуляторы и нейтральные в зависимости от их направленности. Стимуляторами считаются показатели, увеличение которых оценивается положительно и указывает на развитие региона, улучшение социальной, экономической или экологической ситуации (например, уровень занятости, объём инвестиций в основной капитал). Дестимуляторами являются показатели, уменьшение значений которых положительно характеризует социально-экономические явления и процессы в регионе (например, выброс в атмосферу загрязняющих веществ, уровень безработицы).

Нейтральные показатели служат дополнительной, уточняющей информацией, и распределение регионов по их значению часто используется для формирования гомогенных групп исследуемых объектов (например, численность населения территории, общая площадь земли) [2].

Комплексный показатель определяется путем суммирования числовых значений отдельных показателей инвестиционной привлекательности.

В число частных факторов включены различные социальные, экономические, экологические характеристики регионов Республики Узбекистан, например, объём промышленного производства, уровень занятости, уровень преступности т.д. Необходимость учета таких характеристик объясняется их чрезвычайной важностью для инвесторов.

Интегральные показатели инвестиционной привлекательности регионов представляют собой относительные коэффициенты, которые, следовательно, не связаны с размерами территории или численностью населения региона. Все отдельные характеристики инвестиционной привлекательности учитываются при расчете интегральных (сводных) значений, измеряемых в относительных единицах - на душу населения, в темпах, в долях (табл. 2.3).

Таблица 2.3.

Система статистических показателей инвестиционной привлекательности региона *

№	Название показателя
1	ВРП на душу населения (тыс. сум), x_1
2	Производство промышленной продукции на душу населения (тыс. сум), x_2
3	Продукция сельского хозяйства на душу населения (тыс. сум), x_3
4	Строительные работы на душу населения (тыс. сум), x_4
5	Производство потребительских товаров на душу населения (тыс. сум), x_5
6	Розничная торговля на душу населения (тыс. сум), x_6
7	Рыночные услуги на душу населения (тыс. сум), x_7
8	Уровень экономической активности населения (в %), x_8
9	Уровень занятости (в %), x_9
10	Уровень безработицы (в %), x_{10}
11	Реальные совокупные доходы на душу населения (тысяч сум), x_{11}
12	Число выпускников вузов (человек), x_{12}

13	Число действующих предприятий и организаций (без д.х. и ф.х. единиц, на конец года), x_{13}
14	Число действующих субъектов малого предпринимательства (без д.х. и ф.х. единиц, на конец года), x_{14}
15	Кол-во ликвидированных предприятий и организаций (без д.х. и ф.х. единиц, январь-декабрь), x_{15}
16	Число зарегистрированных преступлений (единиц), x_{16}
17	Выброс в атмосферу загрязняющих веществ (тыс.тонн), x_{17}
18	Экспорт на душу населения (млн.долл.), x_{18}
19	Инвестиции в основной капитал на душу населения (тыс. сум), x_{19}

*Составлено автором

Инвестиционная привлекательность региона определяется по следующей формуле:

$$ИП = \frac{\sum \frac{x_{si}}{(\max)x_s} + \sum \frac{(\min)z_s}{z_{si}}}{\sum p_s}, (2.3)$$

где ИП – интегральная оценка инвестиционной привлекательности региона,

$\frac{x_{si}}{(\max)x_s}$ - стандартизированное значение позитивного показателя;

x_{si} – значение s-го показателя по i-му региону;

x_s – значение s-го показателя региона лидера;

$\frac{(\min)z_s}{z_{si}}$ - стандартизированное значение негативного показателя;

z_{si} – значение s-го показателя по i-му региону;

z_s – значение s-го показателя региона лидера;

p_s – весовой коэффициент s-го показателя.

В результате таких преобразований, получаем индексы, значения которых находятся в пределах от 0 до 1. При этом все индексы имеют одинаковый вектор направления.

В настоящей работе для всех показателей применяется одинаковый коэффициент в размере 1, т.е. $\sum_{i=1}^n p_s$ равно количеству показателей.

В итоге мы получим оценку ИПР от 0 до 1. Для перевода в балльную оценку можно умножить индекс на 100.

Таким образом проведя комплексную сравнительную оценку привлекательности регионов Республики Узбекистан были получены следующие результаты (табл. 2.4).

Таблица 2.4

Значения показателей инвестиционной привлекательности регионов Республики Узбекистан *

П/н	Регионы	Года					
		2017	2018	2019	2020	2021	2022
Очень высока привлекательность							
1	г. Ташкент	85,71	86,95	85,74	86,91	85,71	86,71
Высокая привлекательность							
2	Навоийская область	55,58	56,65	53,83	53,84	53,88	53,80

<i>Средняя привлекательность</i>							
3	Ташкентская область	43,56	44,56	43,67	44,62	45,33	46,95
4	Хорезмская область	39,51	41,65	40,22	38,54	43,01	44,61
5	Сырдарьинская область	40,88	42,81	43,22	41,23	41,86	43,04
6	Бухарская область	46,10	44,00	42,26	42,23	43,41	42,90
7	Джизакская область	42,47	41,22	45,10	48,56	46,42	42,68
8	Андижанская область	39,30	43,18	41,21	41,92	41,84	42,57
<i>Низкая привлекательность</i>							
9	Самаркандская область	37,67	38,49	37,02	37,91	39,59	38,76
10	Сурхандарьинская область	39,07	38,30	37,31	36,44	37,36	38,40
11	Наманганская область	34,16	34,36	34,45	34,39	34,31	37,41
12	Республика Каракалпакстан	34,49	35,33	33,77	34,66	35,03	34,86
13	Ферганская область	34,14	35,34	35,13	34,67	33,61	34,19
14	Кашкадарьинская область	37,39	38,89	35,53	34,94	34,76	33,80

* Рассчитано автором на основе материалов Агентства статистики при Президенте Республики Узбекистан [3].

Таким образом регионы условно можно разбить на 4 группы:

1. В группу с очень высокой привлекательностью (выше 80 баллов) вошёл г. Ташкент (86,71).

2. В группу с высокой привлекательностью (выше 50 баллов) вошла Навоийская область (53,80).

3. В группу со средней привлекательностью (от 40 до 50 баллов) вошли Ташкентская область (46,95), Хорезмская область (44,61), Сырдарьинская область (43,04), Бухарская область (42,90), Джизакская область (42,68) и Андижанская область (42,57).

4. В группу с низкой привлекательностью (ниже 40 баллов) вошли Самаркандская область (38,76), Сурхандарьинская область (38,40), Наманганская область (37,41), Республика Каракалпакстан (34,86), Ферганская область (34,19) и Кашкадарьинская область (33,80).

Как видно наиболее высокую оценку инвестиционной привлекательности получил г. Ташкент. Это не удивительно, учитывая, что Ташкент является столицей республики, а также там сосредоточены головные офисы крупных предприятий страны. Если обратить внимание на показатели, то почти по всем показателям Ташкент намного опережает другие регионы, кроме таких показателей как, *производство продукции сельского хозяйства на душу населения, число зарегистрированных*

преступлений, количество ликвидированных предприятий и организаций и уровень безработицы.

В остальных регионах показатели намного ниже, чем в г. Ташкент, поэтому и такая большая разница в оценке. Особенно в Кашкадарьинском, Ферганской, Наманганской, Сурхандарьинской, Самаркандской областях и Республике Каракалпакстан показатели значительно ниже чем в остальных регионах. Необходимо отметить, что нужно детально изучить причины такого обстоятельства и принять кардинальные меры для оздоровления экономики в этих регионах.

Заключение.

Таким образом, предлагаемая методика оценки инвестиционной привлекательности региона обладает рядом преимуществ. Во-первых, получаемые оценки обладают высокой объективностью, так как они основываются на официальных статистических данных. Предлагаемая система статистических показателей регулярно публикуются на официальном сайте Агентства статистики при Президенте Республики Узбекистан, что обеспечивает доступность информации и проведение оценки и для частных инвесторов.

Во-вторых, результаты оценивания легко поддаются интерпретации, так как оценки принимают значения от 0 до 1 (от 0 до 100 в %). Данное свойство позволяет легко оценить степень улучшения или ухудшения комплексной оценки, при необходимости и отдельного показателя.

Посредством данного метода можно не только измерять, но и контролировать уровень инвестиционной привлекательности и развитие региона в целом. Также в качестве преимущества данной методики можно указать относительную простоту и лёгкость реализации.

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МУЛЬТИМЕДИА ТИЗИМЛАРИ ОРҚАЛИ ВИЗУАЛЛАШТИРИШ ТАМОЙИЛЛАРИ

Аннотация. Мультимедиа – гуркираб ривожланаётган замонавий ахборотлар технологиясидир. Унинг ажралиб турувчи белгиларига куйидагилар киради: - ахборотнинг хилма-хил турлари: анъанавий (матн, жадваллар, безаклар ва бошқалар), оригинал (нутқ, мусика, видеофильмлардан парчалар, телекадрлар, анимация ва бошқалар) турларини бир дастурий махсулотда интеграциялайди.

Калит сўзлар: Мультимедиа, микрофон, ахборот, аудио, аппарат, видеокамера, гиперматн, технология, лупа, тақдимот.

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PRINCIPLES OF VISUALIZATION THROUGH MULTIMEDIA SYSTEMS

Abstract. Multimedia is a rapidly developing modern information technology. Its distinctive features include the following: - integrates different types of information: traditional (text, tables, decorations, etc.), original (speech, music, clips from video films, TV frames, animation, etc.) types in one software product.

Keywords: Multimedia, microphone, information, audio, hardware, video camera, hypertext, technology, magnifying glass, presentation.

Бундай интеграция ахборотни руйхатдан утказиш ва акс эттиришнинг турли курилмалари: микрофон, аудио-тизимлар, оптик компактдисклар, телевизор, видеомагнитофон, видеокамера, электрон мусикий асбоблардан фойдаланилган холда компьютер бошқарувида бажарилади;

- муайян вақтдаги иш, уз табиатига кура статик булган матн ва графикадан фаркли равишда, аудио ва видеосигналлар факат вақтнинг маълум оралигида куриб чиқилади. Видео ва аудио ахборотларни компьютерда кайта ишлаш ва акс этгириш учун марказий процессор тез харакатчанлиги, маълумотларни узатиш шинасининг утказиш қобилияти, оператив (тезкор) ва видео-хотира катта сизимли ташки хотира (оммавий

хотира), хажм ва компьютер кириш-чикиш каналлари буйича алмашуви тезлигини тахминан икки баравар оширилиши талаб этилади;

- "инсон-компьютер" интерактив мулоқотининг янги да-ражаси, бунда мулоқот жараёнида фойдаланувчи анча кенг ва хар томонлама ахборотларни оладики, мазкур холат таълим, иш-лаш ёки дам олиш шароитларини яхшилашга имкон беради.

Мультимедиа воситалари асосида укувчиларга таълим бериш ва кадрларни кайта тайёрлашни йулга куйиш хозирги куннинг долзарб масалаларидандир. Мультимедиа тушунчаси 90-йиллар бошида хаётимизга кириб келди. Унинг узи нима деган савол тугилади? Купгина мутахассислар бу атамани турлича тахлил килишмоқда. Бизнинг фикримизча, мультимедиа - бу инфор-матиканинг дастурий ва техникавий воситалари асосида аудио, видео, матн, графика ва анимация (объектларининг фазодаги харакати) эффектлари асосида укув материалларини укувчиларга етказиб беришнинг мужассамланган холдаги курунишидир.

Ривожланган мамлакатларда укутишнинг бу усули, хозирги кунда таълим соҳаси йуналишлари буйича татбиқ, килинмоқда. Хатто, хар бир оила мультимедиа воситаларисиз хордик, чиқармайдиган булиб колди. Мультимедиа воситаларининг 1981 йилдаги ялпи обороти 4 млрд. А+Ш долларини ташкил килган булса, 1994 йили эса 16 млрд. А+Ш долларини ташкил килди. Хозирги кунда эса сотилаётган шар бир компьютерни мультимедиа воситаларисиз тасаввур қилиб булмади. Компьютерларнинг 70-йилларда таълим соҳасида кенг куллаш йулида урунишлар зое кетганлиги, авваломбор, улар унумдорлигининг ниҳоятда пастлиги билан боглик эди. Амалиёт шуни курсатмоқдаки, мультимедиа воситалари асосида укувчиларни укутиш икки баробар унумли-дир ва вақтдан ютиш мумкин. Мультимедиа воситалари асосида билим олишда 30 % гача вақтни тежаш мумкин булиб, олинган билимлар эса хотирада узок муддат сакланиб қолади. Агар укув-чилар берилаётган материалларни куриш (видео) асосида кабул килса, ахборотни хотирада саклаб қолиниши 25-30 % ошади. Бунга кушимча сифатида укув материаллари аудио, видео ва графика курунишда мужассамлашган холда берилса, материалларни хотирада саклаб қолиш 75 % ортади. Бунга биз мультимедиа воситалари асосида чет тилларини урганиш жараенида яна бир бор ишонч хосил килдик.

Мультимедиа воситалари асосида укувчиларни укутиш куйи-даги афзалликларга эга:

а) берилаётган материалларни чуқуррок, ва мукамалрок узлаштириш имконияти бор;

б) таълим олишнинг янги соҳалари билан яқиндан алоқа килиш иштиёки янада ортади:

в) таълим олиш вақтининг кискариш натижасида, вақтни тежаш имкониятига эришиш;

г) олинган билимлар киши хотирасида узок муддат сакланиб, керак булганда амалиётда куллаш имкониятига эришилади.

Шуни айтиб утиш керакки, кадрларни кайта тайёрлаш йулида Жахон Валюта Фонди, Умумжахон банки, Европа Иттифоки комиссияси каби нуфузли ташкилотлар катга тажрибага эгадирлар. Виз бунга, ушбу ташкилотлар томонидан ташкил килинган семи-нар ва конференцияларнинг иштирокчиси сифатида яна бир бор ишонч хосил килдик. Авваломбор, укув жараёнида замонавий компютер технологияларидан фойдаланиш тахсинга сазовордир.

Уз урнида, мультимедиа воситаларидан кенг фойдаланиш йулида айрим объектив муаммолар хам мавжуд. Булардан энг асосийси — укувчилар учун керак булган укув материалларини, конунларни ва бошка курсатмаларни кулланма килиб компютер дастурларини ишлаб чикаришдир. Ишлаб чикилган компютер дастурларида мультимедиа элементларини куллаш эса, компакт диксларни (лазер дикслари) куллашни талаб килади. Хозирги кунда бундай куринишдаги компакт диксларни республикамизда ишлаб чикариш имконияти йукдир. Булар маълум бир микдордаги маблагни олдиндан жалб этишни талаб килади.

Бизнинг фикримизча, замонавий компютер техноло-гияларидан укувчиларга таълим бериш ва кайта тайёрлаш жараё-нида кенг фойдаланиш, келажакда етук ва юкори малакали мутахассисларни камол топтиради.

2. Дистант услуги асосида укувчиларни укитиш хозирги куннинг энг ривожланиб бораётган йуналишларидан булиб, укитувчи билан укувчилар маълум бир масофада жойлашган холда таъ-лим бериш тизимидир. Укитувчи ва укувчининг маълум бир ма-софада жойлашганлиги, укитувчини дарс жараёнида компютерлар, спутник алокаси, кабель телевидениеси каби воситалар асосида укув ишларини ташкил килишини талаб килади. Замо-навий компютер технологияларининг тез ривожланиб бориши, айникса, ахборотларни узатиш каналларининг ривожланиши телекоммуникация сохасига узига хос тарихий узгаришлар киритмокда. Мамлакатимиздаги барча укув юртларини ва бизнес би-лан шугулланаётган компанияларни дистант услуги асосида бирлаштирилса, укитиш жараёнини ва тижорат ишларини янада юкори погонага олиб чикади.

Дистант услуги асосида укитиш куйидаги технологияларни уз ичига олади:

Интерактивтехнологиялар:

- аудиоконференциялар;
- видеоконференциялар;
- ишстолидагивидеоконференциялар;
- электронконференциялар;
- овозкоммуникациялари;
- иккитомонламаспутникалока;

- виртуал борлик;
- Ноинтерактивтехнологиялар:
- босиб чиқарилган материаллар;
- аудиокассеталар;
- видеокассеталар;
- бир томонлама спутник алоқа;
- телевизион ва радио курсатувлари;
- дискета ва CD-ROM лар.

Дистант услуги асосида ўқитиш, жугрофий жиҳатдан ўзқда жойлашган мактаблар ва академик таълим учун мулжалланган эди. Лекин, замонавий ахборотлар ва телекоммуникацион технологияларининг ривожланиши табиий таълим-тарбия жараёнини ўзқ масофадан туриб амалга оширишга йул очиб берди. Натижада дистант услуги асосида ўқитиш, тез вақт ичида қўшгина мактабларда, тижоратчилар ичида ва ишлаб чиқариш қорхоналарида қенг қўлланила бошлади ва ўқитишда янги услубларни қўллашга яна бир туртки булди. Дистант услуги асосида ўқитишнинг Халқаро Қенгашининг тахлиллари шуни қўрсатмоқдаки, хозирги қунда жаҳонда 10 миллиондан ортик талабалар шу услуб асосида таълим олишмоқда. АКШ да шу услуб асосида ўқитиш максидида янги ўқув марказлари барпо этилмоқда. Шундай қилиб, ўлар миллий қадрларни замон талаби асосида тайёрлаш ва қайта тайёрлаш учун олимлар қадам қўйишмоқда.

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КОМПЬЮТЕР ИМИТАЦИОН МОДЕЛЛАР АСОСИДАВИРТУАЛ ТАЪЛИМ ТИЗИМИ ЯРАТИШ

Аннотация. Виртуал таълим тизими – бу онлайн курсларни ўқитувчилар томонидан тузиш, бошқариш учун яратилган web тизим ҳисобланади. Бундай e-learn системаларни кўпинча “таълимни бошқариш системалари” ёки “виртуал таълим муҳити” деб ҳам аталади.

Калит сўзлар: таълимтест, Компьютер, имитацион, мультимедиа, матн, товуш, графика, анимация, дастурлар.

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CREATION OF A VIRTUAL EDUCATIONAL SYSTEM BASED ON COMPUTER SIMULATION MODELS

Abstract. Virtual education system is a web system created for creating and managing online courses by teachers. Such e-learning systems are often called "learning management systems" or "virtual learning environments".

Keywords: educational test, computer, simulation, multimedia, text, sound, graphics, animation, programs.

Тизим таълимий веб-сайт ҳамда алоҳида онлайн курсларни яратиш инструментал муҳити бўлиб, тизимда компьютер тармоқларидан таълимда фойдаланиш назарияси ва амалиёти асос қилиб олинган. Ҳозирда Республикамиздаги барча олий таълим муассасаларида ушбу тизимни жорий этилиши, билим самарадорлигини ошириш билан бирга мустақил таълим учун ҳам хизмат қилмоқда. Бу тизимни таълимда қўлланилишининг яна муҳим жиҳати ҳозирда ўқитиладиган фан соатларининг кўп қисми мустақил таълимга тўғри келишидир. Фанни ўзлаштиришни яқуний босқичида умумий тест синови ўтказиш ва билимни баҳолаш мумкин. Натижада талабани билим самарадорлиги назорати тизим томонидан ўз вақтида амалга оширилади. Талаба online электрон таълим тизимидан фойдаланиши учун рўйхатдан ўтиши ёки курсдан меҳмон (гость) сифатида ҳам фойдаланиши мумкин.

Компьютер имитацион моделлар асосидаги виртуал ишланмалардан фойдаланиш етарли даражада характеристикага эга бўлмаган ҳисоблаш

ускуналари ёрдамида фойдаланувчилар учун тажрибалар ўтказишга имконият яратади. Ушбу ёндашув ўқув жараёни учун ҳам, илмий мақсадлар учун ҳам катта қизиқиш уйғотиши, фақатгина тажрибаларнинг индивидуал параметрларини ўзгартиришга имкон берадиган апплетлар ёки компьютер моделларидан фарқли ўлароқ, мультимедиа электрон қўлланмалар ва виртуал лабораторияларда яратилган компьютер имитацион моделлар ўқув жараёнини моделлаштириш нуктаи назаридан имкониятла яратади.

Одатда, мультимедиа деганда матн, товуш, графика, анимация, видео тасвирлар ва фазовий моделлаштириш каби ахборот тақдим этиш воситаларининг компьютер тизимига қўшилиши тушунилади.

Бундай воситаларнинг комбинацияси ахборотни идрок этишнинг сифат жиҳатдан янги даражасини таъминлайди: одам шунчаки пассив фикр юритмайди, балки содир бўлаётган нарсаларда фаол иштирок этади. Мультимедиа воситаларидан фойдаланадиган дастурлар мултимодалдир, яъни улар бир вақтнинг ўзида бир нечта ҳисларга таъсир қилади ва шунинг учун тингловчиларда катта қизиқиш ва эътиборни уйғотади.

Рангли мультимедиа иловаси, унда расмлар, жадваллар ва диаграммалар мавжудлиги анимация элементлари ва товушлари билан биргаликда ўрганилаётган материални идрок этишни осонлаштиради, тушуниш ва ёдлашга ёрдам беради, объектлар, ҳодисалар, вазиятлар тўғрисида янада аниқроқ ва сиғимли фикр беради, ўқувчиларнинг билим фаоллигини рағбатлантиради.

Юқори сифатли мультимедиа дастурларини ишлаб чиқишга йўналтирилган турли хил технологик усуллар мавжуд. Ушбу дастурларни яратишда ва ишлатишда бир нечта асосий технологик кўрсатмалар мавжуд.

Мультимедиа дастурини яратиш учун асос сифатида материал таркибий қисмидан фойдаланиш мумкин, бу материални элементларга ажратиш ва иерархияда визуализация қилиш асосида тузилиш усули ҳисобланади.

Мультимедиа дастурини лойиҳалаштиришнинг дастлабки босқичида материал таркибидаги модел:

- материалнинг мазмунини аниқ белгилаш;
- таркибни визуал ва кўринадиган шаклда тақдим этиш;
- мультимедиа дастурининг таркибий таркибини аниқланг.

Психология ютуқларини инобатга олган ҳолда, компьютер экрандаги маълумотларни визуал равишда намоиш этиш усулини ишлаб чиқишда ҳисобга олиниши керак бўлган бир қатор умумий тавсияларни ишлаб чиқишга имкон беради:

- экрандаги маълумотлар тузилган бўлиши керак;
- визуал маълумотлар вақти-вақти билан аудио маълумотларга ўзгариши керак;
- рангнинг ёрқинлиги ва / ёки товуш баландлиги вақти-вақти билан ўзгариб туриши керак;

тақдим етилган материалнинг мазмуни жуда оддий ёки жуда мураккаб бўлмаслиги керак.

Экрандаги рамка форматини ишлаб чиқишда ва уни яратишда, визуал майдоннинг ташкил етилишини белгилайдиган объектлар ўртасида маъно ва муносабатлар мавжудлигини ҳисобга олиш тавсия етилади. Объектларни тузиш тавсия етилади:

- бир-бирига яқин, чунки объектлар визуал соҳада бир-бирига яқинроқ (барча нарсалар тенгдир), уларни яхлит, яхлит тасвирларга бўлиш эҳтимоли кўпроқ;

- Жараёнларнинг ўхшашлиги бўйича, чунки расмларнинг ўхшашлиги ва яхлитлиги қанчалик кўп бўлса, уларни тартибга солиш эҳтимоли кўпроқ;

- давом етиш хусусиятларини инобатга олган ҳолда, визуал соҳада кўпроқ элементлар мунтазам кетма-кетликни давом еттиришга тўғри келадиган жойларда (улар таниш контурларнинг қисмлари сифатида ишлайди), уларни яхлит бирлаштирилган расмларга ташкил қилиш эҳтимоли кўпроқ;

- объектларнинг шаклини, ҳарфлар ва рақамларнинг ўлчамларини, рангларнинг тўйинганлигини, матннинг жойлашишини ва бошқаларни танлашда мавзу ва фонни таъкидлашнинг ўзига хос хусусиятларини ҳисобга олган ҳолда;

- визуал маълумотни тафсилотлар, ёрқин ва қарама-қарши ранглар билан ортиқча юкламасдан;

Ранги, ости чизиғи, шрифт ўлчами ва услуби билан еслаб қолишга мўлжалланган таъкидлаш материаллари.

Мултимедиа дастурини ишлаб чиқишда, турли хил рангларда ва турли хил фонларда тасвирланган нарсалар одамлар томонидан ҳар хил қабул қилинишини ёдда тутиш керак. Визуал ахборотни ташкил қилишда объектларнинг фонга нисбатан контрасти муҳим рол ўйнайди. Контрастнинг икки тури мавжуд:

олдинга ва орқага. Тўғридан-тўғри фарқли ўлароқ, объектлар ва уларнинг тасвирлари фонга қараганда қуюқроқ, аксинча, енгилроқ. Мултимедиа дастурларида ҳар иккала тур одатда қоида сифатида ишлатилади, иккаласи ҳам ҳар хил фреймларда ва биргаликда битта расмда. Аксарият ҳолларда тескари контраст устунлик қилади.

Мултимедиа дастурларини тўғридан-тўғри қарама-қарши ҳолда ишлатиш афзалроқдир. Бундай шароитда ёрқинликнинг ошиши кўринишни яхшиланишига олиб келади, аксинча - ёмонлашишга олиб келади, аммо тескари контрастда берилган рақамлар, ҳарфлар ва белгилар олдингисига қараганда аниқроқ ва тезроқ тан олинади, ҳатто кичик ўлчамларда ҳам. Расм қисмларининг нисбий ўлчамлари қанчалик катта бўлса ва унинг ёрқинлиги қанчалик баланд бўлса, контраст қанчалик паст бўлса, шунчалик яхши кўриниши керак. Монитор экранидан маълумотни қулай қабул қилиш, кўриш

соҳасида ёрқинликни бир текис тақсимлаш билан таъминланади.

Компютер экрандаги маълумотларни ўрганишни оптималлаштириш учун мултимедиа дастурларини ишлаб чиқувчиларга мантикий стрессдан фойдаланиш тавсия этилади. Миждознинг еътиборини маълум бир объектга қаратишга қаратилган мантикий стрессларни психологик ва аппаратли усулларни чақириш одатий ҳолдир. Мантикий стресснинг психологик таъсири визуал қидириш ва асосий объект марказида кўриш ўқини маҳкамлаш вақтининг камайиши билан боғлиқ.

Мантикий аксанларни яратиш учун энг кўп ишлатиладиган усуллар: асосий объектни ёрқин рангда кўрсатиш, ўлчамини, ёрқинлигини, ҳолатини ўзгартириш ёки чироқ ёрдамида таъкидлаш. Мантикий стрессни миқдорий баҳолаш унинг интенсивлигидир. Зичлик, объектнинг ранги ва ёрқинлиги фонга нисбатан, расмнинг фонидаги объектларнинг ўлчамига нисбатан объектнинг нисбий ҳажмининг ўзгаришига боғлиқ. Энг яхшиси ёрқинроқ ёки қарама-қарши ранг билан таъкидлаш, ёмони милтилатиш, ёрқинликни ўзгартириш ёки ўзгартириш орқали таъкидлаш.

Мултимедиа дастурларини яратиш технологияси бўйича мавжуд ички ва хорижий тизимларни кўриб чиқиш ва таҳлил қилишдан сўнг биз энг кенг тарқалган мултимедиа дастурлари ва уларнинг тушунчаларини қуйидаги таснифлашни таклиф қилишимиз мумкин.

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МУЛЬТИМЕДИА ТИЗИМЛАРИ ВА ТЕХНОЛОГИЯЛАРИНИ СОХАЛАРДА КЎЛЛАШ

Аннотация. Таълим соҳасида мультимедиали воситалардан фойдаланишга бағишланган илмий мақолалар ва адабиётлар таҳлил қилинганда асосан мультимедиали воситалари иловаларни таълимнинг ўқув жараёнида фойдаланиши нуқтаи назаридан эътибор қаратишни мақсад қилиб қўйдик.

Калит сўзлар: Мультимедиа, ахборот, аудио, аппарат, гиперматн, технология, лупа, тақдимот.

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APPLICATION OF MULTIMEDIA SYSTEMS AND TECHNOLOGIES IN FIELDS

Abstract. When analyzing scientific articles and literature on the use of multimedia tools in the field of education, we aimed to focus mainly on the use of multimedia tools in the educational process of education.

Keywords: Multimedia, information, audio, hardware, hypertext, technology, magnifying glass, presentation.

Таълим жараёнида мультимедиали воситалардан фойдаланиш борасида хорижий ва МДХ ҳамда республика олимларининг олиб бораётган илмий –тадқиқот ишлари диққатга сазавордир. Хорижий олимлардан: МДХ мамлакатлари олимлари Ю.Н.Павловский, Н.В.Белотелов, Ю.И.Бродский, М.В.Власов, А.С.Акопов, Н.Н.Лычкина, Е.Н.Гусева, М.В.Ядровская, Т.В.Чернякова, В.С.Тимченко, Н.Н.Майоров, Ю.В.Берчун, И.В.Кукушкин, В.М.Лебедев, **М.Ю.Барбашин**, Е.В.Константинов, Р.Ю.Лопаткин, Р.Шаннон, Т.Ж.Шрайбер, Н.П.Бусленко, С.А.Яковлева, В.М.Глушкова, Е.А.Бабкина, Ю.И.Рижикова ва бошқаларнинг илмий ишларида компьютер ёрдамида дарс берадиган мутахассисларни ўқитиш ва ўқитиш жараёнида янги ахборот технологияларидан фойдаланишнинг дастурий таъминотини ишлаб чиқиш ва услубий асосларини такомиллаштириш масалалари таҳлил қилинган.

Хорижий олимларидан Joseph V.Cohn, David J.Combs, Antonio Anglero Jr, Brian R. Johnson, Charles E. Cunningham, Ken Deal, Alan Neville, Heather

Rimas va бошқаларнинг илмий тадқиқотларида имитацион моделларни яратиш (КИМ), уларнинг структуравий-функционал таркиби, КИМ асосида ўқитишда интерфаоллик тамойилларига асосланган таълим жараёнини ташкил этиш муаммолари тадқиқ қилинган.

Мултимедиа – бу замонавий техник ва дастурий воситалардан фойдаланиб, интерфаол дастурий таъминот остида бошқариладиган видео ва аудио эффектларнинг ўзаро боғлиқлиги бўлиб, матн, товуш, графика, фото, видеони бирлаштиради. Бунда маълумот турли ахборот ташувчиларида мавжуд бўлиши мумкин (магнит ва оптик дисклар, аудио ва видео тасмалар).

Мултимедианинг аппарат – дастурий воситалари фойдаланувчи ўз иш фаолиятида ахборотнинг матн ва график шаклдан ташқари яна фойдали аудио ва видео файллар шаклларида фойдаланиш, ҳамда ўзларининг анимацияли ролик ва филмларини яратишлари мумкин.

Мултимедиа тушунчаси 1988 йилда Янги технологияларни амалиётда татбиқ этиш ва улардан фойдаланиш муаммолари билан шуғулланадиган йирик Европа Комиссияси томонидан шакллантирилган.

1945 йилда америкалик олим Ваннивер Буш "MEMEX" номли хотирани ташкил қилиш концепциясини таклиф қилган, бу эса мултимедиа технологияларини ривожланишининг ғоявий сабаби бўлди. Бу ғояга кўра, ахборот қидириш жараёни формал белгилар, яъни номерлар, индекслар ёки алфавит тартиби бўйича эмас, балки ахборотнинг мазмунига қараб амалга оширилади. Бу ғоялар кейинчалик компьютерда амалга оширилганда гиперматн тизимлари, яъни матнли маълумотлар комбинациялари билан ишлаш тизимини пайдо бўлишига олиб келди. Кейинчалик эса гипермедиа тизимларининг (графика, товуш, видео ва анимация билан биргаликда ишлаш тизимлари) ривожланишига сабабчи бўлди. Гиперматн ва гипермедиа тизимларининг биргаликдаги ривожланиши мултимедиа йўналишининг келиб чиқишига олиб келди. Шундай қилиб мултимедиа ўз ичига гиперматн ва гипермедиа тизимларини қамраб оладиган фан.

Аммо 80 – йиллар охирида мултимедиа технологияларига қизиқиш машхур америкалик компьютер мутахассиси бизнесмен Билл Гейтснинг номи билан боғлиқ. У ("National Art Gallery. London") номли дастурий маҳсулотни яратган. Бу мултимедиа дастурида музейнинг маълумот омборларидан фойдаланилган. Бунда турли муҳитлардан – тасвир, товуш, анимация, гиперматн тизими намоён қилинган.

Айнан мана шу мултимедиа дастури ўз ичига мултимедианинг учта асосий тамойилини қамраб олган.

1. Ахборотни одам қабул қила оладиган бир нечта муҳит ёрдамида тасвирлаш. (multi –кўп, ва media - муҳит);

2. Фойдаланувчи томонидан “мустақил қидирув” асосида дастур чегараларидан чиқиб кетмаган ҳолда, ўзининг мустақил усулларини қўллаш;

3. Навигация воситалари ва интерфейс дизайнидан фойдаланиш.

Мультимедиа технологияси бир вақтнинг ўзида маълумот тақдим этишнинг бир неча усулларидан фойдаланишга имкон беради: матн, графика, анимация, видеотасвир ва овоз. Мультимедиа технологиянинг энг муҳим хусусияти интерфаолик – ахборот муҳити ишлашида фойдаланувчига таъсир ўтказа олишга қодирлиги ҳисобланади.

Мультимедиа технологияларининг асосий мақсади – товуш, видео, анимация ва бошқа визуал эффектлар билан таъминланган дастурий маҳсулотларни яратишдан иборатдир. Бунда мультимедиа дастурий маҳсулотлари ўз ичига интерфаол интерфейс ва бошқариш механизмларини қамраб олади. Ундан ташқари мультимедиа технологиясидан фойдаланувчи ўзи дизайн билан шуғуллана олишига имкон беради, шунингдек статик (харакатсиз) ва динамик (харакатланувчи) тасвирларни яратиши ҳамда ўз ижодий ишининг натижаларини алоқа каналлари орқали ташқи муҳитга тарқатиши мумкин.

Мультимедиа технологияларининг асосий афзалликлари ва хусусиятларига қуйидагилар тегишли:

- битта ахборот ташувчисида катта ҳажмли турли маълумотларни сақлаш имконияти;
- экранда тасвирни ёки унинг айрим фрагментларини катталаштириш имконияти. (режим "лупа"). Тасвирни сифатини сақлаб қолган ҳолда 20 маротабагача катталаштириш мумкин;
- тасвирларни таққослаш ва турли дастурий воситалар ёрдамида уларни қайта ишлаш;
- турли матн, графика ва товуш муҳаррирлари ва картографик маълумотлар билан ишлаш имкониятлари;
- “эркин” навигация ёрдамида асосий менюга, тўлиқ мундарижага ёки дастурнинг истаган жойига чиқиш.

Мультимедиа воситалари – бу фойдаланувчи товуш, видео, графика, матн, анимация ёрдамида мулоқотда бўладиган аппарат ва дастурий воситаларнинг йиғиндиси.

График ва товуш редакторлари, картографик ахборот ва матнларга ишлов бера оладиган шахсий амалий дастурлар билан ишлаш мумкин. Масалан, оддий Word редакторида тайёрланган файлни график файлга айлантириш, бир форматдаги график файлларни бошқа форматдаги график файлларга айлантириш, бир неча мультимедиа иловаларини ягона мультимедиа иловаларига жамлаш, мультимедиа иловаларини ўлчамини, ҳажмини, сифатини ва тузилишини мультимедиа дастурлари орқали амалга ошириш мумкин. Бундай дастурларга Adobe PageMaker, Adobe Photoshop, Adobe Flash, 3D Max каби дастурлар киради.

Мультимедиа тақдимот – бугунги кунда ахборот тақдим этишнинг ягона ва энг замонавий шакли ҳисобланади. Бу матнли маълумотлар, расмлар, слайд-шоу, диктор жўрлигидаги овоз билан

бойитилган, видеопарча ва анимация, уч ўлчамли графика тарзидаги дастурий таъминот бўлиши мумкин. Такдимотнинг маълумот такдим этишнинг бошқа шаклларида асосий фарқи уларнинг мазмунан бойитилганлиги ва интерфаоллигидир, яъни белгиланган шаклда ўзгаришга мойиллиги ва фойдаланувчи фаолиятига муносабатини билдиришидир. Мултимедиа технологияларидан фойдаланган ҳолда яратилган такдимотлар тингловчи ва фойдаланувчилар учун тушунарли ва самаралидир.

Мултимедиа маҳсулоти – таркибига музика таралиши, видеоклиплар, анимация, картиналар ва слайдлар галереяси, турли маълумотлар базалари кириши мумкин бўлган интерфаол, компьютерда ишланган маҳсулот.

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ТАЪЛИМ ЖАРАЁНИДА ВЕБ-ИЛОВАЛАРДАН ФОЙДАЛАНИБ ДАРС САМАРАДОРЛИГИГА ЭРИШИШ

Аннотация. Таълим соҳасида веб-иловалардан фойдаланишга бағишланган илмий мақолалар ва адабиётлар таҳлил қилинганда асосан иловаларни таълимнинг ўқув жараёнида фойдаланиши нуқтаи назаридан эътибор қаратишни мақсад қилиб қўйдик.

Калит сўзлар: ҳужжатларни юклаш, электрон тўлов, онлайн чат, Physics education Technology, веб-дастурлар, интеграция.

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ACHIEVING LESSON EFFICIENCY USING WEB APPLICATIONS IN THE EDUCATIONAL PROCESS

Abstract. When analyzing scientific articles and literature on the use of web applications in the field of education, we aimed to focus mainly on the use of applications in the educational process.

Keywords: uploading documents, electronic payment, online chat, Physics education Technology, web applications, integration.

Дунё таълим тизимида ахборот-коммуникацион технологияларни қўллаш тенденциясининг кучаётганлигини рақамли технологияларнинг инсон ҳаётига мустақкам ўрнашиб олганлигини англатади. Шулар қаторидан ўрин олган виртуал ресурслар ва веб-иловалар таълим оловчиларнинг сифатли билим эгаллашларида муҳим аҳамият касб этади.

Хорижий ва МДХ мамлакатларининг олимлари томонидан олиб борилган илмий – тадқиқот ишларларида, веб-сайтлар ва веб-иловалар ўртасидаги асосий фарқлар кўрсатилган. Шулардан бири-интерфаолликдир. Бу фойдаланувчи ва веб-саҳифа билан ўзаро таъсирнинг турли даражаларидаги ўзаро алоқасидир.

Веб-иловалар фойдаланувчига веб-саҳифада нафақат маълумотни ўқиш, балки уни бошқариш имкониятини яратади. Бундай имкониятни мулоқот сифатида кўриш мумкин. Фойдаланувчилар сайт интерфейси

орқали ўзаро алоқада бўлиб, ҳужжатларни юклаш, электрон тўлов, онлайн чат, ва ҳ.к. каби имкониятларга эга бўлишади.

Бугунги кунда аксарият веб-сайтлар интерактив режимда ишлайди. Фойдаланувчилар учун қулай бўлиш учун сайт муаллифлари сайтларига имконияти кичик бўлган Веб-иловаларни қўшадилар.

Веб-сайтлар кўпроқ кўриш, маълумот ўқиш ёки аудио файлларни тинглаш ва Веб-иловаларга ташриф буюрувчилар билан алоқада бўлишга қаратилган. Шунингдек, баъзи сайтларда фойдаланувчиларга муайян маълумотни топиш учун Гугле Мапс гаджети мавжуд.

Иккинчи хусусият интеграция ҳисобланади. Интеграция бу оддий таркибий қисмларни битта комплексга бирлаштириш жараёни бўлиб, ишлаб чиқувчилар веб-иловалар ва веб-сайтларни дастурлар билан, шу жумладан, маълумотлар базаси тизими (МБТ) билан бирлаштириши мумкин. Бироқ, аксарият ҳолларда интеграция веб-иловалар билан аниқ содир бўлади. Уларнинг мураккаб функциялари кўпинча учинчи томон тизимларидан қўшимча маълумотларни талаб қилади. Электрон ҳужжатларни жамлашда интеграциянинг энг машҳур тури веб-иловани фойдаланувчи-талабалар билан маълумотларни бошқариш тизими билан интеграциялашувидир. Бу талабалар ҳақида маълумотларини сақлашга, деканат томонидан йиғилган маълумотларни саралашга ёрдам беради. Интеграция туфайли веб-иловалардан фойдаланувчилар ҳақидаги маълумотлар автоматик равишда МБТ тизимида тўпланади ва сақланади.

Баъзи ҳолларда, сайт муаллифлари ташриф буюрувчиларни кўпроқ шахсийлаштирилган таркиб билан таъминлаш учун МБТ интеграциясидан фойдаланадилар. Аммо, веб-иловалардан фарқли ўлароқ, веб-сайтлар билан бундай интеграция қўшимча функциядир. Ушбу жараён веб-сайт ёки тизимга кириш учун фойдаланувчи маълумотларини киритишни ўз ичига олади. Ушбу хусусият ҳар қандай шахсий маълумотни талаб қиладиган тизимлар учун муҳимдир. Бундан ташқари, ушбу босқичда хавфсизликка алоҳида эътибор бериш талаб этилади. Фойдаланувчиларнинг шахсий маълумотларидан рухсатсиз кириш имкониятини минималлаштириш ҳам алоҳида аҳамият касб этади.

Веб-сайтлардан фарқли ўлароқ, веб-дастурлар кўпинча авторизацияни талаб қилади ва фойдаланувчи талабаларга веб-сайтларга қараганда кўпроқ имкониятларни тақдим этади. Кўпгина сайтларда авторизация мавжуд. Баъзи ҳолларда, рухсатсиз фойдаланувчиларга мавжуд бўлмаган қўшимча функцияларни таъминлашда хизмат қилади. Масалан, рўйхатдан ўтмаган фойдаланувчилар фақат мақолаларни кўриш имкониятига эга бўлсалар, рўйхатдан ўтганлар эса, шарҳ қолдириши, мақолаларни ижтимоий тармоқларда баҳс учун имконият яратиш функциясини бажариши мумкин. Бу эса ўз навбатида, спамни блокировка қилиш, авторизация қилишга кенг йўл очади ва веб-сайтлар учун ҳам, веб-иловалар учун ҳам ҳимояланиш учун зарур бўлган воситалардан бирига

айланади. Таълим жараёнида муваффақиятли комбинация орқали ахборот порталлари ёки онлайн-курсларни яратишда веб-сайт ва веб-иловалардан фойдаланиш мумкин.

Веб-илова ва электрон курслар учун сайт танлашда, биринчи қарашда танлов қилиш жуда қийин. веб-сайтлар ва веб-иловалар браузерларда ишлаётганлиги сабабли, улар Интернетга боғланган бўлиши ва интеграция, интерактивлик ва фойдаланувчи авторизацияси хусусиятлари асосида қамраб олинган бўлиши лозим.

Масалан: Табиий фанлар йўналишида 2001 йилдаги Нобел мукофотининг лауреати К.Виман томонидан «Physics Education Technology» (PhET) сайти яратилган. PhET сайтида ҳар хил мавзуларга оид моделлар мавжуд бўлиб, улар "Java ва Macromedia Flash" дастурларида яратилган.



1.1-расм. PhET дастурининг умумий кўриниши.

PhET сайтида тақдим этилаётган моделлар очик таълим ресурслари (Open Education Course) бўлиб, хоҳлаган фойдаланувчи талабалар ундан бепул фойдаланишлари мумкин. PhET даги моделлар сони 100 дан ортиқ бўлиб улар физика, математика, кимё фанларига оид намоиш тажрибаларини ўтказиш, виртуал лаборатория ишларини ташкиллаштириш ва моделлаштириш имкониятига эга. PhET дастурини <http://phet.colorado.edu/> HYPERLINK "http://phet.colorado.edu/" PhET HYPERLINK "http://phet.colorado.edu/" c HYPERLINK "http://phet.colorado.edu/"olorade_edu сайтидан кўчириб олиш имконияти мавжуд.

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ИСПОЛЬЗОВАНИЕ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА ПРИ ОБУЧЕНИИ ЛИНГВИСТОВ

Аннотация. Искусственный интеллект (ИИ) трансформирует обучение лингвистов, предлагая инновационные подходы к изучению языков и анализу данных. Приложения, чат-боты и виртуальные помощники обеспечивают персонализированное обучение и расширяют возможности практики разговорных навыков. Лингвисты используют ИИ для анализа больших объемов текстовых данных, что позволяет проводить исследования, изучать редкие языки и разрабатывать новые методы обучения. Несмотря на значительные преимущества, ИИ сталкивается с вызовами, включая необходимость соблюдения этических стандартов, обеспечение конфиденциальности данных и точность анализа культурного контекста. Успех использования ИИ в лингвистике зависит от умения сочетать технологические возможности с человеческим аспектом, чтобы обеспечить эффективное и ответственное использование технологии.

Ключевые слова: искусственный интеллект, лингвистика, обучение языкам, чат-боты, виртуальные помощники, машинное обучение, персонализированное обучение, анализ текста, этика, конфиденциальность.

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USING ARTIFICIAL INTELLIGENCE IN TRAINING LINGUISTS

Annotation. Artificial intelligence (AI) is transforming linguist training by offering innovative approaches to language learning and data analysis. Apps, chatbots and virtual assistants provide personalized learning and more opportunities to practice speaking skills. Linguists use AI to analyze large amounts of text data, allowing them to conduct research, study rare languages, and develop new teaching methods. Despite its significant benefits, AI faces challenges, including the need to adhere to ethical standards, ensure data privacy, and accurately analyze cultural context. The success of AI in linguistics depends on the ability to combine technological capabilities with the human aspect to ensure effective and responsible use of the technology.

Keywords: Artificial intelligence, linguistics, language teaching, chatbots, virtual assistants, machine learning, personalized learning, text analytics, ethics, privacy.

В последние десятилетия искусственный интеллект (ИИ) проникает во все сферы нашей жизни, изменяя способы, которыми мы взаимодействуем с технологиями, анализируем данные и обучаемся новым навыкам. Одной из областей, которая в настоящее время претерпевает значительные изменения благодаря ИИ, является лингвистика. Использование искусственного интеллекта при обучении лингвистов открывает новые перспективы и возможности, изменив традиционные методы изучения языков и анализа языковых данных. Традиционно изучение языка требовало многих часов практики, обучения, анализа текстов и общения с носителями языка. Однако с развитием технологий ИИ появились новые инструменты и ресурсы, которые значительно упрощают и ускоряют этот процесс. Например, приложения для изучения языка, основанные на ИИ, могут адаптироваться к индивидуальным потребностям студента, предлагая персонализированные уроки и задания. Одним из ключевых аспектов использования ИИ в лингвистике является его способность анализировать и обрабатывать большие объемы текстовых данных. Это позволяет исследователям и лингвистам извлекать ценные знания из текстов на разных языках, изучать лингвистические закономерности и разрабатывать новые методики обучения.

Кроме того, использование ИИ позволяет создавать новые инновационные инструменты для изучения языка. Например, чат-боты и виртуальные помощники могут предоставлять студентам возможность практиковать разговорные навыки на носителе языка в любое время и в любом месте. Это особенно полезно для тех, кто изучает редкие или малораспространенные языки, где доступ к носителям языка может быть ограничен. Однако, несмотря на все преимущества, использование ИИ при обучении лингвистов также ставит перед нами ряд вызовов и вопросов. Например, как гарантировать, что алгоритмы ИИ корректно анализируют и интерпретируют языковые данные, особенно в случае с комплексными или малоизученными языками? Как сохранить баланс между использованием технологий и сохранением человеческого аспекта обучения языку, такого как культурный контекст и нюансы общения? Использование искусственного интеллекта при обучении лингвистов открывает перед нами уникальные возможности для более эффективного и доступного изучения языков. Однако для достижения полного потенциала этих технологий необходимо продолжать исследования и развивать новые методики, которые учитывают, как преимущества, так и вызовы, связанные с использованием ИИ в лингвистическом образовании.

Преимущества искусственного интеллекта в изучении языков. Искусственный интеллект предоставляет целый спектр преимуществ для изучения языков. Одним из главных достоинств является возможность адаптировать процесс обучения к индивидуальным потребностям студентов. Приложения на основе ИИ могут анализировать уровень владения языком, скорость прогресса и слабые места, чтобы предложить персонализированные уроки и задания. Это делает обучение более эффективным и ускоряет процесс овладения языком. Кроме того, ИИ позволяет студентам практиковать разговорные навыки в реальном времени, используя чат-боты или виртуальных помощников. Это значительно снижает барьер для общения на иностранном языке и способствует развитию уверенности в разговоре. Эти инструменты также помогают студентам осваивать различные языковые навыки, такие как аудирование, чтение, письмо и разговор.

Инструменты искусственного интеллекта для лингвистов. В последние годы на рынке появилось множество инструментов и платформ, которые используют ИИ для поддержки лингвистов и изучающих языки. Среди них можно выделить несколько основных категорий:

- **Приложения для изучения языков:** Программы, такие как Duolingo, Babbel и Rosetta Stone, используют алгоритмы машинного обучения для персонализации процесса обучения и предложения разнообразных заданий, чтобы удерживать интерес студентов.

- **Чат-боты и виртуальные помощники:** Эти инструменты позволяют студентам практиковать разговорные навыки, участвуя в диалогах с виртуальными собеседниками. Они могут имитировать различные сценарии общения, предоставляя возможность развивать навыки в контексте реальных жизненных ситуаций.

- **Платформы для перевода и анализа текстов:** Инструменты, такие как Google Translate и DeepL, используют ИИ для автоматического перевода текстов на разные языки. Это значительно облегчает изучение языков и позволяет лингвистам анализировать тексты на нескольких языках.

Применение искусственного интеллекта в лингвистических исследованиях. ИИ также играет важную роль в исследованиях, проводимых лингвистами. Большие объемы данных, которые можно анализировать с помощью ИИ, позволяют исследователям выявлять лингвистические закономерности, изучать эволюцию языков и проводить сравнительные анализы. В этой области ИИ помогает лингвистам:

- **Анализировать большие объемы текстовых данных:** С помощью ИИ можно анализировать миллионы документов, что позволяет выявлять закономерности и тенденции в языке, которые было бы трудно обнаружить вручную.

• **Исследовать редкие и малораспространенные языки:** ИИ позволяет лингвистам работать с языками, которые имеют ограниченное количество ресурсов, облегчая процесс сбора данных и анализа.

• **Разрабатывать новые методы изучения языков:** ИИ может помочь лингвистам экспериментировать с различными подходами к обучению языку, чтобы определить наиболее эффективные методики.

Несмотря на все преимущества, использование ИИ при обучении лингвистов и изучении языков сталкивается с рядом вызовов и ограничений. Одним из основных вызовов является проблема культурного контекста и человеческих нюансов, которые могут быть трудно передать с помощью ИИ. Это может привести к неправильному пониманию или интерпретации языковых данных. Другим вызовом является необходимость обеспечения этических стандартов при использовании ИИ. Важно гарантировать, что алгоритмы ИИ не содержат предвзятости или дискриминации, особенно при анализе данных о языке и культуре. Кроме того, следует учитывать вопросы конфиденциальности и безопасности данных при использовании ИИ-инструментов.

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ПРИЧИНЫ ПРОЯВЛЕНИЯ ГИПЕРТИОЗА ПРИ САХАРНОМ ДИАБЕТЕ

Аннотация. В этой статье представлены информации об причины проявления гипертиоза, провоцирующие факторы, причины развития, методы лечения при сахарном диабете

Ключевые слова: гипертиоз, сахарный диабет, причина, лечения.

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REASONS FOR HYPERTIOSIS IN DIABETES MELLITUS

Abstract. This article provides information about the causes of hypertension, provoking factors, causes of development, severity, symptoms and treatment methods for diabetes mellitus

Key words: hyperthyroidism, diabetes mellitus, cause, treatment.

Сахарный диабет — это группа метаболических заболеваний, характеризующихся гипергликемией, возникающей в результате нарушения секреции инсулина, действия инсулина или того и другого вместе. Хроническая гипергликемия при сахарном диабете связана с долговременным повреждением, дисфункцией и отказом различных органов, особенно глаз, почек, нервов, сердца и кровеносных сосудов. Сахарный диабет (СД) занимает лидирующие позиции в структуре всех эндокринных заболеваний в мире, являясь «эпидемией» нашего времени. Второе место по распространенности среди эндокринопатий после СД занимает тиреоидная патология. Гипертиреоз наблюдается в 0,2–1,3% случаев в йодонасыщенных регионах, тогда как гипотиреоз составляет 1–2%, повышаясь до 7% у лиц в возрасте от 85 до 89 лет. Тиреоидные гормоны участвуют в регуляции углеводного обмена и функции поджелудочной железы, а с другой — СД оказывает влияние на функцию щитовидной железы (ЩЖ) в различной степени.

Риск развития заболеваний ЩЖ, в частности аутоиммунного тиреоидита, значительно выше у пациентов с СД 1 типа. На сегодняшний день сочетание аутоиммунных заболеваний ЩЖ (аутоиммунного

тиреоидита / болезни Грейвса) и СД 1 типа выделяется в отдельный синдром — аутоиммунный полигландулярный синдром 3 типа. Тем не менее риски развития патологии ЩЖ высоки и у пациентов с СД 2 типа, несмотря на различия в этиологии и патогенезе СД 1 и 2 типов.

Наиболее распространенной дисфункцией ЩЖ при СД 2 типа является гипотиреоз, у пациентов с СД 2 типа риск развития субклинического гипотиреоза в 1,93 раза выше. Кроме того, диабетические макро- и микрососудистые осложнения чаще выявлены у пациентов с СД 2 типа и субклиническим гипотиреозом, чем с СД 2 типа с нормальной функцией ЩЖ. Гипо- и гипертиреоз способствуют нарушению углеводного обмена с возможным развитием в последующем СД 2 типа. По данным различных исследований отмечено, что пациенты-женщины и пациенты моложе 65 лет с дисфункцией ЩЖ имеют более высокий риск развития СД 2 типа.

В развитии диабета участвуют несколько патогенных процессов. Они варьируются от аутоиммунного разрушения клеток поджелудочной железы с последующей недостаточностью инсулина до аномалий, которые приводят к резистентности к действию инсулина. В основе нарушений углеводного, жирового и белкового обмена при сахарном диабете лежит недостаточное воздействие инсулина на ткани-мишени. Недостаточное действие инсулина является результатом недостаточной секреции инсулина и/или снижения реакции тканей на инсулин в одной или нескольких точках сложного пути действия гормона. Нарушение секреции инсулина и дефекты действия инсулина часто сосуществуют у одного и того же пациента, и часто неясно, какая именно патология, если она есть в отдельности, является основной причиной гипергликемии.

Определение типа диабета у конкретного человека часто зависит от обстоятельств, имевшихся на момент постановки диагноза, и многих людей, страдающих сахарным диабетом, нелегко отнести к одному классу. Например, у пациентки с гестационным сахарным диабетом (ГСД) может сохраняться гипергликемия после родов, и может быть установлено, что у нее на самом деле сахарный диабет 2 типа. С другой стороны, у человека, который заболел сахарным диабетом из-за приема больших доз экзогенных стероидов, после прекращения приема глюкокортикоидов может развиваться нормогликемия, но затем, спустя много лет после повторных эпизодов панкреатита, может развиваться диабет. Другим примером может служить человек, получающий тиазиды, у которого спустя годы развивается сахарный диабет. Поскольку тиазиды сами по себе редко вызывают тяжелую гипергликемию, у таких людей, вероятно, диабет 2 типа, который усугубляется приемом препарата. Таким образом, для клинициста и пациента не так важно определить конкретный тип диабета, как понять патогенез гипергликемии. Сахарный диабет 2 типа (варьирующий от преимущественно инсулинорезистентности с относительной

недостаточностью инсулина до преимущественно нарушения секреции инсулина с инсулинорезистентностью). Эта форма диабета, на долю которой приходится 90-95% больных сахарным диабетом, ранее называемая инсулиннезависимым диабетом, диабетом II типа или сахарным диабетом у взрослых, охватывает лиц с резистентностью к инсулину и, как правило, с относительной (а не абсолютной) недостаточностью инсулина, по крайней мере, на начальном этапе, а часто и на протяжении всей жизни эти люди не нуждаются в лечении инсулином, чтобы выжить. Вероятно, существует множество различных причин этой формы диабета. Хотя конкретная этиология неизвестна, аутоиммунного разрушения клеток не происходит, и у пациентов нет ни одной из других причин диабета.

Инфекции. Некоторые вирусы связаны с разрушением клеток. У пациентов с врожденной краснухой развивается сахарный диабет, хотя у большинства из этих пациентов имеются HLA и иммунные маркеры, характерные для диабета 1 типа. Кроме того, вирус Коксаки В, цитомегаловирус, аденовирус и эпидемический паротит были вовлечены в развитие некоторых случаев этого заболевания.

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УЧЕТ ИМУЩЕСТВА И АНАЛИЗ ЕГО СОСТОЯНИЯ

Аннотация. Данная исследовательская работа посвящена вопросам учета имущества и анализа его состояния. Она проводит анализ основных методов учета имущества, их преимуществ и недостатков, а также исследует современные подходы к анализу состояния имущества организации. Работа включает в себя изучение теоретических аспектов учета имущества, а также практические аспекты его анализа на примере конкретных организаций. Исследование проводится с использованием современных методов и инструментов анализа финансовых данных.

Ключевые слова: имущество, бухгалтерский учет, анализ, инвентаризация, финансовые показатели.

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ACCOUNTING OF PROPERTY AND ANALYSIS OF ITS CONDITION

Annotation. This research work is devoted to the issues of property accounting and analysis of its condition. She analyzes the main methods of property accounting, their advantages and disadvantages, and also explores modern approaches to analyzing the state of an organization's property. The work includes the study of theoretical aspects of property accounting, as well as practical aspects of its analysis using the example of specific organizations. The research is carried out using modern methods and tools for analyzing financial data.

Key words: property, accounting, analysis, inventory, financial indicators.

Учет имущества и анализ его состояния играют ключевую роль в эффективном управлении организацией. В условиях современной рыночной экономики, где активы предприятий представляют собой значительную

часть их стоимости и потенциала, важно обеспечить надежный учет и постоянный мониторинг состояния имущества.

Анализ состояния имущества представляет собой важный этап финансового анализа, позволяющий определить эффективность использования имущественных ресурсов, их структуру и динамику. Для этого используются различные финансовые показатели и инструменты, а также информация из финансовой отчетности организации.

Целью данного исследования является выявление основных аспектов учета имущества и анализа его состояния, а также разработка рекомендаций по повышению эффективности управления имущественными ресурсами предприятия.

Рассмотрим методы с помощью, которых нужно учитывать имущество организаций:

1) Бухгалтерский учет:

Метод, предполагающий систематическую регистрацию всех имущественных объектов организации, их движения и изменений стоимости в соответствии с принятыми стандартами бухгалтерского учета. Он включает в себя учет основных средств, товарно-материальных ценностей, финансовых вложений и других имущественных активов.

2) Инвентаризация:

Этот метод предполагает периодическую инвентаризацию имущества организации с целью проверки его наличия, соответствия учетным данным и определения его фактической стоимости. Инвентаризационный учет помогает выявить возможные расхождения между учетными данными и реальным наличием имущества.

3) Учет по стоимости:

Данный метод основан на учете имущества по его исходной стоимости и последующему отражению изменений стоимости в зависимости от различных факторов, таких как амортизация, инфляция, изменения рыночных цен и прочее. Учет по стоимости позволяет оценить финансовое состояние организации и эффективность использования ее имущества.

4) Количественный учет:

Этот метод предполагает учет имущества на основе его количественных показателей, например, количества единиц товарно-материальных ценностей, числа основных средств и прочее. Учет по количеству позволяет контролировать объем имущества и его движение внутри организации.

Перечисленные выше методы имеют свои преимущества и недостатки:

1) Бухгалтерский учет:

Преимущества:

Обеспечивает систематическую и структурированную регистрацию всех имущественных объектов организации.

Позволяет отслеживать изменения стоимости и состояния имущества в соответствии с принятыми стандартами бухгалтерского учета.

Недостатки:

Требует значительных временных и трудовых затрат на поддержание актуальности данных.

Может быть подвержен ошибкам и неточностям при вводе и обработке информации.

2) Инвентаризация:

Преимущества:

Позволяет проводить периодическую проверку фактического наличия и состояния имущества, что помогает предотвращать его утрату и хищения.

Создает возможность выявления расхождений между учетными данными и реальным наличием имущества.

Недостатки:

Требует значительных ресурсов и времени на проведение инвентаризации.

Может быть неэффективным в случае больших объемов имущества или его распределенного местонахождения.

3) Учет по стоимости:

Преимущества:

Обеспечивает точную оценку финансовой стоимости имущества, что является важным критерием при принятии управленческих решений.

Позволяет отслеживать изменения стоимости имущества во времени и влияние на него различных факторов.

Недостатки:

Может быть сложно оценить стоимость определенных видов имущества, особенно если они подвержены значительным изменениям на рынке.

4) Количественный учет:

Преимущества:

Позволяет эффективно контролировать объем имущества и его движение внутри организации.

Облегчает планирование и распределение ресурсов в соответствии с потребностями бизнеса.

Недостатки:

Не всегда отражает реальную стоимость имущества и его влияние на финансовые результаты организации.

Может быть неэффективным в случае неоднородного по стоимости имущества.

Каждый из этих методов имеет свои преимущества и недостатки, и выбор конкретного метода зависит от целей и специфики организации.

Но помимо учёта нужно также провести анализ используемого организацией имущество.

Процесс анализа состояния имущества организации включает следующие этапы:

1) Сбор данных: на этом этапе собираются данные о всех имущественных активах организации, включая основные средства, товарно-материальные ценности, финансовые вложения и другие активы. Эти данные могут быть получены из бухгалтерской отчетности, инвентаризационных данных, финансовых отчетов и других источников.

2) Классификация имущества: Имущество организации классифицируется по различным критериям, таким как вид, структура, стоимость, состояние и другие параметры. Это позволяет систематизировать данные и провести анализ каждой категории имущества отдельно.

3) Оценка текущего состояния: на основе собранных данных производится оценка текущего состояния имущества организации. Это может включать оценку его финансовой стоимости, степени износа (в случае основных средств), степени ликвидности и других характеристик.

4) Анализ финансовых показателей: Один из основных инструментов анализа состояния имущества – это использование финансовых показателей, таких как коэффициенты оборачиваемости, коэффициенты амортизации, коэффициенты рентабельности и другие. Анализ этих показателей позволяет оценить эффективность использования имущества и его влияние на финансовые результаты организации.

5) Сравнение с нормативами и планами: Оценка состояния имущества организации может быть проведена путем сравнения с нормативами, стандартами или планами организации. Это позволяет определить отклонения от установленных норм и выявить возможные проблемы или потенциальные риски.

6) Прогнозирование и разработка рекомендаций: на основе анализа текущего состояния имущества проводится прогнозирование его развития и влияния на финансовые результаты организации в будущем. На основе этого разрабатываются рекомендации по оптимизации управления имуществом, улучшению его использования и снижению связанных рисков.

В целом, процесс анализа состояния имущества организации направлен на выявление ключевых факторов, влияющих на эффективность использования имущества, и разработку стратегий его оптимизации для достижения целей организации.

Заключение:

Учет имущества и анализ его состояния играют ключевую роль в управлении организацией. Различные методы учета имущества предоставляют инструменты для систематизации и контроля имущественных ресурсов, а анализ состояния имущества позволяет выявить

факторы, влияющие на его эффективное использование. Правильный учет и анализ имущества способствуют финансовой устойчивости и росту организации, делая их важными элементами стратегического управления. Регулярный мониторинг и оптимизация управления имуществом необходимы для успешной адаптации к изменяющимся условиям рынка и достижения поставленных целей.

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ПОНЯТИЕ И СУЩНОСТЬ ЭКОНОМИЧЕСКОГО МЕХАНИЗМА УПРАВЛЕНИЯ ОРГАНИЗАЦИЕЙ

Аннотация. Статья «Понятие и сущность экономического механизма управления организацией» рассматривает основные аспекты экономического механизма управления предприятием в современном бизнес-контексте. Автор анализирует различные подходы к определению и составлению этого механизма, выделяя его ключевые элементы и роль в обеспечении эффективного функционирования организации.

Ключевые слова. экономический механизм управления, организация, предприятие, управление, конкурентоспособность.

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THE CONCEPT AND ESSENCE OF THE ECONOMIC MECHANISM OF MANAGEMENT OF AN ORGANIZATION

Abstract. The article «Concept and Essence of the Economic Management Mechanism of an Organization» examines the fundamental aspects of the economic management mechanism of an enterprise in the contemporary business context. The authors analyze various approaches to defining and composing this mechanism, highlighting its key elements and role in ensuring the effective functioning of the organization.

Keywords. economic management mechanism, organization, enterprise, management, competitiveness.

В современном мире эффективное управление организацией становится ключевым фактором ее успешного развития и конкурентоспособности, из основных инструментов в этом процессе является экономический механизм управления. В рамках данной статьи мы рассмотрим понятие и сущность этого механизма, его основные составляющие и роль в современном бизнесе.

Экономический механизм управления организацией является ключевым инструментом в современной бизнес-среде, особенно в условиях экономического кризиса, который наблюдается в России и многих других странах в течение последних лет. Снижение эффективности деятельности предприятий подчеркивает необходимость разработки и реализации

эффективных методов управления, направленных на повышение конкурентоспособности и эффективности функционирования.

Определение сущности и понятия экономического механизма развития предприятий является предметом интереса множества исследователей, которые обращаются к теоретическим основам разработки таких механизмов. Среди таких исследователей – Беляев А.А., Воеводин С.А., Кендюхов О.В., Кульман А.А., Лысенко Ю.Г., Райзберг Б.А., Рогоза М.Е., Федорович В.О. и многие другие. Существует разнообразие терминов, используемых для описания экономического механизма, таких как «хозяйственный механизм», «экономический механизм», «организационно-экономический механизм». Как и во многих вопросах, в современной научной среде, тяжело найти единый подход к определению данного явления, поэтому для более точного определения этого понятия необходимо провести структурно-лингвистический и этимологический анализ. Экономический механизм представляет собой некое нематериальное понимание, любого воздействия элементов экономической среды друг на друга, но нужно попробовать разобраться более четко.

Дадим четкое определение категории «механизм», в широком смысле, механизм представляет собой внутреннее устройство какого-либо аппарата, обеспечивающее его функционирование. Понятие «механизм» заимствовано из механики и описывает систему звеньев, преобразующих движение одних элементов в движение других. Учитывая то, что механизм имеет входные и выходные звенья, что подразумевает наличие определенного воздействия или входных данных, которые проходят через систему и преобразуются в желаемый результат. Экономический механизм развития предприятий, таким образом, представляет собой систему экономических инструментов, процессов и взаимодействий, направленных на улучшение положения предприятия на рынке, модернизацию его деятельности, а также обеспечение благоприятных условий для развития персонала и организации в целом, он представляет собой сложную систему внутренних и внешних факторов, в том числе финансовые, организационные, технологические и человеческие ресурсы, которые взаимодействуют для достижения определенных целей и задач, поставленных перед предприятием.

В практическом смысле механизм управления рассматривается как способ организации управления предприятием, соответствующий каждой исторической эпохе и каждому этапу исторического развития, что включает в себя формы, методы и способы управления, основанные на общественных отношениях. Исходя из анализа различных источников исследований, можно выделить несколько ключевых аспектов экономического механизма [1].

Существуют различия между такими понятиями, как «хозяйственный механизм», «экономический механизм» и «организационно-экономический

механизм». Для этого рассмотрим определения данных понятий от разных авторов. Хозяйственный механизм, согласно Райзбергу Б.А., представляет собой совокупность организационных структур, форм и методов управления, а также правовых форм, с помощью которых реализуются действующие в конкретных условиях экономические законы и процесс воспроизводства. Ломакина И.Л. определяет хозяйственный механизм как способ хозяйствования со свойственными ему отношениями, формами и методами воздействия на производство, организационной структурой управления и условиями привлечения людей к труду. Согомонова Н.А. видит в хозяйственном механизме совокупность экономических методов и рычагов, организационной структуры и управления, форм и методов производства, ориентированных на общественные нужды [2].

Экономический механизм, согласно Павловой Л.П., включает в себя элементы планирования и прогнозирования, организации общественного процесса, экономического стимулирования, ценообразования и финансово-кредитного механизма. Козлова О.В. рассматривает его как целостную систему, состоящую из функциональной и обеспечивающей подсистем. Москаленко В.П. также описывает экономический механизм как целостную систему, включающую целевые, функциональные и обеспечивающие подсистемы. Воеводин С.А. видит в экономическом механизме совокупность элементов управления, нормирования и учета результатов и затрат, организационного, ресурсного и информационного обеспечения. Организационно-экономический механизм представляет собой, согласно Ивановой С.Л., совокупность экономических методов, способов, форм, инструментов и рычагов воздействия на экономические отношения и процессы, происходящие на предприятии. Коляда А.А. рассматривает его как совокупность форм организации экономических отношений, возникающих в отношении образования, распределения, использования и воспроизводства ресурсов в целях соответствия социально-экономическому развитию.

Голощапова Т.В. видит в нем производственно-экономическую деятельность, которая обладает универсальным признаком – преобразование экономических ресурсов в определенный экономический продукт.

Исключая большую вариативность возможных подходов к определениям, нужно еще глубже погрузиться в частности. Хозяйственный механизм, в частности, выступает в качестве наиболее широкого понятия и обеспечивает взаимодействие управляемой и управляющей систем, он имплементирует экономические методы и рычаги, организационную структуру и управление, формы и методы производства, а также правовые формы, необходимые для реализации действующих в конкретных условиях экономических законов и процесса воспроизводства.

Рассматривая экономический механизм, многие авторы видят его как часть хозяйственного механизма, состоящую из различных подсистем, обеспечивающих его функционирование. В представленные подсистемы входят планирование и прогнозирование, организация общественного процесса, экономическое стимулирование, научно-технический прогресс, управление качеством продукции, рациональное использование ресурсов и другие.

Финансирование также выделяется как важная составляющая обеспечивающей подсистемы, а экономический механизм управления организацией представляет собой сложную систему, имеющую различные составляющие. Основная его цель – обеспечить эффективное функционирование организации в условиях меняющейся экономической среды и достижение поставленных целей и задач.

В итоге мы видим, что хозяйственный механизм, экономический механизм и организационно-экономический механизм представляют собой различные аспекты системы управления организацией, охватывающие организационные, экономические, планировочные и управленческие процессы. Вместе они образуют комплексный механизм, обеспечивающий эффективное функционирование организации в условиях современной рыночной экономики.

Таким образом можно сказать, что сложилось определенная картина определяющая сущность этого сочетания, экономический механизм управления организацией предстает комплексом инструментов способных решать целый спектр задач, входящий в зоны ответственности организационной структуры, а также те задачи, которые возможно решить только совокупностью сил системы организации.

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СТРАТЕГИИ РАЗВИТИЯ ЭКОНОМИЧЕСКОГО МЕХАНИЗМА УПРАВЛЕНИЯ КОМПАНИЕЙ

Аннотация. В статье рассматриваются стратегии развития экономического механизма управления компанией с акцентом на инновации и расширение рынка. Исследуются ключевые аспекты этих стратегий, их преимущества и вызовы, а также предоставляются примеры успешной практики компаний, применяющих данные стратегии. Автор обсуждает необходимость стратегического подхода к развитию и предлагает практические рекомендации для реализации эффективных стратегий в современной бизнес-среде.

Ключевые слова. стратегии развития, экономический механизм управления, инновации, расширение рынка, конкурентоспособность, бизнес-стратегия.

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STRATEGIES FOR THE DEVELOPMENT OF THE ECONOMIC MECHANISM OF COMPANY MANAGEMENT

Abstract. The article examines strategies for developing the economic management mechanism of a company with a focus on innovation and market expansion. Key aspects of these strategies, their advantages and challenges are explored, along with examples of successful practices from companies implementing these strategies. The author discusses the need for a strategic approach to development and offers practical recommendations for implementing effective strategies in the modern business environment.

Keywords. development strategy, economic management mechanisms, innovation, market expansion, competitiveness, business strategy.

В мире современного бизнеса стратегии развития экономического механизма управления компанией играют ключевую роль в обеспечении ее конкурентоспособности и устойчивости на рынке. Каждая компания сталкивается с необходимостью выбора наиболее эффективной стратегии развития, адаптированной к ее особенностям и требованиям рынка. В данной статье мы рассмотрим несколько стратегий развития, сосредотачиваясь на инновациях и расширении рынка как двух ключевых аспектах, способных поддерживать рост и процветание предприятия.

Таблица 1. Стратегии развития управления компанией

Стратегия	Основные цели	Особенности
Инновационная	Разработка и внедрение новых продуктов и технологий	Фокус на технологическом развитии и инновациях
Расширение рынка	Увеличение присутствия на рынке или вход на новые рынки	Требует адаптации к местным условиям и культуре
Диверсификация	Разнообразие бизнеса для снижения рисков и зависимости	Необходимость управления разными бизнес-направлениями
Оптимизация процессов	Улучшение эффективности и снижение издержек	Требует постоянного мониторинга и анализа процессов
Сотрудничество и партнерство	Расширение влияния на рынке через стратегические партнерства	Необходимость в развитии и поддержке долгосрочных отношений
Ориентация на потребителя	Понимание и удовлетворение потребностей клиентов	Требует активного маркетинга и исследования рынка

Принятие инноваций становится ключевой бизнес-стратегией для организаций, стремящихся оставаться конкурентоспособными и успешными. С технологическими прорывами, изменением предпочтений потребителей и динамикой мирового рынка компании вынуждены принимать творческий подход к своим стратегиям, чтобы стимулировать рост и процветание. Инновационная стратегия позволяет компаниям адаптироваться к изменяющимся рыночным условиям и использовать

новые возможности. Постоянный поиск инновационных идей и подходов позволяет компаниям выделиться среди конкурентов, привлечь клиентов и стимулировать рост доходов.

Примерами этого подхода являются компании Apple и Tesla, которые революционизировали свои отрасли, внедряя новаторские продукты и технологии, и установили себя в качестве лидеров рынка, чтобы эффективно использовать инновации в качестве ключевой бизнес-стратегии, компании могут следовать ряду советов:

необходимо создать культуру инноваций, поощряя сотрудников творчески мыслить и делиться идеями;

компании должны оставаться в курсе новейших технологических достижений и использовать их для оптимизации процессов и раскрытия новых возможностей для роста;

важно взаимодействовать с внешними заинтересованными сторонами, такими как клиенты и поставщики, чтобы получить новые перспективы и понимание; компании должны поощрять сотрудников постоянно обучаться и адаптироваться, чтобы опережать отраслевые тенденции и события.

Стратегии развития экономического механизма управления компанией представляют собой основополагающие принципы, которые формируют ее успех на рынке. Инновации и расширение рынка открывают новые горизонты для компаний, позволяя им адаптироваться к изменяющимся условиям и использовать новые возможности для роста. Однако важно помнить, что успешная реализация этих стратегий требует не только понимания рыночных тенденций, но и гибкости, творческого подхода и непрерывного развития. Реализация эффективных стратегий развития позволит компаниям преуспеть в современной динамичной бизнес-среде и обеспечить свою долгосрочную успешность.

Следующей для рассмотрения предстает стратегия расширения рынка, зачастую, она применяется уже тогда, когда компания довольно крупная, а ее методология довольно сложна из-за обширности самой фирмы. Обычно следует поступить следующим образом, разработать схему бизнес-процессов организации, затем оптимизировать производство, после чего провести анализ и понять возможные выходы на новые рынки, такая экспансия это одна из старейших экономических стратегий огромных корпораций.

Из описанной стратегии расширения кстати всплывает частично стратегия оптимизации процессов производства. Как раз через механизм анализа внутренних процессов организации, то есть схематическую обрисовку взаимодействий, входов и выходы основных и побочных процессов внутри компании. Это сложная многофакторная работа, требующая экспертизы во многих областях, ведь кроме понимания общих принципов работы всей системы организации, также требуется

внимательный анализ и точность в определении связности различных процессов. Как только некая картинка складывается воедино, получается достаточно органичная схема рабочих процессов. А те что были отсеяны в процессе реализации плана, как раз и предстоит оптимизировать.

Касательно диверсификации внутренних существует множество споров, но все же если организация занимается множеством разнопрофильных бизнесов, вернее всего применить данную стратегию и разделить зоны ответственности, не мешая все в одну кучу.

Ориентируясь на потребителя в стратегическом смысле, компания тратит огромные ресурсы трудовые и финансовые, ведь анализ рынка, который также представляет собой порой загадочный и не всегда понятный механизм, дело не простое. Методологически от компании требуется следующее, проводить классические анализы маркетингового характера, на рынке потребителя, выявляя целевую аудиторию и направление развития собственного продукта.

Фактически существующие методики, приведенные в данной статье, представляют собой исчерпывающие подходы к реализации стратегий, они универсальны, в рамках одной компании возможно требуется синтез данных методик, но принципы применения, описанные в данной статье, в основном решают большинство теоретических задач, встающих перед организацией, которая не способна сделать первый шаг в сторону стратегирования собственного бизнеса.

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АНАЛИЗ ОСОБЕННОСТЕЙ СТРАТЕГИЙ РАЗВИТИЯ ЭКОНОМИЧЕСКОГО МЕХАНИЗМА УПРАВЛЕНИЯ ОРГАНИЗАЦИЕЙ В МЕЖДУНАРОДНОМ БИЗНЕСЕ

Аннотация. Данная статья рассматривает особенности разработки стратегий развития экономического механизма управления организацией в условиях международного бизнеса. Автор анализирует влияние международной конкуренции на формирование стратегий управления и подчеркивают значимость учета специфики отраслей и конкурентной среды при разработке таких стратегий.

Ключевые слова. Экономический механизм управления, международный бизнес, стратегии развития, международная конкуренция, особенности отраслей.

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ANALYSIS OF FEATURES OF DEVELOPMENT STRATEGIES OF THE ECONOMIC MECHANISM OF ORGANIZATION MANAGEMENT IN INTERNATIONAL BUSINESS

Abstract. This article examines the peculiarities of developing strategies for the development of the economic management mechanism of an organization in the context of international business. The author analyze the impact of international competition on the formation of management strategies and emphasize the importance of considering the specifics of industries and the competitive environment when developing such strategies.

Keywords. Economic management mechanism, International business, Development strategies, International competition, Industry specifics.

Анализ особенностей стратегий развития экономического механизма управления организацией в международном бизнесе представляет собой важную задачу для компаний, стремящихся успешно функционировать на мировом рынке. В международном бизнесе существует ряд особенностей и вызовов, которые необходимо учитывать при разработке стратегии управления.

Анализ особенностей на самом деле неразрывно связан с пониманием того, что на международном рынке конкурируют фирмы, а не страны. Существующая особенность диктует необходимость понимания того, как

фирма создает и удерживает конкурентное преимущество, и как роль страны в этом процессе может измениться. Сегодняшние конкурентные возможности фирм не ограничены границами их страны базирования, что обуславливает необходимость особого внимания к глобальным стратегиям, которые полностью меняют роль страны базирования.

Основные же принципы конкурентной стратегии в международном бизнесе во многом совпадают с теми, которые действуют на внутренних рынках. Отрасль играет ключевую роль в конкуренции, представляя собой группу фирм, конкурирующих непосредственно между собой за долю на рынке. При этом стратегически значимая отрасль объединяет продукты или услуги с сходными источниками конкурентного преимущества, что позволяет фирмам более точно определить свою конкурентную позицию и разработать соответствующую стратегию, экономистам необходимо понимать, что границы между отраслями часто расплывчаты, и источники конкурентного преимущества могут существенно варьироваться в пределах одной и той же отрасли.

Понятие "машиностроение", например, охватывает множество различных отраслей с собственными стратегиями и требованиями для достижения конкурентного преимущества. Такое разнообразие требует индивидуального подхода к разработке конкурентной стратегии в зависимости от специфики отрасли и возможностей фирмы.

При разработке конкурентной стратегии в международном бизнесе фирмам необходимо учитывать, как структуру отрасли, в которой они действуют, так и свою позицию в этой отрасли. Структура конкуренции может значительно различаться в зависимости от отрасли, и вероятность получения прибыли также может существенно варьироваться. Позиция фирмы в отрасли, играет ключевую роль в определении ее успеха. Некоторые позиции могут быть более выгодными, чем другие, независимо от общей прибыльности отрасли.

Выбор конкурентной стратегии фирмы зависит от двух основных факторов: структуры отрасли и ее позиции в ней. Ни один из этих факторов сам по себе не является достаточным для выбора стратегии. Изменения в структуре отрасли или позиции фирмы могут потребовать пересмотра выбранной стратегии. Успешные фирмы на рынке активно влияют на структуру отрасли, стремясь изменить ее в свою пользу и увеличить свои конкурентные возможности.

Проведем анализ сильных и слабых сторон этого вопроса для составления общего представления ситуации.

Схема 1. Анализ особенностей стратегий развития экономического механизма управления организацией в международном бизнесе (сильные – слабые стороны).

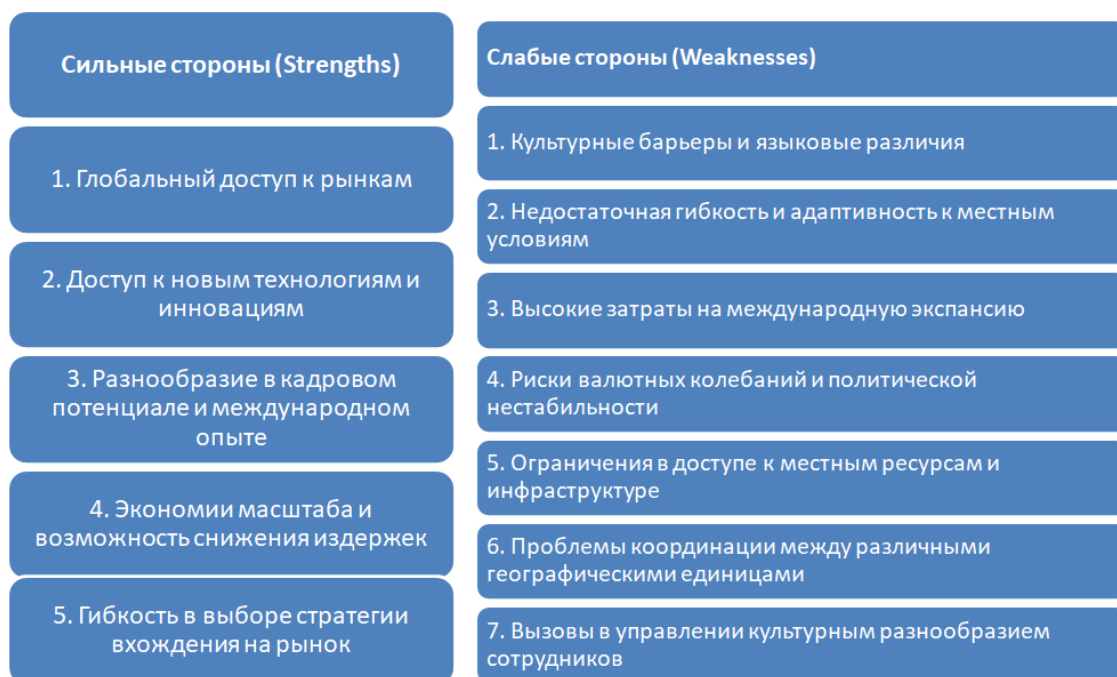
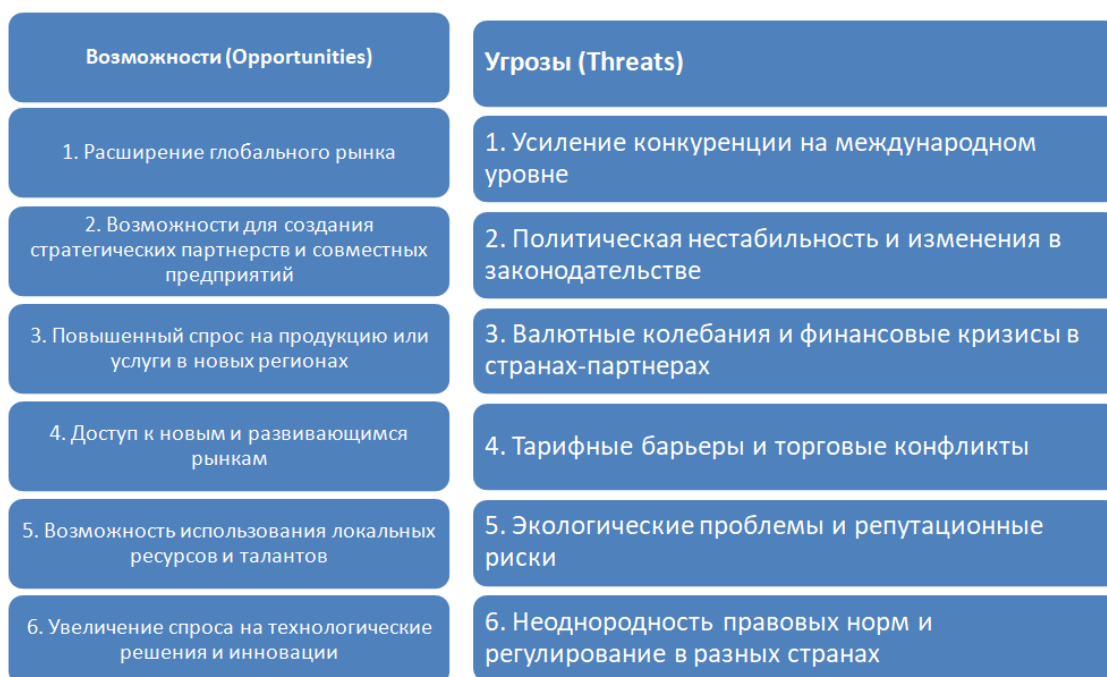


Схема 2. Анализ особенностей стратегий развития экономического механизма управления организацией в международном бизнесе (возможности – угрозы).



Суть конкуренции в любой отрасли выражается пятью силами, определяющими ее конкурентную интенсивность - угрозой появления новых конкурентов, угрозой появления товаров-заменителей, влиянием

поставщиков и покупателей, а также соперничеством между уже существующими конкурентами.

Силы, о которых идет речь, оказывают влияние на прибыльность отрасли, определяя цены, расходы и необходимые капиталовложения для конкурентирования в данной среде. Структура отрасли, ее экономические и технические характеристики, определяют значение каждой из этих сил и их взаимосвязь. В отраслях с благоприятной конкурентной средой, таких как производство программного обеспечения или лекарственных препаратов, конкуренты могут получать высокие прибыли от вложенного капитала, тем временем отрасли с неблагоприятной конкурентной средой, такие как производство алюминия или полупроводниковых приборов, характеризуются низкой прибыльностью и высокой конкуренцией.

Структура отрасли не является постоянной и может изменяться со временем под воздействием различных факторов, таких как технологические инновации, изменения в потребительском спросе или внешнеполитические события. Фирмы, разрабатывая свои стратегии развития, могут влиять на структуру отрасли через инновации, консолидацию рынка или другие действия.

Структура отрасли имеет важное значение для международной конкуренции, поскольку различные отрасли требуют различных ресурсов, навыков и стратегий для успешной конкуренции. Условия для конкуренции могут быть более благоприятны в некоторых отраслях, чем в других, и стратегии развития фирмы должны быть адаптированы к специфике конкретной отрасли и ее международной конкурентной среде.

Прежде всего, нужно понимание того, что отрасли с привлекательной структурой часто связаны с высокой производительностью труда и прибыльностью от вложенного капитала. Такие отрасли обладают условиями, способствующими успешному конкурентированию новых игроков, и предоставляют возможности для роста и развития фирм.

Стремясь занять свою нишу в данных отраслях, фирмы должны учитывать специфику конкуренции и выбирать оптимальные стратегии развития. Важной составляющей в позиционировании фирмы на рынке является понятие ее позиции в отрасли, что очевидно подразумевает не только производственные аспекты, но и стратегическое отношение к конкуренции в целом.

Примеры американских и швейцарских производителей шоколада наглядно демонстрируют, как различные стратегии позиционирования могут обеспечить конкурентное преимущество. Фирмы, основываясь на низких издержках или дифференциации продукции, создают уникальное предложение для потребителей и определяют свою конкурентоспособность на рынке. Конкурентное преимущество, будь то низкие издержки или дифференциация, является ключевым фактором для успешного выхода на международный рынок. Фирмы должны постоянно стремиться к

улучшению своих конкурентных позиций, ведь только так они смогут выдержать конкуренцию и добиться успеха в мировой экономике, но обе стратегии – низкие издержки и дифференциация – могут быть успешно реализованы, но требуют основательного анализа и учета особенностей отрасли и конкурентной среды.

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ТЕОРЕТИЧЕСКИЕ ОСНОВЫ РЕАЛИЗАЦИИ СТРАТЕГИЙ УПРАВЛЕНИЯ ЭКОНОМИЧЕСКИМ МЕХАНИЗМОМ

Аннотация. Данная статья посвящена изучению теоретических основ реализации стратегий управления экономическим механизмом. Автор анализирует различные аспекты экономического механизма, включая его составляющие, функции и влияние на развитие организации. В статье рассматриваются различные подходы к определению и пониманию экономического механизма, а также его роль в достижении стратегических целей организации. Заключение подчеркивает важность глубокого понимания теоретических аспектов управления экономическим механизмом для успешного функционирования организации в современной конкурентной среде.

Ключевые слова. Управление, экономический механизм, стратегии, развитие организации, теоретические основы.

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THEORETICAL FRAMEWORK FOR IMPLEMENTING ECONOMIC MECHANISM MANAGEMENT STRATEGIES

Abstract. This article is dedicated to exploring the theoretical foundations of implementing management strategies through the economic mechanism. The author analyzes various aspects of the economic mechanism, including its components, functions, and its impact on organizational development. The article examines different approaches to defining and understanding the economic mechanism, as well as its role in achieving the organization's strategic goals. The conclusion emphasizes the importance of a deep understanding of the theoretical aspects of managing the economic mechanism for the successful functioning of the organization in the modern competitive environment.

Keywords. Management, economic mechanism, strategies, organizational development, theoretical foundations.

В современном динамичном бизнес-окружении успешное функционирование организации требует не только четко определенных стратегических направлений, но и грамотного использования инструментов управления. Важной составляющей эффективного управления является экономический механизм, который выступает в качестве ключевого

инструмента в достижении поставленных целей и стратегических задач, к несчастью понимание теоретических основ реализации стратегий управления экономическим механизмом требует глубокого анализа и исследования.

Согласно автору Федоровича О.В., экономический механизм представляет собой сложную взаимозависимую совокупность элементов, организационно, экономически и технологически связанных подсистем более низкого уровня. В предлагаемом определении подчеркивается важность четкой структуризации и взаимосвязи между элементами для обеспечения эффективного управления, как указывает автор, некоторые подходы к определению экономического механизма не учитывают все его аспекты.

В работе предложено определение в виде трех подсистем: целевой, функциональной и обеспечивающей, однако, в ней не учитываются функции управления, а также правовое и информационное обеспечение [1]. Более современные подходы, предложенные в работах [2], рассматривают экономический механизм как деятельность, преобразующую ресурсы в продукт или услугу.

Подходы, тем не менее, не достаточно конкретны и не включают в себя функции управления, систему целей и экономические рычаги. В свою очередь, другие авторы, такие как [3], предлагают более полные определения экономического механизма. Автор [4], например, рассматривает его как совокупность элементов, воздействующих на экономические процессы на предприятии. Автор [5] видит его как систему экономических рычагов и методов, реализующих воздействие управляющей системы на управляемую.

Основное отличие рыночной экономики заключается в том, что она функционирует на основе стратегий, учитывающих влияние внешней и внутренней среды на деятельность предприятий. В отличие от прежних методов, связанных с фиксацией планов производства, стратегическое управление направлено на решение более сложных задач выбора перспективных видов бизнеса в условиях неопределенности будущей конъюнктуры и изменчивости потребительских предпочтений. Современная экономика характеризуется трансформационным характером, что приводит к увеличению стратегических неожиданностей, потере контроля над внешней средой, а также воздействию общественных и политических сил на рыночную конъюнктуру.

Предприятия часто сталкиваются с ограниченностью ресурсов и не имеют достаточного опыта для разработки адекватных стратегий развития. Конкуренция на рынках между российским и иностранным бизнесом дополнительно усугубляет нехватку современных знаний в области управления. В такой ситуации высший менеджмент организаций постоянно ищет новые инструменты управления, соответствующие условиям

конкуренции. В таком контексте необходимо разработать специфические методы и механизмы управления, которые позволят предприятиям адаптироваться к изменениям во внешней среде. Стратегическое управление должно быть внедрено как система механизмов, направленных на обеспечение эффективного использования ресурсов и рыночного роста, оно должно имплементировать адаптивные механизмы, которые позволят организации приспосабливаться к внешним изменениям.



Рис. 1. Система механизмов реализации стратегий организации

Адаптивные механизмы стратегического управления базируются на концепциях, взятых из природы и техники, и являются ключевым элементом в эффективной стратегии управления организацией, данные механизмы подразделяются на три типа, каждый из которых обладает своими характеристиками и применяется в зависимости от ситуации.

Первый тип механизмов - механизмы с пассивной адаптацией к внешней среде, они работают в условиях стабильной и определенной среды, выбирая наиболее благоприятные условия в уже сложившейся «нише», к несчастью существенные изменения в этой среде могут потребовать качественной перестройки внутренних процессов организации, описанные механизмы, в частности системы реактивной адаптации и долгосрочное планирование, нацелены на реагирование на изменения во внешней среде. Второй тип - механизмы с активной адаптацией, они основаны на непосредственной адаптации и активном использовании элементов внешней среды, также они позволяют быстро реагировать на изменения,

перестраивая внутренние структуры и используя сложные стратегии поведения, что хорошо, так то, что они подходят для систем управления, которые реагируют на слабые сигналы изменений и управляют в условиях стратегических неожиданностей. Третий тип механизмов направлен на формирование внешней среды, вот они уже используются для создания благоприятных условий для организации, в том числе через предварительную адаптацию, они основаны на интуитивных представлениях о состоянии внешней среды и коллективной логике и применимы для систем управления, основанных на коллективной стратегии и инновационном управлении.

Адаптивные механизмы представляют собой совокупность действий, основанных на стратегическом анализе с использованием методов SWOT и PEST, они помогают организации выбирать наиболее подходящие стратегии взаимодействия с внешней средой. Для успешной реализации выбранных стратегий необходимо создание системы механизмов, которые соответствуют основным структурам предприятия и функциям управления. Предложенная система механизмов объединяет различные аспекты организационной, экономической и мотивационной сфер, чтобы обеспечить достижение стратегических целей в различных ситуациях, она представляет собой комплексный подход к управлению, который способствует адаптации организации к переменчивой внешней среде и успешному достижению ее целей.

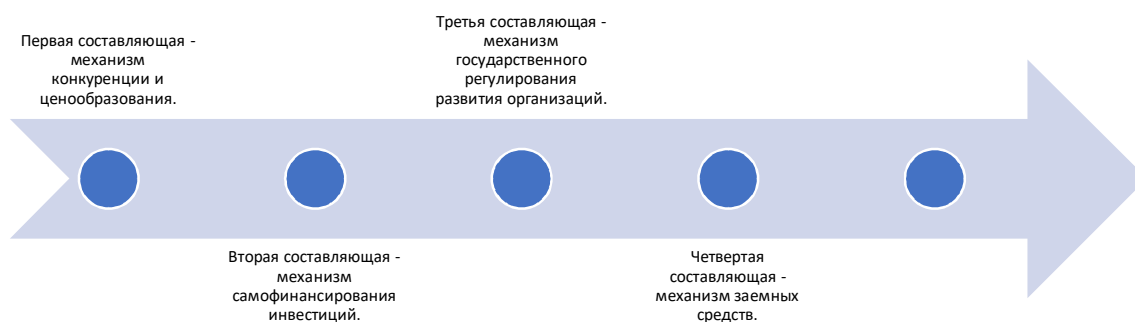


Рис. 2. Составляющие механизма конкуренции

Подведя итог, можно отметить, что успешная реализация стратегий управления экономическим механизмом требует комплексного подхода и глубокого понимания теоретических основ управления, что даст организации адаптироваться к переменчивой внешней среде, находить

новые возможности для развития и обеспечивать свою конкурентоспособность на рынке.

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ЛЕЧЕНИЕ И ПРОФИЛАКТИКА ВАРИКОЦЕЛЕ У МУЖЧИН

Резюме. Постановка диагноза варикоцеле производится на основании осмотра пациента, но диагноз должен обязательно подтверждаться ультразвуковым исследованием с доплерографией сосудов мошонки.

Большинство врачей придерживаются мнения, согласно которому варикоцеле является прогрессирующим заболеванием, постепенно всё более значимо нарушающим функционирование яичек. Этим, в частности, можно объяснить высокую частоту вторичного бесплодия у мужчин с варикоцеле.

В таком случае мужчина с варикоцеле добивается беременности у партнерши в молодом возрасте (до 25 лет), а в последующем, когда пара планирует второго ребенка, возникают трудности, что, вероятно, связано с прогрессирующим нарушением сперматогенеза на фоне варикоцеле.

Варикоцеле, в подавляющем большинстве случаев, — состояние, предопределённое с рождения, поэтому у нас нет эффективных методов его профилактики. А единственный метод предотвращения прогрессирования заболевания — это его хирургическое устранение.

Ключевая слова: варикоцеле, сексуальная функция, мужской пол.

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TREATMENT AND PREVENTION OF VARICOCELE IN MEN

Resume. Despite the publication of the work, the relationship between infertility and varicose veins, as well as the negative impact of varicose veins on hormone levels and sexual function, is discussed in six cases. Of course, there is a tendency to progress, Infertility, as well as a violation of sexual function, is the most significant problem of modern medicine.

The role of varicose veins in the pathogenesis of male infertility, hypogonadism and sexual dysfunction all remains poorly understood.

There are no clear criteria for the diagnosis and treatment of men with varicose veins and sexual dysfunction. There is no work in the literature with a sufficient period of observation, comparison and control groups on this problem.

The question remains whether it makes sense to operate on pregnant women with varicose veins and the presence of sexual disorders, as well as whether it makes sense to operate on young men with varicose veins in order to prevent sexual disorders in the future. Due to the lack of the above data, it seems relevant to us to conduct further research in this area.

Keywords: varicose veins, sexual function, men's politics.

Актуальность. Варикоцеле сопровождается варикозным расширением вен паховой области. В запущенном состоянии заболевание провоцирует развитие осложнений, касающихся работы половых органов. Меняется и процесс выработки мужских гормонов [7].

Варикоцеле и тестостерон находятся в прямой взаимосвязи. При нарушениях функции кровообращения затрагивается функция придатков, отвечающих за продуцирование гормона. Нередко снижение тестостерона возникает после проведения хирургического вмешательства по устранению расширенной вены.

Основным методом лечения варикоцеле является хирургический. Предпочтение отдаётся лапароскопическим и микрохирургическим методам оперативного лечения. На сегодняшний день имеется много публикаций о связи варикоцеле и бесплодия. Теории негативного влияния варикоцеле на функцию яичка основываются на локальной гипертермии, гормональных нарушениях, нарушениях кровотока в яичках из-за венозного застоя, а также гипоксии [5].

Исследования показывают, что варикоцеле приводит к нарушению функции клеток Сертоли, Лейдига, уменьшению уровня тестостерона, а хирургическое лечение приводит к восстановлению уровня тестостерона, нормальному функционированию клеток Сертоли и Лейдига, улучшению показателей спермограммы. Так же у больных, страдающих бесплодием, эректильной дисфункцией и гипогонадизмом после варикоцелэктомии значительно увеличивает уровень тестостерона в крови, объем яичек, а при эректильной дисфункции отмечается ее улучшение [6].

На сегодняшний день опубликованы единичные работы о возможной связыварикоцеле с гипогонадизмом и эректильной дисфункцией [2]. Нет чётких данных о патогенезе гипогонадизма и эректильной дисфункции у больных с варикоцеле. Так же нет чётких критериев диагностики и лечения мужчин с варикоцеле и сексуальной дисфункцией [1].

Отсутствие вышеперечисленных данных побудило нас провести собственное исследование по влиянию варикоцеле на возникновение сексуальных нарушений, а также возможной коррекции этих нарушений путём хирургического лечения.

Цель исследования. Улучшение результатов диагностики и лечения сексуальных нарушений у пациентов с варикоцеле.

Результаты исследования. В 50-80% случаев наблюдаются положительные изменения спермограммы, в 20-69% случаев - беременность. Параметр, который больше всего меняется после операции, - это подвижность сперматозоидов. Если не оперировать, возможны дальнейшие осложнения варикоцеле, уменьшение яичек, нарушения гормонального профиля (главным образом, снижение уровня тестостерона), дальнейшее нарушение анализа спермы. Исследование, проведенное при поддержке Всемирной организации здравоохранения, показало, что у пар прооперированных мужчин беременность наблюдалась в 60% случаев, а у тех, кто этого не сделал, - в 10% случаев.

Наличие варикоцеле у больных с ЭД по сравнению с больными без варикоцеле сопровождается более тяжелыми формами ЭД, что подтверждается относительно низкими показателями количества баллов эректильной функции анкеты МИЭФ ($12,1 \pm 5,2$ против $17,4 \pm 6,1$) и высокой распространенностью тяжелой степени ЭД (39% против 9,7%).

Особенности патогенеза сексуальных нарушений у больных с варикоцеле связаны с большей частотой встречаемости ВОД (62,1% против 22,6%), более выраженным снижением уровня тестостерона ($12,9 \pm 5,6$ против $15,1 \pm 4,2$) по сравнению с больными без варикоцеле.

Тактика хирургического лечения варикоцеле у мужчин с сексуальными нарушениями зависит от наличия патозооспермии, уровня тестостерона и суммарного объема яичек. Варикоцеле, являющееся единственной причиной патозооспермии у бесплодных мужчин, не зависимо от уровня тестостерона и объема яичек, требует хирургического лечения. В свою очередь, снижение уровня тестостерона и суммарного объема яичек меньше 18 см³ не зависимо от характера нарушения сперматогенеза, является показанием к варикоцелэктомии.

Симптомы варикоцеле: боль в мошонке; нарушение процесса образования сперматозоидов; снижение (атрофия) яичек и нарушение выработки яичками мужского полового гормона тестостерона. Диагноз варикоцеле ставится путем планового обследования, часто у молодых мужчин перед поступлением на военную службу или путем обследования мужчин на бесплодие. Иногда единственным признаком варикоцеле является боль в яичках, которая возникает при длительном стоянии.

Вывод. Варикоцеле-расширение сосудов сперматозоидов и яичек, приводящее к нарушению кровотока. Распространенность заболевания среди молодых мужчин составляет 10-15%. Это заболевание встречается у 30-40 процентов мужчин с первичным бесплодием (у которых никогда раньше не было потомства) и у 80 процентов мужчин с вторичным бесплодием (которые никогда раньше не страдали бесплодием).

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СОВРЕМЕННЫЕ ВОЗМОЖНОСТИ ИЗУЧЕНИЯ ВЛИЯНИЯ ВАРИКОЦЕЛЕ НА СЕКСУАЛЬНУЮ ФУНКЦИЮ У МУЖЧИН

Резюме. Несмотря на опубликованные работы, до сих пор обсуждается взаимосвязь инфертильности и варикоцеле, а также негативное влияние варикоцеле на уровень гормонов и сексуальную функцию. Безусловно, имея тенденцию к прогрессированию, бесплодие, как и нарушение сексуальной функции, является наиболее значимой проблемой современной медицины. Роль варикоцеле в патогенезе мужского бесплодия, гипогонадизма и сексуальной дисфункции все еще остается не до конца изученной. Нет четких критериев диагностики и лечения мужчин с варикоцеле и сексуальной дисфункцией. В литературе нет работ с достаточным периодом наблюдения, группами сравнения и контроля по данной проблеме. Остается открытым вопрос, имеет ли смысл оперировать фертильных мужчин с варикоцеле и наличием сексуальных нарушений, а также имеет ли смысл оперировать молодых мужчин с варикоцеле с целью профилактики сексуальных нарушений в будущем. В связи с отсутствием вышеперечисленных данных, нам представляется актуальным проведение дальнейших исследований в этой области.

Ключевая слова: варикоцеле, сексуальная функция, мужской пол.

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MODERN POSSIBILITIES OF STUDYING THE EFFECT OF VARICOSE VEINS ON SEXUAL FUNCTION IN MEN

Resume. Despite the publication of the work, the relationship between infertility and varicose veins, as well as the negative impact of varicose veins on hormone levels and sexual function, is discussed in six cases. Of course, there is a tendency to progress, Infertility, as well as a violation of sexual function, is the most significant problem of modern medicine. The role of varicose veins in the

pathogenesis of male infertility, hypogonadism and sexual dysfunction all remains poorly understood. There are no clear criteria for the diagnosis and treatment of men with varicose veins and sexual dysfunction. There is no work in the literature with a sufficient period of observation, comparison and control groups on this problem. The question remains whether it makes sense to operate on pregnant women with varicose veins and the presence of sexual disorders, as well as whether it makes sense to operate on young men with varicose veins in order to prevent sexual disorders in the future. Due to the lack of the above data, it seems relevant to us to conduct further research in this area.

Keywords: varicose veins, sexual function, men's politics.

Актуальность. Варикозное расширение вен яичка (варикоцеле) является широко распространённым урологическим заболеванием и одной из наиболее частых причин бесплодия у мужчин [6].

Распространённость варикоцеле у мужчин составляет 10-30% [2]. Наряду с пациентами, предъявляющими жалобы на боли, ощущение тяжести, дискомфорта в области мошонки, существует большая группа мужчин с бессимптомным варикоцеле. В 40-80% наблюдении единственным проявлением данного заболевания является нарушение сперматогенеза, приводящее к бесплодию.

Основным методом лечения варикоцеле является хирургический. Предпочтение отдаётся лапароскопическим и микрохирургическим методам оперативного лечения. На сегодняшний день имеется много публикаций о связи варикоцеле и бесплодия. Теории негативного влияния варикоцеле на функцию яичка основываются на локальной гипертермии, гормональных нарушениях, нарушениях кровотока в яичках из-за венозного застоя, а также гипоксии [3].

Исследования показывают, что варикоцеле приводит к нарушению функции клеток Сертоли, Лейдига, уменьшению уровня тестостерона, а хирургическое лечение приводит к восстановлению уровня тестостерона, нормальному функционированию клеток Сертоли и Лейдига, улучшению показателей спермограммы. Так же у больных, страдающих бесплодием, эректильной дисфункцией и гипогонадизмом после варикоцелэктомии значительно увеличивает уровень тестостерона в крови, объем яичек, а при эректильной дисфункции отмечается ее улучшение [4].

На сегодняшний день опубликованы единичные работы о возможной связиварикоцеле с гипогонадизмом и эректильной дисфункцией [1]. Нет чётких данных о патогенезе гипогонадизма и эректильной дисфункции у больных с варикоцеле. Так же нет чётких критериев диагностики и лечения мужчин с варикоцеле и сексуальной дисфункцией.

Отсутствие вышеперечисленных данных побудило нас провести собственное исследование по влиянию варикоцеле на возникновение

сексуальных нарушений, а также возможной коррекции этих нарушений путём хирургического лечения.

Цель исследования. Улучшение результатов диагностики и лечения сексуальных нарушений у пациентов с варикоцеле.

Результаты исследования. Распространенность сексуальных нарушений у больных с варикоцеле достоверно выше, чем у больных без варикоцеле (62,1% против 46,6%). Частота встречаемости ЭД у больных с клиническим варикоцеле составляет 62,1%, при этом 20,4% из них имели снижение полового влечения и 1,2% больных оргазмические нарушения. 39,5% больных с варикоцеле не были удовлетворены половым актом.

Факторами риска развития сексуальных нарушений у мужчин с варикоцеле являлись наличие варикозного расширения вен семенного канатика с 2х сторон, 2, 3 степень и III гемодинамический тип, снижение суммарного объема яичек меньше 18 см³.

Наличие варикоцеле у больных с ЭД по сравнению с больными без варикоцеле сопровождается более тяжелыми формами ЭД, что подтверждается относительно низкими показателями количества баллов эректильной функции анкеты МИЭФ (12,1±5,2 против 17,4±6,1) и высокой распространенностью тяжелой степени ЭД (39% против 9,7%).

Особенности патогенеза сексуальных нарушений у больных с варикоцеле связаны с большей частотой встречаемости ВОД (62,1% против 22,6%), более выраженным снижением уровня тестостерона (12,9±5,6 против 15,1 ±4,2) по сравнению с больными без варикоцеле.

Микрохирургическая варикоцелэктомия по сравнению с эмпирической стимуляцией сперматогенеза и динамическим наблюдением достоверно улучшает сексуальную функцию у больных с варикоцеле. При этом после хирургического лечения улучшение эректильной функции отмечается у 72,7% больных, полового влечения у 24,4% больных. У 70,5% больных отмечалось снижение суммы баллов анкеты AMS и у 71,6% больных отмечалось повышение концентрации общего тестостерона, особенно у пациентов с исходно низкими значениями.

Тактика хирургического лечения варикоцеле у мужчин с сексуальными нарушениями зависит от наличия патозооспермии, уровня тестостерона и суммарного объема яичек. Варикоцеле, являющееся единственной причиной патозооспермии у бесплодных мужчин, не зависимо от уровня тестостерона и объема яичек, требует хирургического лечения. В свою очередь, снижение уровня тестостерона и суммарного объема яичек меньше 18 см³ не зависимо от характера нарушения сперматогенеза, является показанием к варикоцелэктомии.

Вывод. Будут установлены степень влияния варикоцеле на возникновение сексуальных нарушений у мужчин, их патогенез и выраженность; определены влияние микрохирургической варикоцелэктомии на сексуальную функцию у мужчин, увеличение уровня

тестостерона, улучшение качества жизни пациентов в ближайшем и отдалённом послеоперационном периоде.

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ПРИМЕНЕНИЕ ВНЕДРЕНИЯ КАБЕЛЬНОЙ СЕЛЕКЦИИ В СИСТЕМЕ ЭЛЕКТРОСНАБЖЕНИЯ

Аннотация. Подбор энергосберегающих кабелей в электроснабжении, а также монтаж медных и алюминиевых кабелей.

Ключевые слова: Электрический ток, удельное сопротивление, электропроводность, электрическая емкость, алюминиевый, медный проводник.

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APPLICATION OF CABLE SELECTION IN THE ELECTRIC SUPPLY SYSTEM

Abstract. Selection of energy-saving cables in power supply, as well as installation of copper and aluminum cables

Key words: Electric current, resistivity, electrical conductivity, electrical capacitance, aluminum, copper conductor.

Самое уязвимое место в сфере обеспечения квартиры или дома электрической энергией – это электропроводка. В любом из этих случаев необходимо сначала сделать **расчет сечения кабеля**, иначе можно столкнуться с серьезными и даже трагичными последствиями.

В вопросе выбора сечения проводов нельзя следовать принципу «на глаз». Протекая по проводам, ток нагревает их. Чем выше сила тока, тем сильнее происходит нагрев. Эту взаимосвязь легко доказать парой формул. Первая из них определяет активную силу тока:

$$I = \frac{U}{R} \quad (1),$$

где I – сила тока, U – напряжение, R – сопротивление.

Из формулы видно: чем больше сопротивление, тем больше будет выделяться тепла, т. е. тем сильнее проводник будет нагреваться. Сопротивление определяют по формуле: $R = \rho \cdot L/S$ (2),

где ρ – удельное сопротивление, L – длина проводника, S – площадь его поперечного сечения.

Чем меньше площадь поперечного сечения проводника, тем выше его сопротивление, а значит выше и активная мощность, которая говорит о более сильном нагреве. Исходя из этого, расчет сечения необходим для обеспечения безопасности и надежности проводки, а также грамотного распределения финансов.

Без расчета сечения проводника можно столкнуться с одной из двух ситуаций: слишком сильный перегрев проводки. Возникает при недостаточном диаметре проводника. Создает благоприятные условия для самовозгорания и коротких замыканий.

- Неоправданные затраты на проводку. Такое происходит в ситуациях, когда были выбраны проводники избыточного диаметра. Конечно, опасности здесь нет, но кабель большего сечения стоит дороже и не столь удобен в работе.

Из формулы (2) видно, что сопротивление проводника зависит не только от площади поперечного сечения. В связи с этим на его нагрев будут влиять:

- Материал. Пример – у алюминия удельное сопротивление больше, чем у меди, поэтому при одинаковом сечении проводов медь будет нагреваться меньше.

- Длина. Слишком длинный проводник приводит к большим потерям напряжения, что вызывает дополнительный нагрев. При превышении потерь уровня 5% приходится увеличивать сечение.

Кабель АВББШв 4х16 четырехжильный, включает токопроводящие жилы из алюминия. Предназначен для прокладки в земле. Защита с помощью оцинкованных стальных лент обеспечивает кабелю срок службы до 30 лет. В компании «Бонком» вы можете приобрести кабельные изделия оптом и в розницу по приемлемой цене. На большом складе всегда есть в наличии вся продукция, что позволяет комплектовать заказы любого ассортимента.

В общем виде **расчет сечения кабеля по мощности** происходит в 2 этапа. Для этого потребуются следующие данные:

- Суммарная мощность всех приборов.
- Тип напряжения сети: 220 В – однофазная, 380 В – трехфазная.
- ПУЭ 7. Правила устройства электроустановок. Издание 7.
- Материал проводника: медь или алюминий.
- Тип проводки: открытая или закрытая.

Шаг 1. Потребляемую мощность электроприборов можно найти в их инструкции или же взять средние характеристики. Формула для расчета общей мощности:

$$\Sigma P = (P_1 + P_2 + \dots + P_n) \cdot K_c \cdot K_z,$$

где P_1 , P_2 и т. д. – мощность подключаемых приборов, K_c – коэффициент спроса, который учитывает вероятность включения всех

приборов одновременно, K_3 – коэффициент запаса на случай добавления новых приборов в доме. K_c определяется так:

- для двух одновременно включенных приборов – 1;
- для 3-4 – 0,8;
- для 5-6 – 0,75;
- для большего количества – 0,7.

K_3 в расчете **кабеля по нагрузке** имеет смысл принять как 1,15-1,2. Для примера можно взять общую мощность в 5 кВт.

Шаг 2. На втором этапе остается по суммарной мощности определить сечение проводника. Для этого используется **таблица расчета сечения кабеля** из ПУЭ. В ней дана информация и для медных, и для алюминиевых проводников. При мощности 5 кВт и закрытой однофазной электросети подойдет медный кабель сечением 4 мм².

Расчет сечения кабеля по длине предполагает, что владелец заранее определил, какое количество метров проводника потребуется для электропроводки. Таким методом пользуются, как правило, в бытовых условиях. Для расчета потребуются такие данные:

- L – длина проводника, м. Для примера взято значение 40 м.
- ρ – удельное сопротивление материала (медь или алюминий), Ом/мм²·м: 0,0175 для меди и 0,0281 для алюминия.
- I – номинальная сила тока, А.

Шаг 1. Определить номинальную силу тока по формуле:

$I = (P \cdot K_c) / (U \cdot \cos \phi) = 8000/220 = 36 \text{ А}$, где P – мощность в ваттах (суммарная всех приборов в доме, для примера взято значение 8 кВт), U – 220 В, K_c – коэффициент одновременного включения (0,75), $\cos \phi$ – 1 для бытовых приборов. В примере получилось значение 36 А.

Шаг 2. Определить сечение проводника. Для этого нужно воспользоваться формулой (2): $R = \rho \cdot L/S$.

Потеря напряжения по длине проводника должна быть не более 5%:
 $dU = 0,05 \cdot 220 \text{ В} = 11 \text{ В}$.

Потери напряжения $dU = I \cdot R$, отсюда $R = dU/I = 11/36 = 0,31 \text{ Ом}$. Тогда сечение проводника должно быть не меньше:

$$S = \rho \cdot L/R = 0,0175 \cdot 40/0,31 = 2,25 \text{ мм}^2.$$

В случае с трехжильным кабелем площадь поперечного сечения одной жилы должна составить 0,75 мм². Отсюда диаметр одной жилы должен быть не менее $(\sqrt{S/\pi}) \cdot 2 = 0,98 \text{ мм}$. **Кабель ВВГнг 3x1,5** удовлетворяет этому условию.

Расчет сечения кабеля по току осуществляется также на основании ПУЭ, в частности, с использованием таблиц 1.3.6. и 1.3.7. Зная суммарную мощность электроприборов, можно по формуле определить номинальную силу тока:

$$I = (P \cdot K_c) / (U \cdot \cos \phi).$$

Для трехфазной сети используется другая формула:

$$I=P/(U\sqrt{3}\cos \varphi),$$

где U будет равно уже 380 В.

Если к трехфазному кабелю подключают и однофазных, и трехфазных потребителей, то расчет ведется по наиболее нагруженной жиле. Для примера с общей мощностью приборов, равной 5 кВт, и однофазной закрытой сети получается:

$I = (P \cdot K_c) / (U \cdot \cos \phi) = (5000 \cdot 0,75) / (220 \cdot 1) = 17,05 \text{ А}$, при округлении 18 А.

ВВГнг 3х1,5 – медный трехжильный кабель. По таблице 1.3.6. для силы тока 18 А ближайшее в значение – 19 А (при прокладке в воздухе). При номинальной силе тока 19 А сечение его токопроводящей жилы должно составлять не менее 1,5 мм². У кабеля ВВГнг 3х1,5 одна жила имеет сечение $S = \pi \cdot r^2 = 3,14 \cdot (1,5/2)^2 = 1,8 \text{ мм}^2$, что полностью соответствует указанному требованию.

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ВЛИЯНИЕ КАЧЕСТВА ЭЛЕКТРОЭНЕРГИИ НА РАБОТУ ЭЛЕКТРООБОРУДОВАНИЯ

Аннотация. Большие погрешности преобразования и измерения электрической энергии, мощности, тока и напряжения приводят к нерациональному использованию мощности трансформаторов и линий электропередачи, запасов энергии на электростанциях, затрудняют управление режимами работы сетей и приводят к финансовым потерям.

Ключевые слова: соединения в электричестве, токе и мощности.

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INFLUENCE OF ELECTRIC POWER QUALITY ON THE OPERATION OF ELECTRICAL EQUIPMENT

Abstract. Large errors in the conversion and measurement of electrical energy, power, current and voltage lead to irrational use of the power of transformers and power lines, energy reserves at power plants, complicate the management of network operating modes and lead to financial losses.

Keywords: connections in electricity, current and power.

Качество электрической энергии – важный фактор, определяющий эксплуатационную надежность и эксплуатационные характеристики электрооборудования [11], [12]. Показатели качества нормируются в соответствии с ГОСТ 32144–2013. При этом указываются допустимые и предельно допустимые значения параметров. Рассмотрим влияние некоторых показателей качества электроэнергии на работу типовых электроприемников. Отклонения напряжения оказывают большое влияние на работу асинхронных двигателей. При изменении напряжения питающей сети изменяется механическая характеристика, представляющая собой зависимость момента электродвигателя от частоты вращения или скольжения (s). На рис.1 эта характеристика показана при снижении напряжения [11].

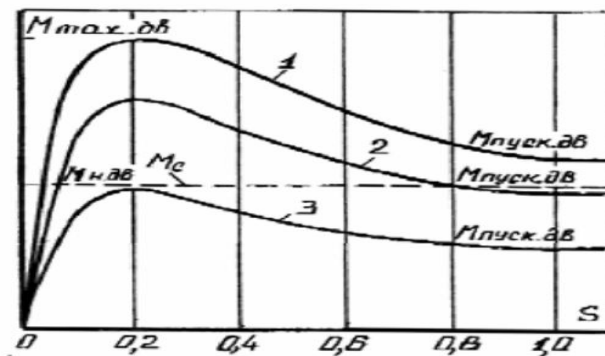


Рис.1. Влияние изменений напряжения на механическую характеристику асинхронного электродвигателя: 1 – при номинальном напряжении U_n ; 2 – при напряжении, равном $0,9U_n$; 3 – при напряжении, равном $0,7U_n$

Вращающий момент асинхронного электродвигателя примерно пропорционален квадрату напряжения. Это значит, что при снижении напряжения на 10 % (0,9)

U_n момент уменьшается на 19 % (0,81) M_n , а при снижении на 30 % уменьшение момента достигает 51 %. На рис.1 штрихами показан также момент сопротивления механизма, приводимого во вращение электродвигателем. Хотя в общем случае снижение частоты вращения двигателя зависит не только от снижения напряжения, но и от закона изменения момента сопротивления механизма, M_c на рис.1 для упрощения он принят постоянным, не зависящим от частоты вращения двигателя. Очевидно, что если на зажимах электродвигателя, работающего с полной нагрузкой, произойдет значительное снижение напряжения, то момент сопротивления механизма может оказаться больше максимального вращающего момента электродвигателя. $M_{max\ дв}$. В этом случае произойдет «опрокидывание» двигателя. Во избежание сгорания электродвигателя он должен быть отключен от сети.

Снижение напряжения ухудшает условия пуска двигателя, так как снижается пусковой момент. Это следует учитывать при эксплуатации, поскольку многие сельскохозяйственные машины имеют большие моменты инерции и момент сопротивления при пусках. Отклонения напряжения оказывают влияние и на другие характеристики асинхронных двигателей. При снижении напряжения и постоянном моменте сопротивления механизма увеличивается потребляемый электродвигателем ток, что приводит к увеличению потерь на нагрев обмоток. При повышении напряжения также увеличивается потребляемый электродвигателем ток из-за насыщения железа за счет его реактивной составляющей. Это, в свою очередь, увеличивает потери на нагрев обмоток и железа. Кроме того, резко снижается коэффициент мощности электродвигателя $\cos\phi$. К изменению напряжения особенно чувствительны осветительные приборы. На рис.2 показано влияние отклонений напряжения на основные показатели ламп

накаливания: срок службы T , световой поток F , световую отдачу H и потребляемую мощность P [11]. Зависимости изображены в относительных единицах: $P^* = P / P_n$; $F^* = F / F_n$; $H^* = H / H_n$. $T^* = T / T_n$ Индексы «н» относятся к номинальным значениям соответствующих величин.

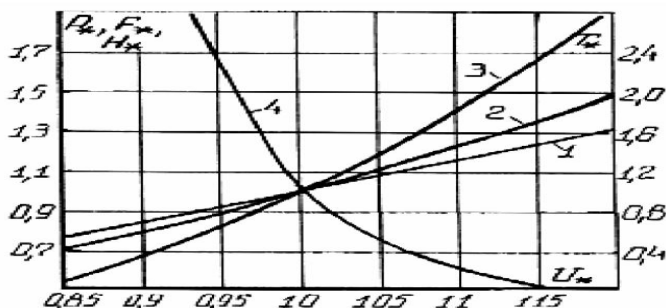


Рис.2. Влияние изменений напряжений на характеристики лампы накаливания: 1 – потребляемая мощность; 2 – световая отдача; 3 – световой поток; 4 – срок службы

На рис.2 видно, что при снижении напряжения заметно падает световой поток, что отрицательно сказывается на освещенности рабочих мест, а это, в свою очередь, влияет на производительность труда, утомляемость работников и ухудшение условий безопасности при выполнении технологических операций. Для создания нормальной освещенности при пониженном напряжении требуется увеличение числа ламп накаливания или их мощности, что приводит к перерасходу электроэнергии. При повышении напряжения сверх номинального резко сокращается срок службы лампы накаливания. При этом имеет место перерасход электрической энергии. Люминесцентные лампы менее резко реагируют на изменение напряжения, но при его снижении до 93–94 % от номинального могут не загореться. При повышении напряжения на 6–7 % перегревается вспомогательная аппаратура. С увеличением подводимого напряжения возрастает потребление люминесцентными лампами реактивной мощности, что приводит к дополнительным потерям энергии и ухудшению $\cos\phi$. Следует также отметить, что в отличие от лампы накаливания срок службы люминесцентных ламп сокращается не только при повышении напряжения, но и при его снижении. При отклонениях напряжения в пределах $\pm 10\%$ срок службы люминесцентных ламп в среднем снижается на 20–25 %. При ультрафиолетовом облучении животных и птицы, а также при обеззараживании воздуха и продуктов в сельском хозяйстве отклонения напряжения оказывают не только большое влияние на срок службы, на светотехнические и электрические показатели ламп, но и нарушаются режимы облучения животных и растений. Электронагревательные установки (электродные и элементные водонагреватели, калориферы, пастеризаторы, кормозапарники,

инфракрасные обогреватели и т. п.), применяемые в сельском хозяйстве, также очень чувствительны к отклонениям напряжения [11]. Общим для всех электронагревательных установок является то, что потребляемая ими мощность (активная) зависит от квадрата приложенного напряжения. При снижении напряжения производительность электронагревательных установок снижается пропорционально квадрату напряжения, что требует увеличения времени работы установки и сопровождается увеличением расхода энергии на единицу продукции. При повышении напряжения происходит увеличение потребляемой мощности электронагревательной установкой, резко сокращается срок службы нагревательных элементов.

Бытовые электроприемники. Работа разнообразных бытовых электроприемников, в том числе телевизоров, компьютеров, автоматических стиральных машин, также зависит от качества напряжения [12]. Отрицательные отклонения напряжения ухудшают изображение телевизора, а положительные сокращают срок службы его деталей. Особенно вредны отклонения напряжения для кинескопов. Отрицательное влияние отклонений напряжения на качество работы и срок службы телевизоров, а также существующие отклонения напряжения в сельских сетях приводят к тому, что потребители приобретают индивидуальные стабилизаторы напряжения, которые применяют даже в случаях, когда отклонения напряжения не выходят за рамки нормируемых. Применение местных стабилизаторов напряжения приводит к ухудшению коэффициента мощности и дополнительным денежным затратам. Причины несимметрии напряжений: неравномерное распределение нагрузки по фазам, создаваемое однофазной нагрузкой; одновременное включение и выключение однофазных потребителей по фазам; перегорание предохранителей в одной из фаз (потеря фазы) и др. [11].

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ПРЕОБРАЗОВАТЕЛИ ТОКА В НАПРЯЖЕНИЕ С РАСШИРЕННЫМИ ФУНКЦИОНАЛЬНЫМИ ВОЗМОЖНОСТЯМИ ДЛЯ СИСТЕМ УПРАВЛЕНИЯ И КОНТРОЛЯ

Аннотация. Большие погрешности преобразования и измерения электрической энергии, мощности, тока и напряжения приводят к нерациональному использованию мощности трансформаторов и линий электропередачи, запасов энергии на электростанциях, затрудняют управление режимами работы сетей и приводят к финансовым потерям. производители и поставщики, а также потребители электроэнергии.

Ключевые слова: Соединения в электричестве, токе и мощности.

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CURRENT TO VOLTAGE CONVERTERS WITH ADVANCED FUNCTIONALITY FOR CONTROL AND MONITORING SYSTEMS

Annotation. Large errors in the conversion and measurement of electrical energy, power, current and voltage lead to irrational use of the power of transformers and power lines, energy reserves at power plants, complicate the management of network operating modes and lead to financial losses. producers and suppliers, as well as consumers of electricity.

Keywords: Connections in electricity, current and power.

Существующие комплексы преобразования и измерения тока и напряжения не обеспечивают требуемой в условиях рыночных отношений точности. Большие погрешности преобразования и измерений электроэнергии, мощности, тока и напряжения приводят к нерациональному использованию пропускной способности трансформаторов и линий электропередачи, резервов мощности на электростанциях, затрудняют контроль режимов работы сетей и приводят к финансовым потерям как производителей и поставщиков, так и потребителей электроэнергии. Низкая точность измерений обусловлена рядом недостатков существующих систем преобразования электроэнергии, поскольку измерительные комплексы создавались ранее, а также создаются и в настоящее время по типовым проектам, разработанным еще в 70 – 80-х годах XX века, в которых не предусматривались решения для обеспечения

высокой точности преобразовательных элементов системы защиты, автоматики и учета [1-2].

Задачей данной работы является анализ и построение принципов преобразования тока в напряжения на основе упрощение конструкции и расширение функциональных возможностей за счет одновременного преобразования токов одной, двух или трех фаз в электрических сетях [1].

Напряжение на выходе вторичной плоской измерительной катушки $U_{\text{ЭВЫХ}}$ преобразователя определяется выражением:

$$U_{\text{ЭВЫХ}} = (4.44 \times f \times w_{\text{ПНО}}) \times \Phi_{\mu} = K_{\mu\text{Э}} \times \Phi_{\mu}$$

где: $K_{\mu\text{Э}} = 4.44 \times f \times w_{\text{ПНО}}$ – коэффициент преобразования магнитного потока в электрическое напряжение,

f – частота электрической сети питания, ($f_{\text{н}} = 50$ Гц),

$w_{\text{ПНО}}$ – числа витков плоской измерительной катушки,

Согласно структурной схеме преобразования входного напряжения $U_{\text{ЭВХ}}$ или тока $I_{\text{ЭВХ}}$ (рис.1) определяем выходной ток $I_{\text{ЭВЫХ}}$

$$I_{\text{ЭВЫХ}} = K_{\mu\text{Э}} \times \Phi_{\mu} / \Pi_{\text{ЭВХ}} = K_{\mu\text{Э}} \times \Phi_{\mu} / (\Pi_{\text{ЭВХ}} \times \Pi_{\mu}),$$

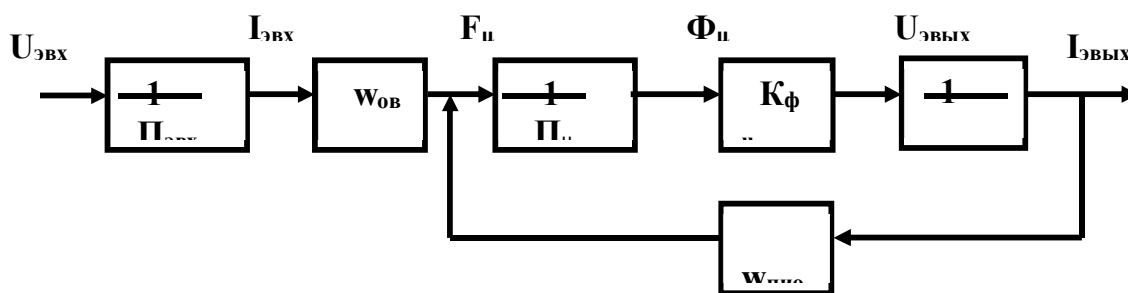


Рис.1 Структурная схема преобразования электрических и магнитных величин преобразователе тока в напряжение

Согласно конструкции преобразователя тока в напряжение и плоской измерительной катушки (рис.2,3), на основе равенства м.д.с. F_{μ} создаваемые обмотками в магнитной системе, определяется уравнение, связывающие величины и параметры электрической энергии, и показывающие принципы преобразования тока в напряжение.

Преобразователь одно, двух или трехфазного тока электрической сети в напряжение с расширенными функциональными возможностями и упрощенным принципом построения, повышенной точностью преобразования содержит (рис.2) магнитопровод с общим основанием 1 с четырьмя параллельными стержнями 2, 3, 4 и 5; первичные обмотки 6 (фаза А), 7 (фаза В), и 8 (фаза С) в виде одно, двух и трех проводов электрической сети, расположенных в выемках параллельных стержней; плоские измерительные катушки 9, 10 и 11 расположены между дополнительными сердечниками 12, 13, 14 и 15 на изоляционных пластинках 16, 17 и 18 (рис.3) [1].

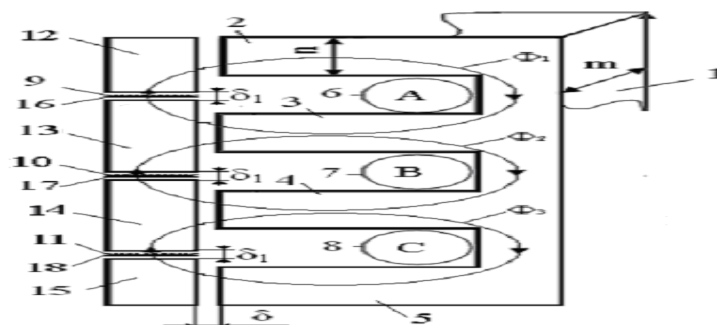


Рис.2 Конструкция преобразователя тока в напряжение

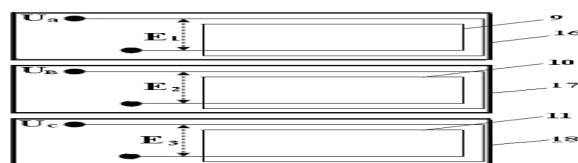


Рис.3. Плоские измерительные катушки

Выполнение магнитопровода с одним общим основанием и с параллельными стержнями, на выемках которых расположены первичные обмотки возбуждения, а также расположения плоских измерительных катушек между дополнительными сердечниками позволяет уменьшить количество измерительных катушек и привести их количество в соответствие с количеством первичных обмоток, что существенно упрощает конструкцию преобразователя и обеспечивает возможность преобразования токов одной, двух и трех фаз электрической сети и повышает тем самым функциональные возможности преобразователя тока в напряжение.

Использованные источники:

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**УЗУМНИНГ КИШМИШБОП НАВЛАРИНИНГ ВЕГЕТАЦИЯ
ФАЗАЛАРИНИНГ ЎТИШ МУДДАТЛАРИГА ЎСТИРУВЧИ
МОДДАЛАРНИНГ ТАЪСИРИ**

Аннотация. Ушбу мақолада узумнинг кишмишбопнавларини ерток усулида етиштиришда асосий фенологик фазаларнинг ўтиш муддатларига ўстирувчи ва ўсишни бошқарувчи моддаларнинг таъсири бўйича илмий тажрибалар ва кузатишлар олиб борилгани ҳамда олиб борилган тадқиқотлар натижалари тўғрисида маълумотлар келтирилган.

Калит сўзлар: ерток, фенологик фаза, туп, кишмишбоп, куртак, назорат вариант, гуллаш, гужум.

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**INFLUENCE OF GROWTH REGULATORS ON THE TRANSITION
PERIODS OF THE VEGETATION PHASES OF RAISIN VARIETIES
OF GRAPES**

Abstract. This article presents scientific experiments and observations on the influence of growth regulators and growth management substances on the transition periods of the main phenological phases in the cultivation of raisin varieties of grapes using an early method, as well as data on the results of the conducted research.

Keywords: early method, phenological phase, vine, raisin, bud, control variant, flowering, cluster.

Кириш. Ўзбекистон Республикасида сўнгги йилларда узумнинг кишмишбоп ва шаропбоп навларида токнинг ерток усулида етиштириш орқали узум ҳосилдорлигини ошириш бўйича илмий тадқиқот ишлари олиб борилган ва муайян натижаларга еришилган. Бироқ, узумнинг кишмишбоп навларини етиштиришда занг ва новдаларнинг узум ҳосилдорлиги ва сифатига таъсирини ўрганиш бўйича тадқиқотлар олиб борилмаган. Ўзбекистон Республикасининг 2022-2026 йилларга мўлжалланган янги Ўзбекистоннинг тараққиёт стратегиясининг 30-мақсадида «кишлоқ хўжалигини илмий асосда интенсив ривожлантириш орқали деҳқон ва фермерлар даромадини камида 2 баробарга ошириш, кишлоқ хўжалигининг йиллик ўсишини камида 5 фоизга етказиш»⁴⁰ ҳамда туманларни аниқ маҳсулот турини етиштиришга, жумладан боғдорчиликка 46 та, узумчиликка 48 та туманни ихтисослаштириш, ушбу туманларда плантацияли усулда 25 минг гектар мевали боғ, 50 минг гектар узумзор екилишини таъминлаш муҳим вазифа қилиб белгиланган. Бу борада узумнинг кишмишбоп навларини истокболли ўстириш усуллари танлаш, узумнинг кишмишбоп навларига ўстирувчи моддаларни қўллаш усуллари, фенологик фазаларнинг ўтишига боғлиқлиги ва вегетация фазаларининг ўтиш муддатларини аниқлаш бўйича илмий тадқиқот ишларини кенгайтириш ҳам назарий, ҳам амалий аҳамиятга ега бўлган долзарб вазифа ҳисобланади.

Тадқиқотнинг объекти сифатида узумнинг Кишмиш чернийнави, Кишмиш белий овалний, Кишмиш согдиана, Ф1 Қора кишмиш, Ф1 Оқ кишмиш, Ф1 Пушти Кишмиш навлари куртаклар ёзилгандан то гуллаш бошлангунча ҳамда гуллаш фазалари хизмат қилган.

Тадқиқот материаллари. Тажрибалар Х.Ч.Бўриев, Н.Ш.Енилеев ва бошқалар томонидан ишлаб чиқилган «Мевали ва резавор мевали ўсимликлар билан тажрибалар ўтказишда ҳисоблар ва фенологик кузатувлар методикаси» (2014) [1.], М.А.Лазаревскийнинг «Методў ботанического описания и агробиологического изучения сортов винограда» (1946), Витковского В.Л. Изучение сортов винограда (методические указания) (1988), номли услубий адабиётларида келтирилган тавсия ва услублар бўйича ўтказилган [2].

Тадқиқот натижалари. Токнинг йиллик ривожланиш даври ўсув ва тиним даврини ўз ичига олади. Ток ўсимлигининг ўсув даври 6 та жараёндан иборат бўлиб улар қуйидагилардир: биринчи фаза эрта баҳорда ҳароратнинг кўтарилиши билан шира ҳаракатини бошланиши, (бу токда шира ҳаракати бошланиб, куртакларнинг бўртиши давригача, яъни куртаклар кўрингунга қадар давом этади); иккинчи фаза ток тупларида куртаклар ёзилгандан то гуллаш бошлангунча давом этади (бу даврда ток тупларини симбағазларга боғлаш ишлари амалга оширилади); учинчи фаза гуллаш ҳисобланиб (бу

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давр жуда муҳум ҳисобланиб, ҳомток қилиш, ток қатор ораларида агротехник тадбирларни бажариб бўлмади чунки гултож қалпоқчаларининг тўкилиши даражаси юқори бўлади, бу фаза гуллашдан то гуллар тўкилганча давом этади); тўртинчи фаза ғужумларнинг тугиши ва новдаларнинг ўсиши ҳисобланиб (бу даврда ток туплари хомток ишлари ва суғориш ишлари амалга оширилиб ҳосилдорликка эътибор берилади, ғужумларининг пайдо бўлишидан бошланиб, ғужумларнинг пишишини бошланиш давригача давом этади); бешинчи фаза узум ғужумларининг пишиши (бу даврда барча агротехник тадбирлар ҳамда ток туплрига кимёвий ишлов бериш ишлари якунланган бўлиши керак); ва баргларнинг тўкилиши(хазонрезлик) Ш. Темуров [98; 3–110-б.].

Юқорида кўрсатилган узумнинг кишмишбопнавларини ерток усулида етиштиришда асосий фенологик фазаларнинг ўтиш муддатларини ўрганишга таъсири бўйича илмий тажрибалар ва кузатишлар олиб борилди.

Узумнинг кишмишбоп навларининг куртаклари бўрта бошлашини кузатиш шуни кўрсатдики, узумнинг ўрганилган кишмишбоп навларида куртакларнинг энг эрта бўртиши (22/IV) Ф1 Кишмиш белый овалный навида кузатилди. Иқлим шароитига боғлиқ ҳолда баъзи йилларда куртакларнинг бўртиши кўрсатилган муддатдан сезиларли фарқлансада, вариантлар кесимида юқорида таъкидлаб ўтилган тенденция сақланиб қолди. Бошқа вариантларда бирмунча кечроқ Ф1 Қора кишмиш ва Ф1 Оқ кишмиш навларда (24/IV) куртакларнинг бўртиши кўрсатилган вариантлар оралиғида бўлди.

1-жадвал

Узумнинг кишмишбоп навларида куртаклар бўртишини бошланиш муддатлари(2021-2023 йиллар)

Т/р	Вариантлар	2021	2022	2023	Ўртача
1	Кишмиш черыйнави	23/IV	20/IV	17/IV	20/IV
2	Кишмиш белый овалный	15/IV	17/IV	18/IV	17/IV
3	Кишмиш Согдиана	23/IV	22/IV	18/IV	21/IV
4	Ф1 Қора кишмиш	24/IV	22/IV	19/IV	21/IV
5	Ф1 Оқ кишмиш	24/IV	22/IV	19/IV	21/IV
6	Ф1 Пушти Кишмиш	22/IV	23/IV	18/IV	21/IV

Узумнинг кишмиш черный навида куртакларнинг бўртиши ўртача 20/IV да кузатилган бўлса, Кишмиш белый овалный навида 17/IV да, Кишмиш Согдиана, Ф1 Қора кишмиш, Ф1 Оқ кишмиш ҳамда Ф1 Пушти Кишмиш навларида 21/IV да кузатилди. Йиллар кесмида куртакларнинг бўртишини кузатилганда энг эрта муддатда Кишмиш белый овалный 15/IV да кузатилган бўлса энг кеч муддатда шу йилнинг ўзида Ф1 Қора кишмиш ва Ф1 Оқ кишмиш навларида 24/IV да кузатилиши аниқланди.

Ток ўсимлигининг гуллаш ва гулларининг очилишидан гултож қалпоқчаларининг тўкилишидан бошланади ва ғужумлар тўкилишига давом этади. Узумнингкишмишбопнавларини гуллашни бошланиш муддатлари 2021-2023 йиллар давомида қуйидаги кўрсаткичларга эга бўлди. УзумнингКишмиш черыйнави ишлов берилмаган (назорат) вариантыда гуллашнинг бошланиш муддати ўртача 20/V ташкил этган бўлса, Гиббереллин ИКС 25 мг/л, Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л, гуллашдан олдин қўлланилагнда гулашнинг ўртача муддати назорат вариант билан бир муддатда бўлиши қайт этилди. Йиллар кесимида ўрганилганда энг эрта гуллаш 15/V да бошланган бўлса, энг кеч муддатда 23/V да бўлиши қайт этилди.

Узумнинг Кишмиш белый овалныйнавида ишлов берилмаган (назорат) вариантда гуллашнингўртача бошланиш муддати 15/V да бўлди. Гиббереллин ИКС 25 мг/л, Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л, гуллашдан олдин қўлланилагнда гулашнинг ўртача муддати 17/V да бўлди ва назорат вариантдан икки кун кейин бошлаши кузатилди. Йиллар кесимида ўрганилганда энг эрта муддатда 14/V да бошланган бўлса, энг кеч муддат иккинчи вариантда 18/V да бўлиши кузатилди. Назорат вариантданўрт кун кеч гуллаши қайт этилди.

Узумнинг Кишмиш Согдиана навида ишлов берилмаган (назорат) вариантда гуллашнингўртача бошланиш муддати 15/V да бўлди. Гиббереллин ИКС 25 мг/л, Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л, гуллашдан олдин қўлланилагнда гулашнинг ўртача муддати 16/V да бўлди ва назорат вариантдан бир кун кейин бошлаши кузатилди. Йиллар кесимида ўрганилганда энг эрта муддатда 13/V да бошланган бўлса, энг кеч муддат иккинчи вариантда 18/V да бўлиши кузатилди. Назорат вариантданўрт кун кеч гуллаши қайт этилди.

2-жадвал

Узумнингкишмишбопнавларини гуллашни бошланиш муддатлари (2021-2023 йиллар)

Т/р	Вариантлар	2021	2022	2023	Ўртача
Кишмиш черыйнави					
1	Ишлов берилмаган (назорат)	15/V	20/V	17/V	20/V
2	Гиббереллин ИКС 25 мг/л Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л, гуллашдан олдин	23/V	21/V	18/V	20/V
Кишмиш белый овалный					
1	Ишлов берилмаган (назорат)	14/V	16/V	15/V	15/V
2	Гиббереллин ИКС 25 мг/л Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л,	16/V	18/V	17/V	17/V

Кишмиш Согдиана					
1	Ишлов берилмаган (назорат)	13/V	16/IV	15/V	15/V
2	Гиббереллин ИКС 25 мг/л Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л,	15/ V	18/ V	16/ V	16/V
Ф1 Қора кишмиш					
1	Ишлов берилмаган (назорат)	18/V	22/V	20/V	20/V
2	Гиббереллин ИКС 25 мг/л Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л,	20/V	24/V	23/V	22/V
Ф1 Оқ кишмиш					
1	Ишлов берилмаган (назорат)	12/V	17/V	15/V	15/V
2	Гиббереллин ИКС 25 мг/л Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л,	15/V	19/V	17/V	14/V
Ф1 Пушти Кишмиш					
1	Ишлов берилмаган (назорат)	16/V	19/V	16/V	17/V
2	Гиббереллин ИКС 25 мг/л Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л,	19/V	24/V	22/V	22/ V

Узумнинг Ф1 Қора кишмиш навида ишлов берилмаган (назорат) вариантда гуллашнингўртача бошланиш муддати 20/V да бўлди. Гиббереллин ИКС 25 мг/л, Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л, гуллашдан олдин қўлланилагнда гулашнинг ўртача муддати 22/V да бўлди ва назорат вариантдан икки кун кейин бошлаши кузатилди. Йиллар кесимида ўрганилганда энг эрта муддатда 18/V да бошланган бўлса, энг кеч муддат иккинчи вариантда 24/V да бўлиши кузатилди. Назорат вариантданолти кун кеч гуллаши қайт этилди.

Узумнинг Ф1 Оқ кишмиш навида ишлов берилмаган (назорат) вариантда гуллашнингўртача бошланиш муддати 15/V да бўлди. Гиббереллин ИКС 25 мг/л, Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л, гуллашдан олдин қўлланилагнда гулашнинг ўртача муддати 14/V да бўлди ва назорат вариантдан бир кун олдин бошлаши кузатилди. Йиллар кесимида ўрганилганда энг эрта муддатда 12/V да бошланган бўлса, энг кеч муддат иккинчи вариантда 19/V да бўлиши кузатилди. Назорат вариантданетти кун кеч гуллаши қайт этилди.

Узумнинг Ф1 Пушти Кишмиш навида ишлов берилмаган (назорат) вариантда гуллашнингўртача бошланиш муддати 17/V да бўлди. Гиббереллин ИКС 25 мг/л, Борная кислота 50 мг/л, Ситогуммат 200 мг/л, Фитовак 100 мг/л, Магний 50 мг/л, гуллашдан олдин қўлланилагнда гулашнинг ўртача муддати 22/V да бўлди ва назорат вариантдан беш кун кеч бошлаши кузатилди. Йиллар кесимида ўрганилганда энг эрта муддатда 16/V

да бошланган бўлса, энг кеч муддат иккинчи вариантда 24/V да бўлиши кузатилди. Назорат вариантданолти кун кеч гуллаши қайт этилди

Хулоса. Олиб борилган тадқиқотлар натижалари шуни кўрсатдики ўстирувчи маддаларни қўлланилса узумнинг кишмишбоп навларида назорат вариантга нисбатан Кишмиш черыйнавида бир хил муддатда. Кишмиш белый овалный навида 2 кун, Кишмиш Согдиана навида 1 кун, Ф1 Қора кишмиш навида 2 кун, Ф1 Пушти Кишмиш навида 5 кун кеч бўлиши, Ф1 Оқ кишмишнавида 1 кун эрта бўлиши аниқланди.

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УРУҒЛАРНИ ҚОБИҚЛАШ ЖАРАЁНИДА ЭЛЕКТРОЭНЕРГИЯ САРФИНИ КАМАЙТИРИШ

Аннотация. Мақолада қобиқлаш процессида электроэнергияни тежаши ускуна барабанининг ички қисмига сферик сиртлар ўрнатилиши орқали эришилганлиги баён этилган.

Калит сўзлар: уруг, қобиқлаш, кўчат, зичлик, тарелкасимон барабан, сферик элемент, тирбандлик, технологик жараён.

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REDUCTION OF ELECTRICAL ENERGY CONSUMPTION IN THE PROCESS OF COATING SEEDS

Annotation. The article describes the energy savings during seed coating in installations with the establishment of spherical protrusions along the inner plane of the drum.

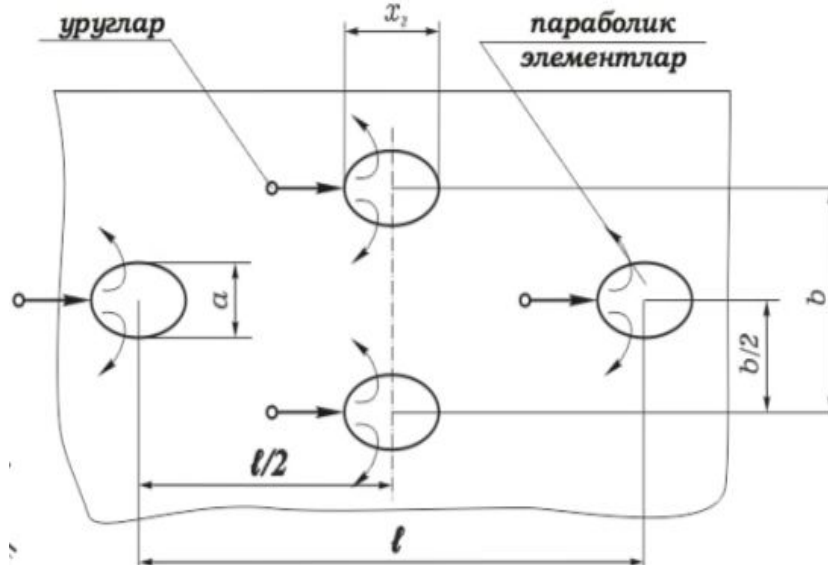
Key words: seeds, drageeing, sprouts, density, plate drum, parabolic element, cork, technological process.

Тукли чигитлар ва сочилувчанлиги паст бўлган техник экинларнинг уруғини қобиқлаб, сочилувчанлигини ошириш учун ҚХМИТИ олимлари томонидан тарелкасимон барабан турдаги қурилма ишлаб чиқилган.

Охирги вариантда ҳам камчилик мавжуд, яъни қўшимча қўйилган эгри чизикли мослама туфайли бўланаётган чигитлар қобикловчи қурилманинг ичида ҳаракатланаётганда қаршиликка учрайди ва қаршилиқ кучи ҳисобига электродвигател қувватига таъсир этади, ортиқча электроэнергия сарф бўлишига олиб келади. Бундан ташқари, эгри чизикли мослама билан қурилма ички сирти орасида ҳаракатланаётган чигитлар қўшимча сиқилишига мажбур бўлади, бу эса бўланишнинг бир текисда амалга ошишига тўсқинлик қилади, чигитлар эгри чизикли мослама билан тўкнашганда деформацияга учрайди, бу ҳолат чигитларнинг шикастланишига олиб келади.

Бу камчиликларни бартараф этиш қўйидагича амалга оширилади.

Барабанли қобиклаш ускунасида қобиклаш процесси яхшиланиши учун унинг ички цилиндрик айланма сиртига сферик элементлар билан қопланган юққа лист маҳкамланиб чиқилади. Бу ҳолатда айлана бўйича ҳаракатланаётган уруғ сферик элементга келганда ҳаракат йўналишини ўзгартиради, яъни у аввал қиялик бўйича юқорига кўтарила бошлайди ва юқори нуқтасига чиқиб ёки чиқмасдан сферик юзада сирпаниб чиқаётган ўнг ёки чап томонга айланма ҳаракат қилиб ағдарилиб тушади (1-расм). Шу пайтда уруғнинг барабан сиртида ишқаланиб келаётган, яъни химикатлар билан бўланиши қийинлашаётган пастки томони бўланиш имкониятига эга бўлади. Натижада уруғнинг қобикловчи химикатлар билан бўланиш сифати ошади бўланиш вақти камаяди, электроэнергия тежаллади, эгри чизикли мосламага хожат қолмайди. Сферик сиртга эга бўлган листнинг қурилма ички юзаси бўйича ўрнатилиши 1-расмда кўрсатилган.



1-расм. Сферик элементнинг барабан ички юзасида жойлашув схемаси.



2-расм. Тажрибадан ўтказилган лист вариантлари.

Ўнгдан чапга; 1-тўсиқлар барабан ўқиға 10 градиус қилиб ясалган; 2-тўсиқлар барабан ўқиға параллел ҳолда ясалган; 3-лист юзаси шахмат тарзида жойлашган сферик тўсиқчалардан ташкил топган.

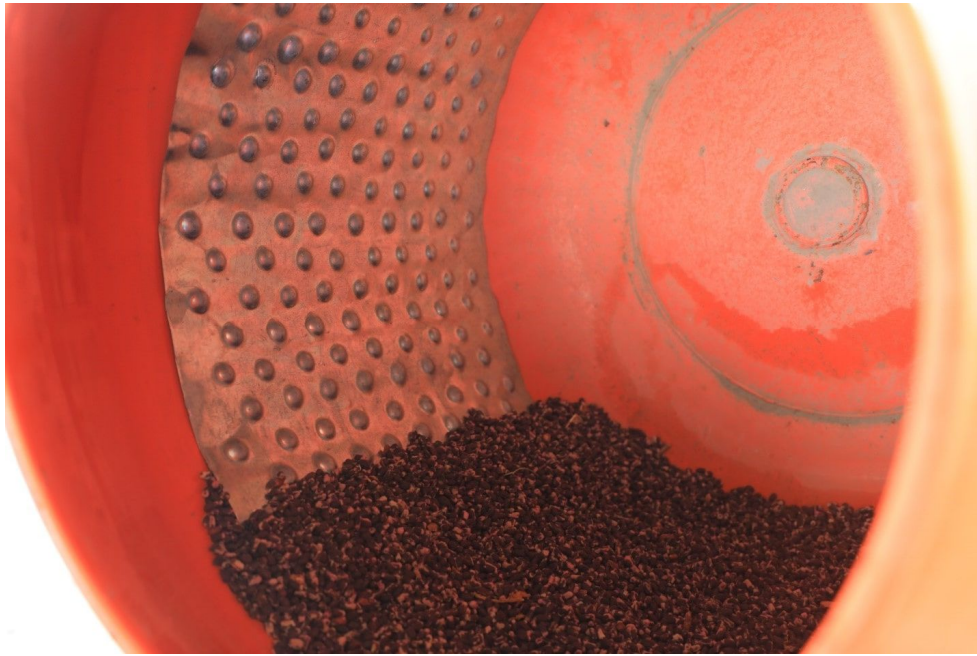
Тажрибада 3 хил вариант листлар урганилиб чиқилди (2-расм): 1, барабан ўқиға 10 градиус қия, барабан эни бўйича эллипссимон тўсиқли лист; 2, барабан ўқиға параллел, барабан эни бўйича эллипссимон тўсиқли лист; 3, бутун юза бўйича сферик элементлар билан қопланган лист.

Юқоридаги вариантларни урганиб чиқиш учун махсус қурилма ясалди (3-расм).



3-расм. Қурилманинг иш ҳолати.

Қурилма кўйидагича ишлайди: ҚХМЭИ олимлари томонидан яратилган технология буйича амалга оширилади. Чап томонда химикатлар солинган полиэтилен идишдан суюқлик электронасос ёрдамида пуркагичга узатилади. Мини-дражираторга қобикланиши керак бўлган 15 кг уруғлар солинган. У электродвигател билан ишга туширилган. Пуркагич орқали химикатли суюқлик керакли тезликда зарур миқдорда барабан ичига сепилади. Шунини таъкидлаш керакки, қобиклаш жараёнида рул ёрдамида барабан ҳоҳлаган бурчак остида ўз ҳолатини ўзгартириши мумкин. Бу усул уруғларнинг бўланишини тезлаштиради, ва сифатли бўланишини таъминлайди.



4-расм. Сферик тўсиқли лист иш жараёнда.



5-расм. Мини-дражираторнинг юқорига қаратилган кўриниши.

Курилманинг параметрлари: электродвигател қуввати – 1,1 квт; кучланиши- 230 в; барабан диаметри – 0,7 м; барабан айланишлар сони – 29,5 айл/мин.

Аввал 2-расмдаги 1 ва 2 вариантлар синовдан ўтказилди.

Биринчи вариантдаги лист тажрибадан ўтказилганда уруғлар ўз ҳаракат траекториясини тўғри чизикли йўналишда давом эттириб тўсиқлардан ошиб ўтганда айланма ҳаракатни амалга оширмаслиги сабабли бўланиш жараёни ёмон натижани берди. Иккинчи вариантда ҳам, тўсиқлар

қия жойлашганлигига қарамасдан уруғлар айланма ҳаракат қилмаганлиги сабабли бўланиш жараёни яхши амалга оширилмади. Учинчи вариантда сферик тўсиқчалар лист юзаси бўйича шахмат тарзида жойлаштирилгани сабабли уруғлар биринчи тўсиқда қандайдир бурчакка буралиб ўз ҳаракат йўналишини ўзгартирса кейинги тўсиқда йўналишини яна қандайдир бурчакка ўзгартиради. Ўз ҳаракати давомида уруғ жуда кўп тўсиқчаларга дуч келганлиги сабабли жуда кўп айланма ҳаракат қилишга мажбур бўлади, бу ҳолат эса яхши бўланишга олиб келади

Аввал қалинлиги $t=1$ мм бўлган эни қурилма барабанининг энига тенг $B=40$ см, узунлиги қурилма ички айлана переметрига $L= \pi D/2=198$ мм тенг бўлган лист олиб унинг бир томонига аввал радиуси $R=10$ мм кейин $R=8$ мм бўлган сферик тўсиқчалар ҳосил қилиб чиқилади. Бу сферик тўсиқчалар листнинг узунлиги бўйича масофаси $l=30$ мм эни бўйича $b=45$ мм масофада шахмат усулида ҳосил қилинади (1-расм). Шу размерда чигитлар ўз ҳаракат йўналишида албатта сферик элементларга учрайди ва биринчи сферик элементда қандайдир бурчакка айланса кейингисиде албатта шу бурчакка тескари томонга бурилади ва хоқозо. Шу тариқа технологик жараён пайтида чигитларнинг ҳаммаси бўланиш жараёнида қатнашади, бу ҳолат эса бўланишнинг муқаммал бўлишига ва технологик жараён вақтининг камайишига, ўз навбатида электроэнергиянинг тежалишига олиб келади.

Қобиклаш усқунаси ичида бўланиш процесси сифатли ўтишида сферик элементнинг параметрлари аҳамиятга эга. Элемент параметрларини тажрибабилан аниқлаш мумкин. Уруғлар ҳаракатига элементлар тескари таъсир кўрсатмаслиги яъни кетма-кет келаётган уруғлар қияликка келиб ортиқча қаршилиққа учраб тирбандлик ҳосил қилмаслигида қиялик бурчаги аҳамиятга эга. Чунки унинг катта қийматларида кетма-кет келаётган уруғларнинг ортиқча қаршилиққа учрашига олиб келади. Бу эса ортиқча ишқаланиш кучлари яъни уруғлар ўртасидаги ишқаланиш кучининг ортиб кетишига, уруғ сифатининг пасайишига олиб келади.

Пахта уруғларини қобиклаш масаласи билан ҚХМИТИ илмий ходимлари шуғулланишган ва қобикловчи усқунанинг керакли параметрлари аниқланган. Қобиклаш усқунаси барабанининг радиуси $R = 0,7$ м; барабанининг горизонтал текисликка нисбатан қиялик бурчаги $\beta = 40^\circ$; барабан айланишлар сони $n = 251/\text{мин}$, электродвигатель қуввати $N = 30$ кВт, қобиклаш жараёни вақти $T = 17$ мин. 120 кг уруғни қобиклаш учун сарфланган электроэнергия миқдори $N_{\text{сarf}} = T \times N/60 = 17 \times 30/60 = 8,5$ кВт, 1 кг уруғ учун кетган минимал энергия миқдори $N_{\text{мин}} = 8,5/120 = 0,07$ кВт/кг.

Амалда қобиклаш усқунаси ичида уруғлар бир қанча қатлам бўлиб ҳаракатланади. Элементга келиб урилган бир неча қатлам ҳам унга теккандан сўнг қандайдир бурчакка айланма ҳаракат қилишга мажбур бўлади. Элементлар шахмат тарзда жойлашганликлари учун уруғлар биринчи элементдан айланма ҳаракат олган бўлсада кейингисига келиб яна

айланади ва ҳақозо. Бу ҳолат уруғларнинг яхшироқ бўланишига олиб келади.

Сферик элементларнинг мавжуд тарелкасимон барабанли қобиклаш ускунасида ўтказилган тажрибалар қўйидаги натижаларни берган эди (1-жадвал).

1-жадвал

Қаварик радиуси (мм) R	Жараён вақти (мин) T	Сарф қилинган қувват (кВт) $N_{сарф} = T/60 \times N_{дв}$	Мавжуд усулда жараён вақти (мин)	Мавжуд усулда сарф қилинган қувват (кВт) $N_{м.у.сарф}$	Фарқи (кВт) $N_{фарқ} = N_{м.у.сарф} - N_{сарф}$	Фоиш (%) $\% = N_{фарқ} / N_{сарф} \times 100$
10	14	7,0	17	8,5	1,5	17,0
	15	7,5	17	8,5	1,0	11,0
	16	8,0	17	8,5	0,5	6,0
8	14	7,0	17	8,5	1,5	17,0
	15	7,5	17	8,5	1,0	11,0
	16	8,0	17	8,5	0,5	6,0

Янги яратилган лаборатория ускунасида сферик тўсиқчалар билан қопланган листнинг 2 хил варианты (R=8-10)мм урганиб чиқилди. Қобикланадиган уруғ миқдори 15 кг, жараён вақти T= 7-9 мин, бир жараён давомида сарфланган энергия миқдори $N_{сарф} = T \times N_{дв} = T/60 \times N_{дв} = T/60 \times 1,1$ кВт.

мавжуд усулда энергия миқдори $N_{м.у.сарф} = T/60 \times 30$, буерда T = 17 мин.

У ҳолда $N_{м.у.сарф} = 8,5$ кВт. Мавжуд қобиклаш ускунасида 120 кг чигит қобиклангани сабабли, биз тайёрлаган ускунада 15 кг уруғ қобиклангани учун қиёслаш мақсадида биз олган натижаларни 8(120/15)га кўпайтириб таққосладик.

2-жадвал

Қаварик радиуси (мм) R	Жараён вақти (мин) T	Сарф қилинган қувват (кВт) 1 жараён учун	Сарф қилинган қувват (кВт) 8 жараён учун	Мавжуд усулда сарф қилинган қувват (кВт)	Фарқи (кВт) $N_{ф} = N_{м.у.сарф} - N_{сарф}$	Фоиш (%) $\% = N_{ф} / N_{сарф} \times 100$
10	7	0,13	1,02	8,5	7,48	646
	8	0,15	1,17	8,5	7,33	616
	9	0,165	1,32	8,5	7,18	585
	10	0,18	1,46	8,5	7,04	558
8	7	0,13	1,02	8,5	7,48	646
	8	0,15	1,17	8,5	7,33	616
	9	0,165	1,32	8,5	7,18	585
	10	0,18	1,46	8,5	7,04	558

Натижалар шуни кўрсатдики, сферик тўсиқчаларли листнинг кўлланилиши сабабли жуда катта электроэнергияни тежашга эришилади, сферик тўсиқчанинг параметрига келсак $R = 8-10$ ммрасида энергия тежалишига унча таъсир қилмайди, аммо уруғларнинг бўланиши $R = 8-10$ мм бўлганда сифатли маҳсулот олинди. Бунга сабаб уруғлар барабаннинг тубида бўлганда қатлам бўлиб келаётган уруғларнинг пастки қатламидаги қисми юқоридагиларнинг ҳар томонлама босими таъсирида бир мунча вақт тирбандликка учрайди, чунки, уруғ сферик тўсиқнинг баландлиги бунга қаршилиқ кўрсатади ва бир қанча уруғлар ҳаракати тўхтаб қолади. Шунинг учун тўсиқчанинг баландлиги (радиуси) уруғнинг параметридан кўп марта катта бўлмаслиги маъқулдир. Агар уруғнинг узунлиги овал ҳолатда 4-6 мм бўлса у ҳолда, тўсиқча радиуси 7-8 мм дан ошмаслиги керак. Бундан ташқари юқоридаги камчиликлар барабанни рул ёрдамида ҳаракат пайтида ҳар хил бурчакка ўзгартириб туриши билан йўқотилади, чунки, барабаннинг ўз ўқи атрофида оғдирилиб турилиши уруғлар тирбандлигига барҳам беради, бўланиш сифатини оширади. Юқоридаги (2-жадвал) кўрсаткичлар бабабан ичи сферик тўсиқчалар билан қопланган мини-қобиклаш ускунасида қобиклаш жараёнини амалга оширишнинг афзаллигини кўрсатади.

Хулоса: Тажриба натижаларига асосланиб кўйидаги хулосага келса бўлади:

- қобикланиш жараёнида хамма чигитлар бўланиш жараёнида катнашади, чигитлар жараён пайтида қаттиқ элементларга дуч келмайди шу сабабли улар шикастланишмайди;

- қурилманинг ичида чигитларнинг бир текисда мураккаб (илгариланма ва айланма) ҳаракат қилишига тўсиқчилик қилувчи элементларга зарурият бўлмайди;

- юқоридаги вариантларнинг хаммасида қобикланган чигитларнинг сочилувчанлиги мавжуд технология бўйича олинган маҳсулотнинг сочилувчанлиги билан бир хил, аммо электроэнергия харажатлари 110 фоиз тежалади;

- барабаннинг ўз ўқи бўйича жараён пайтида ҳар қандай бурчакка оға олиши уруғларнинг тирбандликка учрамаслигини, уруғларнинг айланма ҳаракатланишини, бўланиш вақтининг камайишини, бўланиш сифатининг ошишини таъминлайди.

- қурилма конструкцияси эгри чизиқли мосламадан воз кечиш ҳисобига соддалашади.

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ҚУРИТИШ ЖАРАЁНИНИ ТАЖРИБА УСКУНАСИДА АМАЛГА ОШИРИШ

Аннотация. Мақолада қобиқланган уруғларни қуритишида қуритиш ускунасига эластик стерженлардан фойдаланиш қуриш процессига ижобий таъсир этиши исботланган.

Калитсўзлар: чигит, қобиқлаш жараёни, қуритиш ускунаси, колорифер, термометр, шахта, стержен.

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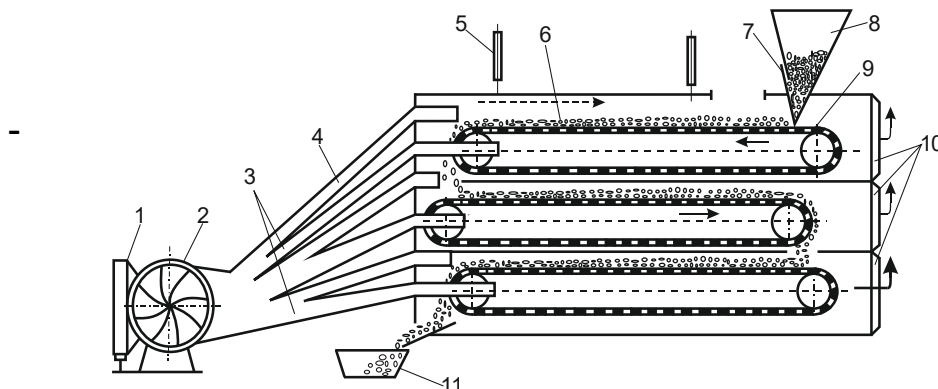
IMPROVEMENT OF DRYING PROCESS IN EXPERIMENTAL EQUIPMENT

Annotation. The article substantiates that the use of elastic rods in a dryer leads to an improvement in the drying of pelleted seeds

Key words: seeds, drageeing process: dryer, heater, thermometer, mine, rod.

Маълумки тукли чигитларни қобиқлаш жараёнида асосий технологик жараёнларидан бири қуритиш ҳисобланади. Мавжуд қуритиш қурилмаларида қуритиш технологик жараёнининг оптимал режимини танлаш, қобиқланган чигитларнинг сифатини сақлаб қолиш имкониятини

беради, чунки бу жараён уларнинг биологикхусусияти билан узвий боғлиқ. Ўтказилган тадқиқотлар шуни кўрсатдики, уруғларнинг хаддан зиёд киздирилиши уларнинг унувчанлигининг камайшига олиб келади. Қуритиш жараёнида қизитиш температурасининг нормадан ошиши, уруғ таркибидаги хосил бўладиган ўзгаришлар (коагуляция) уруғларнинг ҳаёт фаолиятини бутунлай тўхтатади. Шундай қилиб юқори сифатли қобиқланган ғўза уруғини олиш уларни қуритиш ва қуритиш қурилмалари билан боғлиқ.



Расм-1. Қобиқланган чигитларни қуритишнинг мавжуд қуритиш қурилмасининг технологик схемаси.

1-колорифер; 2-вентилятор; 3-иссиқ ҳаво оқимини рословчи тўсиқ; 4-ҳаво қувурлари; 5-термометр; 6-аралаштиргич; 7-уруғ оқимини рословчи тўсиқ; 8-тақсимловчи бўнкер; 9-тўр транспортер лентаси; 10-нам ҳавони ташқарига чиқарувчи қувурлар; 11-шахта.

Мавжуд қурилмада қуритиш технологик жараёни қуйидагича амалга оширилади. Қобиқлаш ускунасида тайёрланган уруғлар тақсимлагич бўнкер 8 дан, вибратор (тебратгич) билан жихозланган ростловчи тўсиқ 7 ёрдамида тўр транспортер лентаси 9 га тўлиқ кенлиги бўйича бир текис қатлам билан узатилади. Бир пайтда колорифер 1 дан вентилятор 2 ёрдамида қурилманинг ҳар бир ярусига иссиқ ҳаво оқими узатилиб, унинг тезлиги тўсиқ 3 ёрдамида ростланади.

Қуритиладиган қобиқланган уруғлар тўрли транспортёр лентаси 9 ёрдамида қурилманинг биринчи ярусига ҳаво оқимига қарама-қарши йўналишда ҳаракатланиб, иккинчи ярусга берилади ҳамда унда уруғ ҳаво оқими йўналишида ҳаракатланади.

Қуритилаётган чигит иккинчи ярусдан учинчи ярусга тушади, унда чигит яна ҳаво йўналишига қарама-қарши ҳаракатланади ва ундан шахта 11 га тушади. Шахтадан қуритилган қобиқланган чигитлар транспортер лентаси ёрдамида қоплаш учун йиғиладиган идишга солинади.

Қуритиш қурилмасидаги иссиқ ҳаво ҳарорати колорифер 1 да ўрнатилган “ТЭН” ларни навбатма навбат ўчириб ёқиш ёрдамида ростланади. Қобиқланган чигитларни бир текисда қуришини таъминлаш мақсадида уруғлар қоплами ҳар бир ярусга ўрнатилган аралаштиргичлар 6

ёрдамида аралаштириб турилади. Қобикланган чигитларнинг ажралган намлиги билан тўйинган ҳаво қуритиш камерасидан унинг орқасига ўрнатилган қувурлар 10 ва бункер тақсимлагич 8 енидаги тешиклардан чиқариб ташланади.

Қуритиш камерасидан чиқиш жойида қобикланган чигитларнинг намлиги ўрганилганда, чиқаётган чигитларнинг намлиги 9,5 % дан 18% гача эканлиги аниқланди. Демак мавжуд қуритиш қурилмаси узлуксиз технологик жараёнда қобикланган чигитларни 20 дақиқада тўлиқ қуритиш имкониятини бермайди.

Тўлиқ қуритилган қобикланган чигит олиш учун мавжуд қуритиш қурилмасида 30 дақиқадан кўпроқ вақт талаб қилинди, шунинг учун қобикланган чигитларни қуритиш жараёнини тезлаштириб узлуксиз технологик жараёнда 20 дақиқада сифатли қуритилган чигит олиш учун мавжуд қуритиш қурилмасини такомиллаштириш зарур бўлади. Адабиётлар таҳлили шуни кўрсатадики материалларни қуритиш тезлиги қуритилаётган материал сиртидан ва атроф муҳит ўртасидан бўғнинг порционал босимига боғлиқ экан. Демак уруғларни қуритиш жараёнини тезлатиш учун қуритилаётган материал сиртидан буғ босимини ошириш ёки атроф муҳитдан буғ босимини камайтириш керак бўлади. Қуритилаётган материал сиртидаги буғ босимини уруғнинг ҳароратини ошириш йўли билан ошириш мумкин, атроф муҳитдаги буғ босимини эса қуритиш камерасидаги иссиқлик мувозанатини бузиш йўли билан буғ босимини камайтириш мумкин. Материалнинг ҳароратини ошириш мақсадга мувофиқ эмас. Биринчидан, пайт келадик, қуритилаётган материал температураси ошиб бориб бўғ ва уруғ намлиги тенглашганда, уларнинг ҳарорати қуритиш камераси ҳароратига яъни, иссиқлик элтувчи ҳавонинг ҳароратига тенг бўлади. Бу пайтда қуритиш вақти мувозанат ҳолатига келади ва қобикланган чигитларни қуриш вақти узаяди. Иккинчидан, қуритилаётган материалнинг ҳаддан ташқари қизиши уруғларнинг унвчанлигига ва ривожланиш қувватига салбий таъсир кўрсатади.

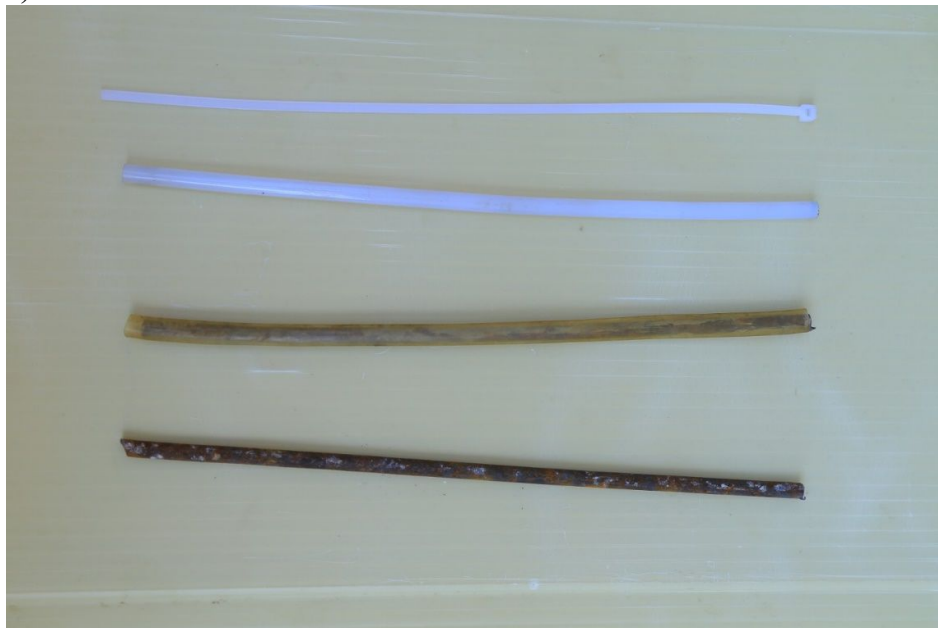
Шунинг учун қуриш қурилмасидаги буғ босимини ундан иссиқлик мувозанатини бўзиш йўли билан камайтириш мақсадга мувофиқ.

Қуритиш қурилмасидаги иссиқлик мувозанатини бузишни оцилмирующий (ўзгарувчан) режим ҳосил қилиб амалга ошириш мумкин. Бунинг учун мавжуд қурилманинг технологик схемасига камерага совуқ ҳаво берувчи вентилятор киритиб такомиллаштирилган қурилмани тайёрлаш зарур.

Қобикланган уруғларни қуритиш ускунасининг транспортер лентасидан тушаётган уруғнинг шкастланмасдан тушуши ва унинг сиртининг ҳамма тамони бутунлай сифатли қуриши учун, унга кейинги транспортер лентага бошқа юзаси билан оҳиста тушиши учун уруғ ҳаракат траекториясининг охириги қисмида эластик стерженлар ўрнатилган. Бу стерженга уруғ бориб урилганда у айланма ҳаракат қилишга мажбур бўлади,

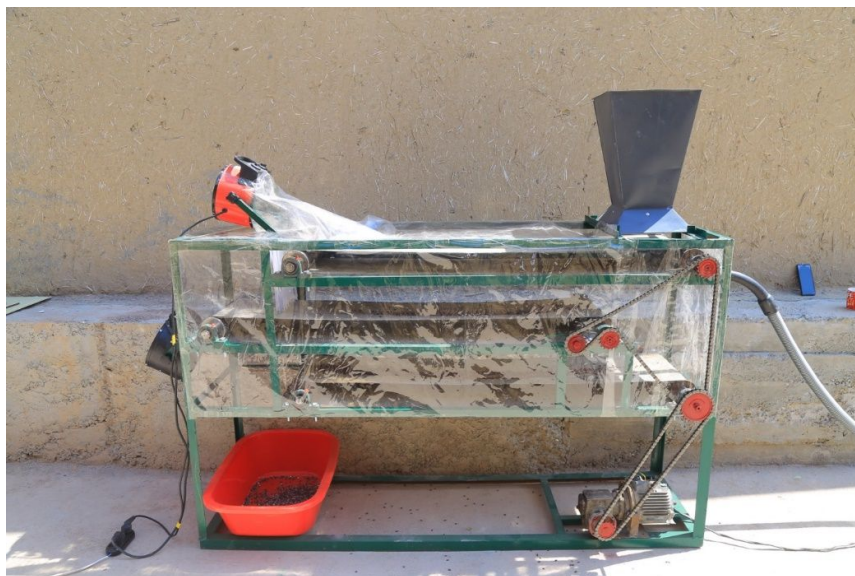
инерцияси пасайиб стержен бўйлаб текис пастга тушади. Бундан ташқари уруғнинг стерженга келиб урилганда шкастланмаслиги учун стерженлар шарнир ёрдамида эркин осиб қўйилади, яъни у уруғ келиб урилганда қандайдир бурчакка силкиниб туради. Бу эса уруғнинг стерженга келиб урилганда стержен томонидан ҳосил бўладиган реакция кучининг кўпаймаслигига олиб келади. Чунки стержен силкинаётиб қаршилиқ кучини камайтиради.

Эластик стержен материали полиэтилен ёки резинадан тайёрланади (2-расм).



Расм-2. Стерженлар вариантлари: пастдан юқорига; 1-диаметри 6 мм бўлган пўлат стержен, 2-диаметри 8 мм бўлган полиетилен трубка, 3-диаметри 6 мм бўлган тўлиқ полиэтилен стержен, 4-эни 6 мм, қалинлиги 2 мм бўлган полиэтилен брусча.

Уруғнинг транспартёр лентадан отилиб тушишини ўрганамиз. Бунинг учун тажрибалар ўтказиш учун қуриштиш ускунаси ясалди (3-расм).



Расм-3 Ускунанинг умумий кўриниши.

Ускунанинг тузилиши ва ишлаши кўйидагича. Ускуна ҚХМИТИ олимлари исботлаган технология асосида ясалди. У уч ярусдан иборат яъни учта транспортер лентадан иборат, юқорисидаги ва энг пастдаги чап томонга ҳаракатланса ўртасидаги ўнг томонга ҳаракатланади. Бу иккала лентага иссиқ ҳаво берилса ўртасидагига совуқ ҳаво берилади. Ускуна ҳар томонлама ва яруслараро қалинлиги 150 мкн, 200 градус иссиқликка чидамли шаффоф полиэтилен пленка билан ўралган. Ҳаракат керакли айланишлар сонини берувчи электродвигателга уланган червякли редуктордан занжирли узатма орқали транспортер ленталарга узатилади. Чап томонда тепада ўрнатилган калорифер юқоридаги лентага уруғлар ҳаракатига тескари йўналишда иссиқ ҳаво уриб туради. Иккинчи ярусдаги уруғларга ҳаракатига тескари йўналишда ўнг томонда кўрсатилган трубадан совуқ ҳаво уриб турилади. Учинчи, пастдаги ярусдаги транспортер лентага тушган уруғларга ҳаракатига тескари йўналишда чап томонда пастда ўрнатилган калорифердан иссиқ ҳаво йўналтирилади. Қуритиш процессида ишлатилган ҳаво юқорида жойлашган нам қобиқланган уруғлар учун мўлжалланган бункер ёнидаги тешиклар орқали атмосферага чиқиб кетади. Транспортер лента барабанларининг ўқлари орасидаги масофа 1500 мм, транспортер лента тезлиги 0,03 м/сек, жараён вақти 150 сек. ни ташкил этади. Бу давр ичида уруғлар яхши қуримайди. Керакли натижани олиш учун қурилмадан чиққан уруғлар таги сетка бўлган яшиқда 15-20 мин юқа қалинликда сақланади. Бу вақт ичида уруғлар атроф муҳитнинг температурасигача пасаяди. Бу пайтда қурилма кейинги партия уруғларни қуритади. Етти партиядан сўнг биринчи партиядagi уруғлар қайтадан қуритиш қурилманинг бункерига солиниб яна қуритиш давом эттирилади. Бир партия яъни 15 кг уруғни қуритиш учун кетган энергия миқдорини аниқлаш учун аввал сарф қилинган вақтни топамиз: $6 \times 150 \text{сек} = 900 \text{сек} = 15$

мин, у ҳолда умумий сарф қилинган энергия $N_{\text{умум}} = 15/60 \times N_{\text{дв}} = 15/60 \times 2 = 0,5 \text{ кВт}$.

Эластик стерженларни танлаш учун кўйидаги тажрибалар бажарилди (расм-2): металл стержен қўлланганда уруғнинг урилгандан кейинги бурчаги урилганга қадар бурчагига тенглиги кузатилди. Бунга сабаб стерженнинг массаси оғир эканлигидир. Шу сабабли стержен унга уруғ келиб урилганда жойидан силжимади. Бу ҳолатда уруғ қандай куч билан келиб урилган бўлса шунча акс таъсир кучини қабул қилиб олди (Нютоннинг учинчи қонунига асосан), натижада уруғлар шикастланди. Иккинчи ва учинчи вариантларда ҳамурилгандан кейинг тушиш бурчаги кичик бўлишига қарамасдан оҳиста кейинги лентага келиб тушмади, уруғларнинг қобиғи бир мунча шикастланди. Яхши натижалар тўртинчи вариантда яъни оғирлиги 20 гр бўлган эластик брусчалар қўлланилганда эришилди. Бунга сабаб уруғ эластик полиэтилен брусчага келиб урилганда тушиш бурчаги нол градиусдан ҳам пастга тушиб кетди, яъни уруғ бир мунча кичик вақт брусча юзасида сирпаниб оҳиста кейинги лента устига келиб тушди. Бу вариант қониқарли натижалар кўрсатгани учун ушбу вариант устида тажрибалар ўтказилди. Асосий мақсад уруғларнинг осилиб турган стерженларга урилиб шикастланмай кейинги лентага олдинги лентадаги ҳолатига нисбатан тескари тушишини таъминлаш.

Бунинг учун 100 та уруғ бир томони оқ рангга бўялди, уруғлар силжиб кетмаслиги учун лентанинг уруғлар жойлашган участкага юпқа қилиб қум сепилди (расм-4).



Расм-4. Бўёқланган чигитлар.

Юқоридаги схемада кўрсатилган эластик стерженнинг қўлланилиши ҳисобига уруғнинг ўниб чиқиши ва ривожланишига ижобий таъсир этади, чунки бунинг натижасида текис қуриш бир мунча янада яхшиланади, масофалари бўйича текисланиши (лента устида жойлашиши), геометрик размерлари ва унинг донадорлиги бошланғич ҳолатига нисбатан ошади.

Назарий эҳтимолларнинг қанчалик ҳақиқатга яқинлигини билиш учун тажрибалар ўтказилди. Аввал стерженларсиз ускунада чигитлар кейинги пастда жойлашган лентага қай ҳолатда, яъни ўз жойлашуви қанчалик ўзгартириб жойлашиши урганилди, сўнгра стерженлар ўрнатилиб тажрибалар ўтказилди. Бу процесс яққол кўриниши учун 100 та чигит юқоридаги лентада жойлашган пайтда уларнинг юқори қисмларига оқ бўёқ билан нуқтали белгилар қўйилиб чиқилди. Тажрибалар 10 мартадан қайтарилди. Ҳар сафар чигитлар пастки лентага тушиб жойлашгандан кейин уларнинг ёнақайи ёки тескари бўлиб ўрнашиши фоиз ҳисобида ёзиб борилди. Сўнгра шу тажриба энгил эластик брусчалар ўрнатилган ҳолатда ўтказилди (расм-5). Стерженлар параметрлари эса қўйидаги назарий-амалий тушунчаларга таяниб қабул қилинди:

- стержен утуғга зарар етказмаслиги учун у энгил плпстмассадан тайёрланди,

- стерженнинг эни чигит узунлигидан ошмаслик керак (10 мм)

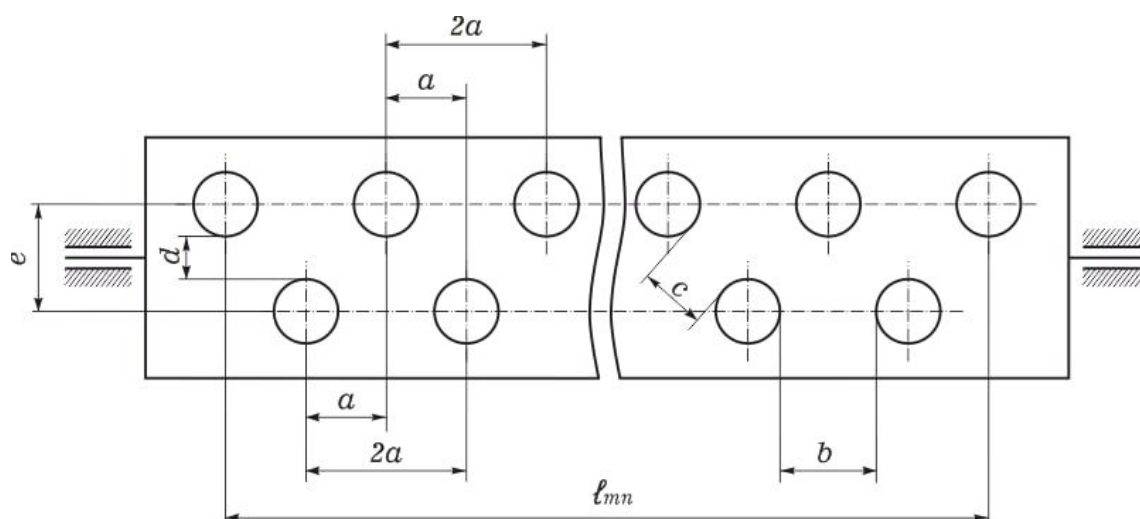
- ёнма-ён жойлашган иккита стержен яқин чеккалари орасидаги масофа чигит қисилиб қолмаслиги учун унинг размери чигит узунлигидан катта бўлиши керак ($b=10$ мм),

- чигитларнинг ҳаммаси жараёнда қатнашиши учун стерженлар лента эни бўйлаб икки қатор шахмат тарзида жойлаштирилди,

- қаторлар орасидаги масофа конструкция ихчам бўлиши учун $d=15$ мм қабул қилинди,

- конструкция янада ихчам бўлиши учун эластик стерженлар юқорига шарнир орқали эмас сифатли синтетик ип билан осиб қўйилди,

- стержен билан лента орасидаги масофа чигит қисилиб қолмаслик учун унинг узунлигидан ортиқ бўлиши керак (15-20 мм)



Расм-5. Стерженларнинг жойлашиш схемаси.

Тажриба натижалари қўйидаги 1-таблицада келтирилган (фоиз ҳисобида)

1-таблица

Вариантлар	1	2	3	4	5	6	7	8	9	10
Стерженсиз	57	64	52	61	69	70	48	69	67	49
Стерженли	78	70	66	76	72	69	67	69	75	77

Таблицадаги натижалардан кўришиб турибдики, стерженлар ўрнатилган вариантда кўпроқ чигитлар ёнбош ёки тескари жойлашишади. Бу ҳолат эса калорифердан қуритиш учун келаётган иссиқ ҳавонинг чигитнинг буткул қуримай қолган қисмининг ҳам муваффақиятли қуришига олиб келади. Шунини таъкидлаш керакки, қуритилган чигитлар қопга солингандан сўнг фермер даласига экилгунча қандайдир вақт ўтади. Бу вақт давомида қопчиқда буткул қуримаган чигитларнинг бир қисми бир жойда тўпланиб қолиши мумкин. Бу тўдалар сони қанча ва улар нечта чигитларни жамлаб олишини аниқлашнинг иложи йўқ аммо аммо бу ҳолат бўлишини биламиз. Бу тўдалар сонининг камайишига стерженлар ижобий таъсирини кўрсатди, яъни ҳосилдорлик 2,5 фоизга ошди. Нима сабабдан бу ютуққа эришилганини анализ қилайлик. Тупроққа тушган чигит агар буткул талаб даражасида қуруқ бўлса унга нам тупроқдаги суюқликлар кира бошлайди. Аввал суюқлик чигит сиртидаги химоялайдиган-оziқлантирадиган адгезия қобикка таъсир этади. Чигит қуруқ бўлгани сабабли тупроқдаги зарарли моддалар билан қурашиб филтёр вазифасини бажариб чигит ядросига фақат керакли индигриентни ўтказди холос ва чигитнинг ўниб чиқиши муваффақиятли амалга ошади. Агар тупроққа тушган чигитнинг намлик даражаси нормадан юқори бўлса, у ҳолда чигитнинг қобиғи нам бўлгани

учун тупроқдаги зарарли суоқликлар чигит намлик суоқлиги билан аралашиб ягона аралашма ҳосил қилади, бу аралашмада зарарли компонентларнинг концентрацияси кўпайиб кетади, натижада ифлос қоришма чигит ядросига киради ва ўзининг салбий хислатларини кўрсатади, натижада чигитнинг ўниб чиқишига, ривожланишига, ҳосилдорлигига таъсир кўрсатади.

Хулоса: Юқоридаги тажриба ва илмий изланишлардан келиб чиқиб бу борада қуйидаги хулосага келиш мумкин бўлади, яъни қуриштириш жараёнида иссиқ ҳаво қобиқланган чигитни унинг ташқи юзаси бўйича бир хил таъсир этиши шарт. Биз таклиф этаётган таклиф бу муаммони ечишни анча енгиллаштиради. Аммо келажакда янада афзалроқ усуллар устида иш олиб бориш талаб қилинади.

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РАҚАМЛИ ИҚТИСОДИЁТ ШАРОИТИДА САВДО ФАОЛИЯТИ СОЛИҚ АУДИТИНИ ТАШКИЛ ҚИЛИШ

Аннотация. Мазкур мақолада рақамли иқтисодиёт шароитида савдо фаолияти солиқ аудитини ташкил қилиш ва ундаги муаммоларни бухгалтерия ҳисобида ва ҳисоботларида туғри юртилиши олиб бориши ёритилган.

Калит сўзлар: рақамли савдо, ташқи савдо, ички савдо, улгуржи товар, чакан товар, ялпи ички маҳсулот, солиқлар аудити, ташқи аудит, солиқ назорати.

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ORGANIZING A TAX AUDIT OF TRADE ACTIVITIES IN THE DIGITAL ECONOMY

Abstract. This article describes the organization of a tax audit of trade activities in the conditions of the digital economy and the correct identification of its problems in accounting and reports.

Keywords: digital trade, foreign trade, domestic trade, wholesale goods, retail goods, gross domestic product, tax audit, external audit, tax control.

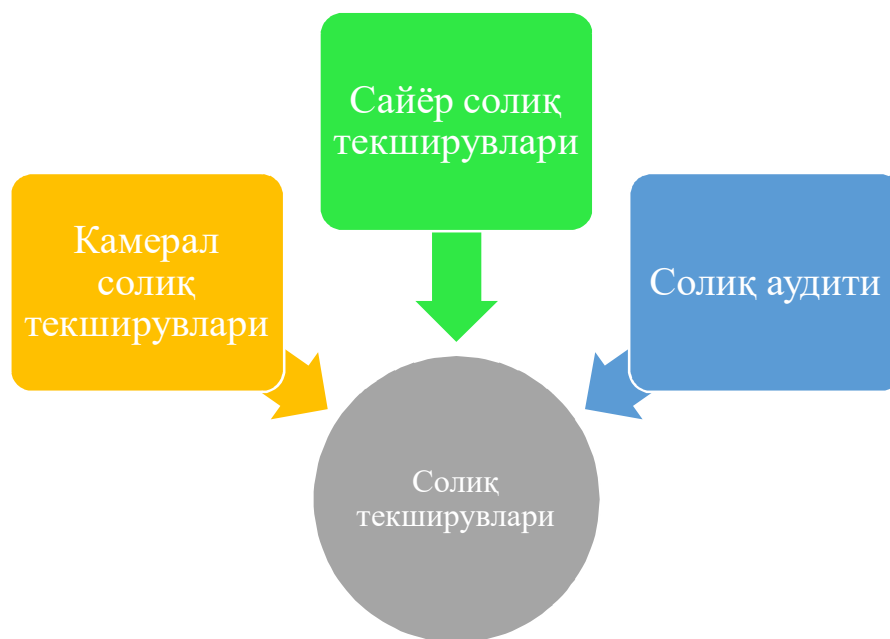
Ҳозирги вақтда “солиқ аудити” тушунчаси мамалакатимиз ва хорижий адабиётларда тез-тез ишлатиладиган тушунча бўлиб қолмоқда. Бироқ, меъёри ҳуқуқий ҳужжатларда ҳам, иқтисодий адабиётларда ҳам “солиқ аудити” тушунчаси ҳар хил талқин қилинмоқда.

Солиқ аудитининг муҳимлигини Т. Д. Барсулая қуйидагича ифодалайди: ҳозирги вақтда аудиторлик хизмати турлари ичида солиқ аудитига кўпроқ эҳтиёж туғилмоқда. Экспертларнинг баҳолашича Россия аудиторлик компаниялари тушумининг 30 фоизи солиқ аудитига тўғри келмоқда.⁴¹

41 Барсулая Т.Д. Налоговый аудит. Учебник: учебное пособие / Барсулая Т.Д. — Москв: Русайнс, 2019. — 582 с. — ISBN 978-5-4365-3384-1. — URL: <https://book.ru/book/932100> (дата обращения: 14.12.2019).

Яна бир Россиялик иқтисодчи Л.В. Усатова ўзининг илмий ишларида солиқ аудитини қуйидагича эътироф этган: “Солиқ аудити-бу бухгалтерия ва солиқ ҳисобларининг ҳолатини, шунингдек ташкилотларнинг солиқлар ва йиғимлар бўйича ҳисоб китобларини мустақил текширишдир”.⁴²

Жаҳон амалиётида ҳам, мамлакатимизда ҳам молиявий назоратнинг турларидан бири бўлиб солиқ назорати ҳисобланади. Ўзбекистон Республикасининг янги таҳрирдаги Солиқ кодексининг 135-моддасида солиқ назоратига таъриф берилмасада, у қуйидагича эътироф этилган: “Ваколатли органларнинг солиқ тўловчилар ва солиқ агентлари томонидан солиқ тўғрисидаги қонун ҳужжатларига риоя этилиши устидан назорат қилишга доир фаолияти солиқ назоратидир”.⁴³ Ушбу кодекснинг 136-моддасида солиқ назоратини қуйидаги шаклларда солиқ текширувлари; солиқ мониторинги шаклида амалга ошириш кўзда тутилган.⁴⁴ Шунингдек, Кодекснинг 137-моддасида солиқ текширувларининг қуйидаги



1-расм. Солиқ текшируви турлари

Илмий изланишлар шуни кўрсатмоқдаки, иқтисодчи ва мутахасислар “солиқ аудит”ини аудитнинг бир тури, ички аудит, хизмат кўрсатиш тури сифатида ҳар хил талқин қилишмоқда. Масала, О.А. Миронова ва А.Ф. Ханафеевларнинг фикрича, солиқ аудити аудитнинг бир туридир, “тегишли хизматлар” эмас. Бу муаллифлар ўзларининг фикрларини давом эттириб,

42 Усатова Л.В. Организация процесса налогового аудита расходов. Журнал экономического анализ: теория и практика, 2008, 24 (129), 26-31стр

43 Ўзбекистон Республикасининг янги таҳрирдаги Солиқ кодекси. ЎРҚ-599, 2019-йил 30-декабрь.

44 Шу ерда.

солиқ аудити доирасида солиқ режалаштириши амалга оширилади, бюджет билан ҳисоб-китоблар назорат қилинади, шунинг учун ҳам аудиторлик ташкилотлари томонидан ўтказиладиган ташқи аудитнинг мустақил тури деган хулоса қилишади.⁴⁵ Д.В. Орлов эса, солиқ аудитини солиқ тўловчиларга кўрсатилаётган алоҳида хизмат тури сифатида моҳиятини очишга ҳаракат қилган.⁴⁶

Халқаро амалиётда солиқ аудитини ўтказишда аудитнинг халқаро стандартларидан кенг фойдаланинади. Солиқ аудитини ўтказишда қуйидаги аудитнинг халқаро стандартларидан ” АХС 200 “Мустақил аудиторнинг умумий мақсадлари ва аудитни Аудитнинг халқаро стандартларига мувофиқ ўтказиш”, АХС 800-«Махсус масалалар-махсус мақсадли асосларга мувофиқ тайёрланган молиявий ҳисоботлар аудити», Аудитнинг Халқаро Стандарти (АХС) 805 “Махсус масалалар – айрим молиявий ҳисоботлар ҳамда молиявий ҳисоботдаги махсус элементлар, сўтлар ёки моддалар аудити”.

Биринчидан савдо, умумий овқатланиш ёки хизмат кўрсатиш шохобчасида НКТ ва тўлов терминалларида фойдаланиш қоидаларига риоя этилишини текшириш.

Иккинчидан назорат хариди ҳуқуқбузарлик содир этилганлиги тўғрисида мурожаат этган жисмоний шахс ёки “яширин харидор” хизматини кўрсатувчи юридик шахс амалга ошириб чиқаётган харидор кўрсатмаси асосида амалга оширилади.

Учинчидан назорат хариди бўйича баённома тузиш ва унда НКТдан фойдаланилганлиги ва тўловларни банк пластик карточкалари орқали қабул қилинишини текшириш

Тортинчидан солиқтўловчининг кассаларида мавжуд нақд пул қолдиғини санаб кўриш, назорат-касса техникаси хотирасига киритилган нақд пул суммаси билан солиштириш.

Бешинчидан онлайн назорат-касса техникалари ва виртуал касса ўрнатилиши шарт бўлган савдо, хизмат кўрсатиш ва умумий овқатланиш шохобчасида қурилмаларни қўллаш қоидаларига риоя этилишини назорат қилиш.

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СОВРЕМЕННОЕ СОСТОЯНИЕ И МЕЛИОРАТИВНОЕ СОСТОЯНИЕ ПРИРОДНЫХ КОМПЛЕКСОВ НИЖНЕЙ АМУДАРЬИ

***Аннотация.** К орошаемым землям относятся земли, пригодные для сельскохозяйственного использования и орошения, с постоянными или временными оросительными сетями, соединенными с источником орошения, способным обеспечить водные ресурсы для орошения этих земель. Органы сельского и водного хозяйства обязаны обеспечивать водой собственников и пользователей земель с орошаемыми землями с учетом мутности источников для орошения в пределах, установленных законодательством о воде. Орошаемые земли должны быть особо охраняемы.*

Ключевые слова: мелиорация, ландшафт, засоление, суффозия, эрозия, фации, рельеф, геосистема, антропогенный, автоморфный, гидроморфный, аллювиальный, коллектор.

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TODAY'S CONDITION AND RECLAMATION CONDITION OF LOWER AMUDARYA NATURAL COMPLEXES

***Abstract.** Irrigated lands include lands suitable for agricultural use and irrigation, with permanent or temporary irrigation networks connected to an irrigation source capable of providing water resources for irrigation of these lands. The bodies of agriculture and water management are obliged to provide water to the owners and users of the land with irrigated land, according to the limits introduced by the legal documents on water, taking into account the turbidity of the sources for irrigation works. Irrigated lands should be specially protected.*

Key words: reclamation, landscape, salinity, suffusion, erosion, facies, relief, geosystem, anthropogenic, automorphic, hydromorphic, alluvial, collector.

Введение. Нижняя Амударья аналогична дельтам Акчадарьи, Джанадарьи и Сарыкамыша, которые образовались гораздо раньше. На современном этапе развития геосистем они на ступень выше современных дельт Сырдарьи и Амударьи. Иными словами, в контексте автоморфной тенденции развития они могут быть в некоторой степени схожими при прогнозировании ландшафтов аллювиальных равнин регионов, поскольку субэральные дельтовые ландшафты уже прошли этапы эволюции, наблюдавшиеся в предшествующий период.

Основная часть. Высыхание Аральского моря приводит к перемещению грунтовых вод Нижней Амударьи в сторону сухой части Аральского моря. При этом установлено, что степень влияния дренажа Нижней Амударьи в определенной степени увеличивается по мере удаления береговой линии в сторону центральной части Аральского моря. Однако в этом случае необходимо учитывать ряд условий, по-разному влияющих на степень и интенсивность дренажного эффекта бассейна сухой части моря. В настоящее время (2021 г.), когда поверхность моря уменьшилась почти на 28 м, радиус влияния этой величины очень велик в условиях равнинной местности. Уровень Аральского моря влияет на грунтовые воды на расстоянии до 200 км от береговой линии. Конечно, это было типично для периода до 1960-х годов. В настоящее время вода отошла от берегов южной части моря на расстояние более 250 км, в результате чего закономерно увеличивается радиус влияния на режим подземных вод. Также необходимо учитывать условия местности и состав почвы.

Раньше, когда уровень моря был стабильно выше 53 м, существовало удельное давление масс подземных вод, направленных в дельту Амударьи. Особенно это характерно для мест с несколько сложным рельефом на равнинах Нижней Амударьи, в связи с этим в современных дельтах Амударьи и Сырдарьи наряду с заболоченными территориями стали развиваться гидроморфные естественные почвы. В настоящее время в результате утраты этого влияния прежние гидроморфные почвы были заменены засоленными гидроморфными и полугидроморфными почвами.

Восстановление и сохранение гидроморфных ландшафтов Нижней Амударьи было возможно до 1961 года, но сейчас это совершенно невозможно. Однако создание влажных ландшафтов, близких к природным комплексам в гидроморфном режиме, возможно путем обеспечения регулярного водоснабжения дельтовых ландшафтов. Дефицит воды, используемой для орошения, требует использования воды в водоснабжении дельтовых экосистем в соответствии со строго определенными нормами и обуславливает использование воды со снижением ее потребления до минимального уровня. По этой причине необходимо заранее определить

количество воды, используемой для орошения тростниковых зарослей, озер, водохранилищ и ручьев. Необходимо строго придерживаться установленных норм подачи воды в дельту. Кроме того, в северной части дельты необходимо расширить площади орошаемых земель, чтобы обеспечить население сельскохозяйственной продукцией, главным образом зерновыми культурами, овощами, а также посевами сахарного тростника, винограда и т. д. Для этого также необходимо определенное количество воды, пригодной для орошения [1.34-36. с].

Природно-мелиоративное состояние орошаемых земель Нижней Амударьи тесно связано с освоением новых районов земледелия, особенно в 60-е годы 20 в. Под изменением ландшафтов под влиянием мелиорации понимают определение степени пригодности земель, используемых для различных хозяйственных целей, то есть определение условий использования земель для орошаемого земледелия, пастбищного скотоводства, выращивания зерновых и других культур. [2.69-70б]. При определении пригодности земель или ландшафтов для регулярного орошения необходимо учитывать компоненты всех природных комплексов (литологические, геоморфологические, гидрологические, гидрогеологические, почвенно-климатические), то есть эти компоненты играют ключевую роль в формировании и динамика мелиоративных условий определенной территории. В разных ландшафтах некоторые отдельные компоненты могут оказывать сильное влияние на формирование мелиоративных условий. Например, строение рельефа и литологическая основа отложений являются ведущими факторами, определяющими мелиоративные условия ландшафта в засушливых климатических районах. Поверхностные водные потоки также играют особую роль в формировании природно-мелиоративных комплексов.

Знание литологического строения, механического состава и инженерных свойств отложений важно также при определении естественно-мелиоративного состояния ландшафтов. Среди природных факторов важную роль в определении мелиоративности ландшафтов играет и климат. Роль подземных вод в определении мелиорации дельтовых ландшафтов значительна, особенно они определяют водно-солевой режим почв.

Взаимодействие и соединение вышеперечисленных факторов формируют тот или иной тип склона местности. Степень уклона является одним из основных показателей развития орошаемого земледелия. Уровень склона связан с режимом подземных вод, а режим подземных вод – с водно-солевыми и природно-географическими процессами, происходящими в ландшафте.

В южной части пересыхающего моря верхние слои (0–3 м) состоят преимущественно из песка и глины, а нижний слой (3–4 м) – из глин дельтового происхождения. Обсыхание нижней зоны Амударьи

обеспечивает преобладание песчаных слоев в верхних слоях, а также в восточной части общего дна, инфильтрацию подповерхностной влаги.

Роль подземных вод (грунтовых вод) чрезвычайно важна при изучении изменений ландшафтов нижней Амударьи, поскольку засоление почв и развитие через них растений тесно связаны. Функциональная активность режима подземных вод определяется литолого-геоморфологическими условиями территории.

Грунтовые воды в сухой части нижнего течения Амударьи и на морском дне имеют тенденцию к постепенному уменьшению под влиянием общего испарения. Но различия литолого-геоморфологического строения дельтовых равнин и близость грунтовых вод к поверхности моря вследствие высыхания моря приводят к ускорению процесса опустынивания. При этом некоторые неосушенные низменности регулярно подвергаются затоплению, следует учитывать их влияние на режим грунтовых вод прилегающих территорий, а также образование сильного подземного потока в районе озера Судочье, сказал он. Поэтому основными заполненными грунтовыми водами участками пустынной части Нижней Амударьи являются орошаемые земли в ее южной половине и небольшие участки освоенных земель (рисовые поля, кормовые угодья и т. д.) между руслами рек [З. 80-88 б]. При движении на север (иногда на северо-запад и северо-восток) потоки грунтовых вод зоны освоения все еще находятся в зоне контакта с землей, сравнительно близко к поверхности субстрата (2-3 и 3-5 м). Уровень грунтовых вод существенно приближается только в неосушенных низинах и участвует в процессе почвообразования.

Полив нижнего ландшафта Амударьи не должен осуществляться так, как это было до 1974 года, т.е. не так, как сейчас местное население направляет речную воду в нижние части дельты, поскольку в этом случае были бы затоплены большие территории и вытекло бы много воды. испаряться без надобности. В целях предотвращения неэффективного использования речной воды необходимо разработать дифференцированные инженерные проекты, основанные на водоснабжении, без создания мелководных озер в отдельных массивах и тростниковых полях, без превращения больших территорий в болота.

Обеспечение водой относительно глубоких озер позволяет предотвратить их загрязнение и повышение солености. Чтобы рационально использовать водные ресурсы, необходимо выбирать водоем сравнительно большой глубины, поскольку чем он глубже, тем меньше испарение и зарастание растений. Поэтому необходимо ограничить мелководные части озер плотиной, а для орошения там тростниковых полей необходимо использовать портовый метод орошения.

Степень минерализации и химический состав подземных вод определяются условиями добычи, солевым режимом почв и другими факторами. Приток подземных вод в низовьях Амударьи сильнее, чем их

отток в окраинную или разгрузочную зону. В целом отсутствие дренажа на территории способствует испарению грунтовых вод, лишь часть которых достигает сухой части моря по песчано-алевролитовым коридорам (бывшим руслам Амударьи) в отдельных песках. В таких сложных гидрогеологических условиях уровень минерализации подземных вод повсеместно высок. Расходование основной части подземных вод на испарение позволяет распределять преимущественно воды средней и высокой минерализации, а на некоторых глубинах даже соленые. Степень минерализации подземных вод возникает за счет полного испарения на участках, где сток подземных вод слабый и практически непроточный. Это характерно для сухой части морского дна и обычно имеет характер постепенного увеличения в направлении солености.

Это важно для развития рыболовства, ондатроводства на искусственных водоемах, формирования микроклимата района и улучшения экологической обстановки в отдаленных районах. Вокруг заливов Мойнок и Рыбачий сейчас имеются полутехнические водоемы, но из-за испарения и пожаров они сильно обмелели. На практике было проверено, что пруды строятся относительно глубокими, чтобы предотвратить бесполезное испарение и затопление прудов гидрофитами. Наличие озер и водохранилищ повышает относительную влажность воздуха, особенно летом. Эта характеристика водоемов приносит большую пользу окружающим растениям, а рост растений и процесс фотосинтеза улучшаются за счет увеличения относительной влажности воздуха.

Он считает, что реализация фиторемедиационных мероприятий по Нижней Амударье является важнейшим способом борьбы с опустыниванием. Эффективность лесов в предотвращении дефолиации почв (ветровой эрозии) достаточно высока, и это проверено на практике в других регионах Узбекистана. Конечно, наличие рощ вдоль русел рек является очень хорошим барьером от сильных ветров и дефляции. Однако из-за отсутствия стока воды во многих рукавах реки леса уже высохли. Если эти сети снабдят водой, то, конечно, они снова будут восстановлены [10; С. 329-331]. Однако обеспечить водой все сети хотя бы раз в год невозможно. По этой причине желательно создавать леса в определенных местах, то есть там, где можно обеспечить их водой. В то же время необходимо увеличить в лесах засухо- и солеустойчивые породы деревьев. Густые лесные зоны следует создавать преимущественно вокруг жилых массивов, обочин дорог, каналов, озер и водохранилищ.

Выводы. Одним из важнейших способов защиты Нижней Амударьи от песка и соли является строительство специальных водоемов на отдельных участках сухой части моря. Водоохранилища этого типа были построены вокруг заливов Мойнок, Рыбачий и Жилтирбос. Они служат объектом рыболовства, за счет тростниковых полей в отдаленных частях (например, Джилтирбос) заготавливается корм, кроме того, вокруг

водоемов сформирован благоприятный для населения микроклимат. Скорость испарения высока из-за мелководности водоемов. При проектировании новых инженерных водных объектов следует учитывать эту особенность существующих водных объектов и сводить к минимуму валовое испарение.

При обосновании прогноза смены природных комплексов необходимо учитывать специфику расположения некоторых геосистем в дельте Амударьи и сухой части моря, поскольку все зависит от природы литогенных факторов. В одних случаях (солено-гидроморфные) устойчивые засоленные геосистемы могут редуцироваться из-за постоянного возникновения высокоминерализованных уровней грунтовых вод, в других - из-за влажности почвы ниже 5-7 м. Преобладание влияния местных литогенных факторов играет важную роль в постепенном понижении уровня грунтовых вод [9. 25-29 с].

В условиях дефицита водных ресурсов Нижней Амударьи их рациональное использование является одной из актуальных задач современности. В связи с этим необходимо использовать каждый кубометр воды по строго определенной цели, и в настоящее время без технических проектов и соответствующих расчетов осуществляется орошение пастбищных экосистем и слив воды в водоемы. Поэтому при затоплении дельты часто разрешается использовать больше воды, чем по норме.

Все озера и водохранилища дельты должны регулярно поливать (в частности, Судочье, Мошанкуль, Ходжакуль, Междуреченское, Каратерень (на востоке), бывшие озера Аккалинской озерной системы). Систематическое снабжение озер пресной речной водой обеспечивает их нормальное развитие как гидрологических объектов со всеми гидроэкологическими характеристиками. В первую очередь будет предотвращено повышение уровня минерализации вод и их загрязнение. Чистота вод и их наименьший уровень минерализации обеспечивают нормальное развитие рыб, привлекают множество водоплавающих птиц, и в целом экологические условия озер и их периферийных частей благоприятны для развития зооценозов и фитоценозов.

Улучшение качества воды в озерах возможно только при условии естественного сброса определенного количества стока в окружающую среду. Поток водораздела является ключом к предотвращению повышенной минерализации и деградации воды. В заключение отметим, что создать проточные озера в условиях Нижней Амударьи несложно. Он основан на анализе и синтезе природных факторов, определяющих оценку природно-мелиоративных условий территории, строительство гидротехнических сооружений, передачу земель в пользование, мелиоративный режим орошения, размещение сельскохозяйственных культур, зависимость от тепловых ресурсов и уровня влажности, а также развитие неблагоприятных природных условий в период использования орошаемых площадей.

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АНАЛИЗ ИСПОЛЬЗОВАНИЯ ТРАДИЦИОННЫХ И ИНТЕЛЛЕКТУАЛЬНЫХ СВЕТОФОРОВ, ПРИМЕНЯЕМЫХ НА ПЕРЕХОДКАХ

Аннотация. В данной статье подробно описан метод поиска решения дорожного движения в случае использования усовершенствованных интеллектуальных управляемых светофоров вместо традиционных светофоров на перекрестках, а также различия между традиционными и интеллектуально управляемыми светофорами. Способ уменьшения заторов на дорогах показан на основе рисунка и таблицы.

Ключевые слова: Дорожно-транспортные происшествия, светофор с интеллектуальным управлением, GPS, ИК-датчики, пробки, виды дорожного движения, водитель.

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ANALYSIS OF USING TRADITIONAL AND INTELLIGENT TRAFFIC LIGHTS USED AT INTERSECTIONS

Abstract. In this article, the method of finding a solution to traffic in the case of using advanced intelligent controlled traffic lights instead of traditional traffic lights at intersections, as well as the differences between traditional and intelligent controlled traffic lights, is described in detail. The method of reducing traffic congestion is shown based on a picture and a table.

Key words: Road traffic incidents, traffic light with intelligent control, GPS, IR sensors.

Введение. Традиционные светофоры, используемые с XIX века, используются для регулирования движения. Но резкий рост транспортных средств в широком прогнозе и постоянный рост числа участников дорожного движения, соответственно, создают проблему пробок на дорогах, и обоснованные вопросы по решению этой проблемы направляются в правительство и Министерство транспорта. В данной презентации с учетом этих параметров теоретически и методами поиска решения показано применение интеллектуально управляемых светофоров на оживленных перекрестках.

Анализ литературы. Частичные решения путем строительства новых дорог, увеличения количества эстакад и объездных дорог, создания колец, реконструкции дорог были предложены в статье *“городская транспортная инфраструктура”* [1;19]. Но это не комплексное решение для уменьшения заторов. По этой причине использование следующих методов может быть комплексным решением проблемы заторов. Метод расчета количества транспортных средств в пробке с помощью инфракрасных датчиков описан в статье *“ПИК микроконтроллер с использованием интеллектуальной системы сигнализации о дорожном движении на основе плотности”* [2;206]. Кроме того, беспроводная связь через передатчики XBee для мониторинга плавного переключения передач *“интеллектуальное приложение транспортной системы”*[3;1039]. Затем ИК-передатчик и ИК-приемник, установленные по обе стороны от 4 однополосных дорог, являются основной частью статьи *“система интеллектуального трафика на основе инфракрасного излучения”* [4;58]. Визуализация автомобильной аварии или пробки с помощью глобальной системы позиционирования *интеллектуальная бортовая система управления транспортом с использованием GPS/GSM/GPRS technologies to reduce Traffic violation in developing countries* " [5;97]. Управление светофором с помощью микроконтроллера PIC 16f877a *“использование микроконтроллера управления освещением дорожного движения”* легло в основу исследования [6;6045].

Анализ и результаты. В этой статье предлагается система управления светофором *intelegent* в режиме реального времени для снижения трафика и обеспечения безопасности участников на перекрестках города Ферганы, а также для устранения многих недостатков и улучшения управления движением. Система состоит из микроконтроллера PIC, который управляет различными операциями, контролирует объем и плотность потока трафика с помощью инфракрасных датчиков и, соответственно, изменяет мигание светофоров [2;206]. Кроме того, это устройство отличается от других светофоров наличием возможности беспроводной связи с главным диспетчером дорожного движения через передатчики XBee для запуска соответствующих небольших программ и

обеспечения плавного движения аварийных транспортных средств на перекрестке [3;1039].

Детальное изучение этой интеллектуальной системы и сравнение ее с традиционными светофорами является основной частью статьи потому что эта система широко используется в настоящее время во многих развитых странах. Город Фергана возможно, мы увидим, что в Республике Узбекистан изобретаются новые подходы и инновационные системы для решения этой сложной проблемы. Оцифрованные модели, основанные на алгоритме, используются для расчета времени ожидания автомобиля на перекрестке, количества и ряда стоящих в очереди машин, оптимального временного интервала для светофоров, который состоит из сложных комбинированных запрограммированных кодов. Обычные светофоры, используемые в настоящее время, не могут воспроизвести эти результаты.

Таким образом, найти динамичное, последовательное и удобное решение еще более невозможно. Поэтому профессорско-преподавательским составом и независимыми исследователями постоянно предлагаются различные решения, и наблюдается внедрение множества методик, использующих технологические достижения микрокомпьютеров, недавно разработанных устройств и датчиков, а также инновационных алгоритмов моделирования сложности светофоров, насколько это возможно. Например, инфракрасные датчики используются во многих транспортных системах. IQ-передатчик и IR-приемник установлены по обе стороны пути [4;58]. Когда автомобиль проезжает по дороге между IR-датчиками, система срабатывает, и счетчик автомобиля увеличивается. Для динамического изменения задержек зеленого света на линии с большим трафиком анализируются собранные данные о плотности движения различных путей перекрестка вся система управляется микроконтроллером PIC или даже PLC.

Они питаются от радиочастотных излучателей, которые посылают предупреждающие сигналы на радиоприемники, расположенные на каждом перекрестке светофора, для оповещения системы дорожного движения о прибытии на перекресток машин скорой помощи и дорожно-патрульной службы. Последовательность срабатывания светофоров изменяется соответствующим образом, чтобы обеспечить специальный маршрут к аварийным транспортным средствам. Другие исследователи используют глобальную систему позиционирования (ГСП) для связи с контроллерами светофора и отправки предупреждающих сигналов [5;97]. Этот инструмент, с другой стороны, позволяет оценивать плотность и поток транспортных потоков на основе точной теории обработки изображений дорожно-транспортных происшествий, возникающих при интенсивном движении транспорта и на перекрестках. Но ряд природных условий негативно сказывается на работе этой системы. Например, качество погоды требует

получения более четких изображений, особенно в условиях дождя, снега и тумана.

Внедряемая интеллектуальная система управления светофором (рис.1), соответствует перекрестку 4 дорог. Также была предпринята попытка протестировать предложенный нами интегрированный дизайн на примере архитектуры, программного инструмента и устройства. Затем наша исследовательская цель состоит в том, чтобы разместить существующую систему светофоров на дорогах с двусторонним движением соответственно.

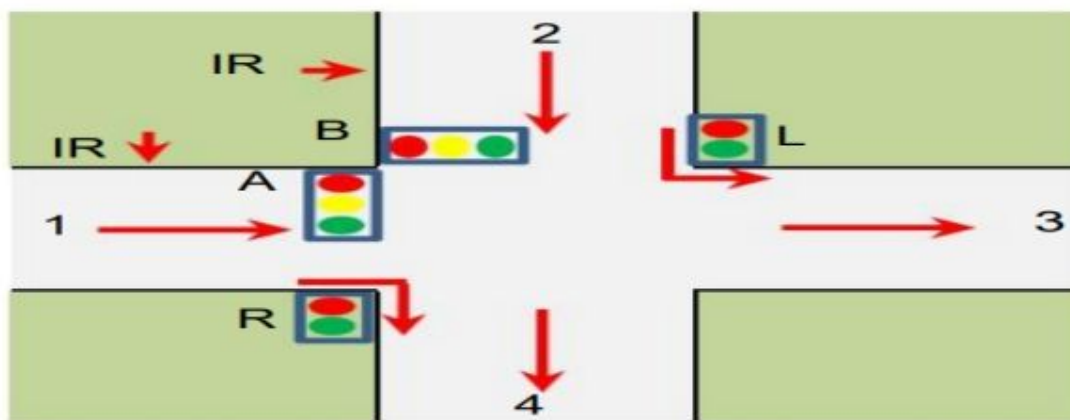


Рисунок 1. Пересечение 4 однонаправленных дорог

Этот перекресток оборудован следующим образом. То есть два светофора трех цветов с маркировкой А и В объединяются для обозначения правой и левой полос движения соответственно, а два светофора двух цветов с маркировкой R и L подключаются к потоку автомобилей, идущих с дорог 1 и 2. По обе стороны путей 1 и 2 установлены две пары ИК-передатчиков и приемников [4;58].

Предлагаемая система интеллектуального светофора обеспечивает две конфигурации: первая конфигурация позволяет транспортному средству двигаться вперед с полосы 1 на полосу 3 и поворачивать направо по полосе 4, а вторая позволяет транспортному средству двигаться вперед, дает команду полосе 2 перейти на полосу 4. не поворачивая, или двигаться влево, чтобы продолжить движение по полосе 3. Такая система не может решить ситуацию, когда движение наблюдается только в одном направлении. Такая ситуация часто встречается во многих городах, где в основном госслужащие утром едут в центр города, а вечером возвращаются домой. Кроме того, если поток транспортных средств, приближающихся к перекрестку, наблюдается или уменьшается в часы пик, зеленый свет должен быть соответственно продлен или сокращен. Поэтому, когда транспортное средство пересекает путь между ИК-приемниками, генерируется инфракрасное излучение и система активируется. Этот процесс активации анализируется диспетчером дорожного движения, где установлен счетчик плотности транспортных средств. Затем на полученные

данные реагирует главный контроллер дорожного движения, оснащенный микроконтроллером PIC. Фактически этот процесс состоит из трёх режимов: обычный режим, трафик и стабильный. Эти режимы динамичны и реализуются в реальном времени. Фактически, нормальный, перегруженный и постоянный режимы движения составляют 30, 50 и 15 секунд соответственно. Эти уровни кодируются и анализируются программным обеспечением.

Режимы движения	Конфигурация	
	я ставлю	Годовой этап
Нормальный трафик	30	5
Пробка	50	5
Мягкий трафик	15	5

Рисунок 2. Режимы движения и подключение обоих этапов

Светофоры на перекрестке ставятся вместе с регулировщиком, при этом эти инструменты анализируют прохождение света и его временной интервал. В его реализованную конструкцию входят: микроконтроллер PIC 16F877A [6,6045], три светофора А и Б, подключенные к путям 1 и 2, два фонаря светофора R и L к путям 3 и 4, 2 ИК-приемника измерения интенсивности движения, Система передатчика XBee и другие ключевые компоненты, связанные с поворотом налево и направо. Главный контроллер трафика обеспечивает продолжительность и расписание двух конфигураций для разных режимов трафика, а также их отдельные фазы. Это помогает нам легче оценивать транспортный поток, чем светофоры, используемые на традиционных перекрестках, и быстро сообщать о дорожно-транспортных происшествиях. Традиционные светофоры не используют эти возможности и всегда работают по одному фиксированному алгоритму.

Заключение

Проблема светофоров, несомненно, является одной из главных проблем, волнующих граждан и общество. Влияние относительно неэффективной традиционной транспортной системы имеет негативные последствия для экономики, здоровья и окружающей среды. Сбои в транспортной системе и плохой контроль приводят к авариям, пробкам и множеству нарушений. Прикладные исследования были тщательно изучены только теоретически и было показано, что этот метод имеет гораздо более высокое качество, чем традиционные светофоры. Инфракрасные датчики (приемник и передатчик) могут измерять объем трафика и управлять светофором через микроконтроллер PIC 16F877A, а также устанавливать беспроводную связь через передатчики XBee и использовать систему глобального позиционирования (GPS) для регистрации дорожно-

транспортных событий и трафика. Было установлено, что он дает максимальный приоритет сотрудникам и участникам по сравнению с обычными светофорами.

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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 foundations of investment and capital flows. The opinions of academic economists 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 acceleration objects and 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 such a free environment in the economy is analyzed, as well as methods of state regulation of investments by subordinating them to market rules.

Key words: Investments, Financial investments, Real investments, Domestic investments, foreign investments, venture capital 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 2021 годов составил 101,5% по сравнению с аналогичным периодом 2020 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 многодиакция 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 купленные на эти средства, называется инвестиционным исследованием », - 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 понимаются 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-либо 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 развитых странах большинство реальных инвестиций являются частные инвестиции. Экономика основана через реальные инвестиции, а также политики экономического регулирования за счет реальных инвестиций, а также кредиты, субсидии. В первую очередь будут направлены государственные инвестиции в инфраструктурные сферы. Эффективность инвестиций обычно увеличивается за счет увеличения доли активных элементов. Широкая концепция является инвестициями, и все виды недвижимости и интеллектуальных ценностей, которые размещены в других формах деятельности, и действия, в результате чего они получают выгоду или социально эффективно. В такой интерпретации слова «инвестиции» эффективные значения могут быть включены:

- средства, целевые банковские депозиты, акции, облигации и другие ценные бумаги;
- перемещение и недвижимость (здания, сооружения, оборудование и другие материальные значения);

➤ Закон и недвижимость, произвольное право, «Нау-Хоу» и другую интеллектуальную собственность;

➤ право на землю и другие природные ресурсы, а также права собственности и т. Д.

➤ Сумма всех заявок, юридических лиц и граждан по инвестициям осуществляется в инвестициях. Решение инвестиционной деятельности (инвесторов) принимает решение инвестировать в эти объекты частных, заимствованных и инвестиций интеллектуальной собственности. Предметом инвестиционной деятельности можно считать инвестором или несколькими инвесторами – участниками в каталоге или других мероприятиях [2].

Кроме того, внутренние и иностранные инвестиции также выделяются из-за внедрения инвестирования в страну. Инвестиции в отечественные инвестиции, инвесторы дополнительно добавляются к бизнес-мероприятиям и имуществу и другим видам прав на другие виды деятельности, а также права на интеллектуальную собственность являются прямыми иностранными инвестициями. Инвестиции не только финансовые ресурсы, а также новое оборудование, современные иностранные технологии, новое управление в рыночной экономике. Следует также учитывать, что необходимость привлечения иностранных инвесторов для создания благоприятных инвестиционных возможностей бесплатно в стране. Эта ответственность должна сначала взять государство. Необходимо реализовать эффективную инвестиционную политику в стране, а также реализацию системы иностранного капитала, принимающей систему принятия иностранного капитала [14]. Но во всех регионах страны инвестиционный климат уникален. Инвестиционный климат воплощает все проблемы и проблемы, принимаемые инвестором. Оцениваются удобные и неудобные аспекты инвесторов, а также идеология, политика, экономика и культура страны, стремящиеся включить их капитал. Зарубежные коллективные получатели должны разработать модель инвестиционного климата, особенно в период перехода к рыночной экономике. Эта модель действует как средство определения внешнеэкономических отношений для них. Его основными областями должны быть для иностранных инвесторов:

➤ будет четкое понимание факторов, влияющих на иностранных инвесторов;

➤ позволяет глубоко развивать экономическую ситуацию в своей стране;

➤ можно знать поведение иностранных инвесторов во всех отношениях.

➤ следовательно, иностранные инвестиции для развивающихся стран являются фактором следующих процессов:

➤ ускорение экономического и технического процесса;

➤ рекламный и модернизация производственного оборудования;

- ведущие передовые методы организации производства;
- обучения, соответствующее требованиям рыночной экономики;

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.

Банки играют особую роль в реализации инвестиционной политики государства. Работа по финансированию реальных банков страны верна на развитие страны, работа по финансированию реальной экономики экономики. Кредитные инвестиции, направленные на развитие коммерческих банков в развитии экономики, растут каждый год.

Выручка государства в виде налогов и других доходов будет распределена через бюджет и формирует инвестиционные ресурсы в его распоряжении. Не рекомендуется ограничивать инвестиционную политику государства. Правильно расширить этот объем и ввести его три элемента:

- баллы инвестиций за счет собственного дохода государства и полученной задолженности;
- существо благоприятные инвестиционные условия для национальных и иностранных инвесторов;
- Поощряйте инвестиционную деятельность во всех секторах.

Эти три аспекта инвестиционной политики также применяются в Узбекистане. Инвестиционная политика государства будет служить для выполнения своей структурной политики. В конце Узбекистана необходимо перейти на модернизированную экономику. Это достигается через активное инвестору государства. Конечно, это состояние обеспечивает приоритет укупу утильев. Однако это также создает необходимые условия для развития других ссылок. Инвестиции в государстве служат национальный круг повторно. Поскольку государство состоит из структур и промышленной инфраструктуры основных отраслей и производственной инфраструктуры. Их деятельность имеет национальное значение и обеспечивает производство социального циркуляции. Создает товары и услуги, которые наиболее важны для экономики. Потребление товаров и услуг, созданных в государственном учителе, гарантирует ремонты в других чтениях¹. Потому что они состоят из важных ресурсов. Существуют машины, топливо и энергетические, управление водой и коммуникационные предприятия в штате Роб. Производство их очень необходимо для других диалогов. Национальная роль государства является инвестиция в инвестиционный сектор. Эта политика финансируется посредством бюджетных инвестиций. Показания инвестиционной деятельности в Узбекистане является одним из самых высоких в мире. Это указывает на то, что либерализация инвестиционных процессов в Узбекистане эффективна.

В этом случае преимущество государства наблюдается в инвестиционном процессе. Однако вклад смешанного студеля также высок. Оба работают состояние 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 соблюдаются, 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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УПРАВЛЕНИЕ ДЕНЕЖНЫМИ ПОТОКАМИ ОРГАНИЗАЦИИ

Аннотация. Управление денежными потоками организации это одна из ключевых задач финансового менеджмента. Основной целью данной научной статьи является оценка способности организации управлять денежными потоками в размере и в сроки, необходимые для осуществления планируемых расходов, выявление причин дефицита (избытка) денежных средств и определении источников их поступления и направлений расходования для контроля за текущей ликвидностью и платёжеспособностью организации.

Ключевые слова. денежные средства, денежные потоки, финансовая деятельность, ликвидность, виды денежных потоков.

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MANAGING THE ORGANIZATION'S CASH FLOWS

Annotation. Managing an organization's cash flows is one of the key tasks of financial management. The main purpose of this scientific article is to assess the ability of an organization to manage cash flows in the amount and within the time required for the implementation of planned expenditures, identify the causes of a shortage (excess) of funds and determine the sources of their receipt and spending directions to control the current liquidity and solvency of the organization.

Keywords. cash, cash flows, financial activities, liquidity, types of cash flows.

Управление денежными средствами — одна из ключевых задач финансового менеджмента предприятия. Для этого систематически проводится анализ денежных потоков компании.

Управление денежными средствами любого предприятия является составной частью системы управления корпоративными финансами. При этом денежные средства стоят на верхнем уровне финансов компании, так

как они — самая ликвидная часть оборотных активов. К денежным средствам относятся средства на расчетных, валютных и иных счетах предприятия, а также в кассе.

Сложность управления денежными средствами обусловлена тем, что любая компания в процессе своего функционирования имеет дело со многими разновидностями денежных потоков.

Процесс управления денежными потоками предприятия базируется на определенных принципах основными из которых являются (рис.1):



Рис. 1. Принципы управления денежными потоками

Основная цель управления денежными средствами — обеспечить финансовое равновесие всех денежных потоков. Для этого необходимо сбалансировать объемы поступления и расходования денежных средств и синхронизировать их во времени.

Управление денежными потоками предполагает (рис.2):

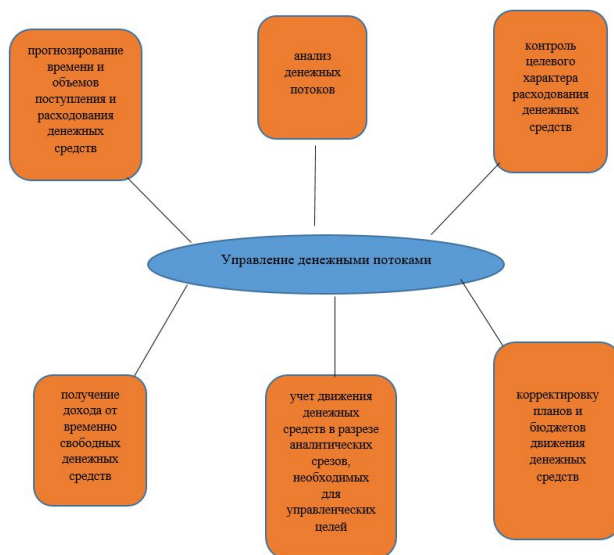


Рис. 2. Управление денежными потоками

Денежные потоки предприятия поступают и расходуются неравномерно. Благодаря этому появляются временно свободные денежные средства. По сути эти временно свободные остатки денежных средств являются непроизводительными активами, которые теряют свою стоимость во времени.

Таким образом, управление денежными потоками предполагает не только сбалансированность поступления и расходования денежных средств, но и использование временно свободных денежных средств для получения дополнительного дохода.

Начинается управление денежными потоками с планирования. Планировать денежные потоки необходимо для того, чтобы знать источники и объемы поступления денежных средств, оценить их использование, синхронизировать их возникновение, а также выяснить, нужно ли привлекать дополнительные денежные средства, и если нужно, то сколько.

Рассмотрим основные методы управления денежными потоками предприятия. Чтобы минимизировать проблемы с деньгами на предприятии, хорошо бы внедрить или усовершенствовать следующие пять элементов:

- Анализ денежных потоков.
- Планирование денежных потоков.
- Управление дебиторской и кредиторской задолженностью.
- Привлечение заемных средств на выгодных условиях.
- Размещение свободных денег в доходных инструментах.

Основной целью управления денежными потоками является обеспечение финансового равновесия предприятия в процессе его развития путем балансирования объемов поступления и расходования денежных

средств и их синхронизации во времени. Одним из наиболее важных и сложных этапов управления денежными потоками предприятия является их оптимизация.

Оптимизация денежных потоков представляет собой процесс выбора наилучших форм их организации на предприятии с учетом условий и особенностей осуществления его хозяйственной деятельности.

Важнейшей предпосылкой осуществления оптимизации денежных потоков является изучение факторов, влияющих на их объемы и характер формирования во времени. Эти факторы можно подразделить на внешние и внутренние [2].

Методы оптимизации дефицитного денежного потока, зависят от характера этой дефицитности – краткосрочной или долгосрочной:

Сбалансированность дефицитного денежного потока в краткосрочном периоде достигается путем использования «Системы ускорения – замедления платежного оборота». Она решает проблему сбалансированности объема дефицитного денежного потока в краткосрочном периоде, но одновременно и создает ряд проблем дефицитности этого потока в последующий период

Методы оптимизации избыточного денежного потока связаны с обеспечением роста его инвестиционной активности:

- Рост объема положительного денежного потока в долгосрочном периоде.

- Увеличение объема расширенного воспроизводства операционных внеоборотных активов.

- Ускорение периода разработки реальных инвестиционных проектов и начала их реализации.

- Осуществление региональной диверсификации операционной деятельности предприятия.

- Активное формирование портфеля финансовых инвестиций.

- Долгосрочное погашение долгосрочных финансовых кредитов.

Денежные потоки обслуживают практически все аспекты хозяйственной деятельности предприятия. Непрерывный процесс движения денежных средств во времени представляет собой денежный поток, обеспечивающей жизнеспособность организации. Эффективное управление денежными потоками является одним из условий достижения высоких конечных результатов деятельности предприятия. Процесс управления денежными потоками предприятия базируется на определенных принципах: принцип информативной достоверности; принцип обеспечения сбалансированности; принцип обеспечения эффективности; принцип обеспечения ликвидности. Одним из наиболее важных и сложных этапов управления денежными потоками предприятия является их оптимизация. Оптимизация денежных потоков представляет собой процесс выбора

наилучших форм их организации на предприятии с учетом условий и особенностей осуществления его хозяйственной деятельности [3].

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РАЗРАБОТКА МЕХАНИЗМОВ ПОЛНОЙ ПЕРЕРАБОТКИ СУЩЕСТВУЮЩЕГО СЫРЬЯ В ТЕКСТИЛЬНОЙ ОТРАСЛИ УЗБЕКИСТАНА

Annotation. В данной статье представлены стратегии повышения конкурентоспособности предприятий текстильной промышленности, эффективной организации стратегических действий, их развития и продвижения. В результате изучения нормативных документов и статистических данных по текстильному обеспечению были изучены и проанализированы проблемы, существующие в сфере. В результате проведенных исследований и анализа был сделан ряд предложений и комментариев по развитию предприятий через стратегии повышения конкурентоспособности, увеличения объема продаж и качества продукции, завоевания места на мировом рынке.

Ключевые слова: конкурентоспособность, стратегия, бренд, качество, маркетинг, управление персоналом, технологии, инвестиционные проекты.

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DEVELOPMENT OF MECHANISMS FOR COMPLETE PROCESSING OF EXISTING RAW MATERIALS IN THE TEXTILE SECTOR IN UZBEKISTAN

Abstract. This article provides strategies for increasing the competitiveness of textile industry enterprises, effective organization of strategic actions, their development and promotion. As a result of the study of regulatory documents and statistical data on textile support, problems existing in the field were studied and analyzed. As a result of the conducted research and analysis, a number of proposals and comments were made for the development of enterprises through the strategies of increasing competitiveness, increasing the sales volume and quality of products, and gaining a place in the world market.

Key words: Competitiveness, strategy, brand, quality, marketing, human resource management, technology, investment projects.

Введение

В республике реализуются комплексные меры, направленные на организацию производства широкого ассортимента высококачественной текстильной и швейно-трикотажной продукции, углубление локализации ее производства, а также повышение экспортного потенциала местных производителей.

За прошедший период сформирована необходимая правовая база и благоприятные условия для развития текстильной и швейно-трикотажной промышленности.

При этом в проведенных исследованиях выявлен ряд системных проблем, препятствующих последовательному развитию текстильной отрасли страны, в частности:

во-первых, несмотря на достаточный потенциал отрасли, доля произведенной текстильной продукции в валовом внутреннем продукте республики составила всего 4,6 процента из-за отсутствия гармонизированной технологической цепочки производства готовой продукции с высокой добавленной стоимостью;

во-вторых, система управления текстильной промышленностью не отвечает современным тенденциям развития отрасли, что приводит к накоплению нерешенных проблем и препятствует ее быстрой модернизации;

в-третьих, неудовлетворительность национальных стандартов и гармонизация лабораторий по тестированию текстиля с международными стандартами и требованиями, а также низкий уровень внедрения современных систем менеджмента качества затрудняют выпуск местной продукции на крупные внешнеторговые рынки, повышают экспортный потенциал, и улучшить качество продукции и является препятствием для повышения уверенности в безопасности;

в-четвертых, уровень внедрения в сеть современных информационно-коммуникационных технологий не создает условий для системного анализа существующих проблем и определения перспективных направлений развития текстильной промышленности;

в-пятых, неразумное размещение сырья и производственных ресурсов, недостатки в организации логистики и инженерной инфраструктуры приводят к остановке значительной части производственных мощностей, экономическим потерям и, как следствие, увеличению себестоимости продукции, а также как снижение рентабельности производства;

В-шестых, стабильное преобладание производства и экспорта текстильных полуфабрикатов, недостаточный уровень производства готовой текстильной продукции с высокой добавленной стоимостью и формирование национальных брендов, способных достойно конкурировать

на мировых рынках, приведут к снижению доходов. предприятий текстильной промышленности не позволяет увеличиться;

в-седьмых, система подготовки кадров не отвечает реальным потребностям текстильной промышленности, не налажено международное сотрудничество по внедрению инновационных направлений подготовки кадров и углублению научных исследований по актуальным вопросам развития отрасли.

Анализ литературы по теме

Анализируя имеющуюся литературу по актуальному вопросу, можно заметить, что в области текстиля проводится множество исследований и стратегии конкурентоспособности исследуются многими ведущими учеными. В частности, взгляды на разработку теоретико-методологических аспектов стратегии конкурентоспособности легкой промышленности изложены в работах Ф. Котлера, А. Томпсона, М. Б. Шифрина, Л. В. Шульгиной, М. Ю. Таласова, группы ученых, проводивших научные исследования в этой области. поле за границей. Это можно увидеть и в работах ряда ученых нашей республики Н.Г.Йўлдашева, Б.Катакишиева, И.Мамаюсупова и других.

На основании вышеизложенной информации и исследований ученых стало ясно, что в текстильной отрасли нашей страны существует ряд проблем, в решении которых чрезвычайно важна роль конкурентных стратегий.

Методология исследования

Инструментально-методический аппарат исследования основан на использовании таких аналитических инструментов, как общенаучные методы исследования: логико-ситуационный анализ, экспертная оценка, анкетирование, наблюдение, интервью, группировка, сравнение в рамках системного подхода. Эти методики используются в разных комбинациях на разных этапах исследования, позволяя обеспечить научную обоснованность конечных результатов, выводов и предложений. Кроме того, использование этих методов поможет вам лучше изучить предмет.

Анализ и результаты.

В 1990-е годы текстильная промышленность Узбекистана вступила в новый этап качественных изменений. Расширяются кооперационные связи республики с зарубежными странами, увеличилось количество совместных предприятий, создаваемых с зарубежными партнерами.

Одним из основных направлений развития текстильной промышленности Узбекистана является не выпуск хлопкового волокна на мировой рынок, а сегодня выбрана стратегия увеличения производства пряжи, конкурентоспособной на мировом рынке. С этой целью компании США, Италии, Турции, Пакистана, Индии, Республики Корея и других стран создали новые совместные предприятия по производству пряжи. Началось оснащение предприятий передовой зарубежной текстильной

техникой. В 1993-94 годах в АО "Бухоротекс" было установлено швейцарское и немецкое оборудование. В 1994 году в Элликкалинском районе Республики Каракалпакстан совместно с турецкой корпорацией «Язекс» был запущен текстильный комплекс полного технологического цикла.

В 1995-2003 годах иностранные инвестиции в текстильную промышленность Узбекистана составили более 519,89 миллионов долларов США, в том числе инвестиции южнокорейской компании «Кабул Текстайлс» в размере 186 миллионов, турецких «Тими» и «Типаш». "компаний на сумму 75 млн. «Косонсой-Тикмен» г.Наманган, пряжа для костюмных и пальтовых тканей, шерстяных простыней и ковров ручной работы, компания «Бурсел» 52,9 млн.руб. Китайский текстиль, итальянская компания «Астоп» 40,3 миллиона, французская «Аснамтекстиль», японская компания «Марубени» 60 миллионов. Германия сотрудничает с «Шелковым путем» и другими развитыми странами.

Увеличиваются объемы производства экспортной продукции в текстильной промышленности Узбекистана. В текстильной промышленности Узбекистана в 2003 году - 453,3 миллиона. м2 природного газа, в том числе 415,2 млн м2 природного газа, 167 млн.м2. пара носков, 28,6 миллиона. выпускались трикотажные изделия.

За рубежом текстильная промышленность особенно развита в таких странах, как Индия, Китай, США, Япония, Великобритания, Франция, Италия, СКФ, Египет. В текстильной промышленности развитых стран первое место занимает производство пряжи из хлопкового волокна, на втором месте производство шерстяной и шелковой пряжи.

Совместные предприятия по производству пряжи

№	Имя страны	Название компании
1	Турция	«Язеки», «Тими», «Типаш».
2	Южная Корея	"Кабул Текстайлз"
3	Япония	"Марубени"
4	Швейцария	«Бухаратекс»
5	Франция	"Аснамтекстиль"
6	Италия	"Остановка"
7	Германия	"Шелковый путь"

Узбекистан имеет большой потенциал для развития текстиля и вывода национальных брендов на мировой рынок, но жаль, что наша доля пока невелика. Конкретных моделей, направленных на определение конкурентоспособности, не существует.

Кроме того, практически не налажено использование новых технологий при подготовке кадров высшего звена и международное сотрудничество в этой сфере. Если уделять больше внимания устранению этих проблем, то в этой области будут достигнуты лучшие результаты.

Изучая вышеизложенные проблемы, мы считаем, что необходимо реализовать и реализовать следующие действия по повышению конкурентоспособности предприятий текстильной промышленности и их поддержке. Эти действия целесообразно реализовать на 2-х уровнях, то есть на уровне предприятия и страны.

На уровне предприятия:

- широкое внедрение в сети программ повышения производительности труда;
- снижение потерь и повышение эффективности использования ресурсов;
- развитие производительности труда за счет внедрения новых технологий и организации цепочки добавленной стоимости, основанной на знаниях и инновациях;
- Расширение экспорта готовой продукции в страны Европы в рамках системы;
- внедрение в производственный процесс стандартов, соответствующих внешнерыночным и международным требованиям.

На уровне страны:

- модернизация существующих в республике местных промышленных предприятий и поддержка их деятельности;
- введение государственных льгот на определенный период в целях расширения производственных возможностей предпринимателей, начавших деятельность в текстильной сфере;
- разработка и реализация инвестиционных проектов на основе современных технологий, направленных на повышение качества в текстильной отрасли;
- стимулировать производство шелка и шерсти из хлопка, которые являются основным натуральным сырьем текстильной промышленности, и установить эффективные интеграционные отношения с этими производствами;
- предоставление льготных кредитов на модернизацию предприятий, введение льгот по налогу на прибыль;
- более активное продолжение системы поддержки деятельности предприятий-экспортеров;
- совершенствование системы организационной и финансовой помощи предприятиям-экспортерам;
- совершенствование содействия экспорту продукции отечественных обрабатывающих предприятий в зарубежные страны;
- обратить внимание на развитие малого бизнеса и частного предпринимательства при развитии предприятий текстильной промышленности;
- снижение административных барьеров, облегчение кредитования бизнеса и т.д.;

Краткое содержание

Одним словом, повышение конкурентоспособности предприятий текстильной отрасли и совершенствование переработки существующего сырья в текстильной отрасли должно базироваться на комплексном подходе к ее решению, на основе стратегии создания единого механизма стабильных конкурентных преимуществ в долгосрочной перспективе. за счет скоординированных действий регионов и предприятий. Важное место должно быть уделено совершенствованию рыночных отношений, организационно-экономических механизмов, решению социальных проблем, особенно улучшению материального положения населения, активизации деятельности службы маркетинга.

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ЭТАПЫ РИСОВАНИЯ В СОВОКУПНОСТИ МУЗЫКИ И СЛОВА КАК СТУПЕНИ НРАВСТВЕННОГО РОСТА ЛИЧНОСТИ ПОДРОСТКОВ

Аннотация. В статье рассматриваются и даются практические советы учащимся, студентам и педагогам, как в процессе рисования можно проводить ненавязчивые беседы на нравственно-духовные темы. Тем самым помогать студентам в осознании и усвоении общечеловеческих нравственных принципов и духовных ценностей, при этом экономя время.

Ключевые слова. Ожидаемый результат, грамотный подход, процесс рисования, фон тихой музыки, принцип морали.

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STAGES OF DRAWING IN THE COMBINATION OF MUZIC AND WORDS AS STAGES OF MORAL GROWTH THE PERSONALITIES OF TEENAGERS

Abstract. The subject of the article. The article discusses and gives practical advice to students, students and teachers on how to conduct unobtrusive conversations on moral and spiritual topics in the process of drawing. Thereby helping students to understand and assimilate universal moral principles and spiritual values, while saving time.

Keywords. The expected result, a competent approach, the drawing process, the background of quiet music, the principle of morality.

Purposes. The purpose of the article is to display the importance and relevance of music in the visual arts lesson as educational structures that allow to form and educate a full-fledged personality for today's society, as well as to assess the influence of words, i.e. conversations on moral and vital topics. To instill moral values in students in the process of teaching fine arts precisely in the process of practical work, which is precisely at the moment of disclosure of internal and external qualities.

Methodology. In the process of drawing, the use of verbal and explanatory methods of suggestion against the background of quiet music will contribute to a better assimilation of the subject and at the same time comprehension of the principles of morality, morality.

Results. The expected result in the process of drawing the simultaneous use of methods of influencing the student through music and words will be possible only with a competent approach to each lesson. Based on the results of the observation, it can be concluded that all the students' works had not only an emotional orientation, depending on the musical composition, but concreteness and spirituality through the word, which in turn fills the stage of drawing with meaning.

Цели. Целью статьи, является отображение значимости и востребованности музыки на уроке изобразительного искусства, как образовательных структур, позволяющих сформировать и воспитывать полноценную личность для нынешнего общества, а также оценить влияние слова, т.е. бесед на нравственно-жизненные темы. Привить студентам моральные ценности в процессе обучения изобразительному искусству именно в процессе практических работ, которая именно в момент раскрытия внутренних и внешних качеств.

Методология. В процессе рисования, использование словесно-объяснительных методов внушения на фоне тихой музыки будет способствовать более лучшему усвоению предмета и одновременному осмыслению принципов нравственности, морали.

Результаты. Ожидаемый результат в процессе рисования одновременного использования методов воздействия на студента посредством музыки и слова, будет возможен только при грамотном подходе к каждому занятию. По результатам наблюдения можно сделать вывод, что все работы обучающихся имели не только эмоциональную направленность, в зависимости от музыкального произведения, но конкретность и одухотворённость посредством слова, которое в свою очередь наполняет смыслом этап рисования.

Предисловие Проблема нравственного роста посредством искусства, в данном случае с помощью изобразительного искусства, музыки и слова - являются одной из главных составляющих в воспитании нравственно устойчивого человека, стоящих перед каждой семьёй, обществом и государством в целом. В обществе сложилась сложная ситуация в вопросе нравственного воспитания подростков. Причины могут быть различные, например: отсутствие нравственных ориентиров, расшатывание морально-этических норм, спад культурно-просветительской работы со студентами, непродуманные изменения в системе образования и многое другое. Ведущая роль в формировании основ духовной ориентации нравственного поведения подростков принадлежит высшим учебным заведениям. Поскольку, бывшие выпускники общеобразовательных школ и колледжей, глубоко осознают, что вступают во взрослую жизнь, где необходимость при получении знания самым тесным образом связано с чётко установленной нравственно-духовной ориентацией.

Введение

Во все времена в обществе высоко оценивалось духовно-нравственная воспитанность каждого человека. В современном мире молодёжь живёт развивается среди множества разнообразных источников сильного воздействия на подростка как позитивного, так и негативного характера. Само по себе образование не гарантирует высокого уровня духовно-нравственной воспитанности студентов. В связи с этим возрастает роль гуманистических воспитательных систем, характеризующихся личностным подходом в воспитании, позволяющим обеспечивать воспитывающий характер его деятельности по дисциплинам искусства. Использование уроков рисования для дальнейшего нравственного роста студентов посредством бесед в процессе рисования, стимулирует его самопознание и самовоспитание. Ежеурочные беседы со студентами во время урока рисования содействует духовно-нравственному становлению студента, его подготовки к самостоятельной, раскрытию подлинно человеческих качеств личности, приобщение к высшим духовно -нравственным ценностям. Об одновременном преподавании двух предметов искусства рисовании и музыки известно издревле. Живопись и музыка имеют много общего, единого несмотря на то, что являются разными средствами выражения. Оба вида искусства создаются для того, чтобы вызвать эмоции, рассказать историю и выразить человеческий опыт и чувства. Они могут быть глубоко личными, но также способны объединять людей разных культур, поколений и конфессии. «Музыка воодушевляет мир, снабжает душу крыльями, способствует полёту воображения; музыка придаёт веселье и жизнь всему существующему. Её можно назвать воплощением всего прекрасного и всего возвышенного» эти слова сказал древнегреческий философ Платон. А вот что сказал о живописи Поль Гоген, - Живопись самое прекрасное из всех искусств, в ней объединяются все ощущения, при виде ее каждый может по воле своего воображения создать роман, с помощью одного только взгляда наполнить душу самыми глубокими воспоминаниями, никаких усилий со стороны памяти — все схвачено в одно мгновение. Одна из самых значительных и важных параллелей между живописью и музыкой – это использование цвета и тона для создания настроения и эмоций. Как в музыке мелодии и гармонии передают чувства, так и в живописи взаимодействие цветов и фактур создает визуальный опыт, вызывающий эмоциональные чувства у зрителя. Параллель музыки и изобразительного искусства была признана художниками и музыкантами на протяжении всей истории, что привело к многочисленным совместным работам между двумя видами искусства. Одним из таких зачинателей был художник Василий Кандинский и композитор Арнольд Шенберг. Василий Кандинский считал, что живопись и музыка тесно связаны, и стремился создать искусство, которое оказывало бы такое же эмоциональное воздействие, как и музыка. Кандинский и Шенберг часто переписывались, обсуждая параллели между

своими видами искусства и то, как они могли бы работать вместе, чтобы создать новый вид искусства. Исаак Ньютон находил общее между солнечным светом и музыкальной октавой, сравнивая отношения длин цветных участков спектра и отношение частот музыкальной гаммы, он вывел математический закон соответствия определенных цветов определенным нотам; до – красный, ре – фиолетовый, ми – синий, фа – голубой, соль – зеленый, ля – желтый, си – оранжевый. Эта была первая «температура» цветного ряда, первая запись. Скрябин подсознательно окрашивал в определенные цвета тональности, а не отдельные звуки. Римский-Корсаков также относил целую тональность к одному цвету, но со Скрябиным он совпадает только в тональности ре мажор – желтый. Музыку Римского-Корсакова, Дебюсси еще при жизни называл музыку «движущимися пейзажами». У Римского-Корсакова тональный план музыки постоянно реагирует на цветовые ситуации в тексте и действии. Определенные цветовые ассоциации возникали при сочинении у Листа, Берлиоза, Вагнера. В новелле Одоевского Себастьян Баха композитор видит во сне такой концерт, которую он описывает так: «Над святилищем восходили хоры человеческих голосов, разноцветные завесы противозвучаний свивались и развивались над ними, и хроматическая гамма игривым барельефом струилась по карнизам. Все здесь жило гармонической жизнью, звучало каждое радужное движение, благоухал звук». Римский-Корсаков как бы констатирует: «... все тональности, строи и аккорды, по крайней мере для меня лично, встречаются исключительно в самой природе, в цвете облаков или же в поразительно прекрасном мерцании цветковых столбов и переливах цветковых лучей северного сияния». Взаимосвязь между зрением и слухом подтверждает современная наука. Физиолог С.В. Кравков опытным путем пришёл к тому, что под действием звука происходит перестройка световой чувствительности глаза. А академик А.А. Лазарев утверждает, что под действие света и цвета у человека меняется ощущение громкости, высоты, тембра звука. Музыка – феноменальное божественное явление. Мелодичные звуки пробуждают в человеке определенное эмоциональное состояние, преобразуется душа, меняется настроение, появляется сила, уверенность.

Сочетание музыкальной и изобразительной деятельности – одно из наиболее продуктивных с точки зрения формирования у студентов полноценного, комплексного художественного восприятия. Во взаимосвязи музыки и искусства какое место определено – слову? Как слово влияет на тандем двух великих видов изобразительного и музыкального искусства?

Если музыка в сочетании с рисованием влияет на психоэмоциональное состояние студента, то слово в беседе во время сеанса рисования и фоновой музыки, благоприятно воздействует на студента и даёт ему возможность более полно и конкретно осмысливать реалии

повседневной действительности жизни, и формирование внутреннего мира, и восприятие окружающей среды, как естественность, как данность.

На уроках изобразительного искусства в качестве прослушиваемого произведения можно использовать различные музыкальные произведения, способствующие регулированию эмоционального состояния студентов. Сочетая изобразительную деятельность с музыкальным сопровождением, также в процессе обучения изобразительному искусству необходимость использовать и словесные методы обучения в совокупности с музыкальным сопровождением, будет способствовать более широкому освоению не только основного предмета, но и поднятию нравственного уровня в целом. Одним из предпочитаемых словесных методов обучения является беседа. Грамотно организованная беседа позволяет максимально стимулировать творческую активность.

В настоящее время проблеме поиска новых технологий (методов, приемов, средств, форм) обучения, в том числе в процессе художественного образования детей, посвящено значительное количество исследований. Однако не теряют своей актуальности и вопросы использования в современных условиях «традиционных» методов обучения.

Что же может означать «грамотно организовать беседу», в частности, беседу в процессе по рисованию? Для того чтобы дать хотя бы частичный ответ на этот вопрос, следует рассмотреть сущность самого понятия «беседа». Беседа – это метод обучения, предполагающий построение педагогом диалога с обучающимися. Беседа, как диалогический метод, способствует полноценному восприятию студентами объекта изображения, пониманию способов его отражения в рисунке. Педагогические возможности беседы заключаются и в том, что она активизирует, стимулирует его внутренние скрытые в потенции мысли и чувства. Если беседу в сопровождении музыки сделать обязательным началом занятия по рисованию, то студенты или обучающиеся будут с особым интересом относиться к рисованию. Беседа должна быть ненавязчивой и интересно и сообщать такие темы студентам, которые их интересуют именно в этом отрезке их возраста, но чтобы, конечно представления и эмоции учащихся оживились, а творческое настроение не угасло. Естественно, что педагог помимо специального образования должен иметь и житейскую мудрость и нравственно воспитанным человеком.

Самой полезной для здоровья и снятия стрессов и развития внутренней красоты специалисты считают музыку Моцарта. По мнению врачей, она не очень быстрая, но и не слишком медленная, не громкая, но и не очень тихая, плавная, но не монотонная. Произведения Моцарта рекомендуются для снятия стресса, эффективного усвоения учебного материала. Многие испытания также показали положительное влияние на работоспособность мозга именно музыки Моцарта. Из узбекской

классической музыки самое благоприятное воздействие оказывает инструментальная музыка «Шашмаком».

Итак, приступаем к занятиям: Под тихую музыку Моцарта или Шашмакома начинается беседа. Необходимо отметить основной принцип беседы во время рисования, то это, ненавязчивое вплетение во время процесса объяснения и житейские и нравственные позиции человека. В беседе педагог, главным образом, обращает внимание на то, что его беседы будут иметь значение для дальнейшей жизни учащегося после завершения учёбы. Прежде всего необходимо заранее определить целевое назначение использования беседы и связать это с программным содержанием конкретного занятия.

1-ЭТАП - беседа.

1. Подготовка к рисованию и изучение модели.

а). Подготовка. Подготовиться самому, привести мысли чувства в порядок, отвлечься от них. Забыть все житейские и личные проблемы, они будут только мешать.

б). подготовить все рисовальные принадлежности и рабочее место. Рабочее место должно быть хорошо освещённое и чистое, хорошо проветриваемое.

в) рисовать можно карандашом, пером, углём, пастелью, сангиной и т.д. На рабочем месте должны быть: тонкоочиненный карандаш, мягкий пластик, наждачная бумага, перочинный ножик, черновой лист, мольберт или планшет. Все эти предметы должны быть у каждого учащегося, чтобы не отвлекать других.

1– беседа. Упорядоченность мыслей – основное состояние студента перед рисованием. Порядок на рабочем месте и порядок в голове. Спокойствие и немного отрешённости.

Модель нужно изображать с наилучшей, с интересной стороны, где равномерно чередуются свет и тень, и показать её самую отличительную часть и характерную черту. Прежде чем рисовать, нужно хорошо изучить натуру. И чаще смотреть на модель, а не любоваться своим рисунком. В частом сравнении достигается достоверность, притом с разных позиции. Замечания друзей бывают очень уместны и естественно поправки педагога тоже имеют основное и завершающее значение в определении законченности рисунка.

2-Поиск выразительной позиции

а). Студент должен выбрать для себя самое удобное место, от этого зависит качество его работы.

б). Студенту во время рисования ничего не должно мешать и загораживать его обзор, даже собственная рука.

в). Необходимо выбирать самую характерную сторону и отличительную черту модели. От выбора точки зрения зависит общая композиция рисунка.

Основное требование учителя, развитие зрительной, слуховой памяти у учащихся. В процессе обучения развиваем глазомер, пространственное мышление, зрительную память, профессиональную наблюдательность. Рисунок и рисование учит точно и правильно оценивать соотношения размеров предмета или модели на изображаемой поверхности.

Правду изображения вы найдёте на природе. Ищите формы, ищите пропорции, ищите светотень, композиции, перспективы и светотени – ищите гармоничное отношение между ними. Только в поиске отношения узнаете истинность передачи изображения.

2 – беседа. Когда человек стремится познать правду жизни, жизнь обязательно покажет ему одну из своих бесчисленных истин. Когда человек ищет соотношения между различными вещами, межличностные отношения между людьми, и наконец соотношение между добром и злом, и ставит их на чашу своего всегда нравственно настроенного сердца, то несомненно сердце подскажет ему истинное положение вещей. Но необходимо это сердечное выступление в пользу нравственных позиции, пропустить через логику мозга. Вот это и есть твоя истинное понимание твоего будущего непонимания.

3.

Изучение-модели.

а). Прежде чем начинать рисовать, необходимо очень внимательно изучить модель и если нужно подойти ближе и рассмотреть лучше, если есть необходимость потрогать.

б). Особо обратить внимание на соотношение различных форм модели и соотношение света и тени, при этом определять разницу тональности между ними.

3 – беседа. Основа рисунка – пропорция, композиция, перспектива и светотень. Основа пропорции, светотени, композиции, перспективы есть – эскизы, наброски, зарисовки и огромное желание изображать! Натура ваш Отец и ваша Мать, изучайте натуру досконально! Учитесь видеть и различать в природе главные черты. Различать главное и второстепенное в модели затем в рисунке имеет основополагающую роль

Изучение модели можно сравнить с созерцанием природы, природы вещей, людей и ситуации. В этом изучении основное значение имеет внимательность. Внимательность чтения предметов и ситуации. Внимательность это – основная база сохранения информации в памяти. Где есть упущения во внимании при изучении чего - либо, там останавливается и запись в память.

2. ЭТАП – беседа.

1. Начало работы и процесс.

а). В начале работы пользуются эскизом, который выполняется на небольшом листе бумаги. Эскиз даёт возможность проверить не только размеры изображения модели относительно границ листа, но и композицию

– сочетание отдельных предметов и форм, ракурс – поворот в сторону в сторону рисующего, вид с неожиданной стороны.

б). Необходимо уверенно, но осторожно и тонко наносить линии на бумаге, чтобы потом легко было поправить. Очернить рисунок никогда не поздно.

в). Карандаш нужно держать свободно и подвижно, опирая кисть или мизинец на формат листа.

4 – беседа. Здесь важно подчеркнуть, что изображаемая предметность нетранспортируется механически или фотографически в картину, а творчески воссоздается. Иначе говоря, изображаемое присутствует в картине не на правах самой действительности, а на правах идеального образа, художественной реальности, воссозданной художником. Для того чтобы передать размер, форму и тональность можно и нужно использовать ширину линии. В разных местах они различны. Работа карандашом очень ответственная часть работы. Использование ширины линии очень легко. На освещённой и выпуклой части и на дальнем плане, линии проводятся тонко, уходящие на нет.

Ближний план и теневые части рисуются более чёткими и толстыми линиями. Как в жизни – ближний план – это родители, родственники, друзья, знакомые. Мы их видим чётко и ясно. Дальний план — это то что, дальше от нас... Поэтому то, всё дальнее, нам кажется яснее и чётче, и ближе нашему зрению, хоть на самом деле имеет своё расстояние.

2. Расположение объекта на листе (компоновка)

а). Грамотный рисунок зависит от правильного размещения изображения на листе. Поэтому начинать работу нужно с размещения изображения модели на формате листа. Рисунок нужно расположить соответственно с размером формата.

б). Учитывая характер композиции, лист бумаги располдогоают вертикально или горизонтально. Рисунок обычно занимает среднюю часть листа, примерно 2/3 её площади.

в). При выполнении рисунка начинать следует с целого, рисуя сразу всю модель, набрасывая её контуры. При этом надо идти от общего к частному, не отвлекаясь на детали и подробности. Работу над рисунком ведут в строгой последовательности, на каждом её этапе решая определённые изобразительные задачи.

5 – беседа. При рисовании с натуры модели или другого объекта, нужно от общего сематического изображения идти к частной детализации и обобщению.

Компоновка – это начальная стадия рисунка. Грамотный рисунок зависит от правильного расположения рисунка на листе бумаги. Компоновка – это значит показать рисунок соответственно с размером выбранного формата. Осознание общего и большого, почти невозможно. Возможно, но только при обобщении видимого, через чувства. Усидчивость

при рисовании и терпение в жизни должно быть, как основное кредо в путешествие по жизни. Не теряйте время попусту на мелкие развлечения и дешёвые удовольствия. Они как туман незримый, как пелена закрывают главный смысл, главную красоту жизни!

3. Поиск основных геометрических фигур.

а). На модели или на натуре ищем и находим основные геометрические фигуры и формы как, голова – шар, шея – цилиндр, куб, пирамида, призма и т.д.

б). Необходимо определить пропорции между этими элементами геометрических форм, мысленно расчленив на составляющие их элементы, которые напоминают те или иные геометрические фигуры. 6 – беседа. Время от времени вставайте и с расстояния посмотрите на модель и на свой рисунок и на рисунки других. Это снимает усталость и освежает зрение и обогащает восприятие реальности при изучении модели. Находить в жизни основное, большое и необходимое – и есть то к чему надо стремиться, притом смолоду. Но чтобы достичь его, нужно будет к нему проложить ступенчатую дорогу в верх. И эта дорога должна быть вымощена трудовыми каплями, духовными переживаниями.

4. Поиск более мелких форм на основных формах.

а). На основных геометрических формах модели, шар – голова, выявлять более мелкие детали как, глаза, нос, уши, подбородок, надбровные дуги, лобная части т.д.

б). Ищем соотношения между ними и прорабатываем общую картину модели.

В начале рисования лучше использовать твёрдые разновидности карандашей.

Карандаши используются к середине и к завершению рисунка средние и мягкие.

7 – беседа. При изучении природы нужно видеть не только большую её часть, внешнюю, но и видеть и знать, что эта внешняя поверхность опирается на внутреннюю конструкция, скелет и мышцы. Поиск более мелкого в крупном и уточнение его место на формате и в рисунке, как в жизни, поиск в глобальном, частного. Биологическая жизнь состоит из маленьких атомов, а духовная – из каждодневных поступков мысли и действия. Каждый твой нравственно устойчивый поступок усиливает твой иммунитет, жажду жизни, активизирует и расширяет возможности опознание мелких в глобальном космосе окружающего мира.

3. – ЭТАП – беседа.

1. Плановость

а). Показать на рисунке ближний, средний и дальние планы, и другие удалённо расположенные за моделью или перед моделью предметы.

б) Учитесь видеть передние и задние планы и воздух между ними.

8 – беседа. Не очернивайте рисунок и не делайте работу грязной! В рисунке видно ваше отношение к жизни. Рисунок – отражение вашего видения жизни. Рисунок – зеркало ваше! Видеть в ближних, обыкновенных людей, дальних людей, а в дальних – видеть ближних.

Для учителя конкретность, которая строится во взаимосвязях и взаимоотражениях слов, при описании какой-либо ситуации, обретает свою жизненную достоверность, как бы независимо от описанного оригинала, т.е. определенного единичного события материального мира, она наполняется собственным мысленным и чувственным опытом учителя. В этом отношении литература, в нашем случае «беседа» наиболее близка живописи, структура которой также предполагает творческую активность.

2.Перспектива.

а). В перспективном рисунке изображают модель, используя законы перспективы т.е. кажущиеся перспективные сокращения, уменьшения предметов по мере их удаления от наблюдателя.

б). Необходимо учитывать, что, степень уменьшения пропорциональна расстоянию от предмета.

9 – беседа. Рисунок это – изображение объёмных предметов в наглядном виде по правилам перспективы. С разных сторон и расстояний мы видим предмет по-разному, поэтому при рисовании с натуры большое значение приобретает выбор такой точки зрения, при которой хорошо выявляются объёмная форма и характерные особенности изображаемого предмета. Удалённость предмета лучше видится. Также мы лучше видим скрытые, потайные стремления, и узнаём наших ближних, когда они удалены от нас.

3.Воздушность

а). Показать воздух вокруг модели в пространстве, прозрачность воздуха.

б). Передать воздушность и на самой модели. Передача воздушности одна из главных особенностей рисунка. В рисунке должен быть воздух.

10 – беседа. В рисунке с натуры, изображают видимую форму предмета или модели, которая и передаёт свою действительную форму его.

Между действительной и видимой моделью имеются различия. Действительная форма предмета неизменна, видимая же форма многообразна, она постоянно меняется в зависимости от ракурса или поворота, и игры светотени предмета, относительно наблюдателю. В пространстве абсолютной пустоты не бывает, она обязательно заполнена чем-то. Как пословица гласит, «Свято место, пусто не бывает». Чтобы кто-то чужой, не заполнил твоё пространство, сделай его герметичным, не проникающим извне, но способным расширяться.

4.Воздушная-перспектива

а). Изобразить светотеневые и цветовые изменения в пространстве в зависимости от их удаления от наблюдателя. Используя все возможные методы использования инструментов рисования.

б). Показать тональность. По мере удаления предметы светлее и меньше, то есть как бы сокращаются в размерах, а ближние предметы остаются при своих размерах.

в). Тот или иной слой воздуха, который разделяет модель и художника влияет на яркость освещённых мест и силу света в общем охвате зрением всего изображаемого пространства.

11 – беседа. Художник от рисования должен блаженствовать. От каждого мазка кисти и штриха карандаша должен получать удовольствие. И если это так, значит ты этого достиг определённого уровня. Жизнь является борьбой за лучшее существование в мире. Духовным или бездуховным, выбирает сам человек. Это борьба благородного сердца и холодного разума с природой вещей. Но и неустанная борьба между собой. Вы будете победителем, если сделаете правильный выбор, то будешь победителем среди лучших, и будешь жить и работать действительно качественнее!

4. ЭТАП – беседа.

1. Работа над светотенью

а). Определить на рисунке тёмные, средние и светлые части модели.

б). Определить посредством света и тени передать форму модели и перспективу.

12 – беседа. Свет и тень – основные качества природы вещей, что определяют объём и материальность натуры. Игра света на модели, наклон солнечных лучей по поверхности обозначает самые яркие блики, затем светлость, после среднее освещение, полутона и теневая часть. Собственно, этим определением и плюс хорошим навыком рисования можно создать объём предмета. Реальная объёмность форм флоры и фауны, определяется видением и попаданием лучей солнца на их поверхность. Также и в жизни бывает, светлые мысли людей освещают их лица изнутри и распространяют их в тёмное пространство. Отражая свет от себя и крылья якобы безнадежно сломленных тьмой.

2. Передача материальности

а). Передать материальность модели, её фактура, из каких материалов она состоит:

гипс, дерево, сталь, бронза, камень, земля, почва, стекло, фарфор и т.д.

б). В живой модели передать материальность кожи, волос, одежды и т.д.

13 – беседа. Любая вещь состоит из определённого естественного или рукотворного материала. И передать материальность предметов с помощью карандаша или краски, является одним из основных требований законов изобразительного искусства. Красота мира олицетворяется именно внешней красотой предметов, и живых существ, их материальностью, это то, что мы

видим воочию. Материальность вещей, то есть их видимая и основная определяющая их сущность поверхность, и есть главная сторона предмета.

3. Выявление основной части рисунка и смягчение второстепенной части.

а). Приближённые части рисунка и характерные черты модели выявляются более насыщенными и резкими линиями и детализируются.

б). Отдалённые части модели или натурыстушёвываются и линии наносятся тонкие.

14 – беседа. Основные качества предмета более явственнее выявляют их характерную черту, чем и привлекают внимание пытливый ум людей. Основное качество людей это его – нравственная сторона как индивида, но не следует пренебрегать и чисто физическими данными, как говорится, «в здоровом теле, здоровый дух». Присутствие учителя, уже должно создавать вокруг себя ауру вдохновения. И эта аура благодатна и притягательна, если несёт в себе покой и мудрость, и настолько же отталкивает окружающих от себя, насколько эта аура мутна, неароматна и звучание отталкивающее.

5 – ЭТАП – беседа

1. Обобщение-рисунка.

а) Общее художественное обобщение.

б). Собрание воедино разрозненные светотеневые тональности. Проверяются все градации светотени, приведя к единству все тональные отношения рисунка.

в). Обобщить и подготовить к завершению.

15 – беседа. Обобщение – сделанной работы, является самой ответственной задачей, порой определяющей результат рисунка. При сложности обобщения работы можно пригласить педагога. Педагог – учитель не только предмета, но учитель студенческой жизни в процессе учёбы. И его нравственная позиция, и умение преподавать свой предмет и быть, одновременно и наставником и нравственно правильным, психически уравновешенным, его основное качество как человека и как педагога. Все учащиеся ориентируются на педагога, на малейшие его требования и установки, поэтому учитель должен быть, именно учителем с большой буквы.

2. Завершающая стадия

а). Уточнение и проработка форм. В завершающей стадии подробно прорабатываются все детали, элементы, формы.

б). Проработка пропорции и светотени.

16 – беседа. Завершение работы, влечёт за собой или удовлетворённость, радость проделанной работой или недовольство ею. Если быть более точным, то завершённость работы показывает атмосферу произведения и настроение студента. существенно помочь достижению успешного результата.

Саму планете, саму жизнь следует называть пространством искусства, пространством музыки, пространством слова, и в этом смысле, она является действительным выражением пространственного осмысления человеческого существования.

Этот материал позволит погрузиться в волшебный мир творчества с помощью рисования, музыки и слова! Время, которое будет выделено для подобного творчества учителями, принесет много радостных и незабываемых и нравственно полезных впечатлений! Студент всю свою жизнь будет помнить это время и ценить, что позволит им построить дружеские и близкие, и разумные взаимоотношения в общественной жизни. Доказано, что синхронизация работы левого и правого полушария мозга – первый шаг на пути к гениальности. Необходимо отметить, что рисование и музыка в этом плане занимает одну из ведущих ролей, но при этом волшебство слова, и мудрые речи облагораживают юные сердца. Естественно, что, слово педагога не может быть уподоблено слепку с реального предмета, его изоморфному отображению, его внутренняя структура обычно не совпадает со структурой названного явления или процесса. Если живопись, вполне осмысленно сравниваемая с зеркалом, отражая, преломляя, подчас деформируя и дробя облик видимого, все же воспроизводит его с той или иной степенью достоверности, то «словесная ткань» представляет собой структуру обозначений, разумеется, совсем произвольных и не случайных, обеспеченных огромным опытом духовно-практического освоения действительности. Словесно-понятийная конструкция построения беседы, сколь бы изощренной и «точной» она ни была, неспособна передать и воспроизвести вещественно-эмпирическую конкретность явления- эмпирическое бытие явления в реальном пространстве и времени словомнеобъемлемо. Но с позиции простых, но действенных житейских, бытовых позиции вполне можно донести до учащихся истинность нравственно- моральных достижений человечества, и что следует следовать международным нравственным законам.

Словесное сопровождение рисования на фоне музыки, является эффективным методом, который позволяет развивать у молодёжи, воображение и творческое мышление. Оно помогает студентам лучше понимать реалии жизни, визуализировать их содержание и выразить свои мысли и чувства. Словесное сопровождение также способствует развитию нравственного подхода к мышлению и обогащению словарного запаса. Внедрение словесного сопровождения во время учебного процесса может привести к улучшению результатов обучения и стимулированию творческого мышления учащихся.

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ЎЗБЕКИСТОНДА ЧУЧУК СУВ ПОТЕНЦИАЛ РЕСУРСЛАРИНИНГ ГЕОГРАФИК ТАҚСИМОТИ

Аннотация. Ушбу мақолада Ўзбекистонда чучук сув потенциал ресурсларининг Ўзбекистон 14 та иқлим ресурслари бўйича тақсимоти кўриб чиқилган.

Калит сўзлар. Чучук сув, иқлимий район, потенциал ресурс, 1 км² майдон, илиқ давр, совуқ давр, йиллик.

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POTENTIAL RESOURCES OF FRESH WATER IN UZBEKISTAN GEOGRAPHIC DISTRIBUTION

Annotation. The present article considered the distribution of freshwater potential resources in Uzbekistan on 14 climatic resources of Uzbekistan.

Keywords. Freshwater, climatic zone, potential resource, 1 km² area, warm period, cold period, annual.

Ҳисоблаб чиқилган сувнинг келтирилган қалинлиги ҳақидаги маълумотлар асосида Ўзбекистоннинг 14 та иқлимий районлари бўйича атмосферадаги чучук сувнинг потенциал ресурсини ойлар, йилнинг илиқ ва совуқ даврлари, ўртача йиллик қийматларини аниқлаш мумкин. Юқорида айтиб ўтилган иқлимий районлар бўйича атмосферадаги буғ ҳолатидаги сувдан ичимлик сувини ажратиб олиш учун мўлжалланган конденсиоцион курилмаларни самарали жойлаштиришда бу маълумотлар асос бўлиб хизмат қила олади.

Устюрт иқлимий райони. Кўрилатган иқлимий районда атмосферадаги чучук сувнинг 1 км² майдонга мос келувчи миқдорлари минимал қиймати январь (8723 м³), февраль (8886 м³), декабрь (10190 м³), март (11005 м³) ва ноябрь (11820 м³) ойларида кузатилади. Максимал қийматлар июль (22741 м³), август (21926 м³), июнь (20296 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 10842 м³, илиқ даври учун эса 18992 м³, ўртача йиллик қиймат 14917 м³ ни ташкил этади.

Оролбўйи иқлимий райони. Ушбу иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (9212 м³), февраль (9701 м³), декабрь (10190 м³), март

(11983 м³), ноябрь (11983 м³) ойларида кузатилади. Максимал қийматлари эса июль (30565 м³), август (28446 м³), июнь (26327 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 11494 м³, илиқ даври учун эса 23882 м³, ўртача йиллик қиймат 17688 м³ ни ташкил этади (3.2-расм).

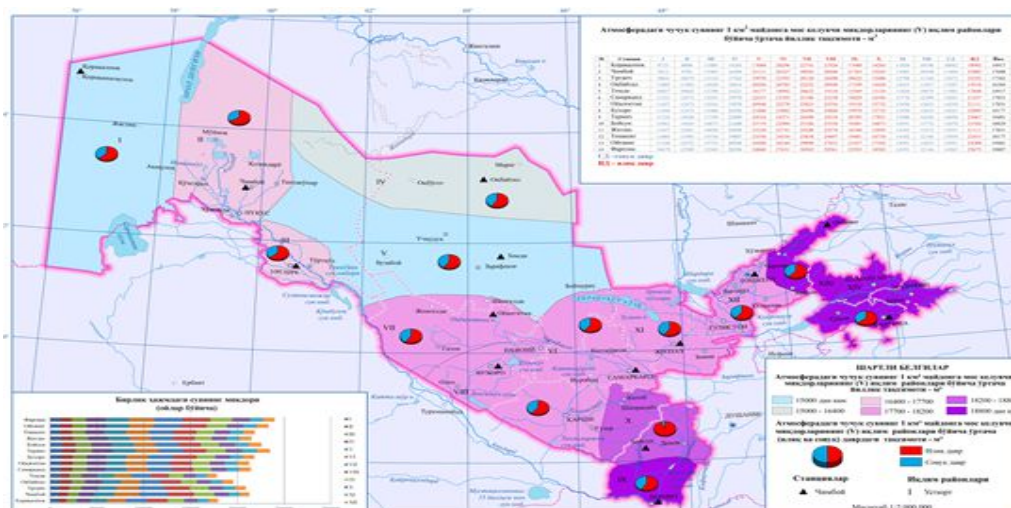
Қуйи Амударё иқлимий райони. Мазкур иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (9864 м³), февраль (10679 м³), декабрь (11168 м³), ноябрь (12798 м³) ойларида кузатилади. Максимал қийматлар июль (28120 м³), август (26490 м³), июнь (23393 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 12472 м³, илиқ даври учун эса 22252 м³, ўртача йиллик қиймат 17362 м³ ни ташкил этади.

Шимолий Қизилқум иқлимий райони. Ушбу иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (11005 м³), февраль (11983 м³), декабрь (11657 м³), ноябрь (12635 м³), март (14428 м³) ойларида кузатилади. Максимал қийматлар эса июль (22252 м³), август (20948 м³), июнь (20785 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 13287 м³, илиқ даври учун эса 19319 м³, ўртача йиллик қиймат 16384 м³ ни ташкил этади.

Марказий Қизилқум иқлимий райони. Бу иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (10027 м³), декабрь (10679 м³), февраль (10842 м³), ноябрь (11820 м³), март (12798 м³) ойларида кузатилади. Максимал қийматлар эса июль (20622 м³), август (19318 м³), июнь (18992 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 11983 м³, илиқ даври учун эса 17688 м³, ўртача йиллик қиймат 14917 м³ ни ташкил этади.

Зарафшон иқлимий райони. Кўрилаётган иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (11331 м³), декабрь (12309 м³), февраль (12472 м³), ноябрь (13776 м³) ойларида кузатилади. Максимал қийматлар эса июль (25186 м³), июнь (23393 м³), август (23230 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 14265 м³, илиқ даври учун эса 21437 м³, ўртача йиллик қиймат 17851 м³ ни ташкил этади.

Жанубий Қизилқум иқлимий райони. Бу иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (11657 м³), февраль (12472 м³), декабрь (12635 м³), ноябрь (13450 м³) ойларида кузатилади. Максимал қийматлар эса июль (25023 м³), август (23556 м³), июнь (22578 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 14238 м³, илиқ даври учун эса 21111 м³, ўртача йиллик қиймат 17851 м³ ни ташкил этади.



1- Расм. Атмосферадаги чучук сувнинг 1 км² майдонга мос келувчи миқдорлари (V, м³)

Жануби-шарқий Қизилқум иқлимий райони. Ушбу иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (11494 м³), февраль (12472 м³), декабрь (12635 м³), ноябрь (13450 м³), март (15406 м³) ойларида кузатилади. Максимал қийматлар эса июль (26490 м³), август (24860 м³), июнь (23882 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 14265 м³, илиқ даври учун эса 22089 м³, ўртача йиллик қиймат 18177 м³ ни ташкил этади.

Жанубий Юқори Амударё иқлимий райони. Кўриляётган иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (13124 м³), декабрь (14102 м³), февраль (14428 м³), ноябрь (15406 м³) ойларида кузатилади. Максимал қийматлар эса июль (26490 м³), август (24534 м³), июнь (24371 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 16058 м³, илиқ даври учун эса 23067 м³, ўртача йиллик қиймат 19481 м³ ни ташкил этади.

Шимолий Юқори Амударё иқлимий райони. Бу иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (12961 м³), декабрь (13776 м³), февраль (14265 м³), ноябрь (14591 м³) ойларида кузатилади. Максимал қийматлар эса июль (25186 м³), май (23719 м³), август (23556 м³), июнь (22904 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 15678 м³, илиқ даври учун эса 21926 м³, ўртача йиллик қиймат 18829 м³ ни ташкил этади.

Жиззах иқлимий райони. Ушбу иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (11657 м³), декабрь (12472 м³), февраль (12961 м³), ноябрь (14102 м³), октябрь (15895 м³) ойларида кузатилади. Максимал қийматлари эса июль (24208 м³), июнь (22741 м³), август (22578 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 14591 м³,

илиқ даври учун эса 21111 м³, ўртача йиллик қиймат 17851 м³ ни ташкил этади.

Тошкент иқлимий райони. Мазкур иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (11005 м³), февраль (11983 м³), декабрь (12146 м³), ноябрь (14102 м³) ойларида кузатилади. Максимал қийматлар июль (25838 м³), август (24697 м³), июнь (24534 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 13939 м³, илиқ даври учун эса 24415 м³, ўртача йиллик қиймат 18177 м³ ни ташкил этади.

Фарбий Тяньшань иқлимий райони. Кўрилаётган иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (11168 м³), февраль (12472 м³), декабрь (12635 м³), ноябрь (14591 м³) ойларида кузатилади. Максимал қийматлари эса июль (29098 м³), август (27631 м³), июнь (26164 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 14591 м³, илиқ даври учун эса 24208 м³, ўртача йиллик қиймат 19481 м³ ни ташкил этади.

Фарғона иқлимий райони. Ушбу иқлимий районда атмосфера таркибидаги сув буғининг келтирилган қалинлигининг минимал қийматлари январь (10679 м³), декабрь (12146 м³), февраль (12309 м³), ноябрь (14591 м³), март (15569 м³) ойларида кузатилади. Максимал қийматлари эса июль (30565 м³), август (29261 м³), июнь (27631 м³) ойларида кузатилади. Йилнинг совуқ даври учун ўртача қиймат 14265 м³, илиқ даври учун эса 25675 м³, ўртача йиллик қиймат 19807 м³ ни ташкил этади.

Юқорида келтирилган Ўзбекистоннинг 14 та иқлимий райони бўйича атмосфера таркибидаги сув буғининг келтирилган қалинлиги ойлари, йилнинг илиқ ва совуқ даври, ҳамда йиллик ўртача қийматлари таҳлили шуни кўрсатадики, энг катта қиймат 30560 м³ июль ойида Оролбўйи ва Фарғона иқлимий районларида ва энг кичик қиймат 8723 м³ январь ойида Устюрт иқлимий районида, Йилнинг илиқ даври учун энг катта ўртача қиймат 25675 м³ Фарғона иқлимий районида, энг кичик ўртача қиймат 17688 м³ Марказий Қизилқум иқлим районида, йилнинг совуқ даврида энг катта ўртача қиймат 16058 м³ Жанубий Юқори Амударё иқлимий районида, энг кичик ўртача қиймат 10842 м³ Устюрт иқлимий районда, йиллик тақсимотда эса энг катта ўртача қиймат 19807 м³ Фарғона иқлимий районида, энг кичик ўртача қиймат 14917 м³ Устюрт ва Марказий Қизилқум иқлимий районларида кузатилади.

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ЎЗБЕКИСТОН ИҚЛИМ ШАРОИТИДА АТМОСФЕРА ҲАВОСИДАН ЧУЧУК СУВ ОЛИШНИНГ АҲАМИЯТИ

Аннотация. Ушбу мақолада глобал муаммолардан бири бўлган чучук сув етишмаслигини юмшатиш мақсадида Ўзбекистон иқлим шароитида атмосферадан чучук сув олишнинг аҳамияти очиб берилган.

Калит сўзлар. Чучук сув, дарё сувлари, кўллар, атмосфера ҳавоси, сув буғлари, сувнинг муқобил манбалари.

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THE SIGNIFICANCE OF OBTAINING FRESH WATER FROM ATMOSPHERIC AIR IN CLIMATIC CONDITIONS

Annotation. This article reveals the importance of extracting fresh water from the atmosphere in the climatic conditions of Uzbekistan to mitigate fresh water shortage, which is one of the global problems.

Keywords. Fresh water, river water, lakes, atmospheric air, water vapor, alternative water sources.

Жаҳон миқёсида чучук сув етишмаслиги глобал муаммога айланган ва шу сабабли унинг муқобил манбаларидан фойдаланиш масалаларига катта эътибор қаратилмоқда. Дунё аҳолиси кўпайиб бораётган бир пайтда, сайёрамизда чучук сув захиралари, аксинча, камайиб бормоқда. БМТнинг прогнозига кўра, “2050 йилга бориб 5,7 млрд. аҳоли тоза ичимлик суви етишмайдиган худудларда истиқомат қилади. 2040 йилга келиб сувга бўлган эҳтиёж 50 фоизга ортиши кутилмоқда”⁴⁷. Шу нуқтаи назардан, Жаҳон сув инқирозини юмшатишга қаратилган чоралар кўриш, сув ресурсларидан оқилона фойдаланиш, инсониятнинг тоза ичимлик сувига бўлган эҳтиёжларини доимий равишда таъминлаш мақсадида ундан самарали ва тежамкорлик билан фойдаланиш бўйича чора-тадбирларни ишлаб чиқишни тақозо этади.

Сўнгги пайтларда чучук сув муқобил манбаларини топиш, уларни аҳоли истеъмоли учун ўзлаштириш, улардан фойдаланиш технологияларини ишлаб чиқиш, истеъмолчига етказишни

⁴⁷Бирлашган миллатлар ташкилотининг сув ресурслари ҳолати ҳақида Бутунжаҳон маърузаси <https://www.un.org/ru/observances/water-day>

такомиллаштиришга устувор аҳамият берилмоқда. Муаммони ҳал этишнинг мумкин бўлганечимларидан бири ҳисобланган атмосфера ҳавосида мавжуд сув буғини конденсация қилиш орқали сув олиш мақсадида, атмосферадаги мавжуд чучук сувнинг потенциал ресурсини ҳисоблаш, атмосфера сув буғини конденсацияланиш шарти сифатида шудринг нуқтаси ҳарорати дефицитининг қийматларини аниқлаш, ҳаводаги намликдан сув олишнинг мумкин бўлган усуллари ва технологияларини такомиллаштириш, конденсацион қурилмаларни оқилона жойлаштириш муҳим ҳисобланади.

Сув сайёрамизда бундан 3-3,5 миллиард йил олдин Ер мантиясининг газсизланиши натижасида буғ шаклида пайдо бўлган, деб ҳисобланади. Биосферада сувсиз ҳаёт йўқ. Сув тирик материянинг энг муҳим таркибий қисми ҳисобланади. Табиатда қуёш энергияси таъсири остида сувнинг турли фазали ҳолатлардаги узлуксиз айланиши содир бўлади. Сув Ер юзасидан буғланганда атмосферанинг пастки қатламларини намлайди ва ёғингарчилик шаклида сайёра юзасига қайтади, сув ҳавзаларида тўпланади ёки ерга шимилиб, ер ости сувлари захирасини тўлдиради. Бунинг оқибатлари, ўз навбатида, ер усти сув ҳавзалари учун тўйиниш манбаи бўлиб хизмат қилади.

Ўзбекистон Республикаси ҳудуди Амударё ва Сирдарё ўртасида жойлашган бўлиб, Ўрта Осиёнинг шимолий ва марказий қисмини эгаллайди. Шимолда ва шимоли-ғарбда Қозоғистон Республикаси билан, шимоли-шарқда Қирғизистон Республикаси билан, жануби-шарқда Тожикистон Республикаси билан, жануби-ғарбда Туркменистон Республикаси билан ва жанубда Амударё орқали Афғонистон билан 90 км узунликда чегарадош. Ўзбекистоннинг энг шимолий нуқтаси Устюрт платосининг шимоли-шарқида, Орол денгизининг ғарбий соҳили яқинида жойлашган ($45^{\circ}36'$). Сурхондарё вилоятининг энг жанубий нуқтаси Термиз шаҳрига яқинроқ ($37^{\circ}11'$). Бу нуқталар орасидаги масофа 930 км ни ташкил этади. Ўзбекистоннинг энг ғарбий нуқтаси Устюрт платосида (56° ш.к), энг шарқий нуқтаси Фарғона водийсининг жануби-шарқий қисмида Қирғизистон билан чегарадош ($73^{\circ}10'$ ш.к) бўлиб, улар бир-биридан 1425 км узоқликда жойлашган [1].

Ўзбекистон учун чучук сув муаммосининг кескинлашуви иқлим ўзгариши билан бир қаторда, аҳоли сонининг кўпайиши, ҳудудларнинг урбанизацияси, суғориладиган ерларнинг кенгайиши, сув манбаларининг sanoat чиқиндилари билан ифлосланиши, ҳудудларнинг чўлланиши ва Ўзбекистонга туташ давлатларда Амударё ва Сирдарё сувларидан фойдаланиш ҳисобига улардаги сув ҳажмининг камайиши билан ҳам боғлиқ. Шу билан бирга, суғоришга сарфланадиган сув sanoat ва коммунал сувдан фойдаланишга қараганда, деярли 2,5 баравар юқори [1].

Чучук сувнинг анъанавий манбалари дарёлар, кўллар ва сув омборларида тўпланган бўлиб, қайта тикланадиган ер усти сувлари

ҳисобланади. Ўзбекистонда сув ресурслари манбалари қор ва музликлар ҳисобига пайдо бўлган Орол ҳавзасидаги дарёлар ҳисобланиб, булар: Амударё, Сирдарё, Зарафшон, Қашқадарё ва бошқалар. Мамлакатимиз ҳудудини кесиб ўтган, узунлиги 150 км гача ва ундан ортиқ бўлган 50 дан ортиқ дарёлар бор. Уларнинг энг йириклари Амударё, Сирдарё, Чирчиқ, Зарафшон, Охангарон, Пском, Угом дарёлари дир. Дарёлар республика ҳудуди бўйлаб нотекис жойлашган. Дарёлар суғориш, инфильтрация, буғланиш натижасида ўз сувларини йўқотади ва аста-секинлик билан камайиб, кичик қисмларга ажралиб қолади. Тоғларда кўплаб дарё тармоқлари мавжуд. Барча дарёлар Амударё ва Сирдарё ҳавзаларига тегишли. Дарёларнинг кўпчилиги қор ва музликлар билан тўйинади ва июнь ойида максимал даражада сарфланади. Музликларда чучук сувнинг катта захиралари мавжуд бўлиб, улар баҳорда тоғлардан бошланадиган дарёларнинг оқимини тўлдиради. Тоғ музликлари эриши Ўрта Осиёдаги барча дарёлар йиллик оқимининг қарийиб 15 фоизини, баъзи ҳудудларда эса йиллик сув оқимининг деярли ярмини беради.

Ўзбекистон ҳудудида кўллар кам. Улар, асосан, тоғ водийлари ва йирик дарёларнинг дельталарида, шунингдек, суғориладиган воҳаларда учрайди. Уларнинг майдони жуда кичик. Энг катта кўл - Орол денгизи. Сўнгги йилларда Орол денгизи сатҳи 12-15 м га тушиб кетди. Унинг майдони сезиларли даражада камайди, қирғоқлари эса ўнлаб километрларга чекинди. Орол денгизининг очиқ тубидан тузларнинг яқин ҳудудларга тарқалиши атрофнинг чўлланишига олиб келди. Ўзбекистонда жойлашган бошқа йирик кўллар - Судочие, Айдар-Арнасой мажмуаси, Сарикамиш ҳисобланади. Республика ҳудудида кўплаб сунъий кўллар - сув омборлари яратилган. Улардан энг каттаси - Чорвоқ, Каттакўрғон, Жанубий-Сурхон, Чимкўрғон, Косонсой, Жиззах, Туябўғиз, Андижон, Туямуюн ва бошқалар. Орол денгизи ҳавзасидаги 60 та сув омборининг умумий ҳажми 64,5 км³ни ташкил этади [3].

Ичимлик сувининг иккинчи манбаи ер ости сувлари ҳисобланади. Ер ости сувларининг асосийлари артезиан ва ер қатламлари остидаги сувлар бўлиб, улар асосий сув манбаи сифатида ишлатилади. Марказий Осиёда ер ости сувлари захираси 43,5 км³ бўлиб, шундан фақат 4,31 км³ ичимлик суви ҳисобланади [2].

Шундай қилиб, ичимлик сувининг умумий захиралари ҳамда Сирдарё ва Амударё дельталари тахминан 185,3 км³га баҳоланмоқда. Марказий Осиёда қишлоқ хўжалиги ерларини суғоришда умумий йиғиладиган сувнинг 90 фоизи ишлатилади. 1 тонна пахта хом-ашёси ишлаб чиқариш учун тахминан 17 минг литр сув керак бўлади. 10 фоиз сув саноат ва коммунал эҳтиёжлар учун ишлатилади. Бир кишига кунлик озиқ-овқат миқдорини ишлаб чиқариш учун эса 6 м³ сув зарур бўлади [4].

Сув таъминоти билан боғлиқ муаммо, яъни сувнинг ифлосланиши узлуксиз ошиши билан янада кучаяди. Ўзбекистонда кўпчилик дарёларнинг

ўзани ўртача ва кучли даражада ифлосланган бўлиб, ифлосланишининг асосий манбалари саноат чиқиндилари, қишлоқ хўжалиги ва аҳоли пунктлари ҳисобланади.

Юқорида келтирилган ҳисоб-китоблар шуни тасдиқлайдики, яқин йилларда Ўрта Осиёда мавжуд бўлган барча чучук сув захираларининг камайиши тенденциясининг ошишига олиб келади.

Ўзбекистоннинг қурғоқчил иклими, юқори даражада ривожланган саноат ва қишлоқ хўжалиги ишлаб чиқаришининг мавжудлиги, аҳолининг интенсив ўсиши ва ҳудудларнинг урбанизацияси доимий равишда катта ҳажмли (аҳоли жон бошига 6 м³ гача) чучук сувни талаб қилади. Аҳоли ва республиканинг кўп тармоқли иқтисодиёти эҳтиёжлари учун сувдан фойдаланиш ҳажмининг ошиши, шунингдек, унинг тақчиллиги йилдан-йилга ошиб бораётгани чучук сувнинг қўшимча манбаларини аниқлаш, уларнинг ҳажмини баҳолаш ва улардан оқилона фойдаланиш талабларини кучайтиришга олиб келади. Ушбу вазифаларни бажариш Ўзбекистонда ҳал қилиниши керак бўлган муҳим муаммолардан биридир.

Атмосфера бутун ҳаётимиз кечадиган биосферанинг ажралмас бир қисмидир. Атмосфера жараёнларининг ривожланиш қонуниятларини билган ҳолда, улардан нафақат об-ҳавонинг ноқулай ўзгаришларидан ҳимоя чораларини кўриш, балки кўпгина давлатлар иқтисодиёти, шу жумладан, Ўзбекистон иқтисодиёти манфаатлари йўлида ҳам фойдаланиш мумкин. Мисол учун, атроф-муҳитни муҳофаза қилиш ва табиий ресурслардан оқилона фойдаланиш нуктаи-назаридан атмосфера сув буғларидан тоза ичимлик сувини олиш мумкин.

Атмосфера ҳавосидан чучук сув олиш жараёнининг моҳияти шундаки, ернинг энг қуруқ минтақаларида ҳам ҳавода кўп миқдорда чучук сув буғлари мавжуд бўлиб, ҳавони 10-60°C совутиш орқали сувга айлантиради. Ҳаводаги буғларнинг концентрацияси қанчалик катта бўлса, совутиш шунчалик кам талаб этилади. Намлиги юқори бўлган тропик, субтропик ва денгизбўйи ҳудудларида эса ҳаводан сув олиш учун уни 10-15°C гача совутиш етарли бўлади.

Чучук сув олишнинг ноанъанавий усулларига айсбергларни ташиш, денгизнинг шўр сувини чучуклаштириш, туман таркибидаги сувни йиғиш, шудринг шаклида тушган сувни йиғиш, атмосфера суви буғини конденсацион қурилмалар ёрдамида конденсация қилиш киради. Бироқ, денгиз сувларини чучуклаштириш анъанавий тизимлари жуда катта миқдордаги энергияни талаб қилади.

Денгиз сувини чучуклаштиришга қараганда, ҳаводаги атмосфера намлигидан фойдаланиш атроф-муҳитга минимал таъсир кўрсатади. Бундан ташқари, заҳарли металллар кам бўлган ва деярли энергия ҳаражатларини талаб қилмайдиган конденсатлар яратиш зарур. Демак, табиий йўллардан фойдаланиш орқали тропик ва субтропик минтақаларда жуда кўп миқдорда чучук сув олиш имконини беради, бу эса атроф-муҳитга деярли таъсир

қилмайди. Конденсатни катта миқдорда олиш учун иккита шарт бажарилиши керак: ҳарорат шудринг нуқтасидан паст бўлиши ва конденсация ядроларининг мавжудлиги.

Йилнинг маълум бир давридаги атмосфера ҳолати тўғрисидаги маълумотлардан фойдаланиб, республиканинг эҳтиёжлари учун зарур бўлган, айниқса, қуруқ мавсумда, унинг катта даражадаги танқислиги даврида, атмосферадаги сувнинг потенциал захирасини ҳисоблаш мумкин.

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ПЕРСПЕКТИВНОЕ УПРАВЛЕНИЕ С ТОЧКИ ЗРЕНИЯ ЭКОНОМИЧЕСКОГО МЫШЛЕНИЯ КАДРОВ

Аннотация. Постиндустриальный период развития общества требует поиска новых опорных моментов в организации управленческой деятельности. Изменяется роль индивида в социуме, в группе, изменяются его возможности, причем, как в сторону упрощения, так и в сторону усложнения в работе с информацией. Сохранение и увеличение управленческой эффективности в современных условиях требует ориентации управленческого персонала на модернизированные, усовершенствованные управленческие принципы. В статье делается анализ управленческой мысли в историческом разрезе. Уделено внимание принципам управления школы научного управления и классической школы управления. Предлагается авторское понимание принципов эффективного управления с точки зрения экономического мышления кадров управления.

Ключевые слова: принципы, эффективное управление, экономическое мышление, кадры управления.

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PERSPECTIVE MANAGEMENT FROM THE POINT OF VIEW OF ECONOMIC THINKING OF PERSONNEL

Abstract. The post-industrial period of development of society requires a search for new supporting points in the organization of management activities. The role of the individual in society, in the group, changes, his capabilities change, both towards simplification and towards complexity in working with information. Maintaining and increasing managerial efficiency in modern conditions requires the orientation of management personnel towards modernized, improved management principles. The article analyzes management thought from a historical perspective. Attention is paid to the management principles of the scientific management school and the classical management school. The author's understanding of the principles of effective management from the point of view of economic thinking of management personnel is proposed.

Key words: principles, effective management, economic thinking, management personnel.

Методы: метод движения от абстрактного к конкретному, анализа и синтеза, сравнения, абстрагирования, обобщения и конкретизации. Анализ и интерпретация результатов исследования. Анализ тематической литературы по истории управленческой мысли; абстрагирование и конкретизация имеющихся представлений с акцентом на принципы Г. Эмерсона и А. Файоля и их сравнение с содержательными составляющими феномена экономического мышления кадров управления, понимаемого как управляемого процесса и результата экономического отражения действительности; а также обобщение и конкретизация собственных принципов эффективного управления с точки зрения экономического мышления кадров управления. Определение собственных принципов эффективного управления с точки зрения экономического мышления кадров управления. Представлены принципы сущности управленческого экономического мышления; управления не по должности, а по факту; хозяйствующей роли субъекта управления (менеджера); стремления к всесторонней специализации; развития управленческого экономического мышления в практической деятельности в условиях экономических систем; мышление экономическое значит рациональное; не должно быть произвола в системах представлений менеджера и управления

На наш взгляд, достижение данной цели может быть обеспечено, если исходить из принципов единства исторического и логического, и устойчивого динамического неравновесия как источника развития системы. Чтобы отследить историческое движение логической модели, исследуемой нами системы, мы проанализируем уже имеющиеся понимания управленческих принципов и на этой основе построим возможное новое качественное содержание принципов. При этом, согласно второму принципу мы будем исходить из понимания внутреннего противоречия между когда-то сложившимися управленческими принципами и новыми запросами общественного сознания ввиду неоднозначности и неопределенности актуальной социально-экономической ситуации. В качестве методов нашего исследования может быть обозначен метод движения от абстрактного к конкретному, то есть от изучения частных, накопленных исторически, от неполного одностороннего понимания сущности предмета к пониманию все более полному, всестороннему и целостному, соответствующему актуальной исторической ситуации. Также, поскольку мы говорим об экономическом мышлении, то несомненную важность представляют методы анализа и синтеза, сравнения, абстрагирования, обобщения и конкретизации.

Таким образом, задачами настоящего исследования являются: анализ тематической литературы [1, 5, 6, 7] по истории управленческой и экономической мысли; абстрагирование и конкретизация имеющихся представлений с акцентом на принципы Г. Эмерсона [7] и А. Файоля [2] и их сравнение с содержательными составляющими феномена

экономического мышления кадров управления [3], понимаемого как управляемого процесса и результата экономического отражения действительности; а также обобщение и конкретизация собственных принципов эффективного управления с точки зрения экономического мышления кадров управления. Заметим, что подробный анализ феномена экономического мышления (напомним, что первое употребление понятия экономическое мышление было сделано К.Марксом [9, с. 181] в его критике идей Д. Милля и Дж. Р. МакКуллоха), представлен нами в соответствующей работе [2].

Анализ и интерпретация результатов исследования. Анализ тематической литературы по вопросам менеджмента показывает, что эволюция требований к кадрам управления имеет долгую историю и претерпевала значительные изменения. Так, деятельность жрецов в древнейших обществах уже можно интерпретировать как управленческую. Причем, говоря современным языком, жрецы владели знаниями о природе человека, его психологии и психофизиологии, пусть на своем уровне, но понимали работу сознания и подсознания и использовали это для своих управленческих целей. Можно даже сказать, что управленческие принципы, в основе которых то обстоятельство, что управляющий должен знать и понимать больше, чем управляемый, сопровождают всю историю человечества. И вопрос лишь состоит в том, чему можно и нужно учить потенциального управленца, если говорить о подготовке управленческих кадров, а каких знаний ему доверять не следует, передавая эти знания, быть может, лишь исключительно избранным.

Однако, если говорить о принципах с точки зрения теории менеджмента в ее современных трактовках и применительно, прежде всего, к экономической деятельности, то следует делать акцент на принципах, отражающих спрос управленческой мысли на идеи, методы, решения оптимизации имеющихся ресурсов. Заметим, что именно в такой плоскости мы уже начинаем говорить об истинно экономическом мышлении, несмотря на то, что такая терминология (экономическое мышление) не использовалась самими исследователями.

Так, школа научного управления (Ф. Тейлор [1], Г. Ганнт [9], Г. Эмерсон [7], Г. Форд [4]) понимала управленческую деятельность как отдельную специализацию, предполагающую свои компетенции. Поскольку научное направление в теории менеджмента уже выступало за то, чтобы деятельности руководителя и исполнителя были разделены, то, следовательно, и требования к профессиональным компетенциям должны отличаться. Менеджер должен уметь мотивировать, а исполнитель должен уметь хорошо делать свою работу. И чем производительнее будет работа последнего, тем выше будет за нее оплата. Но при этом управленец должен владеть навыками наблюдения, анализа, измерения производительности труда работника.

То есть в контексте нашего исследования можно сказать, что экономическое мышление менеджера с точки зрения школы научного управления должно оперировать в категориях оптимизации деятельности подчиненного работника, его эффективной мотивации, при которой, учитывая правильную организацию труда, он сделает максимум, на который способен. И, следовательно, оперировать в категориях обучения работника оптимальным способом выполнения своей профессиональной деятельности.

Кроме того, менеджер должен уметь мыслить организационную структуру с точки зрения оптимальной величины предприятия, так как усматривалась связь между эффективностью и количеством уровней в организационной иерархии. И, соответственно, эффективный управленец – это тот, который находит золотую середину между размерами предприятия и эффективностью, а также понимает принципы, по которым организован труд. Достойной иллюстрацией понимания управления с точки зрения школы научного управления можно считать принципы, сформулированные Г. Эмерсоном. Так, принцип точно поставленных целей можно сказать является ключевой характеристикой работы мышления любого человека. Для менеджера данный принцип – это организующее начало. Примечательно, что Г. Эмерсон уже тогда говорил о согласовании целей и идеалов сотрудников одной организации, одного подразделения, когда любой сотрудник понимает целесообразность своей деятельности в контексте деятельности других сотрудников. С нашей точки зрения, наибольшего успехов в реализации этого принципа можно добиться именно в условиях развития экономического мышления менеджмента организации.

Постановка целей и определение идеалов неизменным образом должно сочетаться со здравым смыслом, с приоритетами дисциплины и справедливости. Кроме того, в вопросах управленческой организации важное место должны занимать компетенции. Поскольку ни один человек не может знать всего, а, следовательно, он нуждается в компетенциях тех, кто ими обладает в необходимых менеджеру вопросах. Однако отметим, что Г. Эмерсон не говорил о компетенциях приобретения компетенций. Да он и не мог об этом говорить. В индустриальный период развития такой вопрос вряд ли мог быть поднят. И так называемый компетентностный подход по праву получил свое развитие именно в постиндустриальную эпоху, когда акцент спроса на производительность сместился с цехов и станков к интеллектуальным возможностям человеческого потенциала предприятия. Развиваемое экономическое мышление управленческого персонала организации несомненно должно быть следствием соответствующих компетенций кадров управления и получать свою реализации в рамках управленческого экономического мышления.

Естественно, что данные принципы не претендуют на полную свою количественную и качественную завершенность. Их дальнейшая разработка

будет продолжаться. Но эти принципы есть то, что сегодня работает. Они могут быть использованы как менеджерами-практиками для анализа своей деятельности и деятельности своих коллег, так и исследователями теории управления, менеджмента для осуществления исследовательского движения в направлении улучшения качества управления. Что особенно востребовано в период информационной неоднозначности и перенасыщенности, ломки старых стереотипов и поиска новых механизмов повышения качества управленческих решений в условиях непредсказуемости ситуации, в ответ на новые вызовы времени.

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СОВРЕМЕННЫЕ ТЕХНОЛОГИИ УПРАВЛЕНИЯ ОРГАНИЗАЦИЕЙ

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СОВЕРШЕНСТВОВАНИЕ СИСТЕМЫ УПРАВЛЕНИЯ КОНФЛИКТАМИ В ОРГАНАХ ВЛАСТИ: НА ПРИМЕРЕ АДМИНИСТРАЦИИ КУЙБЫШЕВСКОГО МУНИЦИПАЛЬНОГО РАЙОНА НОВОСИБИРСКОЙ ОБЛАСТИ

Аннотация. В статье приведены результаты совершенствования системы управления конфликтами в органах власти. Представлены рекомендации по разрешению конфликтов и улучшению качества обслуживания граждан в государственных и муниципальных учреждениях.

Ключевые слова: конфликт, органы власти, управление конфликтами.

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IMPROVING THE CONFLICT MANAGEMENT SYSTEM IN GOVERNMENT BODIES: ON THE EXAMPLE OF THE ADMINISTRATION OF THE KUIBYSHEV MUNICIPAL DISTRICT OF THE NOVOSIBIRSK REGION

Annotation. The article presents the results of improving the conflict management system in government. Recommendations on conflict resolution and improvement of the quality of public services in state and municipal institutions are presented.

Keywords: conflict, authorities, conflict management.

В современном мире взаимодействие между государственными органами и различными заинтересованными сторонами становится все более тесным и сложным. Это приводит к усилению конфликтов, возникающих в системе государственного и муниципального управления. Причиной конфликтов часто становится противоречие между

общественными интересами и личными интересами отдельных лиц или групп.

Изучение и урегулирование таких конфликтов имеет огромное значение, поскольку неразрешенные конфликты могут породить целый ряд серьезных проблем. Они могут снизить эффективность работы государственных органов, нарушить стабильность в обществе, подорвать доверие граждан к властям и даже привести к социальным потрясениям.

Поэтому совершенствование системы управления конфликтами в органах власти является актуальной задачей. Необходимо разрабатывать и внедрять современные методы предупреждения, разрешения и минимизации последствий конфликтов. Это может включать создание специализированных подразделений по урегулированию конфликтов, обучение государственных служащих техникам медиации и переговоров, совершенствование законодательства в этой области.

Важно также повышать уровень прозрачности и подотчетности государственных органов, совершенствовать механизмы общественного контроля и обратной связи с гражданами. Это позволит своевременно выявлять зарождающиеся конфликты и принимать превентивные меры для их урегулирования.

Кроме того, необходимо поддерживать атмосферу доверия, взаимопонимания и конструктивного сотрудничества между различными заинтересованными сторонами, вовлеченными в процесс государственного управления. Это может быть достигнуто путем налаживания эффективных каналов коммуникации, проведения регулярных консультаций и создания площадок для открытого диалога.

Конфликты в государственной службе являются серьезной проблемой, которая может негативно сказаться на ее эффективности и репутации. Существует ряд факторов, способствующих возникновению таких конфликтов, среди которых:

1. Бюрократия и обилие законодательства. Государственная служба часто связана с бюрократией и многочисленными законодательными актами, которые могут создавать препятствия и оставлять простор для субъективных толкований. Это может привести к недопониманию, несогласованности действий и спорам между сотрудниками⁴⁸.

2. Отсутствие стандартизированных процедур. Разрозненные и непонятные процедуры, нестандартизированные для всех административных дел, могут стать причиной путаницы и разногласий.

48 Наумов, С. Ю. Основы организации муниципального управления / С. Ю. Наумов, Е. С. Ведяева, А. А. Гребенникова. - 2-е издание, переработанное и дополненное. - Москва: ООО «Научно-издательский центр ИНФРА-М», 2020. - 375 с.

Сотрудники могут по-разному интерпретировать правила, что приводит к неравенству в принятии решений и конфликтам⁴⁹.

3. Нехватка ресурсов. Ограниченность финансовых, материальных или кадровых ресурсов может создать среду напряжения и конкуренции между подразделениями и сотрудниками. Недостаток расходных материалов, программного обеспечения, оборудования и других необходимых ресурсов может вызвать столкновения между сотрудниками, которые борются за доступ к этим средствам.

4. Различия в льготах и условиях труда внутри государственной службы существуют различные категории сотрудников, которые могут иметь разные условия труда, льготы и компенсации. Это может привести к появлению чувства несправедливости и напряженности, особенно когда сотрудники выполняют сходные или одинаковые задачи⁵⁰.

5. Давление со стороны граждан. Сотрудники государственной службы часто подвергаются давлению со стороны граждан, особенно в сфере муниципальных услуг с высоким уровнем пользователей/посетителей. Своевременное и качественное предоставление услуг может быть стрессовой задачей, которая увеличивает вероятность конфликтов и столкновений.

Для эффективного управления конфликтами в государственной службе необходимо принимать комплексные меры, направленные на устранение основных причин и развитие позитивной рабочей культуры. Это может включать упрощение бюрократии, стандартизацию процедур, обеспечение адекватных ресурсов, устранение различий в льготах и содействие открытому общению и сотрудничеству.

Предотвращение конфликтов в органах государственного (муниципального) управления, в частности в Администрации Куйбышевского муниципального района Новосибирской области, является важной задачей для обеспечения эффективной работы и создания благоприятного рабочего климата. Вот некоторые методы, которые могут быть использованы для достижения этой цели:

1. Установить общие цели и задачи для всех управлений и отделов Администрации. Это позволит сконцентрировать усилия сотрудников на достижении общих результатов и избежать разногласий, возникающих из-за различных приоритетов.

2. Обеспечить прозрачность и справедливость системы премирования и мотивации сотрудников. Четкие и понятные критерии оценки труда, а также объективное распределение вознаграждений помогут предотвратить конфликты, связанные с неравенством или несправедливостью.

49 Быкова, А. В. Управление конфликтами: учебное пособие / А. В. Быкова. — Москва: РТУ МИРЭА, 2020. — 69 с.

50 Акмалова, А. А. Система государственного и муниципального управления: учебник / А. А. Акмалова, В. М. Капицын. — Москва: ИНФРА-М, 2021. — 414 с.

3. Четко определить должностные обязанности и распределить нагрузку между специалистами Администрации. Это позволит избежать дублирования функций, а также перегрузки или недогрузки отдельных сотрудников, что может стать причиной конфликтов.

4. Разработать и внедрить процедуры и требования для управлений и отделов по разрешению конфликтных ситуаций. Наличие четких алгоритмов действий поможет структурировать процесс и снизить вероятность эскалации конфликтов.

5. Поощрять сотрудников, которые предлагают эффективные пути разрешения конфликтов, в том числе с помощью материального стимулирования. Это будет мотивировать персонал к конструктивному подходу в решении проблемных ситуаций.

6. Использовать механизм координации и контроля со стороны главы Администрации Куйбышевского муниципального района. Личное участие руководителя в урегулировании конфликтов и принятии решений по спорным вопросам может способствовать их более быстрому и эффективному разрешению.

7. Проводить регулярные тренинги и обучающие семинары для сотрудников по эффективной коммуникации, управлению конфликтами и командной работе. Это повысит компетентность персонала в данной области и поможет предотвратить возникновение конфликтных ситуаций.

8. Создать атмосферу открытости и доверия в коллективе, где сотрудники могут свободно обсуждать проблемы и высказывать свое мнение без опасений. Такая среда способствует своевременному выявлению и разрешению потенциальных конфликтов.

Применение комплексного подхода, включающего в себя различные методы предотвращения конфликтов, позволит Администрации Куйбышевского муниципального района Новосибирской области поддерживать конструктивные рабочие отношения и обеспечить эффективное функционирование органов государственного (муниципального) управления.

Практические рекомендации по разрешению конфликтов и улучшению качества обслуживания граждан в государственных и муниципальных учреждениях:

1. Регулярно обновлять информацию на информационных стендах и официальных сайтах учреждений. Размещать актуальные сведения о режиме работы, платежных реквизитах для оплаты государственных пошлин и других услуг, порядке подачи документов и сроках их рассмотрения.

2. Рассмотреть возможность изменения графика работы для увеличения времени приема граждан. Это может снизить очереди и сократить время ожидания.

3. Информировать население об альтернативных источниках информации: интернет-порталах, публикациях в СМИ, включая электронные ресурсы, горячих линиях и кол-центрах. Это позволит снизить консультационную нагрузку на специалистов учреждений.

4. Организовать дистанционное консультирование граждан по телефону и через мессенджеры (WhatsApp, Telegram, Viber). Это повысит доступность услуг для маломобильных групп населения и жителей отдаленных районов.

5. Провести анализ официального сайта учреждения на предмет доступности и понятности информации. При необходимости внести изменения для улучшения юзабилити и удобства пользования.

6. Разработать информационные материалы (буклеты, памятки, видеоинструкции) с разъяснениями основных правил подачи документов, перечнем типичных ошибок заявителей и способами их решения. Это поможет гражданам лучше подготовиться и избежать ошибок.

7. Организовать информирование заявителей о стадии рассмотрения их заявления и готовности оказания услуги (например, по SMS или электронной почте). Это повысит прозрачность процесса и сократит количество повторных обращений граждан.

8. Рассмотреть возможность внедрения системы предварительной записи на прием, чтобы избежать очередей и сократить время ожидания. Это может быть сделано через официальный сайт, мобильное приложение или терминалы в учреждении.

9. Провести обучение сотрудников учреждений навыкам эффективной коммуникации и разрешения конфликтных ситуаций. Это поможет повысить качество обслуживания и снизить количество жалоб со стороны граждан.

10. Организовать регулярный мониторинг качества обслуживания, например, с помощью анкетирования или «тайных покупателей». На основе полученных данных вносить необходимые коррективы в работу учреждения.

Реализация этих рекомендаций позволит повысить качество предоставления государственных и муниципальных услуг, сократить количество конфликтных ситуаций и жалоб, а также улучшить имидж и репутацию учреждений в глазах граждан.

Таким образом, эффект от совершенствования системы управления конфликтами в Администрации Куйбышевского района будет выражен в потенциальном сокращении количества конфликтов между сотрудниками на 100% и в снижении жалоб от граждан на сотрудников администрации на 84%.

Можно сделать вывод, что Администрации Куйбышевского района необходимо работать по предотвращению конфликтов в трех направлениях:

- во-первых, это предотвращение конфликтов с населением за счет повышения качества оказания муниципальных услуг сотрудниками Администрации Куйбышевского района;

- во-вторых, это работа по снижению вероятности конфликтов внутри Администрации Куйбышевского района, то есть снижение напряженности между сотрудниками за счет регламентации функций и выстраивания прозрачной системы мотивации;

- в-третьих, это работа по предотвращению возникновения конфликтов интересов согласно федеральным и региональным нормативным актам.

Таким образом, совершенствование системы управления конфликтами в органах государственной власти является комплексной задачей, требующей системного подхода и объединения усилий всех заинтересованных сторон. Ее успешное решение позволит повысить эффективность государственного управления, укрепить стабильность и доверие в обществе, а также предотвратить негативные последствия конфликтов.

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ОСНОВНЫЕ ТЕОРИИ ПОПУЛИЗМА

Аннотация. Популизм – это тип политического управления, использующий метод прямой опоры на общественное мнение и общественные настроения как основное средство завоевания власти. Соответственно, популизм неизбежно направлен на упрощение политической ситуации. Популизм, сложное и многогранное политическое явление, в последние годы вызывает все больший интерес и дискуссию. В этой статье представлен обзор основных теорий популизма. Понимая эти теории, исследователи и политики могут получить ценную информацию о движущих силах, стратегиях и последствиях популизма в современных обществах.

Ключевые слова: популизм, теория социальной идентичности, теория политической коммуникации, теория кризиса, авторитарный популизм, сравнительный анализ, демократическое управление.

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MAIN THEORIES OF POPULISM

Abstract. Populism is a type of political management that uses the method of relying directly on public opinion and public sentiment as the main means of gaining power. Accordingly, populism is inevitably aimed at simplifying the political situation. Populism, a complex and multifaceted political phenomenon, has received increasing interest and debate in recent years. This article provides an overview of the main theories of populism. By understanding these theories, researchers and policymakers can gain valuable insights into the drivers, strategies, and consequences of populism in contemporary societies.

Key words: populism, social identity, theory of political technology, theoretical theory, authoritarian populism, comparative analysis, democratic governance.

ВВЕДЕНИЕ

Большое внимание феномену популизма уделяется в академическом и общественном дискурсе, где ученые и политики стремятся раскрыть движущие силы и последствия популистских движений. Целью данного исследования является изучение основных теорий популизма и пролить свет на идеологические основы, коммуникационные стратегии, социальные условия и стили руководства, которые характеризуют популистские движения в различных контекстах. [1]

МАТЕРИАЛЫ И МЕТОДЫ

Изучая и сравнивая основные теории популизма, данное исследование призвано обеспечить детальное понимание многогранной природы популизма и его достаточного влияния на демократическое управление. Теория социальной идентичности утверждает, что популизм развивается в процессе построения коллективной идентичности, основанной на оппозиции предполагаемой элите или истеблишменту.

Теория политической коммуникации подчеркивает роль харизматических лидеров в разработке популистских посланий, которые резонируют с недовольством и чаяниями населения в целом. Теория кризиса предполагает, что популизм подвержен общественным тревогам и разочарованиям во времена социально-экономических спадов. Авторитарный популизм подчеркивает опасное сочетание популистской риторики с авторитарными тенденциями, которые могут подрвать демократические нормы и институты. В этом исследовании используется структура сравнительного анализа для оценки основных теорий популизма, опираясь на научные работы, эмпирические исследования и примеры из разных регионов. на основе. Рассматривая применение и нюансы каждой теории в различных контекстах, данное исследование стремится осветить общие и различия в движущих силах и проявлениях популизма во всем мире, хотя между ними существуют взаимосвязи и взаимозависимости. [2]

Популистские движения часто используют динамику социальной идентичности, применяют эффективные коммуникационные тактики, используют кризисы и демонстрируют авторитарные тенденции для получения поддержки и консолидации власти. Кроме того, исследование подчеркивает сложную и контекстно-зависимую природу популизма, подчеркивая важность учета исторических, культурных и институциональных факторов при анализе популистских явлений. [3]

ОБСУЖДЕНИЕ И РЕЗУЛЬТАТЫ

Популизм – это политическая идеология, которая подчеркивает власть народа над привилегированной элитой. Он часто изображает элиту коррумпированной и корыстной и представляет себя голосом «простых людей». Лидеры-популисты обычно формулируют политические вопросы как борьбу между обычными гражданами и истеблишментом, обещая разрешить народное недовольство и вернуть народу власть. Существует

несколько ключевых теорий, которые помогают объяснить рост и привлекательность популизма: Популизм часто развивается путем создания четкого различия между «народом» и «элитой». Лидеры-популисты изображают элиту как оторванную от нужд и проблем простых граждан и представляют себя истинными представителями народа. Такая бинарная структура упрощает сложные социальные и политические вопросы и облегчает сторонникам идентификацию с популистскими движениями, которые часто возникают во времена экономической, социальной или политической неопределенности. Лидеры-популисты извлекают выгоду из этого ощущения кризиса, предлагая простые решения и обещания перемен, которые заставляют людей чувствовать тревогу или несправедливость. [4]

Апеллируя к страху и отчаянию, популисты могут поддержать свои послания, направленные против истеблишмента. Личности играют решающую роль в популизме, а харизматические лидеры часто находятся в авангарде этих движений. Эти лидеры имеют прочные связи со своими последователями и используют свою харизму и коммуникативные навыки для мобилизации и поддержки масс. Их привлекательность заключается в их способности воплощать надежды и чаяния своих сторонников и позиционировать себя как решение проблем общества. Зачастую популистские движения делают акцент на национальной идентичности и культурных ценностях, зачастую в противовес угрозам глобализации или мультикультурализма. Вызывая чувства патриотизма и ностальгии по золотому веку, популисты могут объединить различные группы под общей идентичностью и поддержать их дело. Популистская риторика обращается к сложным политическим проблемам с явными злодеями и героями, которые имеют тенденцию упрощаться до историй. Эта черно-белая рамка находит отклик у многих, кто чувствует себя подавленным или разочарованным сложностью современной политики. [5]

Предлагая прямые решения и обвинения социальных проблем, популисты могут обратиться к широкой аудитории. Популизм — это многогранное явление, охватывающее социальную идентичность, политическую коммуникацию, кризисное управление и основанное на теориях харизматического лидерства. Понимая эти ключевые теории популизма, мы сможем лучше понять привлекательность и влияние популистских движений во всем мире. [3]

ЗАКЛЮЧЕНИЕ

В заключение, это исследование подчеркивает важность понимания основополагающих теорий популизма для понимания разнообразных проявлений и последствий популистских движений. Раскрывая теоретические основы популизма, это исследование дает ценную информацию политикам, ученым и практикам, стремящимся изучить сложности современной политической динамики. В дальнейшем

необходимы дальнейшие исследования и анализ, чтобы углубить наше понимание популизма и его влияния на демократическое управление.

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СУЩНОСТЬ, ПОНЯТИЕ И КРИТЕРИИ УСТАНОВЛЕНИЯ ПРЕДЕЛА ДОКАЗЫВАНИЯ

Аннотация. Данная статья посвящена вопросам исследования критериев установления пределов доказывания. Рассматриваются и анализируются существующие в науке факторы, влияющие на установление пределов доказывания и характер их влияния на указанный институт теории доказательств.

Ключевые слова: критерии, предмет доказывания, предел доказывания, критерии установления предела доказывания.

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ESSENCE, CONCEPT AND CRITERIA FOR ESTABLISHING THE LIMIT OF PROOF

Abstract. This article is devoted to the research of criteria for establishing the limits of proof. The factors existing in science that influence the establishment of the limits of proof and the nature of their influence on the specified institution of the theory of evidence are considered and analyzed.

Key words: criteria, subject of proof, limit of proof, criteria for establishing the limit of proof.

В гражданском праве существует необходимость определения предела доказывания – это граница, за которой требования сторон уже не подлежат доказыванию. Вопрос о том, каким образом устанавливается этот предел и какие критерии при этом применяются, является одним из важнейших аспектов правосудия.

Сущность предела доказывания заключается в обеспечении справедливости процесса и защите интересов сторон. Он определяет, на каких условиях требование будет признано обоснованным и подлежащим удовлетворению судом. Критерии установления предела доказывания могут включать различные факторы, такие как тип дела, объективные

возможности сторон для предоставления доказательств, особенности спорных вопросов и т.д.

В действующем законодательстве дается легальное определение судебных доказательств, вместе с тем, понятие таких доказательств отличается от понятия доказательств, которые употребляются в логике.

Так, под доказательствами понимают установление истинности какого-либо положения с использованием логических средств и утверждений, истинность которых уже установлена.

В гражданском праве в течение продолжительного времени предполагались различные установления определения судебных доказательств. Одни ученые понимали под судебными доказательствами только фактические данные, которые имеют свое значение для верного разрешения судебного дела посредством установления обстоятельств в установленном в законе порядке под судебными доказательствами понимают определенные обстоятельства, которые необходимы для разрешения спора судом, и которые должны быть установлены в реальной действительности, тем самым определяя предмет доказательственной деятельности в гражданском процессе. Отображение прецедентов реальности действительности в носителях материальной формы влияет на возникновение фактических сведений, которые в процессуальном праве называются доказательствами [4, с. 30].

В научной литературе дореволюционного этапа в определениях судебных доказательств отображались состязательные начала судопроизводства.

Так, М.А. Ивлева, утверждала, что доказательства представляют собой сведения, обязательные для предоставления их суду, чтобы убедить его в правдивости определенного обстоятельства [3, с. 31].

О.А. Банщикова называла доказательствами, средства, посредством которых участвующие в разбирательстве лица могли убедить судей в истинности своих доводов [2, с. 38].

А.И. Баженова видела доказательства в широком и узком смыслах. В широком смысле доказательства – это то, что «заставляет убедить наше сознание в существовании истинных или ложных положений и фактов» [1, с. 25].

В узком смысле под судебными доказательствами данный автор понимал судебные доказательства как законные основания для убеждения суда в существовании спорных юридических фактов. При этом, определяя отличительные черты судебных аргументов А.И. Баженова акцентировала внимание на двух важных обстоятельствах: процессуальной форме аргументов и относимость данных подтверждений.

Подобным способом возможно обозначить тот факт, что, в теории доказательственного права сформировались различные концепции судебных доказательств. С помощью судебных доказательств, в

установленном в законе порядке, суд находит незнакомые первоначальные обстоятельства. Факты, называемые доказательственными аргументами, обретаются из источников в порядке, регламентированном в законе, а также способами находящимся во взаимной связи с данным фактом, на основании этой взаимосвязи он может являться инструментом нахождения прямой истинности нужного случая.

Под классификацией судебных доказательств в научной литературе определяется последовательное действие разделения их на виды, а также систематизация некоторых доказательственных аргументов на подвиды. Деление доказательств происходит по обязательным признакам, соответствующих их видам, которые позволяют увеличить процесс познания и найти между ними отличия и совпадения относительно каждого.

Функциональность судебных доказательств видится с многих сторон, классификация аргументов по многим основаниям не исключена в связи с универсальностью этого правоведческого определения.

Намного чаще деление судебных доказательств происходит по определенным основаниям: природе взаимосвязи доказательств с фактами по делу; источнику возникновения подтверждений; деятельности образования доказательств.

Практически во многих случаях прямой доказательственный аргумент указывает на обстоятельство без существования промежуточных звеньев. Как правило, прямой аргумент определяет непосредственную, конкретную взаимосвязь, которая устанавливается или опровергает присутствия какого-либо обстоятельства.

Непрямой аргумент состоит в более сложной и многозначной связи с обстоятельствами, которые устанавливаются. Можно лишь допускать некоторые выводы о существовании или отсутствии конкретных обстоятельств. Недостаточно сослаться на одно только косвенный аргумент, для подтверждения конкретного факта.

Доказательства косвенные в комплексе с прямыми укрепляют их, а не ослабляют и не могут использоваться как самостоятельное средство установления фактов. Особо важное значение они получают, когда существующие прямые факты чем-то опорочены. Например, когда очевидец, находится в родственных отношениях со стороной дела и у судьи возникает сомнение в правдивости его пояснений. Те самым косвенные доказательства способствуют суду правдиво расценить имеющие сомнение прямые доказательства.

Выступая в качестве обстоятельств указывающих, по какому пути нужно вести исследование фактов дела для верного определения о взаимоотношениях сторон, единичные косвенные подтверждения, хотя и не служат основанием для правильного довода о существовании доказываемых обстоятельств, но все же играют не малую роль в течении доказательственной деятельности. Непрямые доказательства по своей

достаточности играют не менее важную роль чем прямые, но в судопроизводстве ими воспользоваться не легко.

Необходимо подчеркнуть, что В.А. Туманов, подразделял доказательства на личные и вещественные, первоначальные и производные, по одному и тому же признаку – источнику доказательств. Деление аргументов на первоначальные и производные проводится по течению формирования, а не по источнику подтверждений [5, с. 100].

В арбитражном и гражданском процессах при разрешении дел по искам постоянно присутствует две стороны с разносторонними правовыми интересами, каждая из сторон должны доказать то, что утверждают. Подтверждения могут быть разделены на два вида: доказательства, представленные в подтверждение основания иска; доказательства, представленные в обоснование возражений против иска, в зависимости от того, кто предоставляет доказательства.

Важно отметить, что, несмотря на все совершенные области включения института доказывания в гражданский процесс, законодательство далеко посредственно в этой области. Например, ГПК РФ не содержит само понятие доказывания. Оно имеется только в теории гражданского процесса, где также является неоднозначным.

В современной доктрине гражданского процессуального законодательства приоритетным мнением является следующее. Деятельностью по доказыванию является логично -правовой для суда и участвующих в деле сторон, она направлена на получение некоторых сведений, которые касаются фактических обстоятельствах возникновения, изменения и прекращения правоотношений, данная деятельность исходит из утверждений об обстоятельствах, указывая на аргументы, предоставленные суду.

В свою очередь Пленум Верховного Суда РФ поддерживает данное мнение, которое указанное в Постановлении от 31.10.1995 № 8 (в ред. от 03.03.2015) «О некоторых вопросах применения судами Конституции Российской Федерации при отправлении правосудия».

Так, при разрешении гражданских дел суду необходимо исходить из доказательств, которые предоставляются участвующими в деле лицами.

Собственно, доказывание определяется как логико-правовую деятельность суда и лиц, участвующих в деле, направленная на достижения истинного знания о фактических обстоятельствах складывающихся правоотношений.

Таким образом, смысл судебного доказывания – это деятельность по рассмотрению судебных аргументов, которыми являются информация о фактических обстоятельствах и их первоисточники, используемые для подтверждения либо опровержения входящих в предмет доказывания, по конкретному делу, сведений, полученных, оформленных и исследованных в

полном объеме в соответствии с процессуальными нормами существующего законодательства.

В науке процессуального познания в качестве одного из самых сложных и оспариваемых представляется вопрос о пределах деятельности по доказыванию. В источниках дискусируются объективные мнения о том, что это в наименьшей степени сформировавшееся определение теории доказательств.

По большому счету пределы доказательственной деятельности можно рассматривать, как мера постижения факторов разбираемого события, в отсутствии которых деятельность по доказыванию становится теперь не имеющей смысла, потому, что его завершают в связи с отсутствием такой обязательности.

Сущность предела доказывания заключается в том, что сторона должна обосновать свои требования или возражения на основе достоверных и надежных фактов. Для этого необходимо представить соответствующие доказательства – письменные или материальные документы, свидетельские показания или экспертные заключения.

В гражданском праве Российской Федерации одним из ключевых аспектов является вопрос о доказательственной базе. Относительно доказательств существуют три основных категории: допустимость, относимость и достаточность. Каждая из них играет важную роль при разрешении споров и определении правового статуса сторон.

Понятие "допустимость доказательств" означает, что суд может принять во внимание только те доказательства, которые представлены в установленном законом порядке. Это связано с необходимостью обеспечения справедливости процесса и защиты интересов сторон. В случае нарушения требований к допустимости доказательств они могут быть отклонены судом или признаны недействительными.

Относимость доказательства – это его связь с предметом спора или фактом, который нужно установить. Доказательства должны иметь прямое отношение к делу и быть способными подтвердить или опровергнуть правовые положения или факты, на которые ссылается каждая из сторон. Если же связь между представленными доказательствами и спорным вопросом не обнаруживается, то суд может отказать в их учете или оценить их значимость соответствующим образом.

Наконец, достаточность доказательства определяется его способностью принести убедительное решение по делу. Суд должен установить, что представленные доказательства являются достаточными для вынесения правильного решения. При этом судья должен учитывать все имеющиеся факты, аргументы сторон и нормы права. Если же суд приходит к выводу о недостаточности представленных доказательств, он может запросить дополнительную информацию или провести новое разбирательство.

Таким образом, понимание допустимости, относимости и достаточности доказательств является необходимым для практической работы юристов и судей в гражданском праве России. Эти категории помогают обеспечить справедливость процесса и защиту прав сторон.

Проблема определения «пределов доказывания» в особенности современна в настоящих условиях усиления деятельности в процессе состязательном, когда образуется убедительная неизбежность в разделении понятий «доказывание» и «процессуальное познание».

Процессуальной обязанностью лиц, участвующих в деле, является бремя доказывания, то есть нужно доказать те факты, на которые сторона указывает, как на обоснование заявленных требований и возражений. Тем не менее, следует указать, что, исходя из принципа дозволенности, лицо может выбрать процессуальные способы защиты своих материальных прав и законных интересов, к которому относится право представлять в процесс или не представлять аргументы, в обоснование своих требований и возражения.

Когда стороны по каким-либо причинам не приводят суду нужные доказательства, то суд вправе рассмотреть и разрешить дело по находящимся в деле материалам, но если стороны пожелают, чтобы результат по делу состоялся в их пользу, то они обязаны обосновывать факты, которыми подтверждают свои требования. Другими словами, деятельность по доказыванию юридически необходимых для дела обстоятельств – не обязанность, а право, участвующих в процессе лиц.

Критерии установления предела доказывания в гражданском праве включают следующие основные принципы [4, с. 122]:

– принцип доступности информации – каждая из сторон имеет право на получение необходимых для дела сведений и документов от другой стороны или третьих лиц;

– принцип проверяемости – суд должен иметь возможность проверить достоверность представленных доказательств путем проведения экспертизы или вызова свидетелей;

– принцип равноправия сторон – суд должен обеспечивать равные возможности для каждой из сторон проявить свои интересы и защитить свои права.

– принцип разумности – суд рассматривает только те факты, которые имеют непосредственное значение для решения спорного вопроса.

– принцип доказательственной инициативы – стороны обязаны самостоятельно представлять доказательства, подтверждающие их требования или возражения.

Пределы доказывания определяются субъектом, выдвинувшим тезис. Субъект определяет объем представляемых доказательств, которые позволяют, согласно его мнению, считать факт установленным. Суд же

определяет границы, то есть очерчивает поле, в рамках которого стороны доказывают обстоятельства.

Когда определяются пределы судебного разбирательства, также учитывается специфика доказывания. Это происходит, когда обязанность выполнения их функций возложена на процессуальные стороны. Суд предоставляет необходимые условия для того, чтобы стороны исполнили свои процессуальные обязанности и осуществили права, предоставленные им. У судьи есть обязанность следить, чтобы были верно намечены внешние пределы изучения доказательств, то есть границы, за которые не должно выходить судебное разбирательство в споре.

Таким образом, понятие и критерии установления предела доказывания имеют большое значение для правосудия в гражданском праве. Их точное определение и применение способны обеспечить равноправность сторон и надлежащее рассмотрение дел по существу.

Допустимость, относимость и достаточность доказательств в гражданском праве России являются важными критериями для принятия справедливых решений. Соблюдение требований закона по допустимости доказательств, их относимость и достаточность – гарантия защиты прав и интересов сторон в гражданском процессе.

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SHAXAR MARKAZLARIDAGI KO'CHALARDA XUSUSIY AVTOMOBILLARNING HARAKATLANISH KO'RSATKICHLARINI TADQIQ QILISH

Annotatsiya: ushbu maqolada, Toshkent shahrining markaziy ko'chalarida yillar davomida shaxsiy avtomobil vositalarini sonini o'zgarib borishi hamda xususiy transport voistalarining harakat miqdori, oqim zichligi va tarkibini tadqiq etilib orqali harkat xavsizligi holatini tahlil qilindi.

Kalit so'zlar: harkat xavsizligi, xususiy transport voistalari, harakat miqdori, oqim zichligi va tarkibi.

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INVESTIGATION OF PRIVATE VEHICLE TRAFFIC ON STREETS IN CITY CENTERS

Abstract. In this article, the state of traffic safety was analyzed by studying the changes in the number of private vehicles in the central streets of Tashkent over the years, as well as the amount of traffic, flow density and composition of private transport vehicles.

Key words: traffic safety, private transport vehicles, traffic volume, flow density and composition.

Kirish

Keyingi paytlarda Toshkent yo'llarida tirbandliklar ko'payib borayotgani hammani tashvishga solmoqda. Dunyoning barcha megashaharlarini bezovta qilayotgan bu muammo bugun shahrimiz aholisi va mehmonlarini ham qiynab, behuda vaqt sarflashlarga, asabbuzarliklarga, yo'l harakati qoidalari

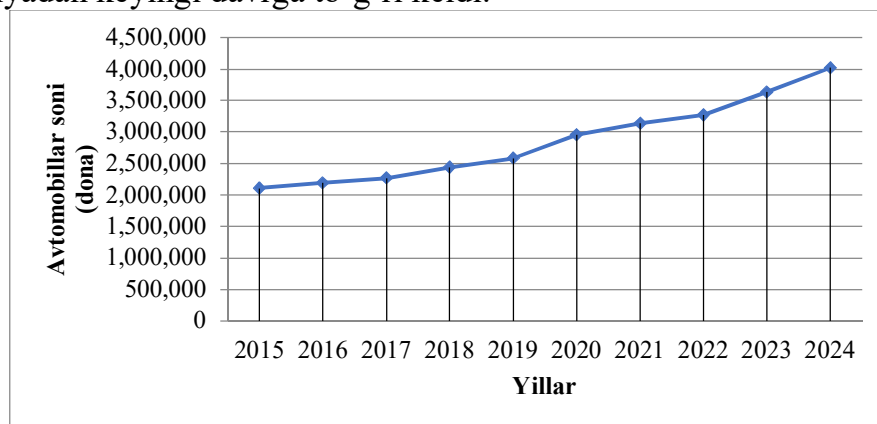
buzilishlariga sabab bo'lmoqda. Bugungi kunda O'zbekistonda har 1000 nafar aholiga o'rtacha 103 ta yengil avtomobil to'g'ri keladi [1].

2022-yil ma'lumotlariga ko'ra, AQSHda bu ko'rsatkich 890 tani, Germaniyada 628 tani, Rossiyada 397 tani, qo'shni Qozog'istonda esa 207 tani tashkil etadi [2].

Bu mamlakatlarda avtomobillar soni bir necha baravar ko'p bo'lishiga qaramasdan yo'l-transport hodisalarida 2022-yilda AQSHda 42,7 mingdan ortiq, Germaniyada 2788 ta, Rossiyada 14 mingga yaqin va Qozog'istonda 2425 ta o'lim qayd etilgan [3; 4; 5].

O'zbekistonda esa 2022-yilda 9902 ta YTH sodir etilgan bo'lib, unda 2356 nafar fuqaro vafot etgan. Yurtimizda avtotransportlarning ko'payib borishi yo'l-transport hodisalari sababli jarohatlanayotgan va halok bo'layotganlar sonini oshirish bilan birga tirbandliklarni ham keltirib chiqarmoqda [6].

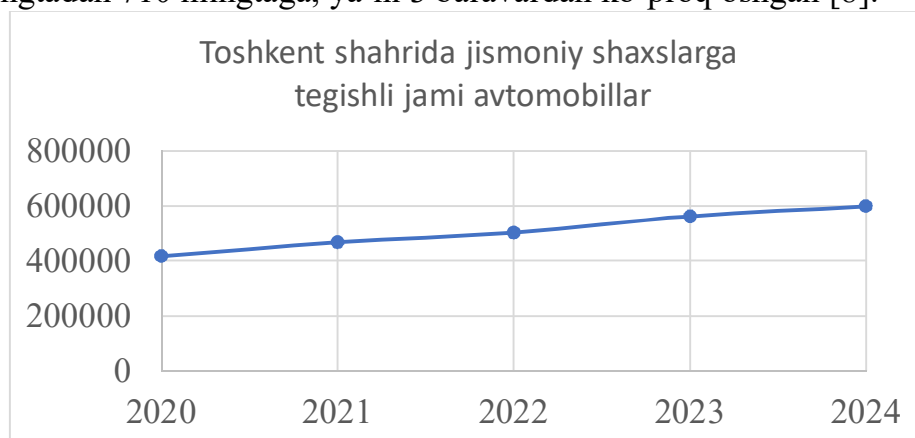
2023yilningyanvar-dekabroylaridaumumiy yo'l-transportihodisalari soni9839birlikni tashkilettdi.2022yilning mosdavriganisbatan mazkurko'rsatkich63bir-likkatushgan(-0,6%). Biroq, eng katta o'sish2021 yilda pandemiyadan keyingi davrga to'g'ri keldi.



1-rasm. Jismoniy shaxslarga tegishli jami avtomobillar yillar davomida o'zgarib borish grafigi

So'nggi vaqtlarda yurtimizning ko'plab hududlarida, ayniqsa Toshkent shahrida paydo bo'layotgan tirbandliklar jamiyat va iqtisodiyot uchun jiddiy muammoga aylanmoqda. So'nggi vaqtlarda Toshkent shahrida kuzatilayotgan tirbandliklar sababli yo'l harakati ishtirokchilarining foydali ish vaqti samarasiz sarflanishiga, faol ishchi topishi mumkin bo'lgan daromad yo'qotilishiga olib kelmoqda. Poytaxt ko'chalarida ishga borish va undan qaytishda kuzatiladigan tirbandlikdan tortib, noqulay ob-havo, talabalar, xalqaro tadbirlarda xorijiy mehmonlarning poytaxtga tashrif kunlarida kuzatiladigan tiqilinchlar bunga misol bo'la oladi. Bu esa o'z navbatida tirbandlikning sababini aniqlash hamda rivojlangan xorijiy davlatlar tajribasini o'rganish orqali ilmiy asoslangan takliflar ishlab chiqish, uni tashkiliy-huquqiy jihatdan hal etish masalasini kun tartibiga

olib chiqayapti. Toshkent shahrida 2010-yildan 2024-yilgacha avtomobillar soni 250 mingdan 710 mingtaga, ya'ni 3 baravardan ko'proq oshgan [8].



2-rasm. Toshkent shahrida jismoniy shaxslarga tegishli jami avtomobillar yillar davomida o'zgarib borish grafigi [9; 10; 11; 12; 13]

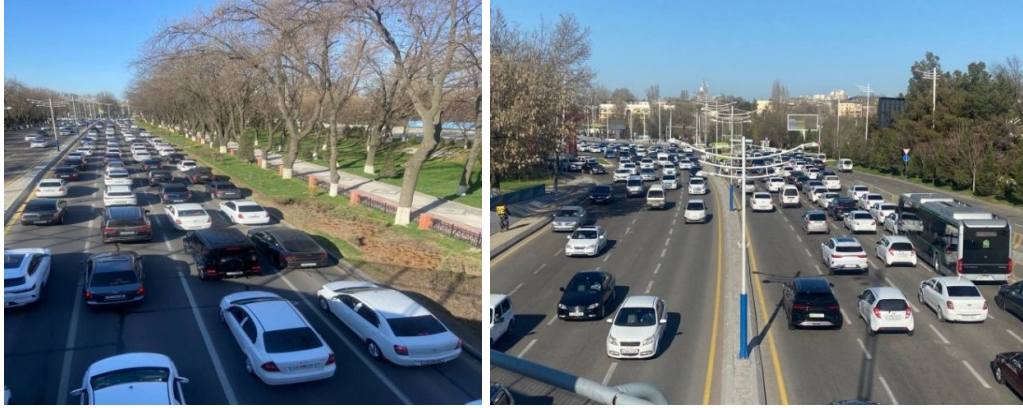
Yo'l harakati xavfsizligi xizmatining ma'lumotlariga ko'ra poytaxtda bugungi kunda 730 mingdan ortiq, jumladan 600 ming atrofida shaxsiy va 130 mingdan ortiq tashkilotlarga tegishli transportlar mavjud bo'lib, har 25 kishiga 1 ta avtotransport to'g'ri kelmoqda [8; 14].

Bugungi kunda Toshkent shahrida 5 mln aholi bo'lib, uning soni yiliga 100 mingtaga, mavjud 760 ming avtotransport yiliga 76 mingtaga ortib bormoqda. Har kuni 3 mln kishi piyoda, 6 mln kishi esa transportda harakatlanadi. Transportda harakatlanishning 25 foizi, ya'ni 1,5 millioni avtobus, metro va mikroavtobuslarda, qolgan 4,5 millioni shaharda kun davomida harakatlanadigan bir million (760 mingta doimiy ro'yxatdagi va 240 mingta kunlik kelib ketuvchi) avtotransportda amalga oshiriladi [14; 15].

Bularni e'tiborga olgan holda biz tadqiqot obektimizda harakat miqdori, zichligi va oqim takribini o'rganib tahlil qildik.

METOD

Tadqiqot obektlarida shahar ko'chalari va yo'llaridagi harakatni tadqiq etish va bu orqali harakat xavfsizligini baholash uchun eksperiment ishlarini olib bordik. Tadqiqot obekti sifatida tanlab olingan Toshkent shahrining Amir Temur ko'chasi, Bunyodkor ko'chasi, Bobur ko'chasi, Mustaqillik ko'chasi, Ahmad Donish ko'chasi, Mannon Uyg'ur ko'chalari bo'ylab kuzatuv ishlari olib bordik.



3-rasm. Mustaqillik ko'chasida harakat holati

1-jadval

Toshkent shahar markaziy ko'chalarida harakat miqdori va tarkibi

Tadqiqot obekti	Harakat tasmalari soni	Vaqt	Yengil avtomobillar	Avtobuslar	Velo Moto transport vositalar	O'g'ir yuk transport vositalar				Jami
						3,5 t gacha	3,5 - 10t	10t - 12t	12 t dan ortiq	
Bunyodkor ko'chasi	Kirish	9 ⁵⁰ -10 ⁵⁰	5470	15	5	45	0	0	33	5568
		%	98,24	0,27	0,09	0,81	0,00	0,00	0,59	100
	Chiqish	10 ⁰⁰ -11 ⁰⁰	5724	12	2	28	0	0	20	5786
		%	98,93	0,21	0,03	0,48	0,00	0,00	0,35	100
Amir Temur ko'chasi.	Kirish	8 ⁴⁵ -9 ⁴⁵	2996	62	0	10	0	0	4	3072
		%	97,53	2,02	0,00	0,33	0,00	0,00	0,13	100
	Chiqish	9 ⁵⁰ -10 ⁵⁰	2825	50	0	7	0	0	7	2889
		%	97,78	1,73	0,00	0,24	0,00	0,00	0,24	100
Bobur ko'chasi	Chiqi Kirish	8 ²⁰ -9 ²⁰	2156	46	3	29	0	0	2	2236
		%	96,42	2,06	0,13	1,30	0,00	0,00	0,09	100
		9 ³⁰ -10 ³⁰	1896	54	0	22	0	0	5	1977

			%	95,90	2,73	0,00	1,11	0,00	0,00	0,2 5	100	
Mustaqillik ko'chasi	Kirish	2x4	9 ⁰⁰ _ 10 ⁰⁰	3479	35	3	5	0	0	0	3522	
			%	98,78	0,99	0,09	0,14	0,00	0,00	0,0 0	100	
	Chiqish		10 ⁰⁰ _ 11 ⁰⁰	2290	25	2	13	0	0	0	0	2330
			%	98,28	1,07	0,09	0,56	0,00	0,00	0,0 0	100	
Mannon Uyg'ur ko'chasi	Kirish	2x6	8 ⁰⁰ _ 9 ⁰⁰	5424	41	9	21	1	9	0	5505	
			%	98,53	0,74	0,16	0,38	0,02	0,16	0,0 0	100	
	Chiqish		8 ⁰⁰ _ 9 ⁰⁰	5124	36	13	15	6	11	0	0	5205
			%	98,44	0,69	0,25	0,29	0,12	0,21	0,0 0	100	
Ahmad Donish ko'chasi	Kirish	2x4	9 ³⁰ _ 103 ⁰	3852	36	5	12	0	7	0	3912	
			%	98,47	0,92	0,13	0,31	0,00	0,18	0,0 0	100	
	Chiqish		9 ³⁰ _ 103 ⁰	3652	29	7	6	0	4	0	0	3698
			%	98,76	0,78	0,19	0,16	0,00	0,11	0,0 0	100	
Beruniy ko'chasi	Kirish	2x4	9 ³⁰ _ 103 ⁰	1948	28	2	15	0	9	0	2002	
			%	97,30	1,40	0,10	0,75	0,00	0,45	0,0 0	100	
	Chiqish		9 ³⁰ _ 103 ⁰	2008	23	5	10	0	0	0	0	2046
			%	98,14	1,12	0,24	0,49	0,00	0,00	0,0 0	100	

NATIJARLAR

Transport oqimining zichligi oshgan sari transport vositalari oraliq masofasining kamayishi, tezlikning pasayishi, haydovchilarning psixologik ish rejimining qiyinlashishi umumiy yo‘l harakatining noqulayligiga olib keladi. Eng katta transport oqimining zichligi transport vositalarining to‘xtab qolish («zator») holatida kuzatiladi [16].

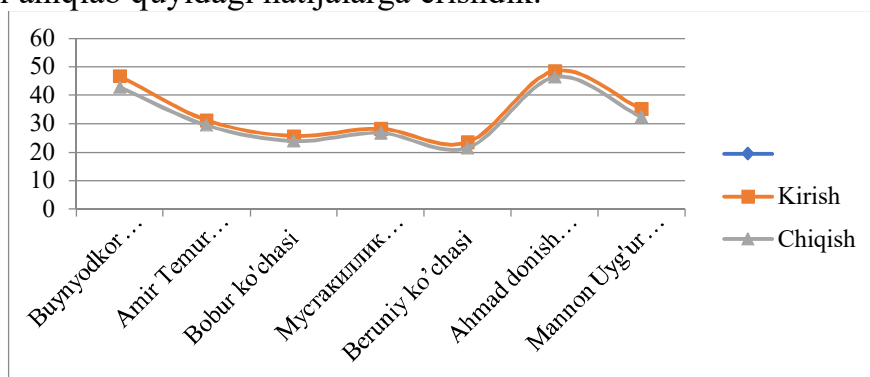
Transport oqimining zichligini quyidagicha baholash mumkin.

$$q = \frac{N}{V} \quad \text{авт/км;}$$

bu yerda, N – bitta polosadagi harakat miqdori, avt/soat,

V – transport oqimining tezligi, km/soat

Yuqoridagi jadvallarda keltirigan tahlillarga asoslanib transport oqimining zichligini aniqlab quyidagi natijalarga erishdik.



4-rasm. Transport oqimi zichligi

Avtomobil yo‘lining maksimal nazariy o‘tkazish qobiliyati 1ta harakat tasmasi uchun quyidagi empirik formula orqali aniqlanadi [17-18]:

$$P = \frac{1000 \cdot V}{L_d}$$

bu yerda, V – tasmada harakatlanayotgan avtomobillarning tezligi, km/soat; L_d – avtomobillarning dinamik gabariti, m.

Dinamik gabaritni quyidagi formula yordamida aniqlanadi:

$$L_d = l_a + l_t + S_t + l_x$$

bu yerda, l_a – avtomobilning statik uzunligi; l_t – haydovchining reaksiya vaqtida o‘tadigan masofasi; S_t – avtomobilning tormoz yo‘li; l_x – xavfsizlik masofasi; d – xavfsizlik oralig‘i.

$$L_d = 5 + 3 + 3 + 2 = 13 \text{ m}$$

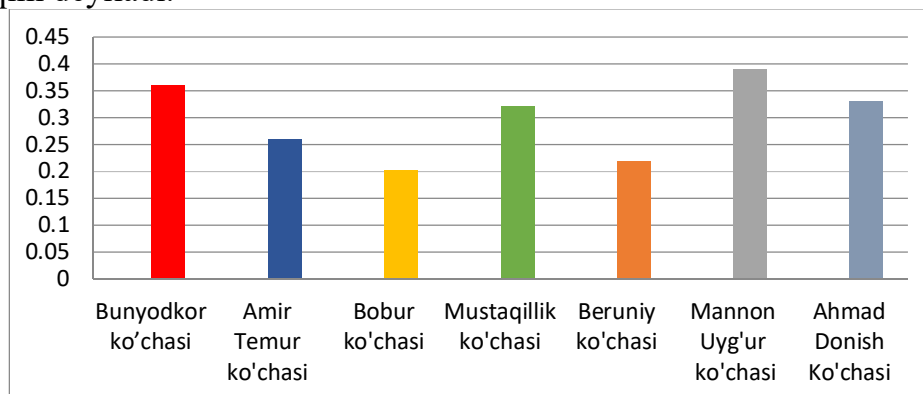
Yo‘lining yuklanganlik darajasini quyidagicha baholash mumkin:

$$Z = N/P;$$

bu yerda, P – 1ta harakat tasmasi uchun o‘tkazish qobiliyati, avt/soat; N – harakat miqdori, avt/soat.

$$P = \frac{1000 \cdot 32}{13} = 2500 \quad \text{авт/soat}$$

Agardatransport 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.



5-rasm. Yoʻlning yuklanganlik darajasi

Xulosa

Yuqoridagilarga asoslanib shuni aytishimiz mumkinki yillar davomida xususiy transport vositalarini bir necha barobar oshishi shahar koʻchalari va yoʻllarida doimiy tirbandliklar yuzaga kelishiga sabab boʻlmoqda. Biz yuqorida tadqiqot olib brogan Toshken shahri markaziga eltuvchi yoʻllarida transport oqimi qisman bogʻlangan oqimligi aniqlandi. Bularni eʼtiborga olgan holda, shahar markazidagi tirbandliklarni oldini olish hamda jamoat transport vositalarini erkin harakatini yanada taʼminlash maqsadida, aynan shu shahar markaziga eltuvchi yoʻllarda xususiy transport vositalarini harakatini qisman cheklash samara berishi mumkin.

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FRANSUZ TILI DARSINI MAZMUNLI TASHKIL ETISHNING ZAMONAVIY USULLARI

Annotatsiya. Ushbu maqolada innovatsion pedagogik texnologiyalarni qo'llash orqali ta'lim sifati oshishiga ta'siri hamda fransuz tili fanini o'qitishda samarali pedagogic texnologiyalardan foydalanish hususida mulohazalar yuritilgan

Kalit so'zlar: Innovatsiya, pedagogik jarayon, pedagogik texnologiya, ta'lim sifati.

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MODERN METHODS OF CONTENT ORGANIZATION OF THE FRENCH LANGUAGE LESSON

Abstract. This article discusses the impact of the use of innovative pedagogical technologies on the quality of education and the use of effective pedagogical technologies in teaching the French language.

Key words: Innovation, pedagogical process, pedagogical technology, quality of education.

Mamlakatimizning ijtimoiy iqtisodiy rivojlanishini jadallashtirish va uning iqtisodiy xavfsizliginita'minlashda ta'lim tizimining o'rni beqiyosdir. Dunyoda ta'lim tizimida ro'y berayotgan ta'limning baynalminallashuvi, talabalarning xalqaro mobilligi, (almashuv dasturi) ta'lim dasturining tez o'zgaruvchanligi kabi global tendensiyalar bir qatoriga ta'lim sifatini ta'minlash masalasi ham alohida ahamiyat kasb etib bormoqda. Bu esa, ta'limda innovatsion pedagogik texnologiyalardan foydalanish talab etiladi. Aynan mamlakatimiz ta'lim tizimida zamonaviy tendensiyalarni, ayniqsa, rivojlangan xorijiy mamlakatlardagi ta'lim tizimida foydalanayotgan innovatsion pedagogik texnologiyalarni isloh qilishning zamonaviy tajribalari nisbatan asta-sekin o'zlashtirilmoqda [1].

O'quv jarayonini to'g'ri tashkil etish o'qitish samaradorligini ta'minlovchi eng asosiy manba hisoblanadi. Birinchi navbatda, bu ma'ruzalar va amaliy (laboratoriya, seminar) seminar mashg'ulotlar orasidagi mutanosiblikni aniqlashga tegishlidir. Bu mutanosiblik o'quv fanning mutaxassis tayyorlash

tizimidagi o'rniga bog'liq uni Davlat ta'lim standartlari asosida belgilash maqsadga muvofiqdir. Ma'ruzalar va amaliy mashg'ulotlarning mutanosibligi turli bo'lishi mumkin. Masalan: 100%-0; 70%-30%; 50-50%; 30%-70%. Oliy ta'limda biror bir fandan amaliy mashg'ulotlarning bo'lmasligi juda kam uchraydigan holdir. Nisbatning 30%-70%, ya'ni amaliy mashg'ulotlarning ma'ruzalardan ancha ko'p bo'lishi ayrim maxsus fanlargagina qo'l keladi [2].

CHunki, odatda, maxsus fanlar amaliyotda qo'llay olish darajasida o'zlashtirilishi lozim. 70%-30% nisbat, odatda ijtimoiy-iqtisodiy fanlar (texnik-oliy o'quv yurtlarida), 50-50% umumkasbiy fanlar uchun qo'llaniladi. Matematik va tabiiy fanlar uchun ushbu nisbat ta'lim yo'nalishiga bog'liq bo'ladi [3].

Filologiya fanlarida esa bu nisbat yanada boshqacha bo'ladi. Sababi xorijiy tilni o'rganishda tabiiy til muhitni mavjud emsligi va tilni faqatgina darsning o'zidagina o'rganilgani bois o'zlashtirish bir muncha qiyinlashadi. Shu maqsadda oliy ta'limda fransuz tilini o'rganishni talabalar uchun oson va qiziqarli qiladigan bir qancha samarali usullar va strategiyalar mavjud hamda ularni asosiylarini ko'rib chiqamiz. Fransuz tili kurslarida keng qo'llaniladigan ba'zi usullar [4]:

Kommunikativ yondashuv: fransuz tilida real hayotdagi muloqot va o'zaro ta'sirga urg'u bering. Talabalarni rolli o'yinlar, bahslar, munozaralar va simulyatsiyalar kabi haqiqiy nutq va tinglash faoliyati bilan shug'ullanishga undash.

Vazifaga asoslangan ta'lim: talabalardan aniq maqsadlar yoki vazifalarni bajarish uchun fransuz tilidan foydalanishni talab qiladigan vazifalar va tadbirlarni loyihalash. Ushbu yondashuv tilni mazmunli kontekstlarda qo'llashni targ'ib qiladi va talabalarni amaliy vaziyatlarda til ko'nikmalarini qo'llashga undaydi.

Tabiiy til muhitini yaratish: Bunda darslarni to'liq fransuz tilida o'tkazish, tilni o'rganish bo'yicha tadbirlar yoki qiziqarli mashg'ulotlar tashkil etish hamda talabalarga sinfdan tashqarida fransuz tilini mashq qilish imkoniyatini berishni o'z ichiga olishi mumkin. Masalan: Oliy ta'lim hududida qaysidir bir kuni fransuz tili kuni deb e'lon qilish va aynan shu kuni barcha talabalarni fransuz tilida gaplashishlarini rag'batlantirish. Fransuz tili kunida barcha e'lon va turli devoriy gazetalar fransuz tilida bo'lishi yanda xorijiy til muhitini yaratishga yordam berib bu orqali talabalarda tilni o'rganish ishtiyoq ortadi.

Hamkorlikda o'rganish: o'quvchilarning juftlik yoki kichik guruhlarda birgalikda vazifalarni bajarish, muammolarni hal qilish va til ko'nikmalarini mashq qilish uchun birgalikda ishlashlarini rag'batlantiriladi. Hamkorlikda o'rganish tengdoshlarning o'zaro ta'sirini, muloqotini va hamkorlikni rivojlantiradi, bu esa tilni o'rganish natijalarini yaxshilaydi.

Madaniy integratsiyalashuv: Talabalarga fransuz madaniyati, jamiyati va urf-odatlarini haqida chuqurroq tushuncha berish uchun madaniy komponentlarni o'quv dasturiga kiritiladi. Bu fransuz adabiyoti, filmlari, musiqasi, oshxonasi, an'analari va dolzarb voqealarini o'rganishni o'z ichiga olishi mumkin.

Ushbu uslub va strategiyalarni oliy ta'limdagi fransuz tili kurslarida qo'llash orqali talabalar o'rtasida til o'zlashtirish, malaka va madaniy kompetentsiyani osonlashtiradigan dinamik va samarali ta'lim muhitini yaratishi mumkin.

Bundan tashqari *Munozaralar va Mulohalar* nomli pedagogik usul turli mavzularda fransuz tilini o'rgatishning yanada osonlashtirishi mumkin. Ular o'quvchilarni o'z fikrlarini ifoda etishga, tanqidiy fikrlashga, dinamik va interaktiv tarzda til ko'nikmalarini mashq qilishga undaydi. Buni quyidagi misolda ko'rib chiqamiz [5-6].

Fransuz tili darsidagi munozara yoki munozara uchun namunali mavzu tanlanadi.

Mavzu: *L'utilisation du subjonctif présent vs. l'indicatif présent dans les propositions relatives*

Munozara formati:

Fransuz tilida nisbiy bo'laklar tushunchasi bilan tanishish va ushbu bo'laklarda hozirgi subjunktiv va hozirgi zamon ko'rsatkichni qo'llash o'rtasidagi farqlarni tushuntirishdan boshlanadi.

Auditoriyani kichik guruhlariga bo'linib, har bir guruhga nisbiy bo'laklardan iborat jumlar to'plamini taqdim etiladi, munozalari mavzuni ikkiga bo'lib beriladi. Talabalarga har bir gapni muhokama qilish va tahlil qilish uchun 10 daqiqa beriladi. Talabalarni o'z javoblarini va uni asoslarini ko'rsatib berishadi. Bunda har bir ishtirokchi teng miqdorda gapirishi barcha aktiv ishtirok etishi nazorat qilinishi kerak. Yetarlicha muhokamadan so'ng har bir guruhni javobini umumiy tahlil qilinadi. Hamda xulosa o'rnida o'qituvchi mavzuni yanada to'ldiradi

Shu metod uchun namunaviy bosh qotirmalar:

Je cherche un livre qui _____ (expliquer) bien la grammaire française.

Nous avons besoin d'un professeur qui _____ (parler) couramment le français.

Il est important de trouver un cours qui _____ (offrir) des opportunités de pratique orale.

Xulosa

Hozirgi kunda ta'lim jarayonida interaktiv metodlar, innovatsion texnologiyalar, pedagogik va axborot texnologiyalari o'quv jarayonida qo'llashga bo'lgan qiziqish, e'tibor kundan kunga kuchayib bormoqda. Bu orqali ta'lim sifatini yanada oshirish hamda zamonaviy texnologiyalar ularni egallayotgan bilimlarini o'zlari qidirib topishlariga, mustaqil o'rganib, tahlil qilishlariga, hatto xulosalarni ham o'zlari keltirib chiqarishlariga ko'maklashadi. Bu orqali fanlarni ayniqsa fransuz tilini yanda o'rganishni osonlashtirish hamda buning natijasida malakali kadrlar tayyorlashga zamin yaratadi.

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INTEGRATION OF ARTIFICIAL INTELLIGENCE IN GEOGRAPHY LEARNING: CHALLENGES AND OPPORTUNITIES

Abstract. This study discusses the potential and challenges of integrating artificial intelligence (AI) into the study of geography. Reviewing the foundations of AI and the role of geography in the era of globalization, this study outlines the benefits of AI in geography learning through interactive visualization and personalization of learning. However, issues such as equal access to technology and teacher training are major challenges in the application of AI. The study uses a descriptive method with a literature review that involves collecting, analyzing and explaining information in the literature relevant to the integration of artificial intelligence (AI) in the study of geography. Additionally, this study highlights the potential of AI in analyzing geographic data and solving global problems such as climate change. The profound implications of integrating AI into the study of geography are also discussed, considering its impact on education and society. This research provides a holistic picture of the intersection of AI and geography, contributing to a better understanding of its potential and limitations. We hope that this study will serve as a guide for educational practitioners and researchers to optimize the potential of AI in geography teaching, taking into account the challenges that need to be overcome and the opportunities that need to be seized.

Key words: Geography, Geography learning, artificial intelligence (AI), geographic data, geographic information system (GIS), machine learning, Volunteer Geographic Information (VGI), geospatial artificial intelligence (GeoAI).

INTRODUCTION.

Education is an important foundation in the formation of a competent generation that is ready to face the challenges of the modern world. In this context, Geography learning has a central role in helping students understand the complexity of interactions between humans and the environment. Along with technological advancements, especially in the field of Artificial Intelligence (AI), opportunities arise to integrate this technology in the Geography learning process. However, amidst the promising opportunities, there are a number of challenges that need to be addressed. One of the main opportunities of integrating Artificial Intelligence in Geography learning is to provide a more interactive and personalized learning experience. By utilizing AI technology, educators can design learning materials that suit students' individual needs and interests (Simon,

2019). For example, intelligent systems can analyze each student's learning progress and adapt learning content to suit their individual level of understanding. [1]

LITERATURE ANALYSIS AND METHODOLOGY.

This research uses a descriptive method with a literature study approach to describe in detail about how the integration of artificial intelligence (AI) is done in the context of Geography learning. The main emphasis of this method is to understand the challenges and opportunities that arise when artificial intelligence technology is applied in the teaching and learning of Geography subjects. This literature study approach allows the researcher to summarize, analyze, and comprehensively explain the information in the relevant literature. Artificial Intelligence (AI) has received tremendous attention in recent years from academia, industry, and the general public. Despite its recent popularity, the field was born back in 1956 at a workshop at Dartmouth College [2]. From its beginning, and has many different definitions [3]. Some definitions focus on designing intelligent machines that can act like humans. For example, the famous *Turing Test* was designed to see if the responses of a machine can be indistinguishable from those of a real person [4]. Some other definitions focus on designing and developing computational methods to complete tasks that typically require human intelligence, such as recognizing objects from images or understanding the meaning of natural language sentences. This entry is primarily based on the second type of definitions. The development of AI has experienced falls and rises. Following its early optimism in 1960s and 70s, AI research went through the “AI winter” due to the failures of AI methods in addressing real-world problems. The following decades witnessed several other waves of optimism and disappointment. Since the 21st century, and especially after 2010, there has been significant progress in AI research. Three major factors have contributed to this fast advancement of AI: big data, novel algorithms, and immense computational power. The emergence of ubiquitous sensors and user-generated content on the Web allows large amounts of data to be generated and collected at a rapid pace. Big data enables computers to “observe” many different aspects of the world, to learn the ways in which the world functions, and to predict the future based on existing observations. Meanwhile, novel algorithms and models have been developed, and the AI community has embraced various ideas and theories from other fields, such as statistics, economics, biology, and cognitive science, in addition to its tradition of logics. Third, high performance computing (HPC) provides the essential power for linking big data and new computational models, and allows the training of sophisticated models on large datasets to be completed within hours or days rather than weeks or months. These three major factors, namely big data, novel algorithms, and immense computational power, greatly fueled the remarkable development of AI in recent years [5].

RESULTS AND DISCUSSION

Geography is a science that studies the earth and its inhabitants, particularly the description of land, sea, and atmosphere, the distribution of animals and plants, as well as humans, and the labor that humans perform in accordance with the interrelationship of various natural forces. This uncontrollable and experimental discipline is constantly advancing in research efficiency and data analysis methods, from the traditional manual survey of geography to computer simulation technology, and then to artificial intelligence technology. Geographic data processing, graphic processing, information management, and other tasks in geography research require a great deal of normative knowledge and experience. Traditional manual research is simple, but the workload is enormous, and data processing efficiency is low. However, computer technology struggles to mimic human intelligence in reasoning, and it cannot reasonably summarize natural laws. Artificial intelligence and machine learning technology have effectively addressed these two issues. Through simulating human brain thinking in various geographical branches and engaging in intelligent data, graphic processing, and information management. It greatly improved work efficiency. This paper summarizes the random forest algorithm, neural network algorithm, and expert system technology, and further analyzes physical geography, human geography, and geographic information system application schemes. A more efficient artificial intelligence algorithm is obtained compared to manual calculation and computer simulation technology. The application of artificial intelligence algorithm in geography to replace the traditional method which relies excessively on artificial operation and expert work, can overcome many defects such as the computer storage capacity, speed and thinking reasoning limitations. Besides it plays a positive role in real-time dynamic monitoring of social life and natural environment. However, the overall application of artificial intelligence in geography is not balanced, and the research progress in different geographical branches is far different [6].

AI, as a broad field, encompasses many different approaches ranging from top down knowledge representation to bottom-up machine learning. There are three related concepts that have been frequently used in recent years: *AI*, *machine learning*, and *deep learning*. In general, *AI* is the broadest concept, *machine learning* is a sub field in *AI*, and *deep learning* is a special type of machine learning. Figure 1 illustrates the relations among these three concepts. While the broad field of *AI* includes many approaches, its recent popularity is largely due to the outstanding performances of machine learning, especially deep learning. Therefore, this entry focuses on discussing these two types of *AI* approaches.

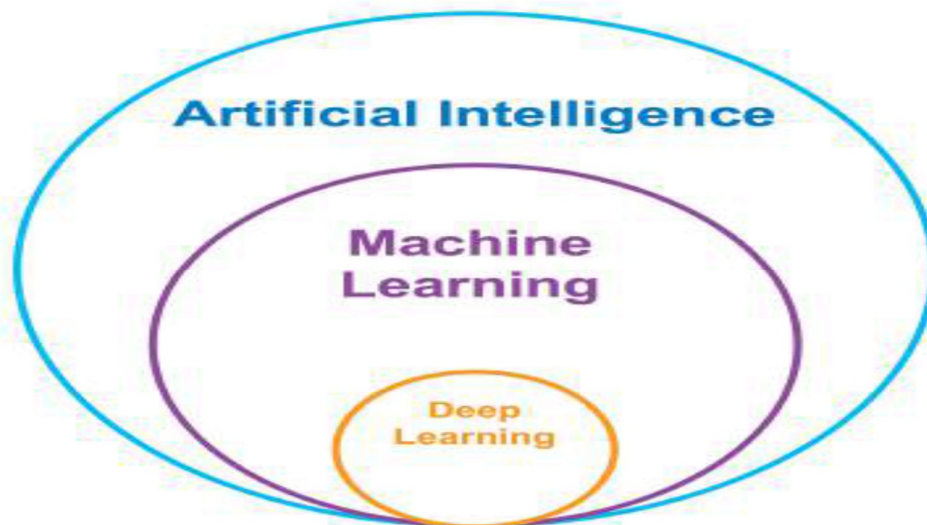


Figure 1. Relations among AI, machine learning, and deep learning⁵¹.

Geography is becoming a field of big data science. In the domain of physical geography, global observation systems, such as operational satellites, which provide continued monitoring of the environment, atmosphere, ocean, and other earth system components, are producing vast amount of remote sensing imagery at high or very high spatial, temporal, and spectral resolutions. The distributed sensor network systems deployed in cities are also collecting real-time data about the status of physical infrastructures and movement of people, vehicles, and other dynamic components of a (smart) city [8]. For social applications, the prevalent use of location-based social media, GPS-enabled handheld devices, various Volunteer Geographic Information (VGI) platforms, and other “social sensors” have fostered the creation of massive information about human mobility, public opinion, and people’s digital footprints at scale. Besides being voluminous, these data sets contain a variety of formats, from structured geo-scientific data to semi-unstructured metadata to unstructured social media posts. These ever-increasing geospatial resources provide added value to existing research by allowing us to answer questions at a scale which was not previously possible. However, it also poses significant challenges for traditional analytical methods which were designed to handle small data sets of good quality [9]. To

⁵¹ Bennett, L. 2018. Machine learning in ArcGIS. *ArcUser*, 21(2), 8-9.

fully utilize the scientific value of geospatial big data, geographers started to switch gears toward data-driven geography, which relies on AI and machine learning to enable the discovery of new geospatial knowledge.

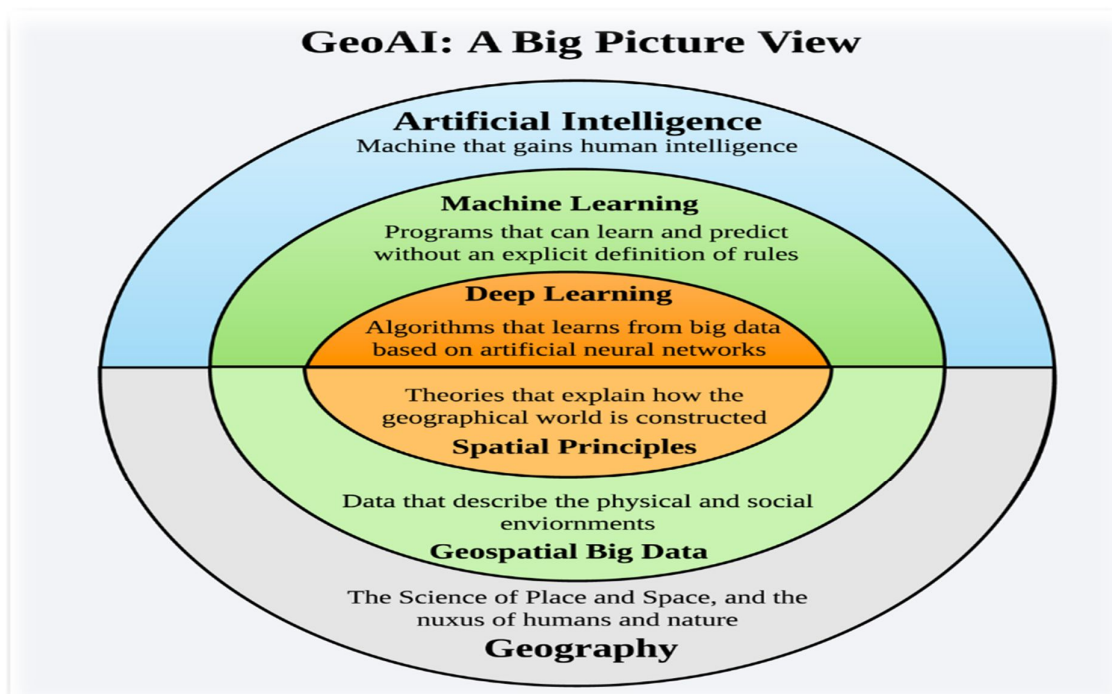
The term “GeoAI” was first coined at the 2017 ACM SIGSPATIAL conference [10]. It was then quickly adopted by high-tech companies, such as Microsoft and Esri, to refer to their enterprise solutions that combined location intelligence and artificial intelligence. Researchers frequently use this term when their research involves data mining, machine learning, and deep learning, a recent advance in AI. Here we define GeoAI as a new transdisciplinary research area that exploits and develops AI for location-based analytics using geospatial (big) data. Figure 2 depicts a big picture view of GeoAI. It integrates AI research with Geography, which is the science of place and space. If we agree that AI is about the development of machine intelligence that can reason like humans, GeoAI, which is the nexus of AI and Geography, aims at developing the next-generation machines that possess the ability to conduct spatial reasoning and location-based analytics, as do humans, with the aid of geospatial big data. Under the umbrella of AI, machine learning and other data-driven algorithms, which can mine and learn from massive amount of data without being explicitly programmed, have become cornerstone technology. And deep learning, as a subset of machine learning, represents the breakthrough development that advances machine learning from a shallow to a deep architecture allowing the modeling and extraction of complex patterns via the utilization of artificial neural networks. To better fuse AI and Geography and establish GeoAI as a research discipline that will last, there needs to be a strong interlocking of the two fields. Geography offers a unique standpoint for understanding the world and society through the guidance of well-established theories, such as Tobler’s first law of Geography and the second law of Geography [11]. These theories and principles will expand current AI capabilities toward spatially-explicit GeoAI methods and solutions so that AI can be more properly adapted to the geospatial domain. Its research

territory can also be enlarged by integrating with geospatial knowledge and spatial thinking [12].

Figure 2. A big picture view of GeoAI 52.

CONCLUSION

The integration of artificial intelligence (AI) in geography learning is a



blend of advanced technology and an understanding of the physical environment and human interaction. While it brings great opportunities in interactive visualization, personalization of learning, and in-depth geographic data analysis, challenges such as equitable access to technology, teacher training, and trust in technology also arise. Successful integration requires effective strategies and cross-sector collaboration. By overcoming challenges and capitalizing on opportunities, the integration of AI in geography learning can bring about a more dynamic and relevant education, preparing a generation ready to face global challenges with deep understanding and innovative solutions. It is clear that artificial intelligence and machine learning have played an important role in many unlisted branches of geography, such as physical geography, human geography, and geographic information systems. It has effectively reduced the difficulty of analyzing big data in geography, which improves data accuracy and reduces the uncertainty and randomness of traditional geography, thereby truly elevating geography to a new level. However, the use of artificial intelligence technology in geography is unbalanced, and it is now primarily used in a few fields such as

52 Li, Wenwen, and Chia-Yu Hsu. 2022. "GeoAI for Large-Scale Image Analysis and Machine Vision: Recent Progress of Artificial Intelligence in Geography" *ISPRS International Journal of Geo-Information* 11, no. 7: 385. <https://doi.org/10.3390/ijgi11070385>

GIS, RS, and urban construction. Other branches of geography's application scope should be broadened in the future to promote the research process of "intelligent geography" from all aspects. At the same time, the research method is oversimplified, so more related machine learning algorithms should be integrated and compared to find the best data analysis methods and decision-making management schemes unique to each geographical branch. The future development of both disciplines is expected to be brighter and more positive as a result of the irreversible trend of informatization, with the continuous infiltration and integration of artificial intelligence and geography.

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ИНФОРМАЦИОННЫЕ И КОММУНИКАТИВНЫЕ ТЕХНОЛОГИИ

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ОБЕСПЕЧЕНИЕ ИНФОРМАЦИОННОЙ БЕЗОПАСНОСТИ ПРИ АВТОМАТИЗАЦИИ ДОКУМЕНТООБОРОТА С ИСПОЛЬЗОВАНИЕМ ОБЛАЧНЫХ ТЕХНОЛОГИЙ

Аннотация. В статье исследуются проблемы и вызовы, с которыми организации сталкиваются при использовании облачных технологий для управления документооборотом. Предлагаются решения для обеспечения информационной безопасности в таких средах. Рассматриваются преимущества облачных технологий, актуальные проблемы информационной безопасности и меры по их решению.

Ключевые слова: облачные технологии, документооборот, информационная безопасность.

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ENSURING INFORMATION SECURITY WHEN AUTOMATING DOCUMENT FLOW USING CLOUD TECHNOLOGIES

Abstract. The article explores the challenges organizations face when using cloud technologies for document management. Solutions for ensuring information security in such environments are proposed. The advantages of cloud technologies, current information security issues, and measures to address them are discussed.

Keywords: cloud technologies, document management, information security.

Современный мир бизнеса стал неотъемлемым участником цифровой революции, преобразуя свои процессы и стратегии под влиянием технологических инноваций. Одним из ключевых направлений этой трансформации является автоматизация документооборота с использованием облачных технологий. Облачные решения позволяют организациям эффективно управлять документами, обеспечивая доступность и мобильность сотрудников, сокращая издержки на инфраструктуру и ускоряя процессы работы.

Однако, вместе с преимуществами, которые предоставляют облачные технологии, возникают и новые вызовы в области информационной безопасности. Целью данной статьи является рассмотрение вопросов обеспечения информационной безопасности при автоматизации документооборота с применением облачных технологий.

Облачные технологии представляют собой способ предоставления вычислительных ресурсов, таких как хранилища данных, вычислительная мощность и приложения, через интернет [1]. Они основаны на модели предоставления услуг (как правило, через Интернет), при которой пользователи получают доступ к облачным ресурсам по запросу, без

необходимости владеть и управлять физическим оборудованием или программным обеспечением.

Использование облачных технологий в документообороте предоставляет множество преимуществ для современных организаций. Основные из них рассмотрены ниже:

1. Доступность и мобильность: облачные решения позволяют сотрудникам работать с документами из любой точки мира при наличии интернет-соединения. Это повышает мобильность и гибкость рабочих процессов.

2. Сокращение затрат: организации могут сэкономить средства, которые ранее требовались на закупку и обслуживание собственной инфраструктуры для хранения данных и обработки документов.

3. Масштабируемость: облачные ресурсы могут быть масштабированы по мере роста бизнеса. Организации могут легко увеличивать или уменьшать объем хранимых данных и вычислительных мощностей в зависимости от потребностей.

4. Автоматизация и оптимизация процессов: облачные сервисы предоставляют инструменты для автоматизации многих процессов документооборота, таких как согласование, уведомления и контроль версий. Это позволяет повысить эффективность и скорость выполнения задач.

5. Более низкие риски потери данных: облачные провайдеры обычно обеспечивают резервное копирование данных и защиту от сбоев, что уменьшает риск потери информации по сравнению с локальными хранилищами.

Активное использование облачных сервисов и хранилищ данных ставит перед организациями задачу обеспечения безопасности конфиденциальной информации, защиты от киберугроз и предотвращения утечек данных. В ходе исследования были выявлены факторы уязвимости облачных сервисов. До 85% взломов облачных сервисов — это проблема администрирования. До 30% всех взломов производятся с украденными данными учётных записей пользователей [3].

При использовании облачных технологий существует несколько типов атак, к которым организации должны быть готовы:

1. Атаки на учётные записи: злоумышленники могут пытаться получить доступ к учетным записям пользователей облачных сервисов с целью кражи конфиденциальной информации или нарушения работоспособности систем.

2. Межсерверные атаки: атаки, направленные на серверы облачных провайдеров, могут привести к нарушению работы сервисов и утечке данных.

3. Атаки на протоколы и шифрование: нарушение протоколов безопасности или слабые методы шифрования могут стать объектом атак, в результате чего данные могут быть скомпрометированы.

Встроенные механизмы безопасности в облачных сервисах представляют собой основу защиты данных в облачном документообороте. Однако, для обеспечения полной безопасности необходимо применять дополнительные меры защиты. Рассмотрим основные меры по обеспечению информационной безопасности в облачном документообороте:

1. Шифрование данных. Шифрование данных является одним из наиболее эффективных и надежных способов защиты конфиденциальной информации. При использовании облачных сервисов следует обеспечить шифрование данных при хранении и передаче. Это обеспечит защиту от несанкционированного доступа к данным в случае утечки или перехвата трафика, так как шифрование защищает саму информацию, а не доступ к ней.

2. Управление доступом. Контроль доступа к данным в облачных системах играет ключевую роль в обеспечении безопасности. Организации должны строго регулировать доступ к документам, определяя права доступа для каждого пользователя или группы пользователей.

3. Многоуровневая аутентификация. Внедрение многоуровневой аутентификации добавляет дополнительный слой защиты для учетных записей пользователей. Кроме стандартного пароля, пользователю может потребоваться подтверждение своей личности через дополнительный фактор, такой как SMS-код, биометрические данные или аппаратный токен.

4. Мониторинг и анализ безопасности. Внедрение систем мониторинга и анализа безопасности позволяет обнаруживать аномальное поведение пользователей и потенциальные угрозы безопасности.

Применение этих мер по обеспечению информационной безопасности в облачном документообороте поможет организациям минимизировать риски и защитить конфиденциальность своих данных.

В целом, облачные технологии продолжают играть ключевую роль в развитии современных организаций, и обеспечение безопасности информации в облачном документообороте останется одним из важнейших приоритетов для успешной деятельности бизнеса в цифровой эпохе.

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ЗДРАВООХРАНЕНИЕ В ОБЩЕСТВЕ

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СОВРЕМЕННЫЕ ПОДХОДЫ В ВЫЯВЛЕНИИ И ТЕРАПИИ ПАРАЗИТАРНЫХ ЗАБОЛЕВАНИЙ

Актуальность. Паразитарные заболевания являются актуальной проблемой, распространенной среди населения всей планеты. Особенно часто встречаются инфекции, поражающие органы пищеварения. Данные Всемирной организации здравоохранения свидетельствуют о том, что каждый четвертый житель планеты инфицирован гельминтами. Помимо прямого патологического воздействия на пораженные органы, гельминты оказывают общее негативное воздействие на организм человека. Гельминтозы сопровождаются уменьшением выработки инсулинподобного фактора роста (IGF-1), увеличением фактора некроза опухоли-альфа (TNF- α) и снижением синтеза коллагена, что приводит к снижению аппетита, ухудшению процессов пищеварения, задержке роста и отставанию в общем развитии.

Ключевые слова: органы, инфицирован, поражение, органы пищеварения, бактерий, некроз, патология, антиген, инсулин.

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MODERN APPROACHES IN THE DETECTION AND THERAPY OF PARASITIC DISEASES

Annotation. Parasitic diseases are common among the population of our planet. Infections affecting the digestive system are especially common. According to the World Health Organization, one in four inhabitants of the Earth is infected with helminths. In addition to the pathological effects on the affected organs, helminths have a general negative effect on the human body. In helminthiasis, there is a decrease in the production of insulin-like growth factor (IGF-1), an increase in tumor necrosis factor alpha (TNF- α), as well as a decrease in collagen synthesis. This leads to a decrease in appetite, deterioration of digestive processes, growth retardation and lag in development, both mentally and physically.

Keywords: organs, infected, lesion, digestive organs, bacteria, necrosis, pathology, antigen, insulin.

Введение. Одной из наиболее распространенных форм паразитарных заболеваний является эхинококкоз печени. Вследствие сдавления крупных сосудов портальной системы и желчных протоков могут возникать портальная гипертензия и механическая желтуха, а также возможны осложнения в виде гноения и инфицирования кисты. Эхинококкоз вызывается гельминтами семейства Taeniidae, в частности, Echinococcus granulosus. Инфекция этим паразитом провоцирует развитие гидатидозного эхинококкоза у человека, который широко распространен по всему миру, особенно в регионах Южной Америки, Средиземноморья, а также в странах Европы, ряда азиатских государств и Северной Африки. На территории России и прилегающих стран эхинококкоз зарегистрирован повсеместно, часто протекая без симптомов. Клинические проявления зависят от локализации, множественности и размеров кист, а также возможных осложнений в виде гноения, разрывов, желтухи и других патологий. Эхинококковые кисты могут находиться в различных органах, иногда одновременно поражая несколько областей у одного пациента. Для окончательной диагностики паразитарных заболеваний часто требуется использование паразитологических лабораторных методов. Эти методы основаны на обнаружении паразитов или их следов (яиц, личинок) в организме хозяина, а также на анализе биологических субстратов. Используются как макроскопические, так и микроскопические методы, которые позволяют диагностировать различные паразитозы. Серологические методы направлены на обнаружение специфических антител хозяина к паразиту. Важное значение имеют также молекулярно-биологические и инструментальные методы, такие как ПЦР, рентгеноскопия, УЗИ и другие, которые помогают в точной диагностике и терапии паразитарных заболеваний.

Описание клинических симптомов и их выраженность в разные периоды заболевания часто становится ключевым для окончательной диагностики, основанной на результате паразитологических лабораторных исследований. Паразитологическая диагностика включает разнообразные лабораторные методы исследования, направленные на прямое обнаружение паразитов, их личинок или яиц в организме хозяина, нахождение специфических антител или фрагментов ДНК. Бактериологические методы могут выявить крупных паразитов или их фрагменты на теле или в выделениях пациентов. Эти методы помогают выявить некоторые цестодозы и нематодозы. Микроскопические методы основаны на изучении биологических субстратов с содержанием самих паразитов, их цист, яиц или личинок. Для диагностики проводят анализ окрашенных мазков фекалий, мокроты, спинномозговой жидкости, крови и других материалов. При обнаружении паразитов в тканях назначается микроскопическое исследование биопсийного материала.

Цель исследования: Современные подходы в выявлении и терапии паразитарных заболеваний

Материалы и методы исследования: Для выявления кишечных гельминтозов широко применяют гельминтооскопические методы с обогащением и без, а также гельминтоларвоскопические методы, такие как нативный мазок, толстый мазок, обогащение (флотация и седиментация). Для диагностики энтеробиоза и тениидозов применяют специальные методы, такие как соскоб с перианальных складок ватным тампоном или липкой лентой, а также метод гиммельфарба с ватным тампоном, оставленным на ночь в перианальные складки. Серологические методы основаны на обнаружении специфических антител к белкам паразитов, чаще всего используется метод иммуноферментного анализа (ИФА). В диагностике тканевых паразитозов (токсоплазмоз, трихинеллез, эхинококкоз, токсокароз) эти методы имеют наибольшее значение. Однако, в диагностике кишечных паразитозов (лямблиоза, аскаридоза) серологические методы не так важны и требуют подтверждения другими методами. Молекулярно-биологические методы используются для обнаружения фрагментов ДНК паразитов с помощью полимеразной цепной реакции (ПЦР). Инструментальные методы, такие как рентгеноскопия, компьютерная томография (КТ), магнитнорезонансная томография (МРТ), ультразвуковое исследование (УЗИ), фиброгастродуоденоскопия (ФГДС), помогают обнаружить паразитов и специфические патологические изменения. Для диагностики эхинококкоза особенно важны эти методы. Культивирование паразитов для диагностики паразитозов редко используется из-за методологических сложностей и медленного роста паразитов в культурах. В случае распространения процесса на ткани печени, возможно развитие гнойного холангита и абсцесса печени. Разрыв кисты представляет особую опасность. Гельминты могут вызвать хроническую

постоянную микрокровопотерю через желчные пути при трематодозах печени и через кишечник при анкилостомидозах.

Результаты и обсуждение: В результате потерь с желчью теряются аминокислоты. По новым исследованиям, гельминты в кишечнике вызывают высвобождение цитокинов типа Th2, которые подавляют действие цитокинов типа Th1. Люди, инфицированные гельминтами, более уязвимы к другим заболеваниям, как, например, туберкулез после заражения *Mycobacterium tuberculosis*. Учитывая распространение антибиотикоустойчивых штаммов *M. tuberculosis*, необходимы более активные меры по борьбе с паразитарными инфекциями в регионах с высоким уровнем туберкулеза. Большое влияние гельминтоза оказывается на беременных женщин и на детей из неблагополучных социальных слоев с недостаточным питанием. Паразитарные инфекции снижают трудоспособность пожилых людей и наносят значительный медико-социальный и экономический ущерб. В условиях экстремальных климатических условий этот негативный эффект усиливается. Клинические проявления паразитарных инфекций часто имеют неспецифическую симптоматику и протекают хронически с постепенным нарушением функций организма. Эти инфекции часто протекают скрыто и демонстрируют субклинические проявления. Из-за наличия паразитов в органах пищеварения часто скрываются заболевания этих органов, что может привести к неверной диагностике. Ранние стадии паразитарных инфекций часто проявляются неспецифическими неврологическими симптомами, такими как слабость, раздражительность и нарушение сна. По мере развития болезни появляются симптомы поражения пищеварительной системы: потеря аппетита, тошнота, боли в животе, расстройство желудка.

Заключение. В заключении, основное внимание следует уделить профилактике химиорезистентности и назначению эффективных препаратов с минимальным риском развития сопротивляемости. Идеальным антигельминтиком должен быть препарат с высокой эффективностью, хорошей переносимостью и доступной ценой, с охватом наиболее распространенных гельминтозов. В настоящее время албендазол - препарат выбора для лечения гельминтозов пищеварительной системы, благодаря широкому спектру действия и высокой эффективности, могущий лечить широкий комплекс проблем.

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КЛИНИКО-ПАТОГЕНЕТИЧЕСКИЕ АСПЕКТЫ АЛЛЕРГИЧЕСКИХ РЕАКЦИЙ У БОЛЬНЫХ

Аннотация. В статье представлены данные исследования определения частоты возникновения аллергических реакций у пациентов, проходящих лечение в стационаре. Был проведен ретроспективный анализ истории болезни 17 408 пациентов, проходивших лечение в многопрофильном стационаре. Аллергические реакции на антибиотики и различные лекарственные препараты развились у 1070 больных, что составило 6,2 %. Аллергические реакции чаще возникали при заболеваниях, в генезе которых аллергический компонент занимает значительное место.

Ключевые слова: аллергические реакции, чувствительности к лекарствам, антибиотики, дерматиты.

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CLINICAL AND PATHOGENETIC ASPECTS OF ALLERGIC REACTIONS IN PATIENTS

Annotation. The article presents the data of the study determining the frequency of allergic reactions in patients undergoing treatment in a hospital. A retrospective analysis of the medical history of 17,408 patients treated in a

multidisciplinary hospital was conducted. Allergic reactions to antibiotics and various medications developed in 1070 patients, which amounted to 6.2%. Allergic reactions occurred more often in diseases in the genesis of which the allergic component occupies a significant place.

Key words: Allergic reactions, drug sensitivities, antibiotics, dermatitis.

Введение. Аллергия – это повышенный вторичный иммунный ответ на аллерген [1,2], сопровождающийся повреждением тканей [3]. Взаимодействие аллергенов с клетками приводит к выделению из этих клеток гистамин и серотонии [4,5], которые могут вызывать аллергические реакции [6].

Длительный прием лекарств приводит к повышению чувствительности к лекарственным препаратам [7,8]. Это также может быть причиной повышенной чувствительности к лекарствам из-за наследственности [9,11], связанной с атопией, аллергическими заболеваниями [10].

Целью исследования является определение частоты возникновения аллергических реакций у пациентов, проходящих лечение в стационаре

Материалы и методы. Был проведен ретроспективный анализ истории болезни 17408 пациентов, проходивших лечение в многопрофильном стационаре. Аллергические реакции на антибиотики и различные лекарственные препараты развились у 1070 больных, что составило 6,2%. Аллергические реакции чаще возникали при заболеваниях, в генезе которых аллергический компонент занимает значительное место. Из 141 больного бронхиальной астмой аллергические реакции развились у 32 человек (22,69 %), из 935 больных ревматизмом - у 51 (5,45%), а при гипертонической болезни - у 21 человека (2,1%) из 999 больных.

Результаты и их обсуждение. Наибольшая частота повышения чувствительности возникла к антибиотикам 371 больной - 34,67%, из них к пенициллину - 70 больных 8,87%, к тобрамицин - 55 (14,85%), к цефотаксиму - 36 (9,7%), к пенициллину и цефтриаксону - 24 (6,4%), к другим антибиотикам - у остальных 186 больных (50, 13%). У некоторых пациентов с чувствительностью к пенициллину также наблюдался реакция на группу цефалоспоринового ряда. Наиболее частым проявлением лекарственной аллергии были положительные кожные пробы на антибиотики 527 больных из 1070 - 49,25%, у 133 человек (12,42%) развились дерматиты (на антибиотики, сульфаниламидные, пиразолоновые препараты, витамины группы В), у 27 больных (2, 52%) возниканафилактический шок, у 10 (0,83%) - анафилактические реакции, в основном, на антибиотики, у 24 пациентов (2, 24%) появилась крапивница, У19 1,77% - отек Квинке, у 3 (0,28) - синдром Лайма на фоне поливалентной лекарственной аллергии. У остальных 327 человек (30, 56%) отмечались

другие проявления лекарственной аллергии. Кроме того, одни и те же виды лекарств вызывали у пациентов разные реакции.

Выводы. Использование “пробирочных” методов специфической диагностики лекарственной непереносимости — агрегация лейкоцитов, повреждение нейтрофилов с люминесцентной микроскопией, а также проведение скарификационно - пленчатого теста - в 70-80 % позволяет предотвратить развитие аллергических реакций. Информативность этих тестов примерно одинакова.

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ПРОТИВООПУХОЛЕВЫЕ ВЕЩЕСТВА CICER ARIETINUM L.

Аннотация. Cicer arietinum L. - горох занимает значительное место в качестве продукта питания во всем мире. Его химический состав богат многими биологически активными веществами. В частности, белками, содержащиеся в горохе достаточных количествах имеют большое значение для укрепления иммунитета. Одним из таких важных белков является гликопротеин – лактин, обладающий способностью уменьшать раковые клетки и бороться с раком. В статье анализируются научные работы, сделанные мировыми учёными в этом направлении.

Ключевые слова: горох, белки, углеводы, лактин, гликопротеин, агглютинация, трипсин, рак, флавоны, витамины, микроэлементы, незаменимые аминокислоты.

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ANTI-CANCER SUBSTANCES CICER ARIETINUM L.

Abstract. Cicer arietinum L. - peas occupy a significant place as a food product throughout the world. Its chemical composition is rich in many biologically active substances. In particular, proteins contained in peas in sufficient quantities are of great importance for strengthening the immune system. One such important protein is the glycoprotein lactin, which has the ability to shrink cancer cells and fight cancer. The article analyzes the scientific work done by world scientists in this direction.

Key words: peas, proteins, carbohydrates, lactin, glycoprotein, agglutination, trypsin, cancer, flavones, vitamins, microelements, essential amino acids.

Введение. Нут - *Cicer arietinum* L. является одним из наиболее широко потребляемых бобовых растений во всем мире и классифицируется как нутрицевтический продукт с антиоксидантной, противовоспалительной и противоопухолевой активностью благодаря своим фитохимическим соединениям [1]. Поэтому в последнее время опубликовано множество статей об успешном применении гороха против рака.



Рисунок 1. Плоды *Cicer arietinum* L.

Обсуждение исследований. Группа ученых из Мексики вводили мышам декстрансульфат натрия (рис. 1) и азоксиметан (рис. 2) DSS/AOM и сумели индуцировать раковые клетки в их толстой кишке. Затем мышам давали специальный рацион (CC) с 10% и 20% вареного нута в течение 1, 7 и 14 недель. Результаты исследования показали, что у мышей с раком толстой кишки, индуцированным DSS/AOM, наблюдалось значительное снижение количества опухолевых клеток и воспаления, которых кормили диетой, содержащей 20% гороха. Кроме того, потеря массы тела была снижена, а индекс активности заболевания (DAI) был ниже по сравнению с мышами, которых не кормили специальной диетой. Наконец, уменьшение опухоли было более значительным на 7 неделе у мышей, получавших 20% специальную диету. В результате исследований ученые пришли к выводу, что и 10%, и 20% рационы обладают химическим профилактическим действием [2].

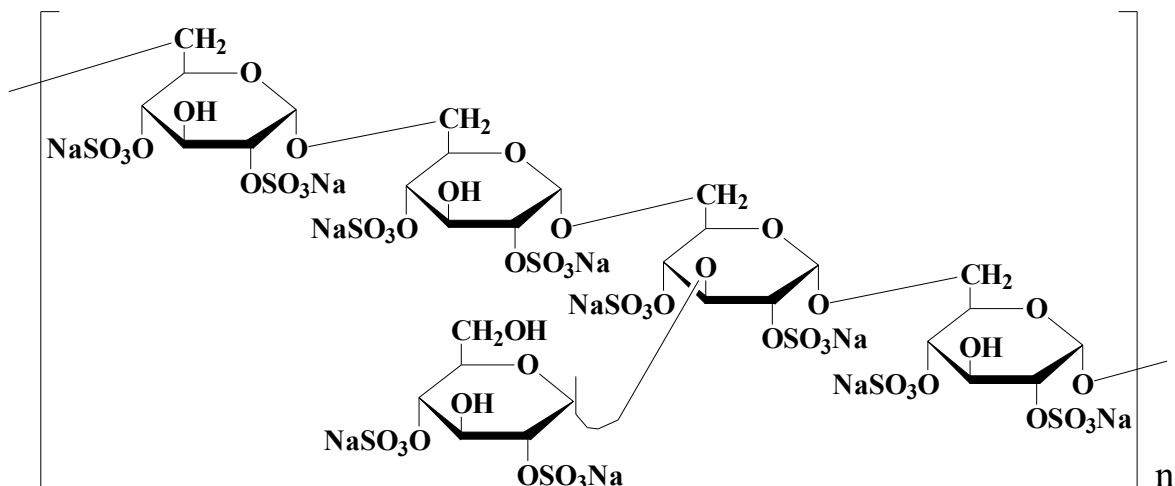


Рисунок 2. Декстрансульфат натрия ($n \approx 1000$)

Неха Гупта из Индии и ее коллеги отмечают, что необходим безопасный адъювант для преодоления побочных эффектов тамоксифена, стандартного препарата, используемого при лечении рака молочной железы. Горох — богатый белком бобовый продукт, содержащий лектин и ряд других биологически активных соединений. Проведенные ими исследования были посвящены изучению действия горохового лектина на раковые клетки. Лектин, экстрагированный из гороха и агглютинированных клеток крови кролика, обработанных трипсином, очищали с помощью диэтиленаминоэтиленцеллюлозы (рис. 3) и ионизированной хроматографии. Когда этот лектин вводят пациентам с раком молочной железы, было обнаружено, что он ингибирует общие реакции в раковых клетках и индуцирует апоптоз (гибель раковых клеток).

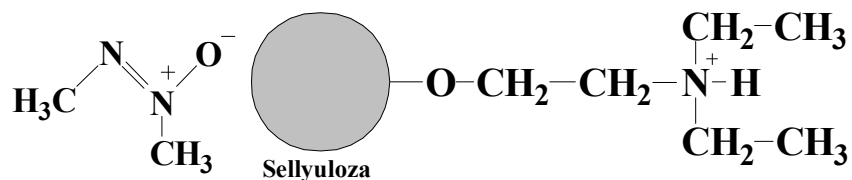


Рисунок 3. Азоксиметан. Рисунок 4. Диэтиленаминоэтиленцеллюлоза

Гороховый лектин подавлял жизнеспособность клеток рака молочной железы на 24 часа. Клетки, обработанные лектином, не проявляли особенностей апоптоза. При анализе методом проточной цитометрии было обнаружено, что 80 мкг/мл лектина останавливает раковые клетки в фазах S и G2. Тот факт, что лектин вызывает апоптоз раковых клеток у больных раком молочной железы, объясняется потерей действия фермента лактатдегидрогеназы, остановкой клеточного цикла и появлением активной формы кислорода. Исследования индийских ученых показали, что содержащийся в горохе лектин обладает противоопухолевой активностью и

может использоваться как важный препарат при лечении рака молочной железы [3].

По литературным данным, лектин, выделенный из дикого гороха, очищенный диэтиленаминоэтилцеллюлозой и ионообменной хроматографией, стабилен при температуре до 60 °С в среде от pH=5 до 9. Двухвалентные ионы не влияли на стабильность лектина. Лектин, полученный из дикого гороха, уменьшал количество опухолевых клеток и проявлял противораковый эффект [4].

Усталость, связанная с раком, является одним из наиболее распространенных осложнений, связанных с раком или его лечением. Иранские ученые под руководством Г. Хейдардада изучали влияние диеты на основе гороха у женщин, больных раком молочной железы. В исследовании приняли участие 40 пациенток с диагнозом рак молочной железы. Пациентам давали персидскую диету из нута - нохадад каждый день в течение 3 недель, а также изучали шкалу онкологической усталости (CFS), шкалу тяжести усталости (FSS) и визуальную аналоговую шкалу (VAS). По итогам исследования все эти показатели изменились в положительную сторону. Ученые пришли к выводу, что обезжиренная диета может быть хорошим вариантом для облегчения усталости, связанной с раком, у женщин с раком молочной железы [5].

Выводы. Принимая во внимание тот факт, что горох содержит большое количество белка, наличие в этом белке гликопротеина - лектина и наличие других биологически активных веществ, а также приведенные выше сведения, предлагается разработать и внедрить пищевую добавку на основе гороха, помогающий при лечении онкологических заболеваний.

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АМБУЛАТОРНОЕ НАБЛЮДЕНИЕ В ФОРМИРОВАНИИ ЗДОРОВОГО ОБРАЗА ЖИЗНИ У ДЕТЕЙ

Аннотация. Важная задача педиатров заключается в формировании здорового образа жизни у детей. Они играют ключевую роль в воспитании дисциплины и ответственности за свое здоровье, а также в поощрении правильного питания, физической активности и профилактике заболеваний среди маленьких пациентов. Работа педиатров помогает детям и их родителям осознать важность здорового образа жизни и дает им необходимые знания и навыки для поддержания здоровья на протяжении всей жизни. Нас сейчас не может удовлетворить то понимание профилактики, которое включает в себя только предупреждение развития заболевания. Проблемы семьи и здорового образа жизни остаются крайне актуальными для нашей страны. Острота демографической ситуации, связанная в основном с кардинальными социально-экономическими переменами последних десятилетий, напрямую затрагивает жизненные интересы всего российского общества.

Ключевые слова: динамика, профилактика, здоровья ребенка, воспитания, способность, степень, питание.

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OUTPATIENT MONITORING IN THE FORMATION OF A HEALTHY LIFESTYLE IN CHILDREN

Annotation. An important task of pediatricians is to form a healthy lifestyle in children. They play a key role in fostering discipline and responsibility for their health, as well as in encouraging proper nutrition, physical activity and disease prevention among young patients. The work of pediatricians helps children and their parents realize the importance of a healthy lifestyle and gives them the necessary knowledge and skills to maintain health throughout their lives. At the moment, we cannot be satisfied with the understanding of prevention, which includes only the prevention of the development of the disease. The problems of family and healthy lifestyle remain extremely relevant for our country. The severity of the demographic situation, mainly related to the drastic socio-economic changes of recent decades, directly affects the vital interests of the entire Russian society.

Keywords: dynamics, prevention, child health, upbringing, ability, degree, nutrition.

Введение. Жизнь детей большую часть времени проходит в семье, поэтому их здоровье испытывает на себе весь комплекс благоприятных и неблагоприятных влияний, определяемых образом жизни их родителей. Здоровье ребенка в большой степени зависит от здоровья родителей. В последние годы широко стала применяться антенатальная профилактика. При этом полученные нами данные доказывают, что правильно питаясь, регулярно чередуя труд и отдых, избегая различные вредные воздействия внешней среды мать может «управлять» развитием здорового будущего ребенка. Загипнотизированные понятием «динамичность века» некоторые родители спешат обучить своего ребенка чуть ли не 2-3 летнего возраста грамоте, счету, заставляют заниматься иностранными языками, гимнастикой. Этого не следует делать слишком рано, развитие одних способностей неизбежно идут в ущерб других. А возместить то, что было упущено в детстве, иногда бывает нелегко. Растить ребенка необходимо в обстановке спокойной, естественной, разумной среде.

Цель исследования. Определить роль педиатров в формировании здорового образа жизни у детей.

Материалы и методы исследования. Цель наблюдения состоит в том, чтобы дети получали необходимое медицинское и психологическое сопровождение для поддержания оптимального состояния их здоровья. Проведен ретроспективный анализ литературных данных. В ходе исследования использованы методы: аналитическая и описательная оценка. Для проведения исследования нам потребуется 26 детей в возрасте от 3 до 6 лет, находящиеся под наблюдением врачей.

Результаты и обсуждение. В процессе амбулаторного наблюдения врачи имеют возможность регулярно оценивать физический рост и развитие детей, обнаруживать на ранних стадиях возможные проблемы с их здоровьем и принимать соответствующие меры для их лечения. Кроме того, прослеживание психологического состояния ребенка позволяет выявить и успешно справиться с различными стрессовыми ситуациями, которые могут повлиять на его здоровье и хорошее самочувствие.

В процессе амбулаторного наблюдения врачи имеют возможность регулярно оценивать физический рост и развитие детей, обнаруживать на ранних стадиях возможные проблемы с их здоровьем и принимать соответствующие меры для их лечения. Кроме того, прослеживание психологического состояния ребенка позволяет выявить и успешно справиться с различными стрессовыми ситуациями, которые могут повлиять на его здоровье и хорошее самочувствие.

Одной из основных задач амбулаторного наблюдения является предотвращение возникновения различных заболеваний у детей. Врачи регулярно проверяют вес, рост, анализируют питание и физическую активность ребенка, с помощью чего составляют индивидуальный план здорового образа жизни. Правильное питание и регулярное физическое развитие являются важными составляющими здорового образа жизни, и именно амбулаторное наблюдение помогает родителям и детям учитывать их особенности и принимать правильные решения.

Кроме того, амбулаторное наблюдение способствует развитию образовательной деятельности для детей. Врачи и медицинские работники предлагают консультации и обучающие программы, которые помогают детям и их родителям разобраться в правилах здорового образа жизни, а также предупреждают от пагубных привычек, таких как курение или употребление алкоголя, которые могут негативно сказаться на здоровье в будущем.

Вопросы воспитания детей в семье представляют собой сложную и многофакторную проблему. Родителям необходимо обладать большими знаниями, внимательностью и умением находить индивидуальный подход к своему ребенку. Для достижения поставленных целей были разработаны этапы проведения обследования и реабилитации детей. Детей в возрасте 6 лет и старше в центр здоровья направляли: по инициативе родителей; после пребывания в стационаре по поводу острого заболевания; по рекомендации врача-педиатра или медицинского персонала образовательных учреждений. Существует метод, который можно считать универсальным, по крайней мере, для первых лет жизни ребенка, так как он одинаково способствует укреплению здоровья и правильному воспитанию ребенка.

При амбулаторном наблюдении за новорожденными детьми из группы риска и здоровыми детьми в поликлинике важно проводить первый визит врача в течение трех дней после выписки из родильного дома. На этом

же этапе могут возникнуть умеренно выраженные пограничные состояния, которые не требуют лечения, но их динамика оценивается на последующих визитах на 10-12 и 20-22 дни жизни. В возрасте одного месяца все необходимые обследования проводят в детской поликлинике специалисты - врач-педиатр, невролог, детский хирург, офтальмолог, детский стоматолог. Лабораторные, функциональные и другие исследования проводятся согласно нормативным документам.

При длительном течении пограничных состояний, выявлении негативных факторов в онтогенезе или других заболеваниях, ребенка могут перевести в другую группу здоровья. Для подтверждения принадлежности к определенной группе проводят необходимые процедуры и обследования. Детям с различными патологиями необходимо проводить амбулаторное лечение и постоянный контроль состояния. При необходимости проводится консультация специалистов на дому, и, если лечение не приносит результатов, решается вопрос о госпитализации. После достижения ребенком возраста одного месяца участковый врач-педиатр подводит итоги этого периода, анализирует факторы риска и принимает решения о дальнейшем наблюдении и лечении. Женщинам, успешно кормящим грудью, оказывается поддержка и предоставляются советы по организации режима и профилактике проблем с лактацией.

Установлено, что среди детей, имеющих отклонения в здоровье, примерно каждый третий ребенок ведет нездоровый образ жизни, в то время как в контрольной группе таких детей было меньше. Следование режиму дня — ключевой момент в заботе о здоровье ребенка, включая правильное питание, сон, прогулки. Для создания наилучших условий для жизнедеятельности организма необходимо строго следить за режимом дня. Не было выявлено существенных различий среди детей, которые ведут частично здоровый образ жизни, по сравнению с теми, кто не всегда соблюдает правила здоровья. Важно начать формирование прочного характера с самого раннего детства - это положительно скажется на здоровье ребенка. Колыбельные песни и общение с матерью уже в период беременности благотворно влияют на психическое развитие ребенка. Изучение жизненного стиля детей с отклонениями в здоровье позволило выявить ключевые аспекты их образа жизни, а также особенности семейного окружения. Некоторые из этих аспектов включают: неблагоприятные медицинские данные в истории (заболевания матери во время беременности, осложнения во время беременности, возраст матери), недостаток здорового образа жизни в семье, недостаточная медицинская активность. Полученные результаты подчеркивают важность пропаганды здорового образа жизни и информирования родителей о рисках заболевания.

Заключение. Обращая внимание на эти аспекты, медицинские учреждения могут значительно способствовать формированию здорового

образа жизни среди детей, направляя их на путь к долгосрочному благополучию. Огромное значение в улучшении здоровья детей имеют центры здоровья, которые не только помогают выявить заболевания на ранних стадиях при помощи скрининговых методов, но и проводят профилактическую работу, стимулируют медицинскую активность родителей и детей, воспитывают понимание личной ответственности за свое здоровье, консультируют по вопросам сохранения и укрепления здоровья, включая советы по коррекции питания, физической активности, занятиям спортом, соблюдению режима сна, созданию благоприятных условий для жизни, обучения и отдыха, а также разрабатывают индивидуальные программы по поддержанию здорового образа жизни.

В целом, амбулаторное наблюдение в формировании здорового образа жизни у детей является эффективным методом медицинского вмешательства. Оно позволяет регулярно отслеживать физическое и психологическое развитие ребенка, предотвращать заболевания и помогает воспитывать привычки здорового образа жизни. Учитывая важность этого процесса, амбулаторное наблюдение должно быть доступным для всех детей, чтобы обеспечить им лучшие условия для здорового роста и развития.

Использованные источники:

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