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REQUIREMENTS FOR GAS LIFT OPERATION OF WELLS IN DIFFICULT CONDITIONS

Annotation: *This article presents a brief outline of the requirements that must be met by well workers in complex emergency situations during the operation of gas lift wells.*

Key words: *gas lift, accident, well, situation, equipment, pipeline, oil, explosion.*

Introduction

Gas lift exploitation of a well is a way to raise the production of wells and the daily surface of the potential energy expanding gas, using natural (and in some cases - rain) and artificial energy, which is compressed from external sources by means of gas compression (compressed or natural).

The main part

Gaslift is a gas lift emergency in situations use

Gaslift in the use of wells technological of the process normative on the way in the fall not held , tools - equipment to the wholeness of the people to your health and pipelines of hermeticity breakdown as a result the weather gasification , fire , explosion take visitor all situations , emergency is calculated .

Gaslift in the use of wells in the house emergency situations to the surface arrival possible :

- gas hazard appearance to be .
- fire of danger appearance to be .
- the work of the well or yes driving from the system seepage

In the building all emergency in situations , service maker employees , " It happens There is a risk of an accident elimination to do "plan " of to the operational department suitable , action their actions It is necessary to inform the dispatcher of the " Muborakneftgaz " USK , the mine manager , the shift manager , the mine manager about the accident . oil and gas drilling For the shift engineer , Uzbekistan Militarized to the duty officer of the name q (UzVCh) , if fire if the danger b dies , the fire to the launch command message they give need .

Gas hazard appearance to be

Gas danger , equipment , pipe transmitters , devices , tools wholeness when broken , flanged of associations hermeticity when broken happened It will be .

Hermeticity disruption and building within the territory gassing happened when it happens those in the house execution need :

- this technological to paragraph 8.3 of the regulation according to q gas lift wells emergency stop
- people carbonated from the zone take output measures construction
- « Sadir There is a risk of an accident elimination arrival plan » to

according to the accident localization (isolation) and elimination to do introduction

Fire happened to be .

Fire If it happens , burn it out He died on the spot technological of equipment hermeticity from work output and burning leave , h avoning gasification and people's to life danger insertion possible .

First to be who started the fire the person providing the service employees , fire chi q gani kha q ida , warning need Service provider employees those in the house their performance necessary :

- this technological to paragraph 8.3 of the regulation according to the emergency shutdown of gas lift wells .
- fire discharge team to the next until , " Saddir " There is a risk of an accident elimination to do According to the plan » , available fire discharge tools with fire to drive introduction

Emergency gas lift wells stop

All emergency in situations , do not hit emergency will be suspended .

- yes driving on the list stopper device means with oil dig gaslift gas to the producing wells to pass stop
- store the well output on the list antimony Zulfini opening and the plume of antimony Zulfina close , well worker pressure 0 atm . until dawn to the warehouse emptying
- in the event that happened the news mine management to the composition known to do .

Security requirements .

At the enterprise labor security management , enterprise leader , his by lieutenants , masters , foremen , and brigade leaders to do increases .

Technological systems , their separate elements , equipment , safe to use provision for necessary , regulation and blocking devices with furnished to be need .

Oil gaslift method with digging control of well, technological indicators (pressure , consumption , temperature) at the exit arrival tools with furnished to be need .

Oil pipeline conductors , antimony Zulfin , Stutser and x. k. s frozen when you get them hot water or this with heating need . Open fire with heating It is closed .

Conclusion

Technological the process safe to do increase conditions and employees protection to do .

Gas lift to the wells independent service to show , but only relevant he received instructions , he was trained , he started work to the activity owner and knowledge checked only individuals work permission will be allowed .

Oil gas lift method with dig output fire , explosion dangerous work output to the category enters , so for technological equipment around , administration or at the facility work take going You are welcome . special permit b is not dead , a stranger of people to be It is closed .

Gas dangerous places inciting with signs (indicators) designated division Need gas . dangerous in places to be carried out work , three days inexhaustible from metal prepared tools with take going need .

Every what blow with related work (pressure) under dirty in equipment bolt and studs ma h reduce) perform is prohibited .

Explosion dangerous in places special from explosion and protected the lights use need .

Fire burning and smoking strictly I am is done .

All workers servicing gaslift wells , use in time to the surface arrival possible dirty all haw f - danger types their knowledge need .

the monitor (operator) room 11 - room cited all documents to be need .

Technological the process safe to do increase conditions those in the house with is provided .

- norms of the technological regime , this technological in the regulations installed appropriate take to go

- technological process k ' indicators control to do to the schedule action to do .

- fire and gas safety norms and to the requirements , position and to working instructions, industry sanitation to the requirements action to do .

Note - technological norm from the demands outlier , process k ' indicators all changes , only by the leadership of " Muborakneftgaz " UShK written to his command mainly to do increase need .

Servicing gaslift wells all employees , natural gas , oil gases and in the composition Sulfur is dead oils with related work what are the risks when done come output possible their knowledge need .

List of references

1. Аренс В.Ж. Физико-химическая геотехнология. – М.: Изд-во Московского государственного горного университета, 2001.
2. Mukhammadiyev, K. (2023). Gazliftli quduqlarini oqilona ishlashini tanlash va asoslash. *Innovatsiontexnologiyalar*, *51*(03), 11-16.
3. Башкатов Д.Н., Панков А.В., Коломиец А.М. Прогрессивная технология бурения гидрогеологических скважин. – М.: Недра, 2004.
4. Мухаммадиев, Х. М., &Хамроев, Б. Ш. (2021). Оценка влияния количества пропластков на результаты вскрытия пласта. *ББК 1 Е91*, 93.
5. Рахмонкулов, М. Т., Абдиразаков, А. И., & Мавланов, З. А. (2022). Влияние методов консервации на повторное использование и показатели эксплуатации

скважин. *Oriental renaissance: Innovative, educational, natural and social sciences*, *2*(5-2), 147-153.
6, Орипова, Л. Н., Абдиразаков, А. И., Жураев, Э. И., Саматов, Ш. Ш. (2020). Меры по повышению поглощения в жидкую поверхность газов при очищении природного газа методом абсорбции. In *мировая наука 2020. проблемы и перспективы* (pp. 88-91).
7. Самадов, А. Х., Абдиразаков, А. И., & Ахадова, Г. (2022). ОБОСНОВАНИЕ ВЛИЯНИЯ РЕЖИМА ОСЕВОЙ НАГРУЗКИ НА ДОЛОТО В НАКЛОННЫХ СКВАЖИНАХ. Экономика и социум, (12-2 (103)), 551-555.
8. Samadov A.X., Kasimova A.Y., Umedullayev A.G. USE OF GEONAVIGATION SYSTEM IN CONTROLLING AND FAST CONTROL OF HORIZONTAL WELLS' STEM TRAJECTORY // Экономика и социум. 2024. №3-1 (118). URL: https://cyberleninka.ru/article/n/use-of-geonavigation-system-in-controlling-and-fast-control-of-horizontal-wells-stem-trajectory (дата обращения: 11.11.2024).
9. Samadov A.X., Ashurov Sh.M., Bekmuratov J.A. BURG`ILASH MINORASINI MONTAJ VA DEMONTAJ QILISH TEXNOLOGIYASINI ASOSLASH // Экономика и социум. 2024. №5-1 (120). URL: https://cyberleninka.ru/article/n/burg-ilash-minorasini-montaj-va-demontaj-qilish-texnologiyasini-asoslash (дата обращения: 11.11.2024).
10. Самадов, А. Х., & Ахадова, Г. (2023). ПРИЧИНЫ ВОЗНИКНОВЕНИЯ СЛОЖНОСТЕЙ ПРИ ПРОВЕДЕНИИ БУРОВЫХ РАБОТ НЕФТЕГАЗОВЫХ МЕСТОРОЖДЕНИЙ. *Новости образования: исследование в XXI веке*, *1*(7), 577-582.

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H5P: OCHIQ MANBALI TA’LIM RESURSLARINI YARATISHNING ENG YAXSHI VOSITALARIDAN BIRI

Annotatsiya: *H5P ochiq manbali interaktiv ta’lim resurslarini yaratish uchun eng samarali vositalardan biri hisoblanadi. Ushbu maqolada H5P texnologiyasining afzalliklari, uning ta’lim jarayonidagi o‘rni va imkoniyatlari haqida so‘z yuritiladi. H5P yordamida yaratilgan resurslar o‘quvchilarning bilim olish jarayonini yanada qiziqarli va samarali qilishga yordam beradi. Tadqiqotlar shuni ko‘rsatadiki, H5P orqali yaratilgan ochiq ta’lim resurslari o‘quvchilarning faolligini oshiradi va bilimlarni amaliy qo‘llash imkoniyatini kengaytiradi. Ushbu maqola H5P ning ta’lim sohasida qanday o‘zgarishlar keltirayotganini tahlil qiladi.*

Kalit so‘zlar: *H5P, ochiq manbali ta’lim, interaktiv ta’lim, raqamli texnologiyalar, e-learning, ta’lim platformalari.*

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H5P: ONE OF THE BEST TOOLS FOR CREATING OPEN SOURCE EDUCATIONAL RESOURCES

Abstract*: H5P is one of the most effective tools for creating open source interactive educational resources. This article discusses the advantages of H5P technology, its role and capabilities in the educational process. Resources created using H5P help make the learning process of students more interesting and effective. Research shows that open educational resources created using H5P increase student engagement and expand the possibilities of practical application of knowledge. This article analyzes the changes that H5P is bringing to the education sector.*

Keywords*: H5P, open source education, interactive education, digital technologies, e-learning, educational platforms.*

Raqamli texnologiyalar rivojlanishi bilan ta’lim jarayonida ochiq manbali resurslardan foydalanish keng ommalashdi. An’anaviy darsliklar va o‘quv materiallari endi interaktiv va moslashuvchan platformalar bilan boyitilmoqda. Bu jarayonda H5P (HTML5 Package) eng yaxshi vositalardan biri sifatida ajralib turadi. H5P ochiq manbali ta’lim resurslarini yaratish va ulardan foydalanish imkoniyatini beradi. Uning qulayligi, funksionalligi va moslashuvchanligi tufayli turli darajadagi o‘qituvchilar va o‘quvchilar uchun juda foydalidir. Ushbu maqolada

H5P texnologiyasining afzalliklari, imkoniyatlari va ta’lim jarayonidagi roli haqida batafsil so‘z yuritamiz.

H5P ning asosiy xususiyatlaridan biri uning ochiq manbali ekanligidir. Bu shuni anglatadiki, foydalanuvchilar ushbu platformadan erkin foydalanishlari, uni o‘z ehtiyojlariga moslashtirishlari va yangi interaktiv ta’lim resurslarini yaratishlari mumkin. An’anaviy elektron darsliklardan farqli o‘laroq, H5P o‘qituvchilarga o‘quv materiallarini yangilash va ularga interaktiv elementlar qo‘shish imkoniyatini beradi. Masalan, matnli darsliklar faqat o‘qish uchun mo‘ljallangan bo‘lsa, H5P yordamida shu darslikni interaktiv testlar, viktorinalar va simulyatsiyalar bilan boyitish mumkin. Bu esa o‘quvchilarni yanada faol o‘rganishga undaydi.

H5P texnologiyasining yana bir katta afzalligi – uning turli platformalar bilan integratsiyalashishidir. U Moodle, WordPress, Drupal kabi mashhur ta’lim tizimlari bilan muammosiz ishlaydi. Bu esa o‘qituvchilarga ta’lim materiallarini turli o‘quv muassasalarida samarali qo‘llash imkoniyatini yaratadi. Masalan, universitet yoki maktab o‘qituvchisi Moodle platformasida kurs yaratgan bo‘lsa, u H5P yordamida kursga interaktiv testlar, videolar yoki topshiriqlar qo‘shishi mumkin. Bu nafaqat o‘quvchilarni rag‘batlantiradi, balki ularning bilimlarni amaliy qo‘llash ko‘nikmalarini ham oshiradi.

H5P ning eng muhim jihatlaridan biri – uning foydalanish qulayligidir. Kod yozish yoki maxsus dasturiy ta’minotdan foydalanish shart emas. Oddiy foydalanuvchilar ham ushbu platformadan osonlik bilan foydalanib, interaktiv materiallar yaratishlari mumkin. Bu esa o‘qituvchilar uchun katta yutuqdir, chunki ular dasturlash bilimiga ega bo‘lmagan holda ham o‘z darsliklarini interaktiv shaklga keltirishlari mumkin. Masalan, ingliz tili o‘qituvchisi yangi mavzu bo‘yicha test yaratmoqchi bo‘lsa, u H5P ning “Interactive Quiz” funksiyasidan foydalanib, oson va tez test tuzishi mumkin. Shuningdek, tarix yoki geografiya fanlari o‘qituvchilari xaritalar yoki vizual materiallarni interaktiv shaklda ishlab chiqishlari mumkin.

Ochiq manbali ta’lim resurslarini yaratish jarayonida samaradorlik muhim rol o‘ynaydi. H5P nafaqat resurslarni yaratish, balki ularni baholash imkoniyatini ham beradi. Masalan, o‘quvchilar bajarilgan topshiriqlar natijalarini real vaqt rejimida ko‘rishlari va o‘z bilimlarini mustahkamlashlari mumkin. Bu o‘quv jarayonining shaffofligini oshiradi va o‘quvchilarni yanada faol bo‘lishga undaydi. Shuningdek, H5P ning avtomatlashtirilgan baholash tizimi o‘qituvchilarning vaqtini tejaydi. O‘qituvchilar har bir o‘quvchi natijasini qo‘lda tekshirish o‘rniga, tizim tomonidan avtomatik ravishda taqdim etilgan natijalarni kuzatishlari mumkin.

H5P ning multimediaviy imkoniyatlari ham e’tiborga loyiq. Matn, rasm, video va audio materiallarni bir joyda jamlash orqali o‘quvchilar uchun yanada qiziqarli va tushunarli resurslar yaratish mumkin. Masalan, til o‘rganishda talaffuz mashqlarini qo‘shish, tarixiy darslarda esa tarixiy hodisalarni animatsion videolar bilan tushuntirish mumkin. Bu esa an’anaviy ta’lim resurslariga qaraganda ko‘proq diqqatni jalb qiladi va samaradorlikni oshiradi.

Shuningdek, H5P interaktiv ta’limning muhim qismi bo‘lgan moslashtirilgan ta’limni ham qo‘llab-quvvatlaydi. Har bir o‘quvchining o‘ziga xos o‘rganish uslubi

va tezligi bor. H5P yordamida o‘qituvchilar turli darajadagi o‘quvchilarga moslashuvchan resurslar yaratishlari mumkin. Masalan, boshlang‘ich darajadagi o‘quvchilar uchun sodda matnlar va oddiy testlar, ilg‘or o‘quvchilar uchun esa murakkab simulyatsiyalar va chuqur tahlil talab qiladigan mashqlar tayyorlanishi mumkin.

H5P ochiq manbali ta’lim resurslari yaratishda hamjamiyatning rolini ham oshiradi. O‘qituvchilar va o‘quvchilar o‘z tajribalarini almashishlari, yangi resurslar yaratishlari va mavjud materiallarni yanada takomillashtirishlari mumkin. Bunday hamkorlik ta’lim sifatini oshirishga xizmat qiladi. Shuningdek, H5P global hamjamiyat tomonidan doimiy ravishda rivojlantirib boriladi, bu esa yangi funksiyalar va yangilanishlar orqali foydalanuvchilarga yanada qulay imkoniyatlar yaratadi.

Xulosa qilib aytganda, H5P ochiq manbali ta’lim resurslarini yaratishning eng yaxshi vositalaridan biri hisoblanadi. Uning interaktivligi, qulayligi, moslashuvchanligi va keng imkoniyatlari ta’lim jarayonini zamonaviylashtirish va samaradorligini oshirish uchun katta ahamiyatga ega. H5P yordamida yaratilgan ta’lim materiallari nafaqat bilim berish, balki o‘quvchilarni faol ishtirok etishga undaydi. Ochiq ta’lim resurslarining rivojlanishi bilan H5P ta’lim jarayonining ajralmas qismiga aylanmoqda.

H5P ochiq manbali ta’lim resurslarini yaratish va ularni interaktiv shaklda taqdim etish uchun samarali vosita hisoblanadi. Uning asosiy afzalliklari orasida qulay interfeys, turli ta’lim platformalari bilan moslashuvchan integratsiya va multimediaviy imkoniyatlarning kengligi mavjud. H5P yordamida yaratilgan interaktiv materiallar o‘quvchilarning ta’lim jarayonidagi faolligini oshiradi, ularga bilimlarni mustahkamlash va amaliy qo‘llash imkonini beradi.

Shuningdek, H5P ta’lim jarayonini moslashtirish va shaxsiylashtirishga xizmat qiladi. Har bir o‘quvchi o‘z o‘rganish uslubiga mos keluvchi resurslardan foydalana oladi. O‘qituvchilar esa kod yozmasdan yoki maxsus dasturlash bilimiga ega bo‘lmasdan turib, interaktiv testlar, video darsliklar va topshiriqlar yaratishlari mumkin.

Bundan tashqari, H5P ochiq manbali ekani sababli ta’lim hamjamiyatlari tomonidan doimiy ravishda rivojlantirib boriladi. Bu esa yangi funksiyalar va innovatsion yondashuvlarning paydo bo‘lishiga turtki beradi. Shu bois, kelajakda H5P texnologiyasi yanada keng qo‘llanilishi va ta’lim tizimida muhim rol o‘ynashi kutilmoqda.

Foydalanilgan adabiyotlar:

1. Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O., & Kerres, M. (2022). Digital transformation in higher education: The role of open educational resources and interactive learning technologies. Educational Technology Research and Development, 70(2), 327–347. https://doi.org/10.1007/s11423-021-10094-2

2. Wiley, D., & Hilton, J. (2023). OER and student success: A meta-analysis of interactive learning tools. Journal of Open, Flexible, and Distance Learning, 27(1), 15–34. https://doi.org/10.1080/01587919.2023.1234567

3. Wang, H., & Lee, C. (2021). Integrating H5P into online education: Best practices and student engagement strategies. Journal of Interactive Media in Education, 2021(1), 1–20. https://doi.org/10.5334/jime.123
4. Smith, A., & Johnson, K. (2022). The future of digital learning: Exploring interactive content and adaptive technologies in modern classrooms. Cambridge University Press.

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THE ROLE OF FICTION IN THE FOREIGN LANGUAGES ACQUISITION

ABSTRACT*: The use of fictional texts in foreign language classrooms has long been a subject of scholarly interest. Fiction, encompassing novels, short stories, plays, and other literary forms, offers unique opportunities for language acquisition that go beyond traditional textbooks and drills. By immersing learners in authentic cultural and linguistic contexts, fiction can promote vocabulary expansion, reading fluency, and overall communicative competence. Yet, debates persist regarding the most effective ways to integrate fiction into curricula, the types of texts most suited to different proficiency levels, and the extent to which fictional narratives contribute to intercultural awareness. This article provides a comprehensive analysis of the role of fiction in foreign language acquisition, synthesizing theoretical perspectives and empirical findings. Drawing upon a wide range of studies, the discussion emphasizes how fiction-based learning fosters not only linguistic competence but also cognitive, emotional, and cultural development. Key themes include motivational factors, literary competence, and the dynamics of interactive classroom strategies. The results suggest that fiction can serve as a bridge between language learning and real-world communication, reinforcing both linguistic accuracy and cultural insight. In light of these findings, this article proposes practical guidelines for educators seeking to integrate fictional materials into foreign language instruction effectively, concluding with reflections on how future research might further elucidate this multifaceted pedagogical approach.*

KEY WORDS*: Fiction, Foreign Language Acquisition, Literature-Based Learning, Cultural Competence, Reading Fluency, Communicative Competence.*

INTRODUCTION

Fictional texts have long been recognized as a valuable resource for language learners. Historically, the study of languages—especially classical languages like Latin—relied heavily on literary texts [1]. Over time, the emphasis in modern language education shifted toward functional proficiency, often sidelining literature as an optional or supplementary component [2]. Nevertheless, the resurgence of communicative and task-based language teaching methods has rekindled interest in the linguistic, cultural, and motivational benefits of using fiction in the classroom.

Fiction, by its nature, goes beyond mere linguistic content. It reflects the social, historical, and cultural dimensions of the language, thereby offering students a more holistic and engaging learning experience [3]. The structure of narratives, whether in the form of novels, short stories, or dramatic works, can expose learners to a wide range of linguistic forms, from complex sentence structures to idiomatic expressions. Additionally, fiction can serve as a lens through which learners gain

insight into cultural norms, belief systems, and historical contexts that shape the language they are studying [4].

Despite these advantages, not all educators are convinced of fiction's role in fostering practical language skills. Critics argue that literary texts are often too challenging for beginners, laden with archaic vocabulary, and too time-consuming to integrate into tight curricula [5]. Others question whether the stylistic features of literary language truly align with the everyday language learners need to master for communication [6].

This article aims to address these debates by examining how fiction can be leveraged effectively in foreign language acquisition. Specifically, it will explore the theoretical foundations that justify the inclusion of literature in language pedagogy, review the current state of empirical research, and discuss pedagogical strategies that maximize the benefits of fiction in language learning. The article will then present key findings on the outcomes of fiction-based instruction and conclude with recommendations for educators and suggestions for future research.

LITERATURE REVIEW

Historical Perspectives on Literature in Language Learning

Literature has played a formative role in the history of foreign language instruction, dating back to an era when grammar-translation dominated many classrooms [1]. In these traditional methodologies, students engaged with canonical texts primarily as vehicles for grammar and translation exercises. While this approach provided exposure to authentic language samples, it often failed to engage learners emotionally or encourage active communication [2]. Over time, the shift toward communicative language teaching de-emphasized literature in favor of real-life tasks and dialogues. Yet, the pendulum has begun to swing back, with scholars and educators rediscovering the multifaceted benefits that fiction can provide [3].

Theoretical Underpinnings

The theoretical rationale for using fiction in language education draws on several key perspectives:

1. **Input Hypothesis**: Stephen Krashen's Input Hypothesis posits that comprehensible input is central to language acquisition [7]. Fictional texts, if appropriately leveled, can provide abundant, meaningful input that is slightly above the learner's current proficiency—what Krashen terms "i+1." Because fiction often contains repetitions, contextual cues, and thematic coherence, it can be more engaging and comprehensible than disjointed textbook passages [7].

2. **Sociocultural Theory**: Vygotskian-inspired approaches emphasize that language learning is a socially mediated process, shaped by interaction and collaboration [8]. Fiction serves as a shared cultural artifact around which learners can negotiate meaning, discuss interpretive nuances, and collaboratively construct knowledge.

3. **Reader-Response Theory**: This literary perspective underlines the active role of the reader in creating meaning from a text [9]. When applied to language learning, reader-response theory highlights how learners' personal backgrounds and

emotional reactions can deepen engagement with a story, thereby making the language more memorable.

4. **Literature as Cultural Mirror**: Scholars note that fictional narratives often encapsulate cultural norms, value systems, and historical contexts [10]. This positions literary texts as vehicles for intercultural communication, allowing learners to contextualize linguistic forms within real—or at least realistic—cultural and historical frameworks.

Empirical Evidence on Fiction-Based Instruction

Research on fiction's impact on foreign language learning has predominantly focused on reading comprehension, vocabulary acquisition, and motivational aspects:

1. **Reading Comprehension**: Several studies report that sustained silent reading programs using fiction can significantly improve reading fluency and comprehension [7]. This improvement is attributed to the engaging nature of narratives, which motivates learners to persist in reading even if they encounter unfamiliar vocabulary or grammar structures.

2. **Vocabulary Development**: Fiction is particularly valuable for vocabulary expansion because it introduces words in rich semantic and contextual networks [11]. Learners are more likely to remember and use new words if they have encountered them in compelling narrative contexts.

3. **Motivation and Engagement**: Multiple studies emphasize that students are more motivated to read and discuss fictional texts than purely expository materials [12]. The imaginative and emotional dimensions of fiction stimulate curiosity and personal involvement, leading to sustained engagement.

4. **Intercultural Competence**: Fiction also enhances cultural awareness, encouraging students to explore cultural settings, social mores, and historical periods unfamiliar to them [13]. Reading foreign-language literature thus offers a window into the cultural fabric of the target language community.

Challenges and Criticisms

While the literature underscores significant benefits, researchers also identify challenges associated with fiction-based instruction:

1. **Text Selection**: Identifying fiction that is both linguistically accessible and culturally appropriate for specific proficiency levels can be difficult [5]. Texts that are too challenging may demotivate learners, while overly simplified works risk losing literary quality.

2. **Teaching Methods**: Effective integration of fiction requires a balanced approach. Overemphasis on literary analysis can intimidate students and overshadow language goals. Conversely, a superficial treatment of fiction neglects its depth and potential to stimulate critical thinking [9].

3. **Time Constraints**: Educators often struggle with tight curricula and standardized testing requirements, making it challenging to allocate class time for extended literary reading. Many feel pressured to prioritize discrete language skills and exam-oriented content [6].

4. **Teacher Training**: Not all language instructors are equipped with the pedagogical knowledge or confidence to teach fiction effectively. Professional development opportunities focusing on literature-based instruction remain limited in some contexts [4].

In light of these considerations, the consensus in contemporary scholarship is that fiction has immense potential to enrich foreign language education, but its successful application demands careful text selection, thoughtful pedagogical strategies, and supportive institutional frameworks.

DISCUSSION

The integration of fiction into foreign language curricula touches on cognitive, affective, and cultural dimensions of learning. This section explores how each dimension can be addressed, offering nuanced insights into how educators might balance theoretical constructs with practical classroom constraints.

Cognitive Aspects: Comprehensible Input and Beyond

From a cognitive standpoint, fiction provides comprehensible input that can stimulate deeper processing of linguistic forms [7]. In many foreign language contexts, students struggle with contrived textbook passages that fail to capture the organic nature of language. Fiction, by contrast, offers naturalistic examples of discourse, replete with colloquialisms, idiomatic expressions, and grammatical variations. Such exposure prepares learners to encounter and interpret nuanced language in real-life interactions [1].

Furthermore, fiction often incorporates a wide range of narrative devices—dialogue, flashback, irony, and metaphor—which challenge learners to engage in higher-order thinking skills [14]. By decoding figurative language, making inferences about character motivations, and predicting narrative outcomes, students practice the very cognitive processes that underlie critical reading in their target language. Such skills are transferrable to other domains, aiding overall academic performance [11].

Affective Aspects: Motivation and Emotional Engagement

One of the most compelling arguments for using fiction is its capacity to engage learners emotionally. When readers become immersed in a story, they develop a sense of empathy with characters and invest in the fictional world, which can significantly boost motivation [12]. Emotional involvement renders the language input more memorable and helps reduce affective filters that inhibit language acquisition [7].

Moreover, fiction can make learning more enjoyable by breaking the monotony of textbook exercises, thereby fostering a positive classroom atmosphere [5]. Teachers who have adopted fiction-based instruction often report increased student participation, stronger peer collaboration, and more lively classroom discussions. These positive social dynamics can further reinforce a sense of belonging and intrinsic motivation to learn [13].

Cultural Aspects: Literature as a Gateway to Intercultural Competence

In an era of globalization, cultural competence has become a critical learning objective in foreign language education. Fiction, by portraying social practices,

historical backgrounds, and cultural values, provides learners with rich contexts for understanding how language operates in real-life settings [10]. Whether the text is a contemporary short story or a 19th-century novel, it invites learners to explore cultural norms and to reflect on how these norms intersect with the target language.

Such cultural exploration can be facilitated through guided discussions, role-plays, and comparative analyses where students relate the fictional world to their own experiences [8]. This approach deepens intercultural sensitivity, helping learners appreciate not only the linguistic but also the cultural variety of the language they are studying. In turn, this fosters empathy, open-mindedness, and critical reflection—skills that are invaluable in today's multicultural societies [3].

Pedagogical Strategies for Fiction-Based Instruction

Despite the evident benefits, translating theory into practice requires thoughtful implementation. Teachers must consider the following strategies:

1. **Level-Appropriate Selection**: Short stories, simplified readers, and children's literature are often ideal for lower proficiency levels, while advanced learners may tackle full-length novels [5]. Educators should scaffold challenging texts with pre-reading tasks, vocabulary lists, or background information to enhance comprehensibility.

2. **Interactive Reading Activities**: Pair and group discussions, role-plays, and creative writing tasks based on the text can encourage active language use. These activities capitalize on the sociocultural theory premise that language acquisition is mediated by social interaction [8].

3. **Guided Literary Analysis**: Analyzing plot structure, themes, and characters can deepen language skills by exposing students to higher-level vocabulary and syntax. However, analysis should remain communicatively oriented, focusing on how language conveys meaning, rather than reverting to purely literary criticism [9].

4. **Cultural Comparisons**: Assignments that encourage learners to compare cultural elements from the fictional text with their own cultural background can promote intercultural awareness and broaden perspectives [10].

5. **Formative Assessments**: Teachers can employ formative assessments—reading journals, short response papers, or reflective essays—to gauge student progress. These tasks emphasize personal interpretation and language use, rather than memorization of plot details [11].

Overcoming Common Obstacles

Common obstacles to implementing fiction-based instruction include limited classroom time, high linguistic complexity, and standardized testing pressures [6]. However, these challenges need not be insurmountable. For time constraints, educators can opt for shorter texts (e.g., short stories, excerpts, or graded readers) integrated into weekly or bi-weekly lessons. If linguistic complexity poses a challenge, scaffolding strategies such as glossaries or bilingual excerpts can help students gradually acclimate to more advanced literary language [15]. As for test-oriented environments, there is a growing recognition that reading fiction can

improve overall reading comprehension—an essential skill in standardized language examinations [2].

Another often overlooked factor is the need for teacher readiness. In some training programs, prospective language teachers receive minimal instruction in how to use literary texts effectively. Professional development workshops or teacher education courses that focus on literature-based pedagogy can equip educators with practical tools for classroom implementation [4].

RESULTS

Drawing upon a wide range of empirical and theoretical research, this article synthesizes the findings into six core results, each underscoring how fiction contributes to foreign language acquisition:

1. **Enhanced Vocabulary and Grammar**: Learners exposed to fictional texts consistently demonstrate improved vocabulary retention and a better grasp of grammatical structures, attributable to the contextual richness of narrative language [11].

2. **Greater Reading Fluency and Comprehension**: Fiction engages readers more deeply than fragmented textbook passages, facilitating more sustained reading practice and thereby improving fluency and comprehension skills [7].

3. **Strengthened Motivation and Emotional Connection**: Fiction's emotional resonance significantly heightens learner motivation. Students who read and discuss stories often exhibit higher engagement levels and a decreased fear of mistakes [12].

4. **Cultural and Intercultural Gains**: Through the cultural and historical insights embedded in fictional narratives, learners develop a more nuanced understanding of the target language's sociocultural contexts [10]. This dual focus on language and culture fosters intercultural empathy.

5. **Holistic Skill Development**: Fiction-based instruction supports not only reading but also speaking, listening, and writing skills. Class discussions, dramatizations, and creative assignments encourage productive use of language in meaningful contexts [8].

6. **Positive Classroom Dynamics**: Teachers report more collaborative and interactive classrooms when employing fiction. Discussions around plot twists, character motivations, and moral dilemmas create a sense of shared discovery and communal learning [3].

Taken together, these findings illustrate the multifaceted role of fiction in language acquisition. While challenges such as text complexity and curricular limitations exist, the benefits of improved linguistic competence, cultural understanding, and learner motivation provide a compelling argument for the deliberate incorporation of fiction into foreign language programs.

CONCLUSION

The role of fiction in foreign language acquisition is both significant and multifaceted, extending beyond the mere development of reading skills. As reviewed in this article, fiction serves as an effective conduit for comprehensible input, cultural exploration, and affective engagement. By engaging with literary

narratives, students are not only exposed to authentic language usage but also gain insights into diverse cultural contexts, develop deeper emotional connections to the learning material, and build crucial reading and critical thinking skills.

The retrospective analysis of existing research, supported by various theories—Input Hypothesis, sociocultural perspectives, reader-response frameworks—highlights fiction's potential to unify linguistic, cognitive, emotional, and cultural dimensions of learning. Nonetheless, the application of fiction in the classroom requires careful planning, guided literary analysis, and appropriate scaffolding techniques to ensure it remains accessible and rewarding for students of varying proficiency levels.

Practical implications for educators include selecting texts that are level-appropriate, designing interactive tasks that promote discussion and engagement, and leveraging fiction as a vehicle for formative assessments that capture language growth rather than mere factual recall. Institutional support, professional development, and a willingness to experiment with text-based pedagogies can further ensure that fiction is utilized to its full potential.

Looking forward, research can delve deeper into comparative studies that examine the specific outcomes of fiction-based approaches across different cultural and linguistic contexts. Moreover, the integration of digital technologies—such as e-books, online reading communities, and interactive reading applications—merits further investigation to explore how they might enrich the use of fiction for language learners. Ultimately, the converging lines of evidence leave little doubt that fiction holds a key to unlocking not only new linguistic horizons but also a richer, more culturally attuned perspective on language learning.

REFERENCES

1. Collie, J., & Slater, S. (1987). *Literature in the Language Classroom: A Resource Book of Ideas and Activities.* Cambridge University Press.
2. Carter, R., & Long, M. N. (1991). *Teaching Literature.* Longman.
3. Lazar, G. (1993). *Literature and Language Teaching: A Guide for Teachers and Trainers.* Cambridge University Press.
4. Maley, A. (2001). Literature in the Language Classroom. In R. Carter & D. Nunan (Eds.), *The Cambridge Guide to Teaching English to Speakers of Other Languages* (pp. 180-185). Cambridge University Press.
5. Cook, G. (1994). *Discourse and Literature: The Interplay of Form and Mind.* Oxford University Press.
6. Hedge, T. (2000). *Teaching and Learning in the Language Classroom.* Oxford University Press.
7. Krashen, S. D. (1989). We Acquire Vocabulary and Spelling by Reading: Additional Evidence for the Input Hypothesis. *Modern Language Journal,* 73(4), 440–464.
8. Hall, G. (2005). *Literature in Language Education.* Palgrave Macmillan.
9. Rosenblatt, L. (1995). *Literature as Exploration.* Modern Language Association of America.

10. Byram, M. (1997). *Teaching and Assessing Intercultural Communicative Competence.* Multilingual Matters.
11. Elley, W. B. (1991). Acquiring Literacy in a Second Language: The Effect of Book-Based Programs. *Language Learning,* 41(3), 375–411.
12. Day, R. R., & Bamford, J. (1998). *Extensive Reading in the Second Language Classroom.* Cambridge University Press.
13. Paran, A. (2008). The Role of Literature in Instructed Foreign Language Learning and Teaching: An Evidence-Based Survey. *Language Teaching,* 41(4), 465–496.
14. Short, M. H. (1996). *Exploring the Language of Poems, Plays and Prose.* Longman.
15. Hill, D. (2008). Graded Readers in English. *ELT Journal,* 62(2), 184–204.

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AQLLI QISHLOQ XO‘JALIGIDA NEYRON TARMOQLARNI QO‘LLAGAN HOLDA RAQAMLASHTIRISH

Annotatsiya: *So‘nggi yillarda chuqur o‘rganilayotgan konvolyutsion neyron tarmoqlari (KNT), takroriy neyron tarmoqlari (TNT) va generativ neyron tarmoqlari (GNT) algoritmlari turli sohalarda, shu jumladan qishloq xo‘jaligida ham keng o‘rganilib, qo‘llanilmoqda.Ushbu maqola aqlli qishloq xo‘jaligida neyron tarmoqlarning qo‘llanilishi bo‘yicha tadqiqotlar umumlashtiriladi va tahlil qilinadi.*

Kalit so‘zlar*: chuqur o‘rganish, aqlli qishloq xo‘jaligi, neyron tarmog‘i, konvolyutsion neyron tarmoqlari, takroriy neyron tarmoqlari, generativ neyron tarmoqlari.*

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DIGITALIZATION USING NEURAL NETWORKS IN INTELLIGENT AGRICULTURE

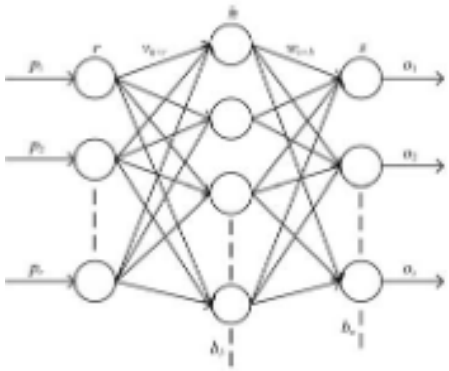
Annotation: *In recent years, convolutional neural networks (CNN), recurrent neural networks (CNN), and generative neural networks (GNT) algorithms have been widely studied and applied in various fields including agriculture. This paper summarizes and analyzes the research on the application of neural networks in smart agriculture.*

Keywords: *deep learning, intelligent agriculture, neural network, convolutional neural networks, recurrent neural networks, generative neural networks.*

KIRISH

Standart sun’iy neyron tarmog‘i (SSNT) modeli ko‘plab neyronlardan (ulangan protsessorlardan) iborat bo‘lib, ularning har biri real qiymatli faollashuvlar ketma-ketligini ishlab chiqaradi. Datchiklar atrof-muhit o‘zgarishlarini sezganda, kirish neyronlari faollashadi va boshqa neyronlar ilgari faol bo‘lgan neyronlarning vaznli ulanishlari orqali faollashadi. Muayyan muammoga va neyron topologiyasiga qarab, bu xatti-harakatlar hisoblash bosqichlarining uzoq zanjirlarini talab qilishi mumkin, bunda har bir bosqich tarmoqning agregat faollashuvini o‘zgartiradi. Bu kabi ko‘plab bosqichlarda faollashuvni qanday qilib to‘g‘ri belgilash haqidadir. Chuqur o‘rganish, bu bosqichlardan tashkil topgan hisoblash

modellarini yaratishga imkon beradi. Ko‘p darajadagi mavhumlik bilan ma’lumotlarni ifodalash uchun bir nechta ishlov berish qatlamlari amalga oshiriladi. Neyron tarmog‘i tushunchasi ko‘plab algoritmlar uchun asosdir. Neyron tarmog‘iga katta ishtiyoq paydo bo‘lishi bilan so‘nggi yillarda katta yaxshilanishlarga erishildi va qishloq xo‘jaligida katta e’tiborni tortdi. Uning qishloq xo‘jaligida qo‘llanilishidan biri bu tasvirni aniqlash bo‘lib u robototexnika va mexanizatsiyalashgan agrosanoat va qishloq xo‘jaligining jadal rivojlanishini cheklaydigan ko‘plab to‘siqlarni yengib chiqdi. Qishloq xo‘jaligidagi tadqiqotchilar tajribali dasturchilar bo‘lmasligi mumkin. Ular ko‘pincha chuqur o‘rganish uchun ishlatiladigan o‘rganish mexanizmlarini sinchkovlik bilan o‘rganmasdan to‘g‘ridan-to‘g‘ri ochiq dasturiy ta’minot ramkalaridan foydalanadilar.Algoritmlarni tushunish ma’lumotlarni tahlil qilishni osonlashtirishi va shu bilan qishloq xo‘jaligidagi tadqiqotlarni kuchaytirishi mumkin. Qishloq xo‘jaligi sohasidagi tadqiqotchilarga yaxlit tasavvurni taqdim etish va zamonaviy aqlli qishloq xo‘jaligini rivojlantirish uchun ushbu ish chuqur o’rganish (BP) va umumiy(DL) algoritmlarni (Konvolyutsion neyron tarmoqlari (KNT), takroriy neyron tarmoqlari (TNT) va generativ neyron tarmoqlari (GNT)) va ularning qishloq xo‘jaligidagi ilovalari, so‘nggi yillar ichida nashr etilgan ilovalarga e’tibor qaratildi. Pythonda BP, KNT, TNT va GNT uchun misol kodlari ham taqdim etilgan.



1-rasm BP neyron tarmog‘ining namunaviy tuzilishi.

Bu to‘liq ulanishda yashirin neyronlarning bir nechta qatlamlaridan tashkil topgan xatolarni teskari aloqa yordamida nazorat qilinadigan o‘rganish algoritmidir. Bu shuni anglatadiki, neyronlar qatlami neyronlarning yuqori qatlamiga ulangan va har bir qatlam afferent neyron kirishining chiziqli yoki chiziqli bo‘lmagan transformatsiyasi orqali neyronlarning amplitudasi chiqishini cheklash uchun faollashtirish funksiyasiga ega. Yashirin neyronlar ta’lim ma’lumotlarining asosiy xususiyatlarini doimiy oldinga tarqalishdan bilib olishlari mumkin.Ta’lim ma’lumotlari to‘plami {(p1, d1), (p2,d2), ..., (pr, ds)} mavjud deb faraz qiling. [vij]h × neyron kodi h va neyron kodi r o‘rtasidagi og‘irliklar, ib chegara neyron kodini bildiradi h, (d1,d2, ..., ds) kod chiqishini bildiradi. Netib - birinchi yashirin qatlamning kiritilishi. ai birinchi yashirin qatlamning chiqishi va bu birinchi yashirin qatlamning faollashtirish funksiyasi. netko - chiqish qatlamining kiritilishi.

fo - chiqish qatlamini faollashtirish funksiyasi, ok - chiqish qatlamining chiqishi. Har bir neyron kodining chiqishi oldingi neyronning chiqishi bilan belgilanadi.

Algoritmning asosiy formulalarini (1)-(3) tenglamalar sifatida ko‘rsatish mumkin. Yashirin qatlam kiritishiga kirish qatlami: $a_i = f_0(net_i^b) = f_0(\sum_{i=1}^{h} w_2 a_i + b_{ih})$ (1)

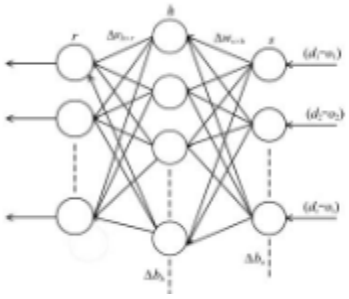
Chiqish qatlami kiritish: $net_i^b = \sum_{i=1}^{p} p_2 + b_h$ (2)

Chiqish qatlami chiqishi: $o_h = f_0(net_h^b) = f_0(\sum_{i=1}^{h} w_h a_i + b_{ih})$ (3)

Narx funksiyasi: Neyron tarmoqlar uchun xarajat funksiyasi model parametrlarini (og‘irliklar va chegaralar) optimallashtirishda muhim ro‘l o‘ynaydi. Bu erda BP ni ko‘rsatish uchun misol sifatida kvadratik yo‘qotish funksiyasi E ishlatiladi va u (4) tenglama bilan ifodalanadi:

$$E = \frac{1}{2}\sum_{h=1}^{o}(d_h - o_h)^2 = \frac{1}{2}\sum_{h=1}^{o}(d_h - f_0(net_h^b))^2 = \frac{1}{2}\sum_{h=1}^{0}\left[d_h - f_0(\sum_{h=1}^{h} w_h f_h(\sum_{h=1}^{p} v_h p_i + b_{hp}) + b_{hp}\right]^2 \quad (4)$$

Orqaga tarqalish xarajat funksiyasining gradient tushishiga va kontseptual tuzilishi 2-rasmda ko‘rsatilgan differentsiallashning zanjirli qoidasiga asoslanadi. Birinchidan, xato qiymatini olish uchun xarajat funksiyasining og‘irliklarini farqlash zarurati tug‘iladi. keyin xato qiymatini qaytaring. Ushbu jarayon davomida og‘irlik va chegarani doimiy ravishda sozlash va yangilash zarurati tug‘iladi



2-rasm Teskari aloqa tushunchasi

Faraz qilsak: Dwki - chiqish qatlamidan yashirin qatlamga og‘irlikni sozlash (lokal gradient), Dbok - chiqish qatlamidan yashirin qatlamgacha bo‘lgan

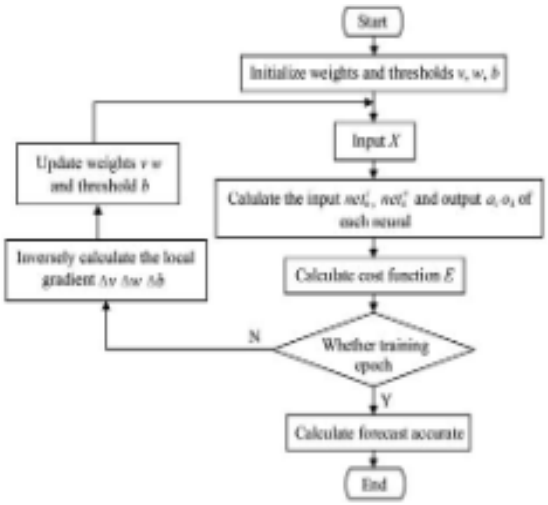
chegarani sozlash (mahalliy gradient), Dvij - yashirin qatlamdan og‘irlikni sozlash (mahalliy gradient) kirish qatlami, va DBhj - yashirin qatlamdan kirish qatlamiga chegarani sozlash (mahalliy gradient).

$$\Delta w_{hi} = -\eta \times \frac{\partial E}{\partial w_{hi}} = \eta \times (d_h - o_h) \times f_h^b(net_h^b) \times a_i$$
$$\Delta b_{hi} = -\eta \times \frac{\partial E}{\partial b_{hi}} = \eta \times (d_h - o_h) \times f_h^p(net_h^p) \times a_i \quad (5)$$

Orqaga tarqalish algoritmining asosiy formulalarini (5)-(6) tenglamalar sifatida keltirish mumkin. Yashirin qatlamdan chiqish qatlamiga og‘irlik va chegarani sozlash (mahalliy gradient):

$$\Delta v_{hi} = -\eta \times \frac{\partial E}{\partial v_{hi}} = \eta \times \left\{ \left[\sum_{h=1}^{i} (d_h - o_h) \times f_h^i(net_h^i) \times w_{hi} \right] \times f_h^i(net_h^i) \times p_{hi} \right\}$$
$$\Delta b_{hi} = -\eta \times \frac{\partial E}{\partial b_{hi}} = \eta \times \left[\sum_{h=1}^{i} (d_h - o_h) \times f_h^i(net_h^i) \times w_{hi} \right] \times f_h^i(net_h^i) \quad (6)$$

oraqli aniqlanadi.Teskari aloqa jarayonida og‘irliklar va chegaralar xato qiymatini teskari o‘zgartirish orqali o‘rnatiladi. BP algoritmining sxemasi 3-rasmda ko‘rsatilgan.



3-rasm BP dasturlash sxemasi

BP neyron tarmoqlari juda ko‘p afzalliklarga ega, jumladan kuchli chiziqli bo‘lmagan xaritalash qobiliyati va yuqori darajadagi o‘z-o‘zini o‘rganish va o‘z-o‘zini moslashtirish. Ular nutqni tahlil qilish, tasvirni aniqlash, raqamli belgilar va kompyuterni ko‘rish kabi ko‘plab sohalarda keng qo‘llaniladi.

XULOSA. Maqolada taklif etilgan neyron tarmoqlariga asoslangan ko‘p darajali KNT, TNT va GNT kabi chuqur neyron tarmoqlari tobora ommalashib bormoqda. Xulosa qilib aytganda, katta hajmdagi murakkab ma’lumotlar mavjud bo‘lganda, amaliy ma’lumotlardan odatiy namunalarni qanday ajratib olish muammosi hal qilinmagan muammodir.An’anaviy BP neyron tarmoqlari endi ba’zi hududlarda yetarli darajada samara bermay kelmoqda. Shunday qilib, KNT, TNT va GNT kabi chuqur neyron tarmoqlar tobora ko‘proq e’tiborni tortmoqda. Ixtisoslashgan tarmoqlar o‘rtasida zarur yechimlarni ishlab chiqishni taqsimlash, bilimlarni boshqarish, proaktiv boshqaruv jarayonlari o‘rtasida chuqur o‘rganishga o‘tishni tashkil etish va turli xil axborot tizimlari, usullari,ma‘lumotlarni tayyorlash va tahlil qilish rejimlarining bir model doirasida birlashtirilishini ta‘minlash mumkin.

Foydalanilgan adabiyotlar ro‘yxati

1.Schalkoff R J.Artificial Neural Networks. Vol.1. New York: McGraw-Hill,1997.

2.Schmidhuber J.Deep learning in neural networks: An overview.Neural Networks, 2015; 61: 85–117.

3.Simonyan K, Zisserman A. Two-stream convolutional networks for action recognition in videos. Advances in Neural Information Processing Systems, 2014; 1-4: 568–576

4.Abduraxmonov O.Q. “Ko‘p yadroli protsessorlarda kubik bazisli splaynlar asosida parallel algoritmlarni amalga oshirish tuzilmasini ishlab chiqish” Academic research in educational sciences 2 (3), 628-633

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MINTAQAVIY GEOAXBOROT PORTALINING RAQAMLASHTIRISH MA'LUMOTLARIDAN FOYDALANISH TUZILMASI SHAKILLANTIRISH

Annotatsiya*: Ushbu maqolada O'zbekiston Respublikasi Prezidentining 2020-yil 5-oktabrdagi PF-6079-sonli Farmoni asosida ishlab chiqilgan "Raqamli O'zbekiston–2030" strategiyasi doirasida Qashqadaryo viloyatida yaratilgan "Raqamli Qashqadaryo" geografik axborot-tahliliy geoportali haqida so'z boradi. Ushbu portal mintaqadagi madaniy yodgorliklarni asrash va turizmni rivojlantirish maqsadida innovatsion texnologiyalarni qo'llash orqali ishlab chiqilgan bo'lib, u fazoviy ma'lumotlarni shakllantirish, tahlil qilish hamda xorijiy va mahalliy turistlarga virtual sayohat imkoniyatlarini taqdim etish vazifalarini bajaradi. Tadqiqot natijalari mintaqaviy geoaxborot portalining turistik obyektlar, xizmat ko'rsatish sohasi va boshqa ma'lumotlarni yagona platformada jamlab, turizm sohasini raqamli innovatsiyalar bilan boyitish imkoniyatlarini ochib berishini ko'rsatadi. Maqolada geoportalning struktura va funksionalligi, uning turizmni rivojlantirishdagi ahamiyati, shuningdek, uning O'zbekiston bo'ylab raqamli platformalarni shakllantirishga qo'shadigan hissasi tahlil qilingan.*

Kalit so'zlar: *raqamli texnologiyalar, geoaxborot portali, turizm, madaniy yodgorliklar, virtual sayohat, fazoviy ma'lumotlar, turistik infratuzilma, turistik xizmatlar, interaktiv xarita.*

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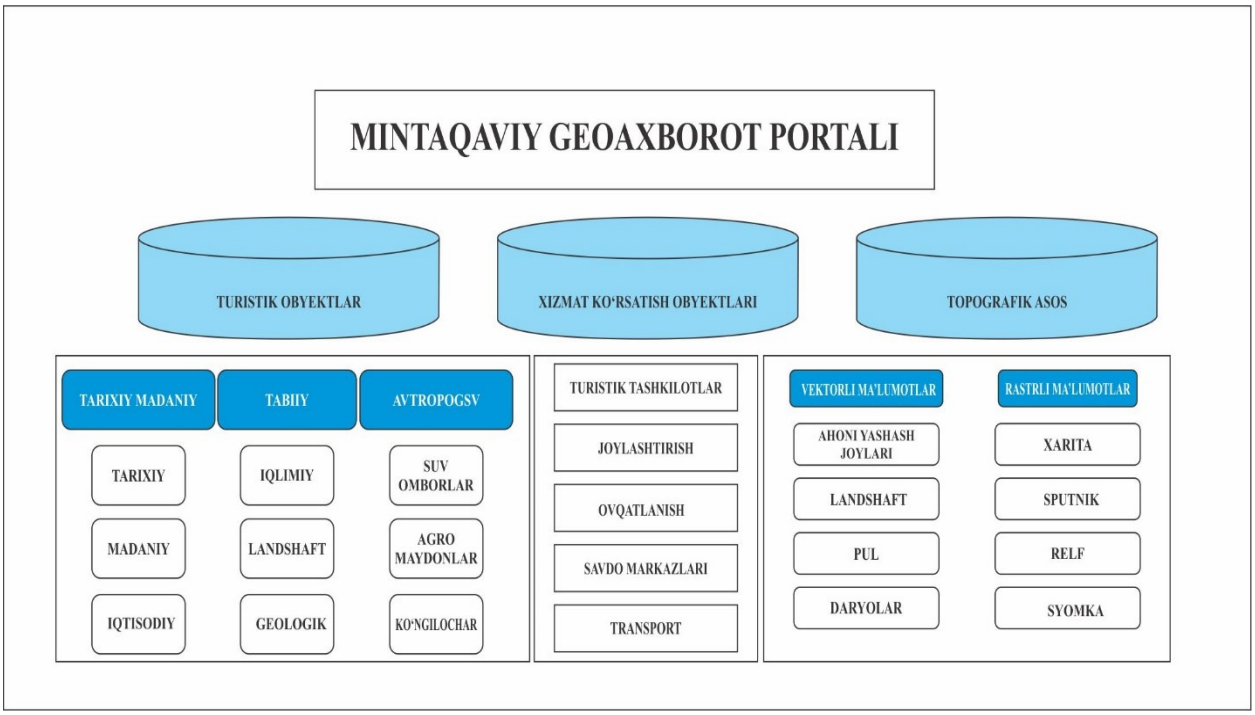
FORMATION OF THE STRUCTURE FOR USING DIGITALIZATION DATA OF THE REGIONAL GEOINFORMATION PORTAL

Abstract: *This article discusses the "Digital Kashkadarya" geographic information and analytical geoportal, developed as part of the "Digital Uzbekistan–2030" strategy in accordance with the Decree No. PF-6079 of the President of the Republic of Uzbekistan dated October 5, 2020. This portal is designed to preserve cultural heritage and promote tourism in the Kashkadarya region by applying innovative technologies. It serves to form and analyze spatial data while providing foreign and local tourists with opportunities for virtual travel. The research findings indicate that the regional geo-information portal integrates data on tourist attractions, service facilities, and other relevant information into a unified platform, enhancing tourism through digital innovations. The article analyzes the structure and functionality of the geoportal, its role in the development of tourism, and its contribution to the formation of digital platforms across Uzbekistan.*

Keywords: *digital technologies, geoinformation portal, tourism, cultural heritage, virtual travel, spatial data, tourist infrastructure, tourism services, interactive map.*

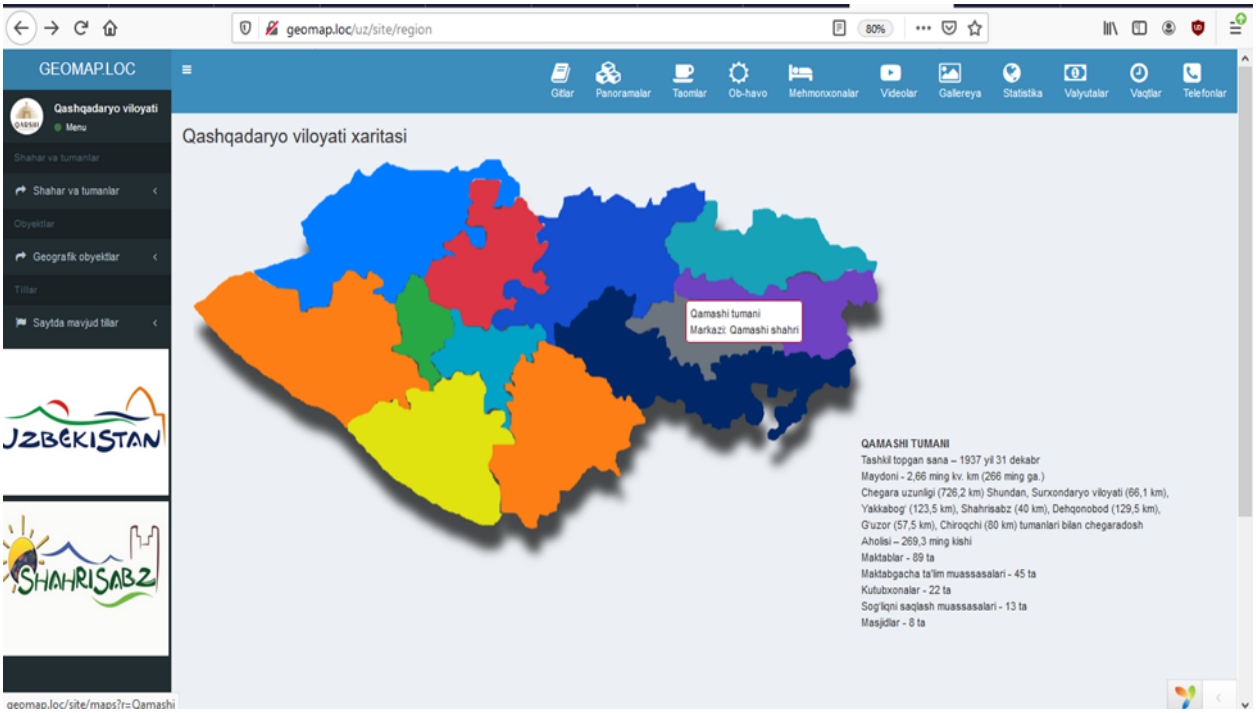
O‘zbekiston Respublikasi Prezidentining 2020-yil 5-oktabrdagi PF-6079-son Farmonigaasosan “Raqamli O‘zbekiston–2030” strategiyasi doirasida 2020-2022-yillarda Mahalliy davlat hokimiyat organining budjetdan tashqari mablag‘lari hisobidan Qashqadaryo viloyatida fazoviy ma’lumotlarni shakllantirish va tahlil qilishni ta’minlovchi “Raqamli Qashqadaryo” geografik axborot - tahliliy geoportalini yaratish tarkibida innovatsion texnologiyalarni qo‘llash orqali madaniy yodgorliklarni asrash va turizmni rivojlantirish uchun axborot tizimi ishlab chiqish belgilangan. Unga ko‘ra birinchi bosqichda viloyatdagi madaniy obyektlar haqidagi ma’lumotlar umumlashtirilishi va tasniflanishi lozim. Ikkinchi bosqichda esa xorijiy va mahalliy turistlar uchun viloyatdagi diqqatga sazovor joylar va madaniy meroslar haqida ma’lumot beruvchi, virtual sayohat qilish imkoniyatlarini o‘z ichiga oluvchi axborot tizimini ishlab chiqish belgilangan.

O‘zbekiston Respublikasi Prezidentining 2020-yil 5-oktabrdagi Farmoniga asosan “Raqamli O‘zbekiston–2030” strategiyasi doirasida 2020-2022-yillarda “Raqamli Qashqadaryo” geografik axborot - tahliliy geoportalini yaratish tarkibida innovatsion texnologiyalarni qo‘llash orqali madaniy yodgorliklarni asrash va turizmni rivojlantirish uchun axborot tizimi ishlab chiqish vazifasini bajarish maqsadida dissertatsiya ishida “Mintaqaviy geoaxborot portalining raqamlashtirish ma’lumotlaridan foydalanish tuzilmasi” shakillantirildi (2.9-rasm) va Qashqadaryo viloyati misolida **mintaqaviy geoaxborot portali** ishlab chiqildi (6-Ilova).



1.1-rasm. Mintaqaviy geoaxborot portalining raqamlashtirish ma'lumotlaridan foydalanish tuzilmasi

Mintaqaviy geoaxborot portal mintaqadagi turizmni rivojlantirish manbalari to'g'risidagi ma'lumotlar tizimida noaniqlik darajasini pasaytiradi, hududiy turistik mahsulotlarini yanada samarali rag'batlantiradi, mintaqaning ijobiy turistik imidjini shakllantiradi, mintaqada o'tkazilayotgan tadbirlar haqida foydalanuvchilarga xabar beradi.



1.2-rasm. Mintaqaviy geoaxborot portali hududni tanlash oynasi

Mintaqaviy geoaxborot portalining raqamlashtirish ma’lumotlaridan foydalanish tuzilmasidan ko‘rinib to‘ribdiki turistik obyektlar, xizmat ko‘rsatish obyektlari va ularning topografik ma’lumotlari aks etadi. Mintaqaviy yagona geoaxborot portalining ma’lumotlarni nashr qilish uchun serverga yuklanadi.

Ushbu portal orqali turizm sohasida mintaqaviy hududida joylashgan turistik resurslar kadastiri, xizmat ko‘rsatish xizmatlari, geoma’lumotlar olish, raqamli turistik mashrutlar, iqlim o‘zgarishlari, ekskursiyalar, gidlardan foydanish, turistik resurslarni baholash, prognozlash, modellash, statistika qilish va bron qilish to‘g‘risida batafsil ma’lumotlarni olishingiz mumkin.

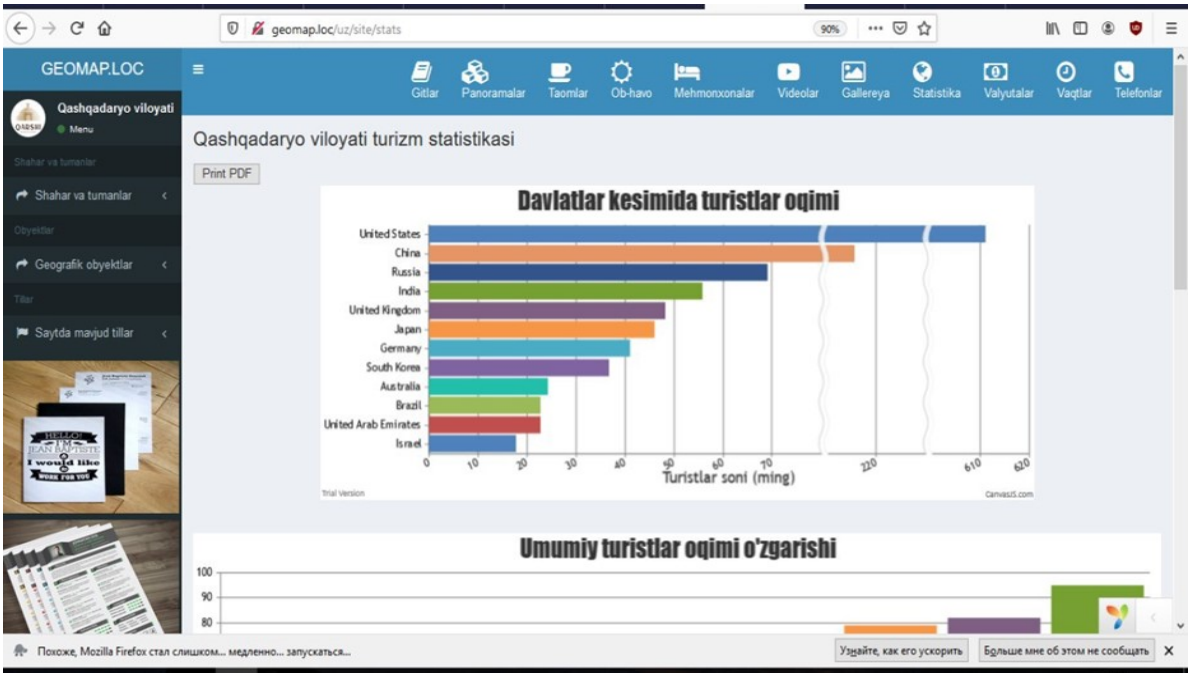
Geoaxborot portalida ikki xil turdagi (umumiy hamma uchun ochiq bo‘lgan va ma’lum bir guruh foydalanuvchilari uchun mo‘ljallangan) ma’lumotlar mavjud tizimdan to‘laqonli foydalanish uchun sizni tizim adminstratori tizimning admin foydalanuvchilar ro‘yxatiga qo‘shishi talab qilinadi. Buning uchun tizim administratoriga murojaat qilishingiz kerak.

Tizimning asosiy sahifasiga o‘tish

- Login va parolga ega bo‘lgan foydalanuvchilar
- Registrasiya qilinmagan foydalanuvchilar

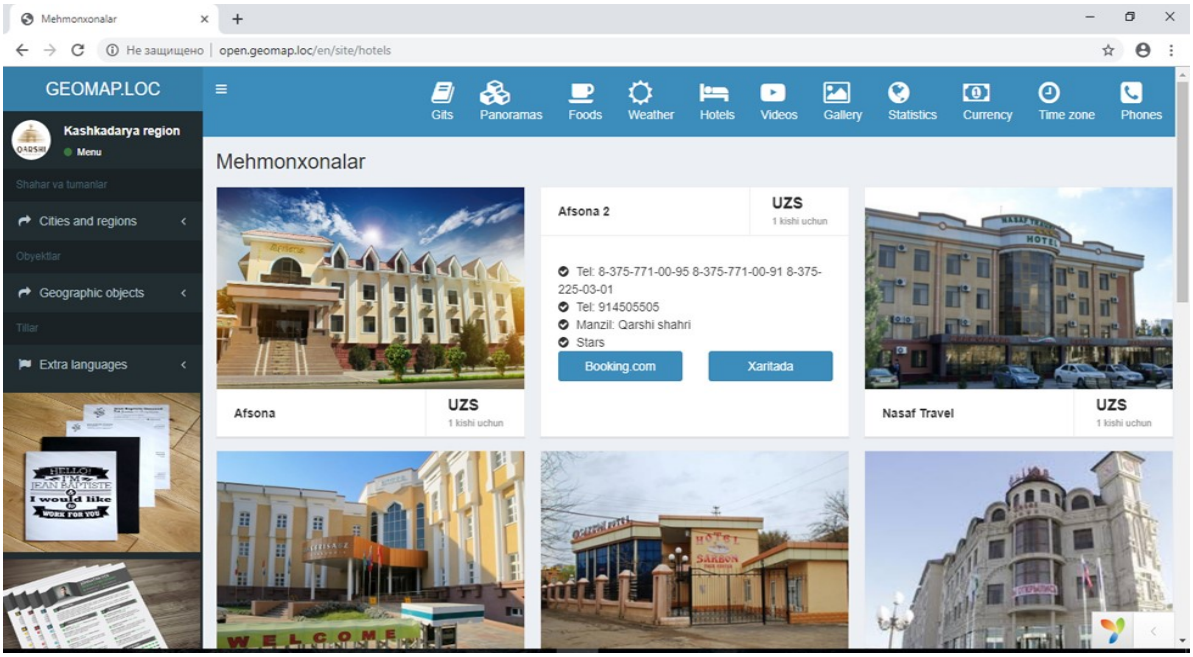
Ushbu oynada turistlar o‘ziga kerakli hududni tanlash xudud haqida ma’lumotlar olish u yerda qanaqa turizm turlari va turistik resurlar xizmatla sohasi, infratuzilmasi, iqlim o‘zgarishlari haqida ma’lumotlar olish.

Portalning bu oyna qismida adminstrator tomonidan mintaqada davlatlar tomonidan tashrif buyurgan turistlar oqimini tahlil qilish, monitoringi olib borish qaysi mavsumda qancha turist tashrif buyurgani va qaysi turizm yo‘nalishi bo‘yicha aniqlash imkonini beradi.



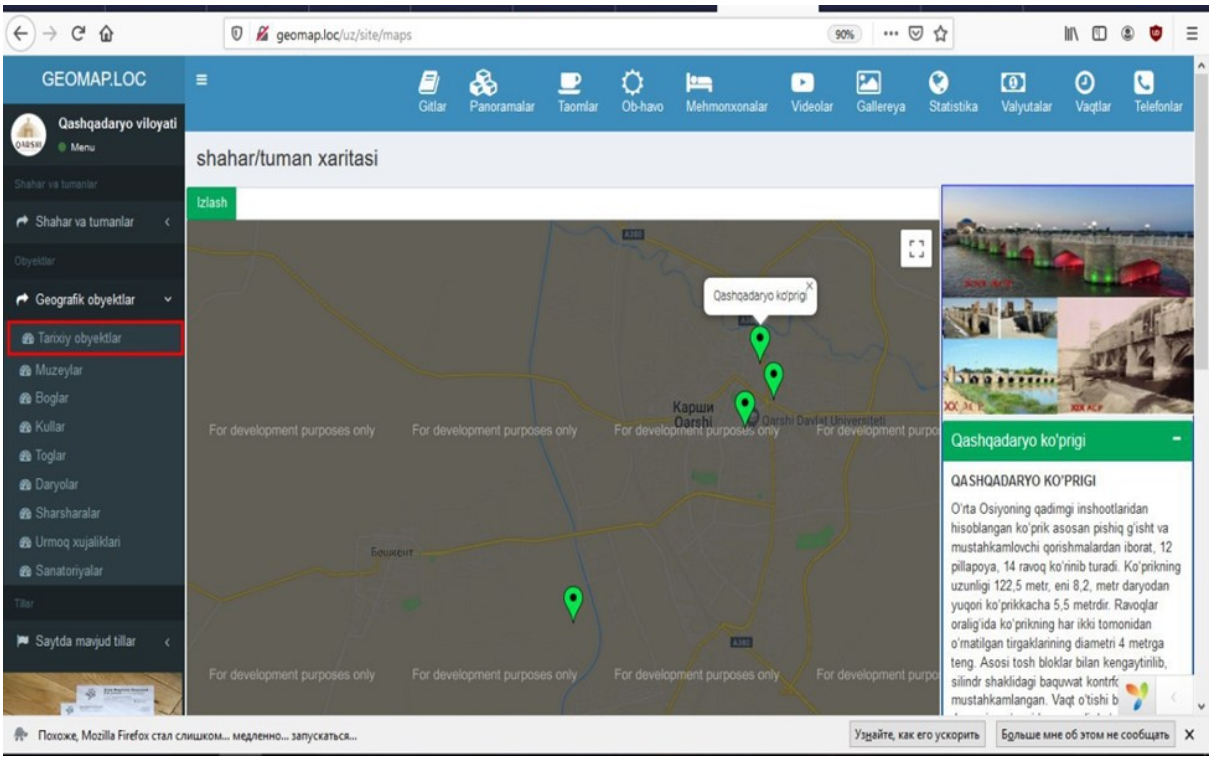
1.3-rasm Mintaqaviy geoaxborot portali hududlarda turistlar statistikasi oynasi

Turistlar mintaqaviy geoaxborot portali orqali hududlarda joylashgan mehmonhonalarni tanlash imkoniyatiga ega bo‘ladi. Mehmonxonlar veb saytlari orqali turistlar mehmonxonalarni oldindan bron qilish hamda xizmat turlari bilan tanishlari mumkin.



1.4-rasm. Mintaqaviy geoaxborot portali hududlardagi mehmonxonalar

Mintaqaviy geoaxborot portali hududlardagi turistik obyektlari qaysi hududda joylashgani va ularning tarixi geografik tuzilishi geolokasiyalari haqida ma’lumotlarni olish hamda tahlil qilish imkoniyatini beradi. Mintaqaviy yagona geoaxborot portali orqali turistlar hududlardagi ob-havo ma’lumotlarini olish bilan turistik mashrutlarini rejalashtirish imkonini beradi.



1.5-rasm. Mintaqaviy geoaxborot portali hududlardagi turistik obyektlari

Mintaqaviy geoaxborot portali orqali turistlar o‘zlari uchun hududlardagi gidlarni tanlash va ular bilan muloqat o‘rnatishlari mumkin.

Turistlarni mintaqadagi turizm obyektlari bilan tanishtirish mintaqaviy yagona geoaxborot portali orqali intraktiv xaritasidan obyektlar tanlash va ularga tur mashrutlarni yaratish imokinini beradi.

Mintaqaviy geoaxborot portali interaktiv xaritasida obyektlarni 3D real holatida ko‘rish va ta’suratlarni boyitish turistlarni qizqishini ortishi mintaqaviy turizm faoliyatini rivojalinishiga olib keladi. Iqtisodiyotni raqamlashtirish sharoitida turizm sohasida raqamli texnologiyalar, mobil va veb texnologiyalarini jamlanmasi mintaqaviy yagona geoaxborot portali shaklida bo‘ladi. Avvalo mintaqaviy geoaxborot portali mintaqadagi turistik portretni taqdim etishi va turizmni rivojlantirishda qo‘lay investitsiya muxitini shakllantirish hamda qo‘llab quvvatlanishi lozim. Turistik geoportal juda keng maqsadli auditoriya unda nafaqat turistlar, talabalar, ishchi xodimlar, olimlar, tatqiqotchilar uchun muhim ma’lumotlar manbai bo‘ladi.

Mintaqaviy geoaxborot portali turistik resurslar bo‘yicha ma’lumotlar bazasi va bankini shakllantirish orqali amalga oshiriladi. Bunday portallar sohadagi ma’lumotlarning noaniqlik darajasini kamaytirishga imkon beradi. Mintaqaviy yagona geoaxborot portali turizm sohasini innovatsion boshqarishda hamda uning rivojlantirish muxim ahamiyat kasb etadi.

Xulosa o‘rnida Qashqadaryo viloyati misolida ishlab chiqilgan mintaqaviy geoaxborot portali O‘zbekiston Respublikasi Prezidentining 2020-yil 5-oktabrdagi Farmonida belgilangan “Raqamli Qashqadaryo” geografik axborot-tahliliy

geoportalini yaratish tarkibida innovatsion texnologiyalarni qo‘llash orqali madaniy yodgorliklarni asrash va turizmni rivojlantirish uchun axborot tizimi ishlab chiqish vazifasini bajarishda ushbu mintaqada to‘plangan ma’lumotlar bazasi va portalning raqamlashtirish ma’lumotlaridan foydalanish tuzilmasi O‘zbekistonda bo‘lajak portal va platformalarni shakllantirishga xizmat qiladi.

Foydalanilgan adabiyotlar ro‘yxati

1. Abduvaliyev A.A. “Raqamli iqtisodiyot sharoitida turizm sohasini geoaxborot tizimlaridan foydalanish mehanizmini takomillashrtirishning nazariy va uslubiy asoslari” // Actual problems and prospects of the development of intelligent information and communication systems IICS-2020 Proceyedings of the Scientific Online International Conference Tashkent 2020 B. 51-53.
2. Abduvaliyev A.A. “Qashqadaryo viloyatidagi tarixiy-madaniy obyektlarning ma’lumotlar bazasini va bankini shakllantirish” // Servis. -2020, №2. B. 90-94.
3. Tuxliyev I.S., Abduvaliyev A.A Yangi O‘zbekistonda raqamli texnologiyalar orqali turizmning multiplikativ samarasini oshirish imkoniyatlari “Markaziy osiyo mintaqasida turizmni rivojlantirish istiqbollari: muammo va yechimlar” mavzusida xalqaro miqyosdagi ilmiy-amaliy anjuman ilmiy maqolalar va tezislar to‘plami - Qarshi. -2022, b. 13-1
4. Abduvaliyev A.A. “Raqamli iqtisodièt sharoitida turizm sohasida geoaxborot tizimi tushunchasining ijtimoiy-iqtisodiy mohiyati” // Servis. – 2022, №1 B. 96-100.
5. Abduvaliyev A.A. “Forecasting the prospects of the development of tourism of Kashkadarya province through the use of a geoinformation system” // Journal of management value & ethics ISSN-2249-9512 July-Sep 22 Vol 12 No.03 B.67-73.

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H5P AND LMS MOODLE INTEGRATION: TAKING EDUCATIONAL PLATFORMS TO A NEW LEVEL

Abstract: *This article analyzes the impact of H5P and Moodle integration on the educational process. It is shown that through H5P it is possible to create interactive course materials, tests, video tutorials and automate the assessment process in the Moodle system. This integration allows you to increase teaching efficiency, stimulate student activity and create a flexible learning environment. The article also discusses best practices and future development prospects for the development of Moodle and H5P.*

Keywords: *H5P, Moodle, interactive education, LMS, gamification, distance learning, digital learning.*

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H5P VA LMS MOODLE INTEGRATSIYASI: TA'LIM PLATFORMALARINI YANGI DARAJAGA KO'TARISH

Annotatsiya: *Ushbu maqolada H5P va Moodle integratsiyasining ta’lim jarayoniga ta’siri tahlil qilinadi. H5P orqali Moodle tizimida interaktiv dars materiallari, testlar, video darsliklar yaratish va baholash jarayonini avtomatlashtirish mumkinligi ko‘rsatib o‘tilgan. Ushbu integratsiya o‘qitish samaradorligini oshirish, o‘quvchilarning faolligini rag‘batlantirish va moslashuvchan ta’lim muhitini yaratish imkonini beradi. Shuningdek, maqolada Moodle va H5P ni o‘zlashtirish bo‘yicha ilg‘or tajribalar va kelajakdagi rivojlanish istiqbollari muhokama qilinadi.*

Kalit so‘zlar: *H5P, Moodle, interaktiv ta’lim, LMS, gamifikatsiya, masofaviy ta’lim, raqamli o‘qitish.*

Raqamli ta’limning rivojlanishi bilan o‘quv jarayonlarini yanada samarali va qiziqarli qilishga yordam beruvchi vositalarga bo‘lgan talab ortib bormoqda. Zamonaviy ta’lim muhitida interaktiv resurslar, masofaviy ta’lim vositalari va ochiq kodli platformalar ustunlik qilmoqda. Ayniqsa, Learning Management System (LMS) tizimlari, jumladan, Moodle kabi platformalar, zamonaviy ta’lim jarayonining ajralmas qismiga aylangan. Moodle dunyodagi eng mashhur ochiq kodli LMS platformalaridan biri bo‘lib, o‘qituvchilarga darslarni boshqarish, testlar yaratish va o‘quv jarayonini nazorat qilish imkonini beradi. Moodle’ning imkoniyatlarini yanada kengaytirish va o‘quv jarayonini interaktiv qilish uchun H5P texnologiyasi integratsiyasi muhim ahamiyat kasb etadi.

H5P (HTML5 Package) – bu ochiq kodli texnologiya bo‘lib, u foydalanuvchilarga turli xil interaktiv ta’lim materiallarini yaratish va LMS tizimlariga integratsiya qilish imkonini beradi. H5P vositalari orqali foydalanuvchilar interaktiv video, testlar, slaydlar, krossvordlar, "drag-and-drop" mashqlari, virtual laboratoriyalar va boshqa ko‘plab interaktiv elementlarni yaratishi mumkin. H5P ning Moodle bilan integratsiyasi esa o‘qituvchilar va talabalar uchun ta’lim jarayonini yanada samarali va osonlashtiradigan kuchli vositaga aylanadi.

H5P va Moodle integratsiyasi o‘quvchilarning o‘qish jarayoniga bo‘lgan qiziqishini oshirish va ularning faol ishtirokini ta’minlash uchun katta imkoniyat yaratadi. An’anaviy kurs materiallari odatda statik bo‘lib, ular o‘quvchilarning faolligini oshirishda yetarlicha samarali bo‘lmaydi. Biroq, interaktiv materiallar yordamida o‘quvchilar ta’lim jarayonida faol ishtirok etishlari, topshiriqlarni bajarayotganda real vaqt rejimida fikr-mulohazalar olishlari va o‘z natijalarini kuzatishlari mumkin. Misol uchun, H5P orqali yaratilgan interaktiv videolar o‘quvchilarni faol tinglovchilarga aylantirib, dars jarayonida ularning e’tiborini doimiy ravishda ushlab turish imkonini beradi.

H5P vositalarining Moodle bilan integratsiyasi o‘qituvchilarga ham ko‘plab afzalliklar taqdim etadi. Moodle’ning standart vositalaridan foydalangan holda test yoki topshiriq yaratish ba’zan ko‘proq vaqt talab qilishi mumkin. Biroq, H5P yordamida tezkor va intuitiv tarzda interaktiv mashqlar yaratish mumkin. Bundan tashqari, H5P ning avtomatik baholash tizimi orqali o‘qituvchilar talabalar tomonidan bajarilgan topshiriqlarni tez va samarali tekshirishlari mumkin. Bu esa o‘qituvchilarning yukini kamaytiradi va ularga darslarni yanada ijodiy tashkil etish imkoniyatini beradi.

Bundan tashqari, Moodle va H5P integratsiyasi ta’lim jarayonida gamifikatsiya (o‘yinlashtirish) elementlarini qo‘llash imkoniyatini oshiradi. Gamifikatsiya ta’lim jarayonida o‘quvchilarni yanada faol ishtirokchi qilish va ularning motivatsiyasini oshirish uchun samarali usullardan biri hisoblanadi. Masalan, H5P yordamida yaratilgan ball tizimi, darajalar, mukofot belgilar (badjlar) va yetakchilar doskasi orqali o‘quvchilarga o‘z bilimlarini sinab ko‘rish va yanada yaxshi natijalarga erishish uchun rag‘bat berish mumkin. Bunday yondashuv, ayniqsa, yosh o‘quvchilar yoki onlayn kurslarda qatnashayotgan talabalar uchun juda foydali bo‘lishi mumkin.

H5P va Moodle integratsiyasining yana bir muhim jihati – ta’lim jarayonining shaxsiylashtirilganligini oshirish imkoniyatidir. Zamonaviy ta’limda har bir o‘quvchining ehtiyojlariga moslashtirilgan individual ta’lim yondashuvlari muhim ahamiyat kasb etmoqda. H5P vositalari yordamida o‘qituvchilar har bir o‘quvchining bilim darajasiga mos interaktiv topshiriqlar yaratishlari mumkin. Misol uchun, agar bir o‘quvchi testda muayyan savollarga noto‘g‘ri javob bersa, u avtomatik ravishda qo‘shimcha tushuntirish beruvchi interaktiv dars materiallariga yo‘naltirilishi mumkin. Bu esa ta’lim jarayonini yanada samarali qiladi va o‘quvchilarga o‘zlari uchun qulay bo‘lgan tempda ta’lim olish imkonini yaratadi.

H5P ning Moodle bilan to‘liq integratsiyalashuvi ta’lim jarayonining monitoringi va baholash jarayonlarini ham samarali qiladi. Moodle platformasi o‘qituvchilarga o‘quvchilarning natijalarini tahlil qilish va ularning rivojlanish dinamikasini kuzatish imkoniyatini beradi. H5P ning test va interaktiv mashqlari orqali olingan natijalar Moodle’ning baholash tizimiga avtomatik ravishda ulanib, o‘quvchilarning yutuqlari va kamchiliklarini real vaqt rejimida kuzatish imkoniyatini yaratadi. Bu esa o‘qituvchilarga ta’lim jarayonini yanada samarali boshqarish va zarur bo‘lsa, o‘quv dasturlariga moslashuvchan o‘zgartirishlar kiritish imkonini beradi. H5P va Moodle integratsiyasi ta’lim muassasalari, korporativ o‘quv markazlari va masofaviy ta’lim platformalari uchun katta imkoniyatlar yaratadi. Bu integratsiya orqali o‘quvchilarga mustaqil ta’lim olish, real vaqt rejimida fikr-mulohazalar olish va baholash jarayonini avtomatlashtirish imkoniyati beriladi. Ayniqsa, masofaviy ta’lim tizimlari uchun H5P ning interaktiv elementlari talabalarning darslarga bo‘lgan qiziqishini oshirishga yordam beradi. Kelajakda sun’iy intellekt va adaptiv o‘qitish texnologiyalari bilan birga H5P va Moodle integratsiyasi yanada rivojlanib, individual o‘quv yo‘nalishlarini avtomatik ravishda moslashtirish va shaxsiylashtirilgan ta’limni ta’minlash imkoniyatini kengaytirishi mumkin.

H5P va Moodle integratsiyasining kelajakdagi rivojlanish istiqbollari haqida gapiradigan bo‘lsak, sun’iy intellekt va moslashuvchan ta’lim tizimlari bilan bog‘liq imkoniyatlar ta’lim jarayoniga yangi o‘zgarishlar olib kelishi mumkin. Misol uchun, sun’iy intellekt H5P orqali o‘quvchilarning natijalarini tahlil qilib, ularga individual ta’lim yo‘nalishlarini tavsiya qilish imkoniyatiga ega bo‘lishi mumkin. Bundan tashqari, kengaytirilgan reallik (AR) va virtual reallik (VR) texnologiyalari bilan integratsiya orqali ta’lim jarayonini yanada jonlantirish va real hayotga yaqinlashtirish mumkin.

Xulosa qilib aytganda, H5P va Moodle integratsiyasi ta’lim jarayonini yangi darajaga ko‘tarishga yordam beradigan kuchli vositadir. Bu integratsiya o‘qituvchilarga yanada samarali va interaktiv kurslarni yaratish imkonini beradi, o‘quvchilarga esa ta’lim jarayonida faol ishtirok etish va bilimlarni chuqurroq o‘zlashtirish imkoniyatini yaratadi. Moodle va H5P ning moslashuvchanligi va keng imkoniyatlari zamonaviy ta’limning rivojlanishi uchun katta ahamiyat kasb etadi va ularni kelajakda yanada rivojlantirish ta’lim sohasida yangi innovatsion yondashuvlarni yuzaga chiqarishi mumkin.

Foydalanilgan adabiyotlar:

1. Anderson, P., & Johnson, M. (2023). Enhancing online education: Interactive tools and strategies. Routledge.
2. Brown, K., & Lee, J. (2022). Learning management systems and their impact on digital education. Springer.
3. Smith, R. (2023). Gamification and interactivity in e-learning: A practical approach. Wiley.
4. Westin, T., & Hedman, J. (2024). H5P and Moodle integration: Transforming digital learning experiences. Elsevier.

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LANGUAGE LEARNING WITH THE HELP OF H5P: INNOVATIVE METHODS AND EFFICIENCY

Abstract: *H5P technology is one of the important tools for improving the effectiveness of language learning in the modern educational process. This article discusses the capabilities of the H5P platform, its application in language learning, interactive methods and effectiveness. Interactive tests, dialogue exercises and visual materials created using H5P significantly improve the learning process of students. By digitizing the learning process, it is possible to provide an individual approach and increase motivation. The results of the study show that H5P technology is an innovative and effective method of language learning.*

Keywords: *H5P, language learning, interactive technologies, innovative education, digital education, multimedia materials.*

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H5P YORDAMIDA TIL O‘RGANISH: INNOVATSION USULLAR VA SAMARADORLIK

Annotatsiya: *H5P texnologiyasi zamonaviy ta’lim jarayonida til o‘rganish samaradorligini oshirishda muhim vositalardan biri hisoblanadi. Ushbu maqolada H5P platformasining imkoniyatlari, uning til o‘rganishda qo‘llanilishi, interaktiv usullar va samaradorligi haqida so‘z boradi. H5P yordamida yaratilgan interaktiv testlar, dialog mashqlari va vizual materiallar o‘quvchilarning o‘zlashtirish jarayonini sezilarli darajada yaxshilaydi. O‘quv jarayonini raqamlashtirish orqali individual yondashuvni ta’minlash va motivatsiyani oshirish mumkin. Tadqiqot natijalari shuni ko‘rsatadiki, H5P texnologiyasi til o‘rganishning innovatsion va samarali usuli hisoblanadi.*

Kalit so‘zlar: *H5P, til o‘rganish, interaktiv texnologiyalar, innovatsion ta’lim, raqamli ta’lim, multimediaviy materiallar.*

Hozirgi globallashgan dunyoda xorijiy tillarni o‘rganish muhim kompetensiyalardan biriga aylandi. Ta’lim jarayonida innovatsion texnologiyalarning joriy etilishi til o‘rganish samaradorligini oshirishga yordam beradi. So‘nggi yillarda interaktiv vositalar, jumladan, H5P texnologiyasi yordamida ta’lim jarayonini yanada qiziqarli va samarali qilishga e’tibor qaratilmoqda. Ushbu maqolada H5P texnologiyasining mohiyati, uning afzalliklari, til o‘rganishda qo‘llanilishi va samaradorligi haqida fikr yuritamiz. H5P texnologiyasi orqali til o‘rganish jarayonini interaktiv va qiziqarli qilish mumkin. Til o‘rganishda eshitish, o‘qish, yozish va so‘zlashish ko‘nikmalarini rivojlantirish muhim sanaladi. H5P ushbu to‘rtta asosiy ko‘nikmani mustahkamlash uchun turli xil vositalarni taklif etadi.

H5P texnologiyasining mohiyati. H5P (HTML5 Package) – bu ochiq kodli interaktiv ta’lim platformasi bo‘lib, u turli media elementlari va interaktiv vazifalarni yaratishga imkon beradi. H5P vositalari yordamida o‘quvchilar o‘zlashtirish jarayonini yanada qiziqarli qilishlari, ta’lim jarayonida faol ishtirok etishlari mumkin. Ushbu platforma HTML5 texnologiyasiga asoslangan bo‘lib, brauzerda bevosita ishlaydi va qo‘shimcha dasturlarni o‘rnatishni talab qilmaydi.

H5P quyidagi imkoniyatlarni beradi:

- Interaktiv videolar yaratish va ularga savollar qo‘shish;
- Elektron viktorinalar, testlar va topshiriqlar tuzish;
- Rasmli va matnli kontentlar bilan bog‘langan mashqlar ishlab chiqish;
- Dialogli simulyatsiyalar va rolli o‘yinlar yaratish.

H5P ning qulayligi shundaki, u Moodle, WordPress va Drupal kabi platformalar bilan integratsiyalashgan holda ishlaydi. Bu esa ta’lim jarayonini raqamlashtirish va uni yanada innovatsion qilish imkonini beradi. H5P orqali til o‘rganish nafaqat o‘quvchilar, balki o‘qituvchilar uchun ham bir qator afzalliklarga ega. Traditsion dars uslublaridan farqli o‘laroq, H5P interaktiv elementlarni o‘z ichiga olgani bois, bilimlarni mustahkamlash va amaliy qo‘llash imkoniyatini kengaytiradi.

Ikkinchidan, H5P yordamida yaratgan topshiriqlar individual yondashuvni ta’minlaydi. O‘qituvchilar har bir o‘quvchining o‘zlashtirish darajasiga moslab topshiriqlar yaratishlari mumkin. Masalan, boshlang‘ich bosqichdagi o‘quvchilar uchun sodda mashqlar, ilg‘or bosqichdagilar uchun esa murakkab dialoglar yoki esse yozish mashqlari kiritilishi mumkin.

Uchinchidan, H5P ning yana bir muhim jihati – u multimediaviy imkoniyatlarni kengaytiradi. Rasm, audio, video va matnli materiallarni birlashtirish orqali til o‘rganish yanada samarali bo‘ladi. Masalan, talabalar yangi so‘zlarni o‘rganish jarayonida ularning talaffuzi va kontekstdagi ishlatilishini tinglashi, rasm bilan bog‘lab eslab qolishi mumkin.

H5P yordamida til o‘rganish uchun turli usullardan foydalanish mumkin. Quyida eng samarali metodlarni ko‘rib chiqamiz.

1. Interaktiv testlar va quizlar. H5P yordamida o‘qituvchilar so‘z boyligini oshirish, grammatikani mustahkamlash va talaffuzni yaxshilash uchun interaktiv testlar yaratishi mumkin. Masalan, gapdagi bo‘sh joylarni to‘ldirish, sinonim va antonimlarni topish, talaffuzni baholash uchun audio asosidagi testlar tuzish mumkin.

2. Dialog va rolli o‘yinlar. O‘quvchilarning muloqot qobiliyatini rivojlantirish uchun dialogli topshiriqlar juda foydalidir. H5P platformasida tayyorlangan virtual dialoglar orqali o‘quvchilar real hayotiy vaziyatlarga moslashishlari mumkin. Masalan, do‘konda xarid qilish, mehmonxonada xona band qilish yoki savdo muzokaralarini olib borish bo‘yicha mashqlar yaratish mumkin.

3. Interaktiv videolar. H5P da videolarni savollar bilan integratsiya qilish orqali o‘quvchilarning diqqatini jalb etish va ularning faolligini oshirish mumkin. Masalan, ingliz tilidagi film yoki suhbatdan olingan lavhalarga savollar qo‘shish orqali tinglab tushunish ko‘nikmalarini rivojlantirish mumkin.

4. Vizual va audio qo‘llanmalar. Til o‘rganishda vizual va audio materiallar muhim ahamiyatga ega. H5P yordamida talaffuzni to‘g‘ri o‘rganish, intonatsiyani yaxshilash va so‘zlarni yaxshiroq tushunish uchun audio va video mashqlar yaratish mumkin.

5. Gamifikatsiya elementlari. O‘quvchilarni rag‘batlantirish va ularning motivatsiyasini oshirish uchun o‘yin elementlarini qo‘shish mumkin. Masalan, til o‘rganish jarayonida mukofot tizimi, ball yig‘ish va reytinglar orqali o‘quvchilarni faol ishtirok etishga undash mumkin.

H5P ning samaradorligini oshirish uchun quyidagi tavsiyalarni hisobga olish lozim:

- O‘quvchilarning individual ehtiyojlariga moslashtirilgan mashqlar yaratish;
- Multimediyaviy elementlarni maksimal darajada qo‘llash;
- O‘yin elementlari orqali o‘quvchilarning motivatsiyasini oshirish;

Doimiy ravishda o‘quvchilarning fikr-mulohazalarini inobatga olib, topshiriqlarni yangilash.

H5P – bu zamonaviy ta’lim jarayonida innovatsion yondashuv sifatida til o‘rganish samaradorligini oshiruvchi kuchli vosita hisoblanadi. Uning yordamida o‘quvchilar nafaqat bilim olishadi, balki o‘rgangan materiallarini amaliyotda qo‘llash imkoniyatiga ega bo‘lishadi. Interaktivlik, multimediaviy materiallar va moslashtirilgan ta’lim jarayoni tufayli H5P til o‘rganish bo‘yicha eng samarali texnologiyalardan biri bo‘lib bormoqda. Shunday ekan, zamonaviy ta’lim jarayonida H5P ning imkoniyatlaridan keng foydalanish kelajak avlodning til o‘rganishdagi muvaffaqiyatini ta’minlashga xizmat qiladi.

Foydalanilgan adabiyotlar:

1. Al-Samarrai, S., & Bajracharya, H. R. (2022). Digital Learning Technologies in Education: Trends and Challenges. Cambridge University Press.

2. Wang, H., & Smith, J. (2021). Interactive Learning with H5P: Enhancing Student Engagement in Language Education. Journal of Educational Technology & Society, 24(3), 45–60.
3. Jones, P., & Lee, C. (2023). Gamification and Digital Learning: The Role of Interactive Tools in Language Acquisition. Oxford University Press.
4. Brown, R. (2020). Multimedia and Language Learning: A New Era of Digital Education. Springer.

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ISSUES OF USING ENVIRONMENTALLY FRIENDLY PRODUCTS TO REPLACE HARMFUL POLYETHYLENE BAGS IN THE SOCIAL SPHERE

Abstract: *The article provides a detailed overview of global geoecological problems in the world, their impact on Uzbekistan, in particular the problem of Waste landfills in our country and polyethylene pollution. It also examines the research of local and international scientists on this issue, and provides various solutions and recommendations to prevent this problem.*

Keywords: *Polyethylene bag, Eco-bag, plastic waste, greenhouse effect, ecology, Kalika (Calico), toxic substances, Waste landfills, polyethylene.*

Introduction: There are many geo-ecological problems on our planet today, and they are increasing day by day. The 15 biggest geo-ecological problems of 2024 were recently announced. The list is headed by problems such as global warming, poor governance (in relation to the climate crisis), food waste, biodiversity loss, and plastic pollution.

Of the above problems, one of the most urgent in today's rapidly developing industry is plastic pollution. After all, this product is not only a cheap raw material in industrial sectors, but also increasingly becomes the most commonly used product in people's daily lives. Plastic products enter people's daily lives in various forms.

Methods: The article examines in detail the causes of this problem, develops several proposals and recommendations for its prevention and the use of substitute products. In particular, the article uses methods such as geographical comparison and statistical analysis.

Results: Every year, 3 trillion tons of plastic bags are used worldwide. If we tied all the plastic bags on earth together, it would be enough to wrap the Earth 4,200 times. In one second, 160,000 plastic bags are used and thrown away worldwide. This is certainly not a small number! Different countries have come up with their own solutions to solve the problem. For example, in the UK, a plastic bag tax was introduced, which resulted in 15 billion plastic bags being taken out of circulation [4].

This problem is not new for Uzbekistan, but it is still one of the problems that has not yet found a solution. Therefore, if we do not find a solution to such problems now, it may have a negative impact on the future of young generations. In Uzbekistan, 30 million cubic meters of household waste is generated annually, which is collected at more than 230 sites. The sites where waste is collected are mostly lowlands, ravines, and quarries outside cities.

Figure 1. Waste landfills in Uzbekistan

According to official data, for every million tons of household waste, there are 360,000 tons of food waste, 160,000 tons of paper and cardboard, 55,000 tons of rags, up to 45,000 tons of plastic, etc. They also contain large amounts of materials such as metal (especially non-ferrous metals), glass, wood, and rubber [1].

Currently, there are 221 Waste landfills across the country, ranging in size from 0.5 hectares to 70-80 hectares. The lifespan of most Waste landfills is 20-30 years. These Waste landfills were built without due attention to waste disposal requirements [2].

In addition, there are also illegal Waste landfills, and in 2024, 1,928 illegal Waste landfills were identified on an area of about 721 hectares in the country [3].

Table-1

Regions with the largest illegal Waste landfills in Uzbekistan

Name of regions	Number of landfills	Area of landfills
Tashkent region	363	98,6 hectares
Republic of Karakalpakstan	243	63,2 hectares
Navoi region	216	112,4 hectares

Namangan region	195	65,2 hectares
Andijan region	180	42 hectares
Khorezm region	168	22 hectares

Note: The table was compiled by the authors based on information from the official website of "Uzbekkosmos".

Plastic bags release toxic substances from themselves with the help of heat. For example: the water inside the polyethylene shell has been exposed to the sun at least 3-4 times before it reaches your hands from the factory, and under the influence of the sun, the plastic releases toxic substances into the water. When you drink it, it can lead to factors that can cause cancer. Or, you put hot bread in a plastic bag and go home and eat it, but by the time you get home, the plastic will have transferred its toxic substances to the bread, and as a result of consuming it, the human body can be poisoned.

The following can be noted as a solution to prevent and solve this existing problem. Prove that everyone uses organic shoppers, eco-bags, paper bags and boxes instead of plastic bags, and that this is both environmentally and financially preferable (Figure 2).

Figure 2. Polyethylene bags replacement shoppers

It is also necessary to show that in our daily lives we should not bring plastic close to the products we consume. It is advisable to do this in two stages:

In the first stage, the importance and convenience of eco-bags will be promoted among the population (articles and abstracts on this topic will be published in newspapers, magazines, and other types of media).

In the second stage, our domestic markets will be saturated with these products.

Eco-bags can be used for a variety of tasks, and importantly, since they are 100% organic, they do not require recycling. Many times when we go to markets or various shopping malls, we ask vendors to put our purchased products in plastic bags. This certainly poses a great threat to our ecology.

Now imagine how much resources we would save and how beneficial it would be for the environment if each of us went shopping with our own organic shoppers. Especially in our country, it is much cheaper. For example, the price of 1 meter of cotton calico fabric is 16,100 soums (fabric width 160 cm.) From 1 meter of this fabric, you can sew 4-5 organic shoppers. Bags for storing dry products can be made from 10-15 meters of calico fabric.

An approximate calculation of the economic and environmental benefits of an eco-bag and the costs for its implementation has also been made, and the costs for each eco-bag, of course, depend on its size. An eco-bag with dimensions of 30 cm. height and 20 cm. width will cost an average of 14,830 soums. Of course, it is cheaper than a 5-kilogram 30x50 cm. polyethylene bag (1 package is 400 soums). But one person uses 365 plastic bags during the year and spends 146,800 soums. Since eco-bags are reusable, they can serve you for up to 2 years. For this reason, reusable eco-bags are a much cheaper and more convenient solution.

So, eco-bags will help us save 131,970 soums per year. If we initially produce 1,000 eco-bags for the domestic market, we will need a total of 15 million soums. At the same time, it is advisable to allocate funds for advertising eco-bags. After all, later, when the project begins to yield positive results, we will be able to transfer the production of eco-bags to private entrepreneurs. We can also produce local brands of eco-bags and export them.

If Eco-bags are introduced into mass consumption, the following can happen:

- Unemployed people, especially women, can be employed to sew eco-bags;
- Small businesses and private entrepreneurship can further develop;
- Ecological culture among the population will develop;
- Natural resources will be saved;
- Anthropogenic impact on the environment will be reduced;
- The outskirts of cities and villages will be cleaned of waste;

Conclusions: Whatever you do, you do it for your own health and the future of your children. Because the plastic bag you use does not leave your life even after it goes to the landfill. There, during decomposition, it breaks down into microplastics and can end up in all the vegetables, fruits and even water you eat. Burning them is also not an option to solve the problem, because when you burn it, substances that deplete the ozone layer rise into the air.

References:

1. A.N. Xodjimatov, N.R. Alimqulov “Ekologiya va tabiatni muhofaza qilish” darslik. Toshkent: “Inovatsion rivojlanish nashriyot – matbaa uyi” 2020. - 228 bet
2. https://kun.uz/news/2019/07/24 The problem of waste in Uzbekistan: overflowing landfills, unprotected nature, the need for a new mechanism

3. https://uzspace.uz/oz/news/view/563 Information from the official website of the Agency for Space Research and Technologies under the Ministry of Digital Technologies of the Republic of Uzbekistan.
4. https://earth.org/the-biggest-environmental-problems-of-our-lifetime.
5. Resolution of the State Committee of the Republic of Uzbekistan for Ecology and Environmental Protection No. 3197 “On approval of the Instructions for the design and use of solid household waste landfills”. 19.11.2019. Tashkent. https://lex.uz/uz/docs/-4600882
6. Акабоев, И. З. (2019). Важность картирования населения в географических исследованиях. *Экономика и социум*, (12 (67)), 162-164.
7. Akaboyev, I., & Tokhtanazarov, A. (2022). Geoecological problems caused by anthropogenic activity at the varzik reservoir. Theoretical & Applied Science, 116, 764-768.
8. Akaboyev, I. Z. (2024). Iqlim o‘zgarishi va uning oqibatlarini o‘rganishda GATdan foydalanish imkoniyatlari. *Hamkor konferensiyalar*, *1*(3), 303-306.
9. Akaboyev, I. Z. (2024). Possibilities of using geographic information systems in the study of mountain glaciers. *Экономика и социум*, (5-2 (120)), 1632-1636.
10. Акабоев, И. З., Хакимов, М. М., & Турдалиев, И. Э. (2023). ЗНАЧЕНИЕ ЭКОЛОГИЧЕСКИХ КАРТ В ОХРАНЕ ПРИРОДЫ И ОКРУЖАЮЩЕЙ СРЕДЫ. *Экономика и социум*, (6-1 (109)), 593-598.
11. Akaboyev, I. Z., & Qarorov, Z. R. Iqlim o'zgarishi natijasida yuzaga kelgan ayrim geoekologik muammolar.". *Янги Узбекистонда география фани ва таълимидаги муаммолар" мавзусидаги республика илмий-амалий конференцияси материаллари, Жиззах-2022*, 431-433.

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IQLIM O‘ZGARISHLARIGA QARSHI KURASHISHDA QISHLOQ XO‘JALIGIDA BARQAROR AMALIYOTLAR

Annotatsiya. *Ushbu maqolada iqlim o‘zgarishlariga qarshi kurashishda qishloq xo‘jaligida barqaror amaliyotlarning ahamiyati va ularni amalga oshirishning samaradorligi tahlil qilinadi.*

Kalit so‘zlar. *iqlim o‘zgarishlari, barqaror qishloq xo‘jaligi, ekologik amaliyotlar, suv resurslari, qurg‘oqchilik, ekologik barqarorlik, iqlimga moslashish.*

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SUSTAINABLE AGRICULTURAL PRACTICES IN THE FIGHT AGAINST CLIMATE CHANGE

Abstract. *This article analyzes the importance of sustainable practices in agriculture and the effectiveness of their implementation in combating climate change.*

Keywords. *Climate change, sustainable agriculture, ecological practices, water resources, drought, ecological sustainability, climate adaptation.*

Kirish. Iqlim o'zgarishlari insoniyat va ekologiya uchun jiddiy tahdidlarga sabab bo'lib, uning qishloq xo'jaligi sohasiga ta'siri nafaqat ishlab chiqarish jarayonlariga, balki butun oziq-ovqat ta'minoti tizimiga ham bevosita ta'sir qilmoqda.

Asosiy qism. Qishloq xo'jaligi iqlim o'zgarishlarining eng sezilarli ta'sirini boshdan kechirayotgan soha bo'lib, bu o'zgarishlar ekinlar hosildorligini pasaytirish, hayvonot va o'simlik dunyosiga zarar yetkazish, shu bilan birga ekologik barqarorlikni buzish xavfini keltirib chiqaradi. Shu sababli, qishloq xo'jaligida barqaror amaliyotlarning joriy etilishi muhim ahamiyatga ega. Barqaror qishloq xo'jaligi deganda, tabiiy resurslarni samarali va mas'uliyatli boshqarishni, ekologik muvozanatni saqlashni va qishloq xo'jaligi faoliyatini iqtisodiy va ijtimoiy jihatdan barqaror tarzda rivojlantirishni anglatadi. Bu amaliyotlar, o'z navbatida, iqlim o'zgarishlariga qarshi kurashishda muhim vosita bo'lib xizmat qiladi. Ushbu maqolada barqaror qishloq xo'jaligi amaliyotlarining iqlim o'zgarishlariga qarshi kurashishda qanday ahamiyatga ega ekanligi va ularning qanday amalga oshirilishi tahlil qilinadi.

Iqlim o‘zgarishi O‘zbekistonda ham qator salbiy oqibatlarga olib kelyapti:

- Harorat ko‘tarilishi natijasida suvning bug‘lanish koeffitsiyenti oshishi hududlarda suv resurslari kamayishiga, tanqisligiga ta’sir etmoqda
- Ekologik tanglik oqibatida yil davomida umuman yog‘ingarchilik bo‘lmagan kunlar soni ko‘paymoqda;
- Tuproqning namligi kamayishi hisobiga takroriy qurg‘oqchilik xavfi ortmoqda va hosildorlik ko‘rsatkichlari tushib ketmoqda
- Atmosfera havosida katta maydonlarda changlanish ortmoqda
- Isish va sovish kabi anomal hodisalarning o‘zgarishi qishloq xo‘jaligi mahsulotlari va mevalarning nobud bo‘lishiga olib kelmoqda.

Iqlim o‘zgarishlarining qishloq xo‘jaligi va iqtisodiyotga ta‘sirini tahlil qilish uchun ekonometrik modeldan foydalanish mumkin. Bunday model yordamida quyidagi asosiy omillarni baholash mumkin:

- **Harorat va suv resurslari**: Haroratning ortishi va suv manbalarining kamayishi o‘rtasidagi bog‘liqlikni o‘rganish. Ekonometrik tahlil orqali haroratning oshishi va suvning bug‘lanish koeffitsiyentining kamayishi qishloq xo'jaligi hosildorligiga qanday ta’sir qilishi tahlil qilinadi.
- **Yog'ingarchilik va tuproq namligi**: Yog‘ingarchilikning kamayishi va tuproqning namligi pasayishi o‘rtasidagi munosabatni baholash. Shuningdek, bu omillarni tahlil qilish orqali qishloq xo‘jaligi mahsulotlarining hosildorligi qanday pasayishi mumkinligi haqida prognozlar chiqarish.
- **Anomal haroratlar va hosildorlik**: Isish va sovish kabi anomal hodisalar qishloq xo'jaligiga qanday salbiy ta'sir qilayotganini baholash. Buning uchun harorat o‘zgarishlari va hosildorlik darajasi o‘rtasidagi bog‘liqlikni tahlil qilish mumkin.

Iqlim o‘zgarishlarining iqtisodiyotga ta’sirini o‘lchash uchun **panel ma’lumotlar modeli** yoki **regressiya tahlili** kabi metodlardan foydalanish mumkin. Bu tahlil orqali harorat, yog‘ingarchilik, tuproq namligi, va boshqa ekologik omillarning hosildorlikka qanday ta’sir ko‘rsatganini aniqlash mumkin.

Xulosa. Iqlim o‘zgarishlari O'zbekistonda qishloq xo‘jaligiga salbiy ta’sir ko‘rsatib, suv resurslari va hosildorlikni kamaytiradi. Ekonometrik tahlil haroratning ortishi va yog‘ingarchilikning kamayishi bu ta’sirlarni kuchaytirishini ko‘rsatadi. Barqaror amaliyotlar va samarali siyosatlar zarur.

Foydalanilgan adabiyotlar ro‘yxati.

1.O‘zbekiston Respublikasi Vazirlar Mahkamasining “Ekologiya, atrof-muhitni muhofaza qilish va chiqindilar bilan bog‘liq ishlarni amalga oshirish jamg‘armasi mablag‘larini shakllantirish va ulardan foydalanish tartibi to‘g‘risidagi” qarori, 15.06.2017 yildagi 375-son

2. Toshpo‘latov D.Sh. Ekonometrikadan amaliy mashg‘ulotlar. O‘quv qo‘llanma. A., Step by step print, 2024, 212 b.

3. Akramjonov S., Toshpulatov D. Ekonometrika fanini o'qtishda innovatsion usullar //Scienceweb academic papers collection. – 2023.

4. D.Toshpo‘latov Sh.Akramjonov. Ekonometrika fanini o‘qitish samaradorligini oshirishda spss dasturidan foydalanish. Ma’mun akademiyasi axborotnomasi: ilmiy

jurnal 2023-yil №12/3 277 bet
5. Sh.Akramjonov**.** Ekonometrik tahlil orqali Andijon viloyatidagi Navigul korxonasining qayta ishlash faoliyatlari Экономика и социум" №11(126) 2024 ISSN 2225-1545

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AUTHENTIC MATERIALS AS A FACTOR IN THE FORMATION OF STUDENTS' FOREIGN LANGUAGE COMMUNICATIVE COMPETENCE IN CLT

Abstract: *As part of teaching a foreign language, the teacher constantly searches for effective ways and means of forming and developing communicative competences of students. One of the main parameters of the training content is the use of authentic material. Authentic materials such as oral and written texts, as well as other sources that are the real product of native speakers not intended for educational purposes. This article reveals the important features of authentic sources in improving the communicative competence of students through communicative methods.*

Key words: *communicative competences, authentic materials, educational purposes, important features of authentic sources, authentic listening materials.*

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HAQIQIY MATERIALLAR CLTDA TALABALARNING CHET TILIDAGI KOMMUNIKATIV KOMPETENTSIYASINI SHAKLLANTIRISH OMILI SIFATIDA

Annotatsiya: *Chet tilini o'qitish jarayonlarida o'qituvchi doimiy ravishda o'quvchilarning kommunikativ kompetentsiyalarini shakllantirish va rivojlantirishning samarali usullari va vositalarini izlaydi. Ta'lim mazmunining asosiy parametrlaridan biri bu autentik materialdan foydalanishdir. Og'zaki va yozma matnlar singari autentik manbalar va til sohiblarining asl mahsuloti bo'lgan boshqa manbalar ta'lim maqsadlari uchun mo'ljallanmagan. Ushbu maqolada kommunikativ usullar orqali talabalarning kommunikativ kompetensiyasini oshirishda autentik manbalarning muhim xususiyatlari ochib berilgan.*

Kalit so'zlar: *kommunikativ qobiliyatlar, autentik materiallar, o'quv maqsadlari, autentik manbalarning muhim xususiyatlari, tinglash uchun mo'ljallangan autentik manbalar*

Introduction The methodology of teaching foreign languages is constantly changing. There are discussions among experts about which of the methods for

studying foreign languages is the most effective[1]. Adherents of the classical method prefer to study the language in the traditional way, since this develops basic linguistic skills: the ability to reproduce spoken language, listening comprehension, reading texts and writing skills. With this approach, vocabulary increases significantly and phonetics improves. Those who prefer the communicative method also notice that it has some disadvantages, namely: if you study the language comprehensively, there is practically no time left for oral practice, and in most cases, teachers are not native speakers of the language being studied.

However, at this historical stage and in modern conditions, our main goal is to develop students' communication skills aimed at understanding and independently reproducing information in a foreign language, based on a specific communication situation, as well as implementing communication that complies with the rules of communication, taking into account the national and cultural characteristics of the country of the language being studied.

The communicative methodology is based on the following principles:

1. Involvement of the foreign language teacher in the process of

communication of students, creating the illusion of a life situation, and not a boring lesson. The teacher, within the framework of the lesson, creates conditions for immersion in a foreign language environment.

2. Using training exercises that maximally recreate communication situations, while allowing not to deviate from the didactic learning goals.

3. Directing the students' main attention to the final goal and the general content of the statement, which relieves mental tension and fear of making a mistake, thereby creating a favorable atmosphere in the classroom, provoking a desire to participate in the communication process.

Literature review Today, one of the main methods of forming students' communicative competence in the language they are learning is the use of authentic materials in educational processes.

The problem of authentic materials used in teaching foreign languages causes a lot of controversy in itself. The very concept of authentic materials appeared in the methodology not so long ago, which is connected with the modern setting of goals of teaching a foreign language. In modern foreign and domestic methodology, the term "authentic materials" has practically supplanted the term "original materials", which

was used earlier. At the same time, the degree of authenticity of educational materials is a serious methodological problem.

In foreign pedagogical practice, there are also various approaches to defining the concept of authenticity. The British linguist Henry Widdowson, widely known for his contribution to the field of teaching communicative language, considered methodological authenticity in teaching foreign languages[2]. As an authority on applied linguistics and language teaching, learning and teaching English in

[1] Prus L.V., Berezovskaya L.G., Mlynar E.Sh., pnojournal. wordpress.com/archive18/18-02/ Publication date: 05/1/2018 No. 2 (32). pp. 109-112.

[2] Widdowson H.G. Aspects of Language Teaching. Oxford: Oxford University Press, 1999.

particular, Widdowson points to the need to view authenticity not only as a property of speech production but also as an integral part of the learning process. Authenticity is seen by him as a property of educational interaction. That is, authentic material itself, be it text, audio or video recording, does not carry any special methodological and didactic benefit; the process of working with this material is important. It plays a key role in the process of solving the goals and objectives of communicative learning. In other words, material taken out of context and intended by the author for native speakers, and not for language learners, cannot be considered methodologically authentic. According to Widdowson, authenticity is created in the learning process, in the course of interaction between students and the teacher and with each other in the process of working with this or that material.

Research Methodology) The concept of authentic material is interpreted differently in different sources. The concept of authentic material has been widely covered by foreign scholars, and according to N.A. Savinova, L.V. Mikhaleva, non-authentic texts are texts specially written for those learning a foreign language as their mother tongue, which cover a certain grammatical topic, lexical included in the educational process to strengthen the material[3].

K. Morrow considers the authentic text to be an example of a living language. According to him, an authentic text is a speech fragment created in oral and written speech in order to convey this or that information for a real listener[4]

Unlike D. Harmer and K. Morrow, D. Nunan investigates not only real texts, but also other materials and says that any material that is not created for the purpose of language learning can be called authentic material[5]. In fact, in his lessons, he encourages his students to bring examples of authentic language data from "real world" contexts outside the classroom into the classroom. They practice listening and reading authentic language from a variety of sources, including television and radio broadcasts, taped interviews, meetings, interviews and announcements.

In addition, some researchers argue that there is need for more authentic materials in the classroom because of the huge gap between language learning materials and authentic materials in English language teaching.

In our opinion, authentic materials are texts written by native speakers and published in contexts specifically designed for native speakers, with themes, language, syntax, and various lexical and grammatical devices that are intended for native speakers and presented to their audience through mass media.

The ability to speak English competently is closely related to its teaching. The modern age requires a new approach, new methods of teaching foreign languages so as to awaken desire to learn new languages, to acquire new knowledge and activities, while building the further direction of their own education, is the main

[3] N.A. Savinova, L.V. Mikhaleva, authentic materials as an integral part of the formation of communicative competence, UDC 378.02:372, p. 118

[4] Morrow, K. Authentic Texts in ESP/ K. Morrow, S. Holden (Ed.) //English for specific purposes. London: Modern English Publications. 1977. PP. 13-16.

[5] Nunan, D. Designing tasks for the communicative classroom / D. Nunan. Cambridge: Cambridge University Press. 1989/2000. P.54

goal of the educational institutions. The students are tasked with independently studying, finding, analyzing materials, while the main task of the teacher is the right direction. The teacher needs to logically and correctly build a lesson so that students are interested in learning English, since the practice of the traditional method, forcing students to cram words, grammar in practice did not give the desired result. The search for new teaching methods is associated with a lack of motivation among students to learn English. Very often, there is no positive motivation, because when learning a foreign language, students encounter some difficulties and do not learn the material due to their psychological characteristics. Work experience shows that the use of various, modern, fresh sources and means provokes students' interest, increases their motivation to study.

Analysis and results Methodist scholars explain the difference between authentic and non-authentic material as follows:

1-graph

	Authentic materials	Non-authentic materials
The purpose of the text	Communication in a real foreign language	Educational purpose
Orientation	Development of communication skills	Strengthening language forms and structure
Language composition	Elliptical sentences, pauses, etc	It is precisely the sentences with the correct grammatical form that are adapted to language learning
Sources	Genuine foreign sources	Specially prepared materials

There are two main types of authentic materials:
A) Printed
B) auditory[6]
The printed type of authentic materials includes:

Utility bills	Traffic tickets
Greeting Cards	Packing Sheets
Calendars	Order forms
Report cards	ATM screens
TV shows	ATM receipts
Food Labeling	Websites
Magazines	Street signs
Newspapers	coupons

[6] https://www.calpro-online.org/documents/AuthenticMaterialsFinal.pdf

Authentic listening materials include:

Phone messages	Movies
Radio broadcasts	Video and DVD discs
Podcasts	Television programs
Electronic books	Songs

We believe authentic materials help students bridge the gap between the classroom and the outside world.

Unlike Harmer, Charlene Polio argues that teachers can easily and comfortably use authentic materials with advanced language learners, but that these materials are not available to low-language learners and even beginners[7].

The communicative method is based on the idea that language is used for communication and, therefore, the goal of language teaching should be communicative competence, which includes linguistic competence (possession of linguistic material for its use in the form of speech statements).

In teaching a foreign language, game situations, paired forms of work, tasks for finding errors and other activities that contribute to an increase in vocabulary and the development of analytical thinking are widely used. In practical classes, students develop language skills in real situations of everyday communication, which allows them to use the correct lexical and grammatical forms for the verbal expression of their own thoughts. The use of modern technologies in the process of teaching foreign languages can be the basis for comprehensive development of the student's communicative competence. It is known that communicative competence means the ability to interact in social situations in one's native language and in any foreign language, to follow the culture of communication, social flexibility, and the ability to work effectively in a team in cooperation[8].

Game in pedagogy is a process in which a child imitates adults, studies their attitudes and learns to play certain roles[9]

Game technology is closely related to the technology of cooperation.

With their appropriate implementation, it is possible to achieve a positive pedagogical effect, which is one of the advantages of this type of training, since any interaction of students in groups gives each student the opportunity to control their behavior, focusing on the real or expected reactions of other people[10].

Role-playing games are language skills that allow you to achieve

maximum communication goals with maximum strength and flexibility in using language material. Such games accurately restore the environment and atmosphere of communication. Participants are assigned a certain character, they are in a certain relationship, which presupposes a different language reaction,

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[7] Charlene Polio, Using authentic materials in the beginning language classroom, Clear news, 18.1(2014): 1-7, http://clear.web.cal.msu.edu/wp-content/uploads/sites/22/2018/10/2014-Spring.pdf

[8] Collection of legal documents of the Republic of Uzbekistan, 2017, No. 14, Article 230, Annex 3 to the decision of the Cabinet of Ministers No. 187 dated April 6, 2017

[9] Solovova E. V. Methods of teaching foreign languages: a basic course of lectures. M., 2005.

[10]Nikitina G.A., Nosova E.A. Collaborative learning as a way to develop foreign language communicative competence // Foreign languages in the context of intercultural communication. Materials of reports of the VI International Internet Conference. Saratov, 2014. pp. 293-298.

including emotional. The participants are assigned a certain character, they are in a certain relationship, which implies different linguistic reactions, including emotional ones. Children must express joy or sorrow, enthusiasm or resentment, and they must find the means to express their feelings. The game gives children the opportunity to communicate with each other and with the teacher, creates conditions for equality in speech partnership and destroys the traditional barrier between teacher and student. The game allows shy students to speak and thus overcome the barrier of self-doubt.

Conclusion It can be concluded that the effectiveness of the educational process largely depends on the ability of the teacher to organize a lesson correctly and correctly choose one or another form of conducting a lesson. Non-traditional forms of conducting lessons make it possible not only to raise students' interest in the subject being studied, but also to develop their creative independence, to teach how to work with various sources of knowledge. Such forms of conducting classes "remove" the traditional nature of the lesson, enliven the thought. [11]However, it should be noted that too frequent recourse to such forms of organization of the educational process is inappropriate, since the non-traditional can quickly become traditional, which, ultimately, will lead to a drop in students' interest in the subject.

In our opinion, the ultimate goal of communicative-oriented teaching is the most productive use of a foreign language in natural, rather than prepared contexts, under the guidance of a teacher.

It should also be noted that the basis of the communicative approach to teaching a foreign language is one goal - to develop communication skills for solving every day and professional problems. The main principle is the principle of active communication, which is based on tasks of various nature: from social and every day to problematic. These tasks are implemented through collective work in groups, observing the principles of personal orientation, in the learning process in a positive psychological atmosphere, where students feel comfortable and are in an atmosphere of mutual understanding and active interaction, share information and emotions. Which, in turn, increases the level of motivation in the process of learning foreign languages[12]

References

1. Prus L.V., Berezovskaya L.G., Mlynar E.Sh., pnojournal. wordpress.com/archive18/18-02/ Publication date: 05/1/2018 No. 2 (32). pp. 109-112.
2. Widdowson H.G. Aspects of Language Teaching. Oxford: Oxford University Press, 1999.

[11] Tursunov, A. 2019. The difference between word formation and attitude-motivation. ISJ Theoretical & Applied Science, 11 (79), 128-130

[12] Frantseva E.N., Prilepskikh O.S., Kuznetsova E.N., Dontsov A.V., Korlyakova S.G. Communicative learning technology as a means of forming communicative competence of students of a pedagogical university in the process of learning a foreign language // Bulletin of the Novosibirsk,State Pedagogical University. 2017. Vol. 7. No. 4. P. 108.

3. N.A. Savinova, L.V. Mikhaleva, authentic materials as an integral part of the formation of communicative competence, UDC 378.02:372, p. 118
4. Morrow, K. Authentic Texts in ESP/ K. Morrow, S. Holden (Ed.) //English for specific purposes. London: Modern English Publications. 1977. PP. 13-16.
5. Nunan, D. Designing tasks for the communicative classroom / D. Nunan. Cambridge: Cambridge University Press. 1989/2000. P.54
6. https://www.calpro-online.org/documents/AuthenticMaterialsFinal.pdf
7. Charlene Polio, Using authentic materials in the beginning language classroom, Clear news, 18.1(2014): 1-7, http://clear.web.cal.msu.edu/wp-content/uploads/sites/22/2018/10/2014-Spring.pdf
8. Collection of legal documents of the Republic of Uzbekistan, 2017, No. 14, Article 230, Annex 3 to the decision of the Cabinet of Ministers No. 187 dated April 6, 2017
9. Solovova E. V. Methods of teaching foreign languages: a basic course of lectures. M., 2005.
10. Nikitina G.A., Nosova E.A. Collaborative learning as a way to develop foreign language communicative competence // Foreign languages in the context of intercultural communication. Materials of reports of the VI International Internet Conference. Saratov, 2014. pp. 293-298.
11. Tursunov, A. 2019. The difference between word formation and attitude-motivation. ISJ Theoretical & Applied Science, 11 (79), 128-130
12. Frantseva E.N., Prilepskikh O.S., Kuznetsova E.N., Dontsov A.V., Korlyakova S.G. Communicative learning technology as a means of forming communicative competence of students of a pedagogical university in the process of learning a foreign language // Bulletin of the Novosibirsk,State Pedagogical University. 2017. Vol. 7. No. 4. P. 108.

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TREATING DIGESTIVE DISORDERS WITH CALENDULA, ACHILLEA, PLANTAGO, HYPERICUM, BIDENS, AND INULA HELENIUM

Annotation. *The distribution areas of the plants hypericum, plantago, calendula officinalis, and inula helenium are covered in the article along with the unparalleled health benefits of leaves, the chemical makeup and biological significance of the vitamins as well as a number of suggestions for treating ulcerative colitis in contemporary medicine. Traditional medicine based on the compound leaves of Inula helenium, hypericum, plantago, and calendula officinalis, along with information on how they work on the colon wall and a discussion on it.*

Keywords: *ulcerative colitis,hypericum, achillea millefolium, plantago, calendula officinalis, inula helenium*

Most often affecting individuals between the ages of 30 and 40, ulcerative colitis is a chronic, idiopathic inflammatory disease that damages the colon and causes impairment. Starting in the rectum and spreading to the proximal sections of the colon, it is characterized by intermittent and recurrent mucosal inflammation. Inducing and sustaining clinical and endoscopic remission is the goal of treatment. The primary treatment option for mild to moderate ulcerative colitis is aminosalicylates; flare-ups of the condition can be treated with local and systemic steroids; and moderate to severe cases are treated with immunosuppressants and biological medications and with herbs. Up to 15% of ulcerative colitis patients require a colonectomy.

The study of epidemiology With ulcerative colitis, there is no sex preponderance. Between the ages of 30 and 40 is when illness onset is most common.Around the world, ulcerative colitis has been becoming more common over time.According to reports, Australia (17.4 per 100,000), Canada (19.2 per 100,000), and northern Europe (24.3 per 100,000) have the greatest rates of ulcerative colitis. The largest prevalences are seen in the USA (214 per 100,000), Canada (248 per 100,000), and Europe (505 per 100,000). There seem to be disparities in the prevalence of ulcerative colitis throughout Europe, with northern

and western nations reporting greater occurrences than eastern nations offspring of migrants from low-incidence to high-incidence nations have a same chance of acquiring ulcerative colitis as offspring of non-immigrants. Although there is less information from developing nations, ulcerative colitis is becoming more well recognized in South America,Central Asia, and the Middle East.

Differential diagnosis and clinical presentation The most typical symptoms of ulcerative colitis, a chronic illness that affects the colonic mucosa, are diarrhea and blood in the stool. Up to 15% of individuals may have serious illness when they first arrive. While abdominal pain is typically less of a defining characteristic than in Crohn's disease, symptoms might include urgency, incontinence, exhaustion, increased frequency of bowel movements, mucus discharge, nocturnal defecations, and abdominal discomfort (cramps). Severe illness can also cause weight loss and fevers. The degree of colonic involvement determines the classification of ulcerative colitis.

Physical examination may show signs of anemia, abdominal tenderness, and blood on rectal exam; abdominal distention and tympany on percussion may indicate colonic dilatation, necessitating immediate radiological assessment; patients with proctitis may primarily exhibit urgency and tenesmus (sensation of incomplete evacuation); in pancolitis, bloody diarrhea and abdominal pain may be more prominent; and up to 10% of patients with proctitis or left-sided colitis may experience paradoxical constipation.Although anal or perianal fistulas should arouse concern for Crohn's disease, ulcerative colitis patients may develop anal fissures or skin tags as a result of diarrheal irritation. Clostridium difficile should be screened out at diagnosis and flare-ups since it is a significant flare-up precipitant and is linked to an increased risk of surgery and death. The differential diagnoses are listed on the panel. About one-third of ulcerative colitis patients may experience extraintestinal symptoms, and up to 25% may experience extraintestinal symptoms prior to being diagnosed with inflammatory bowel disease. The most frequent extraintestinal symptom seems to be peripheral arthritis; ulcerative colitis is more likely than Crohn's disease to cause primary sclerosing cholangitis and pyoderma gangrenosum.

Diagnostic investigations

Histology, endoscopic findings, symptoms, and the lack of other possible diagnoses are all used to make the diagnosis of ulcerative colitis.To exclude out enteric superimposed infections, stool evaluations (stool culture and Clostridium difficile test) should be performed on all individuals with suspected ulcerative colitis. Patients may have leukocytosis, thrombocytosis, anemia, or iron insufficiency. In cases of severe illness, hypoalbuminemia is a predictor of both poor response to biological therapies and the need for a colectomy. ESR and C-reactive protein, two indicators of inflammation, might be normal in mild to moderate ulcerative colitis or high in severe cases.

The diagnosis of ulcerative colitis can only be made by endoscopy and biopsies. For individuals suspected of having inflammatory bowel disease, a colonoscopy with terminal ileal intubation is advised. Erythema, lack of normal

vascular pattern, granularity, erosions, friability, bleeding, and ulcerations are classic endoscopic findings in ulcerative colitis. Usually starting in the rectum, the illness spreads proximally in a continuous, circular manner. Patchy disease or rectal sparing may be caused by systemic or topical drugs and should not be taken as proof of Crohn's disease.

Although histological inflammation can occur in mucosa that appears normal, mucosal inflammation frequently has a distinct boundary between inflammatory and normal mucosa. Unlike Crohn's disease, where the surrounding mucosa may appear uninflamed, ulcerative colitis ulcers are invariably linked to mucosal inflammation. A cecal patch, or localized area of inflammation surrounding the appendiceal orifice, is present in up to 75% of people with ulcerative colitis with distal disease. Backwash ileitis, a modest inflammatory alteration in the terminal ileum, can occur in up to 20% of patients with pancolitis.

Imaging tests are typically not very helpful in making the diagnosis. A simple upright abdomen film should be used to check for toxic megacolon in patients with acute severe ulcerative colitis, which is defined as mid-transverse colon dilatation greater than 5.5 cm. Although CT and MRI are not sensitive or specific enough to be diagnostic tools, they may reveal a thicker, haustral colon.

The best course of treatment for ulcerative colitis depends on assessing its severity and scope. Usually, the severity of the disease is categorized as mild, moderate, severe, or remission. There are many different ulcerative colitis severity indicators, but the Mayo, Lichtiger, and Simple Clinical Colitis Activity indices are the most often used. Given the correlation between endoscopic healing and higher remission rates and a lower risk of colectomy, endoscopy is crucial for determining the severity of the illness. Endoscopic ulcerative colitis scores that are often utilized include the Ulcerative Colitis Endoscopic Index of Severity and the Mayo score's endoscopy subscore.

Furthermore, histological disease activity can be categorized using histological scores like the Nancy index or Robarts Histopathology index. Severity ratings for ulcerative colitis do not consider the whole impact of ulcerative colitis; instead, they only include disease activity at a particular timepoint. As a result, there is a drive to reinterpret disease severity using composite criteria that include: (1) the impact of the disease on patient symptoms, quality of life, and disability; (2) measurable inflammatory burden using objective indicators of disease activity and extent; and (3) the course of the disease, including extraintestinal manifestations, flare-up frequency, and structural damage.

Targeted treatment, illness surveillance, and long-term care The method to treating ulcerative colitis has changed to a treat to target technique, where patients are evaluated often to make sure they are reaching rigorous goals for disease management. Endoscopic remission and the elimination of patient-reported symptoms (rectal bleeding and diarrhea) are the goals for ulcerative colitis. Three to six months after starting a new treatment, the colon should be immediately evaluated due to the significance of endoscopic healing. Endoscopic healing can be evaluated using flexible sigmoidoscopy alone.

A post-hoc analysis of a clinical trial found that a fecal calprotectin cutoff of 150 mg/kg was optimal for endoscopic remission (sensitivity of 0.79 and specificity of 0.75). Patients should have a follow-up at least every 3 months until symptoms resolve, and then at least every 6–12 months with the aim of maintaining tight control. Non-invasive markers, such as fecal calprotectin, can be used to monitor disease activity once patients are in remission.For many years, enema has been used in traditional medicine to strengthen the body, cure certain illnesses, and cleanse the intestines. Its primary areas of application are listed below: In traditional medicine, enema is used to rid the body of slags and poisons. Apple cider vinegar, lemon water, filtered warm water, tinctured chamomile, and tinctured walnut leaves are used for this.

An enema made with warm water and olive or sunflower oil is advised to ease constipation and enhance bowel movements. To lessen inflammation, an enema containing chamomile, medicinal herbs, or tinctured Calendula, achillea, plantago, hypericum, bidens, and inula heleniumis employed. This technique helps to lessen discomfort by calming the intestinal lining. Calendula, achillea, plantago, hypericum, bidens, and inula helenium tincture are used to relieve vomiting caused by helminthiasis. Folk medicine also utilized Wormwood tincture and Tansy (Pizhma) to prevent vomiting.

Folk medicine also utilized Calendula, achillea, plantago, hypericum, bidens, and inula helenium tincture and Calendula, achillea, plantago, hypericum, bidens, and inula helenium to prevent vomiting. In traditional medicine, an enema with honey, lemon juice, or aloe juice is used to boost immunity and improve overall health. The liver is cleansed with an enema using hot saline or a magnesium sulfate solution. An enema with lemon juice or olive oil is occasionally used to clean the bile ducts.

Calendula, achillea, plantago, hypericum, bidens, and inula helenium • Transfer 2 teaspoons of each into 1.5 liters of boiling water. The sung float and consume half a liter of milk after a two-hour stand. One liter of cleaning enema is used to exfoliate the sang enema. A tablespoon of levomekol is first drawn in. Fifty grams of cotton are taken out on the second day. Singing to 10 minutes to the left

and 15 minutes to right the patient lies sideways to the pelvic floor after taking the tincture. 14 days of enema are exfoliated in this order.

Making an enema can sometimes be more detrimental than helpful. In the following circumstances, it is advised to use caution or refrain from doing enemas altogether:

1.Acute ulcerative colitis: the intestinal mucosa is compromised, and using an enema may raise the risk of bleeding or damage. Acute and severe inflammatory processes can also occur. Since Crohn's disease is an autoimmune condition, doing an enema may make it worse.

2. The possibility of intestinal perforation.If the intestinal wall has sores or cracks, an enema may result in major consequences.

3. Bleeding-related diseases: An acute hemorrhoid infection; an enema may result in bleeding.Rectal cracks: the intestinal solution may cause the cracks to become painful and result in bleeding. When there is intestinal bleeding (melena, rectal bleeding), an enema is absolutely not an option

4. Fever and acute infectious illnesses. Dysentery, salmonellosis, and enterocolitis are examples of intestinal illnesses that might raise the risk of compromised intestinal microbiota and infection transmission. A fever (over 38°C) might intensify the body's inflammatory response.

5. Edema and intestinal blockage: If a patient has intestinal obstruction (obstruction), an enema may make their situation worse. An intestinal tumor (polyp, malignancy) may raise the chance of bleeding and pain.

6. In the early stages of pregnancy, an enema may induce uterine contractions and raise the chance of an early miscarriage. Pregnancy and certain gynecological illnesses Care should be exercised while performing an enema on women who have a low uterus or who have experienced a miscarriage during a prior pregnancy

7. Too frequently make an enema.The intestine's capacity to self-clean might naturally deteriorate. The risk of contracting dysbacteriosis rises.

Important guidelines for enema usage. The solution should be between 36 and 37°C, which is the body temperature. An Esmarch mug or specialized rubber or plastic enema balloon (syringe) is used to administer the therapy. Avoid using the enema too frequently since this might interfere with the intestines' normal function. An enema is absolutely not an option in situations of acute inflammation, intestinal perforation, or bleeding.

Conclusion

Colitis has been successfully treated with medicinal herbs. Because of its mode of action, it aids in reducing symptoms and reducing inflammation in those who have the illness.

It should be mentioned that medical specialists should be consulted before using therapeutic herbs. They are able to manage any adverse effects and establish the right dose. The best way to cure colitis is using medicinal herbs; however, other factors should also be considered. This include lifestyle modifications including regular exercise, stress management, and a nutritious diet.

In addition to the standard treatment for colitis, the application of medicinal herbs to the joints enhances quality of life. The patient's overall health and the severity of their colitis should be considered before administering an enema. If any of the aforementioned problems exist, using an enema is not advised. Therefore, before beginning any treatment, it is crucial to speak with a doctor.In traditional medicine, enemas are used to cleanse the body and treat a variety of illnesses. On the other hand, overuse may result in compromised gut microbiota. Because of this, seeking medical advice prior to using traditional treatments is advised.

References:

1. Андреева Н.С., Реброва О.Ю., Зорин Н.А., Авксентьева М.В., Омельяновский В.В. Системы оценки достоверности научных доказательств и убедительности рекомендаций: сравнительная ха- рактеристика и перспективы унификации. Оценка медицинских технологий. 2012;(4). Режим доступа: http://www.hta-rus.ru/magazine-archive/147-istemyi-otsenki-dostovernosti-nauchnyih- dokazatelstv-i-ubeditelnosti-rekomendatsiy-sravnitelnaya.
2. Асқаров И.Р. Табобат қомуси. Т.: "Мумтоз сўз". –2019. –Б. 1142.
3. Асқаров И.Р. Фитотерапия. Дарслик. Тошкент. "Фан ва техналогиялар нашриёт-матбаа уйи". 2023 й.
4. Cosnes J., Gower-Rousseau C., Seksik P., Corkot A. Epidemiology and natural history of inflamma- tory bowel diseases. Gastroenterology. 2011;140(6):1785–1794. doi: 10.1053/j.gastro.2011.01.055.
5. Danese S., D'Amico F., Bonovas S., Peyrin-Biroulet L. Positioning Tofacitinib in the Treatment Al- gorithm of Moderate to Severe Ulcerative Colitis. Inflamm Bowel Dis. 2018;24(10):2106–2112. doi: 10.1093/ibd/izy076.
6. D'Haens G. Systematic review: second-generation vs. conventional corticosteroids for induction of re- mission in ulcerative colitis. Aliment Pharmacol Ther. 2016;44(10):1018–1029. doi: 10.1111/apt.13803.
7. Silverberg M.S., Satsangi J., Ahmad T. et al. Toward an integrated clinical, molecular and sero- logical classification of inflammatory bowel disease: report of a Working Party of the 2005 Mon- treal World Congress of Gastroenterology. Can J Gastroenterol. 2005;19(Suppl A):5A–36A. doi: 10.1155/2005/269076.
8. Truelove S.C., Witts L.J. Cortisone in ulcerative colitis; final report on a therapeutic trial. Br Med J. 1955;2(4947):1041–1048. doi: 10.1136/bmj.2.4947.1041.
9. Seah D., De Cruz P. Review article: the practical management of acute severe ulcerative colitis. Aliment Pharmacol Ther. 2016;43(4):482–513. doi: 10.1111/apt.13491.
10. Hindryckx P., Jairath V., D'Haens G. Acute severe ulcerative colitis: from pathophysiology to clinical management. Nat Rev Gastroenterol Hepatol. 2016;13(11):654–664. doi: 10.1038/nrgastro.2016.116.

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PROBLEMS OF TRANSLATION ENGLISH PHRASEOLOGICAL UNITS INTO UZBEK

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 translation phraseological units in two languages. The findings are valuable for linguistics, researches and anyone who is interested it translation.*

Key words: *phraseological units, idioms, phraseological conjunctions, phraseological phrasemes, phraseological combinations, equivalent and descriptive translation*

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INGLIZ TILI FRASEOLOGIK BIRLIKLARINI TARJIMA QILISHDAGI MUAMMOLAR

Annotasiya: *ushbu tadqiqot ingliz va o'zbek tillaridagi frazeologik birliklarni ko'rib chiqadi. Frazeologik birliklarning tarjimasi tarjimonlarning hayotiga qanday ta'sir qiladi. Maqolada frazeologik birliklarni ikki tilde tarjimasini qiyosiy tahlil qilish taklif etiladi. Ma'lumotlar tilshunoslikga, tadqiqotlarga va tarjimaga qiziqqan har bir kishi uchun muhim ahamiyatga ega.*

Kalit so'zlar: *frazeologik birliklar, iboralar, fraseologik iboralar, fraseologik birikmalar, fraseologik chatishmalar, ekvivalent va tasviriy tarjima usullari*

Introduction. The translation of phraseological units, especially figurative ones, presents significant difficulties. This is due to the fact that many of them are vivid, emotionally saturated phrases belonging to a certain speech style and often having a pronounced national character. When translating stable combinations of words, one should also consider the specifics of the context in which they are used. Many English phraseological units are characterized by ambiguity and stylistic diversity, which complicates their translation into other languages.

Phraseological units, i.e. phraseological expressions are stable combinations of words with a complicated meaning of a single word, a turn of speech, which are

characterized by such features as separateness, reproducibility, sometimes equivalence and correlation with a word.

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". [Azizova F.S.71].

English is one of the most idiomatic languages in the world, which contains thousands of idiomatic expressions and proverbs that are common in everyday speech, media and literature. English is a language with extensive idiomatic foundations, so learning becomes very engaging and intriguing.

Phraseological expressions are divided into several types:

1. Idioms (or phraseological conjunctions) are stable expressions, the meaning of which does not follow from the sum of the meanings of the words that make up it, i.e. completely non–uttered expressions. For example, the English expression old bird in Uzbek (literally translated as "*qari qush*") has the meaning "*qari tulki*" as a phraseological unit; the English expression to pull one's leg in Uzbek (literally translated as "kimningdir oyogidan tortmoq") as a phraseological unit, it has the meaning “boshini aylantirmoq, kiningdir miyasini qotyrmoq".

2. Phraseological units (or phrasemes) are motivated expressions with a single integral meaning arising from the merging of the meanings of lexical components. For example, the expression in English “*to be born with a silver spoon in one's mouth*” has a meaning in Uzbek as "pardali, omadli tugilgan" (literally translated as "ogzida kumush qoshiq bilan tugilgan").

3. Phraseological combinations are stable expressions in which one of the components has a literal (dictionary) meaning, i.e. they are partially motivated phrases. For example, in English, “*black frost*” means "quruq sovuq" (literally translated as "qora sovuq"); the last straw means "ohirgi tomchi qolguncha" (literally "ohirgi pohol").

The translation of phraseological expressions from English into other languages causes certain difficulties due to their semantic integrity and complexity. A literal translation of a phraseological expression distorts the meaning of the utterance, and an adequate translation of the meaning of the phraseological unit into a second language is required.

There are the following ways to translate phraseological expressions:

1) equivalent – the translation of a phraseological unit from the first language into second language that coincides with it in meaning and in the structural composition of the components. Absolutely adequate phraseological expressions of two languages are called full (or absolute) equivalents: *between two fires* – (uzb) olov bilan uynashmoq; *to be born under a lucky star* – (uzb) Bakhtli yulduz ostida tugilmoq. Incomplete (or partial) equivalents are those phraseological expressions that differ structurally, grammatically or lexically, when one component of the phraseological expression of the English language does not coincide with the phraseological expression of the second language, but belongs to the same thematic group: *to get out of bed on the wrong side* – (uzb) chap tomon bilan turdi; *you may*

take a horse to the water, but you cannot make him drink – (uzb) suvga olib borib, sugormasdan kelmoq.

2) analogic translation - is the translation of phraseological expression from the first language into the second language, adequate in content, but different in structural and component composition. For example, *as like as two peas* (literally similar as two peas;) – (uzb) ikki tomchi suvdek uhhshaydi; *one's in a blue moon* (literally once upon a blue moon) – (uzb) Tuyani dumi erga tekkanda; *to make a mountain out of a molehill* (literally to make a mountain out of a molehill) – (uzb) pashshadan Phil yasamoq.

3) descriptive - the translation of phraseological expression descriptively either by one equivalent word or by a group of equivalent words (if the second language lacks a phraseological unit corresponding to the phraseological unit of the first language). For example, *red tape* (literally red tape) - bureaucracy; *to fiddle while Rome is burning* (literally to play the violin while Rome is burning) to deal with trifles in the face of serious danger; ships that pass in the night (literally ships that sail by at night) – fleeting meetings; *a black sheep* (literally black sheep) is a disgrace in the family.

4) combined translation – the translation is carried out using a combination of the above methods. A phraseological expression is an analog and equivalent plus a descriptive translation. This method is used when the phraseological unit of the second language does not fully reveal the meaning of the phraseological expression of the first language. For example: *spick and span* - needle, elegant, dapper, far cry (uzb). Er bilan osmonchalik; *big difference*-a millstone about smb's neck (literally a millstone burden around someone's neck) heavy responsibility; ogir yuk; buyniga ogir yukni olmoq. The lexical, syntactical, semantic and practical methods of translation are given by scientists.

Conclusion. The investigation of this problem is important contribution in development linguistic and translation studies. The translation of phraseological units help us to find correct form of translation.

Список исползованной литературы:

1. Azizova FS. (2024). National-cultural specifics in phraseologisms of English and Uzbek languages. Jurnal gumanitarnix i estestvennix nauk, №4 (119), 71.
2. Влахов С. Непереводимое в переводе / С. Влахов, С. Флорин. – М.: Международные отношения, 1980. – 341 с
3. Кунин А.В. Фразеология современного английского языка. - М.: Международные отношения, 1996.
3. Кунин А. В. Англо-русский фразеологический словарь. – М.: Государственное издательство иностранных и национальных словарей, 1955. – 1455 с.
4. Рецкер Я. И. Теория перевода и переводческая практика / Я. И. Рецкер. – М.: Наука, 1974. – 451 с.
5. Солодуб Ю. Д. О двух типах безэквивалентной соотнесенности фразеологизмов различных языков // Филологические науки. – 1992. – № 2. – С. 98-101.

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THE ESSENCE OF BUSINESS IN THE SYSTEM OF ECONOMIC RELATIONS IN THE MARKET

Abstract: *through this article, we will focus on the business use of different views and concepts about the birth of the concept all over the world, in particular, the English economist A. the birth of the concept of Specific defines "Business" as follows: "Entrepreneurship is a natural phenomenon of the individual, the enterprise and the organization of the activity is to extract've mats, producing, selling and buyi or her good I, and for other good and I exchanging providing service in the service. "the mutual benefits of the interested person or organization or for money".*

Key words: *Business, entrepreneurship, industry, resource, incoming, surplus, agribusiness.*

Business, entrepreneurship and market economy in the essence of agrobiznes there are concepts that are closely related with each other: business, entrepreneurship, and other commercial entities - businesses, organizations, designed for sale to citizens. Such communication short-term or long-term can be the stability of this demand, and other aspects associated with the possibility of redirecting resources). Our resources for the long-term, a combination of speaking, as a rule, certain activities, which are subject to rules and regulations of the organizations or organizational units appear to be relatively stable, that is, to the business interest and the natural basis . The new economic basis of society in the eyes is being created, to create your own business, aiming adaptation to the new conditions, but not to live in them, show initiative, to people who want to show himself in the appearance of free labor. Thus, the democratization of society and economic activity, which will help in top form this allows you to get certain benefits. Turnover, market relations, customer demand can take advantage of the offer through to your product. To do this, you should set up your own business and successfully manage income producing. Material of economic activity of the people, but the goal is compliance, with spiritual understanding, mind and emotions, we can see that work is intangible. Any economic relationship shaxslashtirilgan (available embodied in the model) and ob'ektivlashgan (material and spiritual results, the results of human labor) say this when the economy has three components - people, things, and things is caused by the presence of the attitude of the people. The first one of them ("production") of consumer choice will be solved by the money that pays for the product;

Consequently, the business market of the category, that is, the economic category, the need for her to appear natural historical process. Society of economic relations of the society with the development of "integrated commercial" and show

them in practice also develops the business, economic , or personal development at your own risk and under their own responsibility and the benefits of their business, take advantage of associated with debt funds - these are independent of the initiative of citizens, thus mobilize the available resources in the network or in any area of the organization of production is also quick. Meet the requirements of the market and increase the profitability of their business as this will be evaluated .

The concept of entrepreneurship of the republic of belarus was adopted on 15 February 1991, 207-XII-the number of "entrepreneurship in the republic of uzbekistan"on article 1 of the law revealed. In accordance with this law Business — entities or income and the ownership of the cost of production of services and benefits within the framework of the initiative is focused on doing to get operate with the law. profit or personal gain property and on its own behalf and at their own risk liability under or legal entity (enterprise) is carried out under the responsibility of the proprietary name, from the content of this article, may be signs of three separate business are: – business – citizens, independent of enthusiastic activity, ya'see .independent (hired) work activities – business – basically any activity (political, social, etc.), but is aimed at the benefits; This means that business to business entities (legal entities that take advantage of the directory along with the purpose of are)

Business - this legal entity on behalf of and under his responsibility, that is, the activity is performed on his own behalf and under his responsibility in the business on their behalf in the civil circulation of legal and physical persons, and their own risk and responsibility from which to take the property of directed independent activity regularly carried out under the following benefits: the use of the property; (produced by this developer, processed, or acquired for sale);– if this works or services are intended for their own consumption and for sale to other parties use, perform work or services in the practice can be replaced. Foreign and local economic and business activity by researchers as the type of entrepreneurship for individuals, businesses and organizations by income, production or economic activity performed in order to buy a free (with the exception of the ones that will take forbidden by law) is interpreted as. On the basis of mutual benefit trade partners for other goods, services, or services in exchange for money, economic entrepreneurship as a phenomenon with a category of business of the same, but they often economic in practice is determined. However, in terms of understanding their meaning are very close, although they are not synonymous, as well as are not specific. Entrepreneurship business arising cover it because it is wider than the relationships between all participants of the market economy, and entrepreneurs and not only, but also for consumers, and government employees in the lobby. Citizens, citizens associations, performed under their own risk and responsibility for the production of the property of an independent business.

No business without business, the elements of his system not only this, but also the development of the economy of entrepreneurship ratsionalizatsiya to improving competitiveness, get rid of unused or poorly used means using resources. the main potential of the society is the most comprehensive implementation -

person. For this reason, you can't be a socialist or capitalist business. It entrepreneurship is an integral part of the market economy, the free market has uncovered only recently found this place, democratization of the decision environment and society develops. Entrepreneurship is the basis to transform any man into the oppression of slavery. Your own income, you cannot be a free citizen personal business. The humane society of staff can't be compared to all the people of the state. All similar looking running the economy has become a single plant

A single economic plan their business in a nutshell refused. And poor people are destroyed, with the welfare of his way to promote demagogik deficient economy, and the destruction of the socialist state was that arise. As practice shows, a decisive break with the direction of the whole of western civilization the modern socialist destinations to be waking up from the period of modern civilization, and he created man in turn was based on the principles of a business. So, today is back to the beginning of civilization and the return to entrepreneurship out of deadlock. Element of business as labor, business management and development will not be allocated. Unemployed will not work. Labor and entrepreneurship on the production of this material and the spiritual blessings of the targeted business process, but you work for the blessings of life and business the main conditions of its development is to create a source of the business if work is creative, constitute a means which is conscious. Meaningful activities, quality on the side of this activity of the subjects chosen self-force to be interested in them, the ministry of labor to the final results of the effective new type of entrepreneurship in terms of the quality to be directly involved if it is a progressive method requires , techniques, methods, as well as manage certain owners, the owner of production. Owners (entrepreneurs) and also from his property does not allow losses will not let others to do so. Thus, the economic category of the business, the business element, the type and the success of certain activities legal and organizational management of a business is based on the design. Entrepreneurship in the broad sense - that not only the measured benefits (or losses), but the satisfaction of "intangible" in the form of (leadership, self-approval, competition and others) are also subject to achieving their specific business that has useful features. etc.). The first character - to-business and business structures to ensure their economic independence and self. Their actions have not given up the order, but based on internal motives. Why, how and for whom to produce economic benefits and market conditions continue production independently of their independence than is resolved. Freedom in the selection of commercial ways and means to sell their products in the selection of buyers and suppliers who make business dealing is manifested. This economic relations with the agreement will be provided. The freedom of production and trade, mainly associated with the pricing of independence. However, the business will not be mutlaqlashtirish freedom and independence; Business and society is not free from the market for the second character personal economic interests. Of years of business in the desire to get the maximum benefits are realized. Along with his special interests in a market economy economic entities, both for the interests of society in which it operates. Thus, a mutual dependence of personal and public

interests will show up. The third character - it is their personal responsibility for the results of your activities. The bulk of the financial and economic responsibility is not. It belongs to the upper body and is not transferred to individual businessman. All of these related issues between production costs and produces relevant results. The results from all types of the costs of production should be high. Personal economic interest, responsibility and stimulates constantly forced to work together with the business. To reveal the nature of a man is closely related to its creative and business capabilities. In a highly competitive business for the price, but the quality of the product and important updates, new techniques and technologies to do this, work organization, production and management of new forms, or non-standard, creative approach is required. Assess the situation. Consequently, entrepreneurship, personal self converted to the specific method of mean. The fifth sign of entrepreneurship, economic (or business) risk. Economic environment of business in connection with the development of market relations in the context of uncertainty and variability should be done. This means that there is uncertainty and uncertainty in achieving the expected result, and therefore appear to be at risk, that is, the risk of success and pessimism, reflexes and losses associated with trade operations, trade and intermediary activity of the specific features of the transportation business, entrepreneurs and traders on. "Business", "business" and "traders", the concept of "production, financial or commercial transactions dealing with the person, if you succeed, her income, profit, the higher the salary, bonuses, dividends, and others." Doing business on the basis of their farm business or property right of the owner, the manager can also be. “Business concept” that described described above, it should be noted that the status of its national legislation requires that entities take. However, they do not consider they earned as strictly business. The good thing is the change in the perception of commercial business among the common people, or very little. Business merchants question about this often hidden and the economy associated with cheating. At the same time, the Russian merchants in the Russian empire "commercial consultant" is given it will be helpful to remember that the title of honor. We insult for all the sins of such people, "shake and swindlers" he called. Now the other meaning of this word is filled with. As you can guess, soon "spekulyator the word" enthusiast in the field of commercial operations means a person who is able to take a chance. God's gift to art is called. Only a certain portion of the population of any country (15-20%) may be engaged in business. But should strengthen and develop this gift. Here the main thing - the ability to work hard. Ford, Rokfeller, Li Yakokka Russian Demidovlari due to the hard work they become. Each one also be the money to get the loan, it may enter into circulation, or useful to look for opportunities to put capital interests can't be back with people. It just there's a way in the heart of commercial and business businessman has a set of qualities of the person who may be made. The person to be knowledgeable business market economy, the laws of supply and demand, market conditions should have based on certain knowledge. Without it, the business sells or gets low buy expensive either, but in this case the bankruptcy will work. The mandatory requirement is to know the market, you need to learn it and constantly unlimited. Aylantirmagan to

constantly monitor the market to rule the people, social context, and the business - the business activities of that person, its behavior is the type of. the rules of the market system. This will be the driving force of economic development, modern business and entrepreneurship with the following description: - the products, goods, works, services used in the production of (or acquired) certain material resources and money; useful trade, trade successful - money's ability to work (business activity) individuals, organizations, businesses get the natural benefits; the production of the product and (or) processing them for sale and the product (brand) to buy a product business (products, goods, work, services)in the goods market (wholesale and retail trade, government orders)Business income, profit - the specific qualities of the person, her natural predisposition to collect income exceed the costs of going to be - to make responsible decisions, and the courage to accept who he person who can do until the freedom of creative individuals, on the basis of his creativity - life and the realities of the market economy, assess the ability of the lens of life, of low height and a certain look healthy relationship to their business; to take a chance with the results of their activities and their willingness to take full responsibility for own discretion - on their behalf, their spiritual, social and financial responsibility, the benefits, personal income, the benefits aimed at independent and independent business initiative; aytilganlarni comes from Above, so, of business and of business (business) labor efficiently and effectively targeted their labor, occupational activities, useful social activities, a particular style of thinking and lifestyle of the subjects of the economic initiative of conduct is the economic motivation of man, as a result, agricultural production had added four and three factors (land - labor - capital) - business people than him in the position of understanding expressed refers to the form of the development of a positive attitude. At the present time the most advanced in the field of business activity, if you have a mature system, it differs according to a specific sector of the economy involved in light industry , food industry, education, and agriculture , agrobiznes is called.

FOYDALANILGAN ADABIYOTLAR:

1. https://lex.uz/docs/-75878
2. E.A.Petrovich, L.P.Lazarev, E.L.Demitrichenko AGROBIZNES o‘quv qo’llanmasi

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PIRIMQUL QODIROV IJODIDA YOSHLAR OBRAZI

Annotatsiya: *Ushbu tadqiqot ishida Pirimqul Qodirov qalamiga mansub asarlarda yoshlar obrazi qay darajada ishtirok etgani muhokama ostiga olingan. "Uch ildiz", "Olmos kamar", "Qadrim", "Meros", "Jon shirin" kabi asarlarning qahramonlari misol sifatida tasvirlangan.*

Kalit so'zlar: *roman, obraz, qahramon, asar, muallif, yoshlar, qissa.*

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THE IMAGE OF YOUTH IN THE WORK OF PIRIMQUL KADYROV

Abstract: *This research paper discusses the extent to which the image of youth is present in the works of Pirimqul Kadyrov. The heroes of such works as "Three Roots", "Diamond Belt", "My value", "Heritage", "Soul is sweet" are described as examples.*

Keywords: *novel, image, hero, work, author, youth, story.*

O'zbekiston xalq yozuvchisi, o'tkir qalam sohibi Pirimqul Qodirovning ijodini boyitgan deyarli barcha asarlari inson manfaatiga, uning kelajagiga xizmat qiladi. Shuning uchun ham ijodkorni inson ruhiyatining tarjimoni desak aslo mubolag'a bo'lmaydi. Adib yurt ertasi, uning gullab-yashnashi yoshlar qo'lida ekanligini anglagan holda deyarli barcha asarlarida yoshlar obrazini bosh qahramon darajasiga ko'taradi.

Pirimqul Qodirov – yoshlar yozuvchisi. Uning zamonaviy mavzuda yaratilgan barcha asarlarining qahramonlari yoshlar. Yozuvchi asarlarida ularning orzu-o'ylari, muhabbati, yutuq va kamchiliklari, hayotga ilk qadam qo'yishdagi yetar-yetmasliklari, ular boshiga tushadigan qiyinchiliklar aks etgan. Bu jihatdan uning har bir asari – yoshlar uchun saboq daftari. Shu boisdan ham yoshlar tomonidan sevib o'qiladi. Adibning yoshlar bilan jonli muloqoti alohida e'tiborga sazovordir. U ko'plab yoshlar bilan xat olishib, xat yozishar, ular o'z sirlarini tortinmasdan unga yetkazishardi.

Adib qalamiga mansub dartlabki roman – "Uch ildiz"ni tom ma'noda yoshlar uchun yozilgan roman deya tan olmaslikning iloji yo'q. Negaki asar boshdan oyoq

jamiyatdagi yoshlar qatlamiga to‘g‘ri yo‘l ko‘rsatish, oila muqaddasligini anglatish, komil inson xususiyatlarini singdirishga xizmat qiladi. Yoshlarga hayot yo‘llarida hamisha suyanch bo‘la oladigan insonlar – ota-onalari va ustozlari ekanligi asar davomida ko‘plab misollar orqali tushuntiriladi. Pirimqul Qodirov ijodga kirib kelishi bilanoq zamona ruhini, uning istiqbolini ko‘rishga harakat qilgan. Bu vazifani esa o‘z qahramonlariga ishonib topshirgan. U Mahkam, Ochil, Zamira, Gavhar, Sergey, Anna singari yoshlar xarakteri orqali yasharayotgan zamonni, kishilar ruhini egallab borayotgan ishonch, e’tiqod, jo‘shqinlikni aks ettiradi. Romanning yosh, sururiy qahramonlari Toshkentni yangicha ko‘z bilan ko‘radilar. Navoiy nomidagi teatrning me’moriy o‘ziga xosligi, shu teatr maydonidagi g‘o‘za chanog‘i shaklidagi favvora, tunlarni kunduzday yoritib turgan rang-barang elektr chiroqlar, tep-tekis asfalt ko‘chalar, tramvay, trolleybuslar yosh qahramonlar diqqatidan chetda qolmaydi. Skver maydonidagi yagona universitet binosiga Mahkam, Gavharlar g‘urur bilan boqadilar. Ularning har biri o‘ziga xos iste’dod egasi. Kimdir she’riyatni bor vujudi bilan yaxshi ko‘rsa, yana kimdir me’morchilik obidalariga, ularning naqsh va jilolariga qiziqadi, boshqasi esa tarix fanining haqiqiy mutaxassisi bo‘lishga intiladi. Ammo ularni yagona istak – yurt koriga yaraydigan farzand bo‘lish hissi birlashtirib turadi.

Taniqli munaqqid Abdug‘afur Rasulovning “Zamon san’atkor talqinida” nomli maqolasida Pirimqul Qodirovning salmoqdor ijod yo‘li haqida gap boradi: “Qadrim”, “Erk”, “Meros”, “Olmos kamar” ning asosiy qahramonlari ham yoshlar. Yozuvchi yoshlar, voyaga yetayotgan avlodda hayotdagi yangilik kurtaklarini ko‘radi. Yoshlar deganda yozuvchi umrning ilk bosqichidagi kishilarnigina emas, hayotning yangilanayotgan qonuniyatlarini, ijtimoiy-ma’naviy, ruhiy o‘zgarishlarini anglaydi”. Haqiqatan ham shunday, “Meros”dagi Yolqin qishlog‘idagi odamlar og‘ir mehnatdan halos bo‘lishini, o‘quvchilar o‘z yumushi bilan shug‘ullanishini ta’minlash maqsadida qishlog‘iga yangilik olib kirdi, ya’ni paxta teradigan mashinani ixtiro qilish orqali inson mehnatini yengillashtirdi. “Qadrim”dagi Iskandar inson o‘z sha’ni va qadr-qimmatini himoya qilishini anglab yetgani holda o‘z kasbining fidoyisi bo‘lib yetishdi, yong‘inda qahramonliklar ko‘rsatdi, sevgisiga ham yetishdi. “Olmos kamar” dagi Abror – mahoratli me’mor, o‘z Vatanining chiroyiga chiroy bag‘ishlash, Toshkentni dunyodagi eng toza va go‘zal diyorga aylantirish uning asosiy orzusidir. “Jon shirin” dagi Muzaffar ham xalq orasida bo‘layotgan adolatsizliklarga chiday olmay haqiqiy ma’noda isyon ko‘taradi. “Amal kursisi”da o‘tirgan kimsalarning qilmishlarini fosh etish, begunoh insonlarning umriga zomin bo‘lgan odamlarning xunrezliklarini oshkor qilish, fikrida sobit tura olish asar qahramoni Muzaffarga xos xususiyat, albatta. Pirimqul Qodirov ana shunday vatanparvar, insonparvar yoshlar hayotiga murojaat qildi, ularni o‘z asarlariga asosiy timsol qilib oldi.

Xulosa sifatida aytishim mumkinki, iste’dodli adib Pirimqul Qodirov ijodidagi qahramon yoshlar zamonning rivoji, yurtning tayanchi uchun beminnat xizmat qiladi. Har birining asarda o‘z o‘rni mavjud. Bu esa muallifning ajoyib novator ekanligidan dalolat beradi.

Foydalangan adabiyotlar:

1. Qo‘shjonov M. Diydor//O‘tkir qalamli adib. – T.: “Sharq”, 2004.
2. Rasulov A. Betakror o‘zlik//Zamon san’atkor talqnida. – T.: “Mumtoz so‘z”, 2009.

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GREEK-LATIN STEM TERM-ELEMENTS IN ENGLISH HISTOLOGICAL TERMINOLOGY

Abstract. *In the modern English word-formation system, the method of combining words occupies a large place. A combination of words is a way of forming a word in which a new word contains at least two fully meaningful bases or words. The article discuss Greek-Latin term-elements of the stem type and their structural-semantic features.*

Key words: *medical terminology, English, histology, Greeko-Latin, term-elements, stem, structural-semantic, analysis.*

It is known, that the criteria for making a complex word of a lexical unit should be focused on its definition. In linguistic studies, existing complex words in the English language have been given consistent definitions by linguists such as A.I.Smirnitsky, I.V.Arnold, R.S.Ginzburg, H.Marchand, O.Jespersen, R.Quirk.

Linguist I.V.Arnold in his “The lexicology of modern English language” source classifies compound words as follows: 1) by the type of joining and linking elements; 2) by parts of the sentence; 3) according to semantic features. [1]

Regarding complex words, O.D.Meshkov stated that a complex word is a lexical unit formed by combining two or more stems and distinguished on the basis of its integrity. [4] Agreeing with this definition of the author, we approach it in our research.

In our opinion, the study of the structural and semantic features of the artificial words formed as a result of the mutual addition of words is important for organizing the terminology and improving the ways of creating terms.

Latin models, which are word-forming components of Greco-Latin etymology, are widely used to supplement various terminological systems in English and other languages with new artificial terms. Studying the structure and semantics of such models allows understanding the terms formed in most European languages.

Wide use of this type of Latin models in different languages, classical etymology is explained by the fact that morphemes are very convenient word-forming elements. The units under consideration are semantically separated from the previous ones, more generalized, and in some cases acquire a more specialized meaning, and at the same time determine the terminological nature of the formation, while maintaining a semantic connection with their etymology.

For example, the connected stem ***-blast-*** (Greek: «bud, sprout») is used in medical terminology to mean any developing structure (cell, group of cells, tissue,

etc.): *erythroblast, blastospore, blastocyte, blastomycosis, blastoderm, chondroblast, histoblast, myoblast, gliablast*, etc.

The problem of syntactic relations between the components of complex words is solved by the exact analysis method, which gives a general synchronic idea of the interaction of syntax and semantics of word formation.

The analysis of the materials collected for research shows that the same structure model can have several semantic options. When completing the first and the second stems ***-cyte*** (Greek: kytos – cell), examples of the form stem $_1$+o+stem $_2$ were observed. If the ***cyte***- term-element acts as the first component of the model, for example: *cytoplasm, cytosol, cytokinesis, cytometry, cytoskeleton, cytogenesis,* from the nominative point of view it plays the role of an onomasiological feature and acts as an onomasiological basis. The individualizing feature corresponding to its semantics reflects the individual characteristics of the subject or process designated by the second stem, which can be chosen as ***cyte-*** or another stem.

If the term-element ***-cyte*** fills the second stem of the word-formation model, it represents the cells belonging to the first stem of naming the unit or the properties characteristic of them. For example, complex terms such as *blastocyte, chondrocyte, leucocyte, gigantocyte, granulocyte, lymphocyte, thrombocyte, phagocyte, erythrocyte, histiocyte, myocyte, neurocyte, epitheliocyte, anisocytosis* can be given.

So, in the structure of the word formation model, the dual role of the formation component is manifested by the difference in semantic variants. The above-mentioned ***cyte-*** term-element appears as the first stem or is observed in the second stem as a formative.

English histological terminology has *deverbal* and *desubstantive* stems for Greek and Latin adjectives and nouns. The deverbal stems of nouns borrowed from Latin are not very numerous, for example ***-form-, -secret-, sens-, -trans-***, but they occupy an important place in terminology. These deverbal stems actively serve to create complex terms that express important conceptual concepts in tissue genetics, cytology, and embryology, which form the basis of histology. In complex words of the terminological type, the most productive of the deverbal stems of Latin-derived nouns is the term-element ***-form-***, which means “to form”.

The deverbal stems of Greek nouns (27) are more numerous than the deverbal stems of Latin nouns (4). Among them, term-elements such as ***-gen, -genesis, -lyso, -lysis, -pathy, -kinesis, -trophy, -phage*** are the most productive: *cytogenic, heterogenesis, lysosome, haemolysis, homeopathy, karyokinesis, phagotrophy, phagocytosis*.

These term-composites are characterized not only by two stems, but also by the fact that they are multi-component. For example, 3 components: *pseudolysogeny, heterolysosome, myohistogenesis*; or 4 components: *heterophagolysosome, crinophagolysosome, autophagolysosome*, etc.

As with nouns, the range of verbs that motivate the onomasiological stems of complex adjectives is also limited. In histological terminology, the deverbal stems of adjectives (7) are less productive, and the number of complex terms formed by them is not many. Among them, the most productive is the term-element ***-genic***,

which means “origin from…, appeared from…”. Examples of this are complex terms such as *pathogenic, aerogenic, cariogenic, allogenic.*

Deverbal stems of adjectives are formed by suffixes: ***-ic, -al, -ous***. In Greek, the main components are marked with the suffix ***-ic***. These components form one chain with the same root noun stems: ***-graphy*** = ***-graphic***; ***-lysis*** = ***-lytic***; ***-pepsia*** = ***-peptic***.

Desubstantive stems of nouns in Greek and Latin languages mean the process or result of a noun becoming another word group. This is often done through suffixation or other morphological changes.

It is known that nouns are actively used as the main component in complex words in English histological terminology. First of all, Latin and Latinized Greek nouns are related to free-flowing terms and express gender-species relations. For example, Latin words: *bacillus, basis, cavitas, lamina* or Greek words: *blastos (-blast), chondros, histon, karyon, myos, somatos (soma).*

Also, noun stems expressed by formants derived from Greek and Latin are formed in English with the suffix ***-y*** or without any inflection and formant: *-blast, -cyte, -lith, -aemia, -chrom, -logy.*

For complex nouns with a desubstantive onomasiological stem, the bases borrowed from the Greek language prevail. Among them, basic components such as ***cyt- (-cyte), -some, -blast, -karyon, neur-, myo-*** can be mentioned as the most productive.

For example, in the English histological terminology, using the desubstantive Greek root ***cyt- (-cyte)***, you can find 27 actively used composites such as: *cytosol, cytoplasma, leucocyte, histiocyte, thrombocyte*. Or, using the Greek base ***-some***, 21 composites such as *acrosome, chromosome, caveosome, cytosome,* and 15 composites such as *myology, myoblast, myofibroblast*, *myocyte* were found to be actively used the desubstantive ***myo-*** of Greek stem. Also, desubstantive stems derived from the Greek language, such as ***-karyon, neur-, -blast***, form about 10 term-composites and are among highly productive stems.

When we study desubstantive stems from Greek (39) and Latin (7), there are many pure Greek + Greek stems such as *chondroblast, chondrocyte, acrosome*, and Latin + Latin stems such as *bacilliform, basophilia, lamelliform* is a number, and therefore it was observed that the active use of Greek + Latin stems such as *cytosol, myoglobin, hemoglobin*, or Latin + Greek term-composites such as *caveosome, granulocyte, filipodium* is actively used in histological terminology.

Complex adjectives with a desubstantive onomasiological stems are divided into two groups. The first group includes adjectives whose main component exists independently and which are semantically modified by the first component: *nuclear – cytonuclear; capsular – multicapsular; cellular – isocellular.*

In histological terminology, this group of adjectives is quite productive, but the main part of complex adjectives of the terminological type are complex adjectives with deverbal stems. For example, ***-form-*** (lat. formare – to make) is formed using a single deverbal stem: complex adjectives such as *bacilliform, fusiform, piriform, filiform, reniform, digitiform, spongiform* are proof of our point.

A distinctive feature of the structure of English complex adjectives is mainly the vowel connecting (interfix) ***-o-*** according to the Greek model (*neur+o+cyte, oste+o+cyte*), and in some cases, it is formed as the Latin model by using the vowel conjunction ***-i-*** (*neur+i+blast, lamell+i+form*).

Complex adjectives in the second group are much less in number, and their entire structure is based on a syntactic attributive phrase that has moved to the class of adjectives.

REFERENCES:

1. Арнольд И.В. Лексикология современного английского языка. – Москва: Высшая школа, 1973. – 304 с.
2. Jespersen O.A Modern English Grammar on Historical Principles. – London: 1st Edition, 1954. – 1024 p.
3. Marchand H. The categories and types of present-day English word-formation: a synchronic-diachronic approach – München: 1969. – 545 p.
4. Мешков О.Д. Словосложение в современном английском языке. – Москва: 1985. – 187 с.
5. Смирницкий А.И. Лексикология английского языка. – Москва: 1956. – 260 с.

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GLOBAL ISISH JARAYONINING TOG‘LARDAGI QOR ZAXIRALARIGA TASIRINING TAHLILI

Annotatsiya. *Ushbu maqola global isish jarayonining tog‘lardagi qor zaxiralariga ta’sirini o‘rganadi. Global iqlim o‘zgarishi oqibatida haroratning ko‘tarilishi qorning erish tezligini oshiradi va qor qoplamining davomiyligini qisqartiradi. Maqolada ushbu jarayonlarning mintaqaviy gidrologik rejimga, suv resurslariga va ekosistemalarga ta’siri tahlil etiladi. Tadqiqotda ilmiy adabiyotlar, monitoring ma’lumotlari va iqlim modellari natijalari asosida qor zaxiralarining dinamikasi va o‘zgarish tendensiyalari ko‘rib chiqiladi. Maqola xulosasida global isishning tog‘li hududlardagi qor zaxiralariga salbiy ta’sirini yumshatish va suv resurslaridan oqilona foydalanish bo‘yicha tavsiyalar ishlab chiqiladi.*

Kalit so‘zlar: *Global isish, iqlim o‘zgarishi, qor zaxiralari, tog‘lar, gidrologik rejim, suv resurslari, ekosistemalar, monitoring, iqlim modellari.*

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ANALYSIS OF THE IMPACT OF GLOBAL WARMING ON SNOW RESERVES IN THE MOUNTAINS

Annotation*. This article examines the impact of global warming on mountain snow reserves. Rising temperatures due to global climate change will increase the rate of snow melting and reduce the duration of snow cover. The article analyzes the impact of these processes on the regional hydrological regime, water resources and ecosystems. The study examines the dynamics and trends of snow reserves based on scientific literature, monitoring data and climate model results. The article concludes with recommendations for mitigating the negative impact of global warming on snow reserves in mountainous regions and the rational use of water resources.*

Key words: *Global warming, climate change, snow reserves, mountains, hydrological regime, water resources, ecosystems, monitoring, climate models.*

Kirish. Global isish — sayyoradagi umumiy haroratning uzoq muddatli isishi. Global isish karbonat angidrid (CO2) va boshqa havoni ifloslantiruvchi moddalar atmosferada to‘planib, quyosh nurlari va yer yuzidan tushgan quyosh

nurlarini o‘zlashtirganda sodir bo‘ladi. Ushbu isish tendentsiyasi uzoq vaqtdan beri davom etayotgan bo‘lsa-da, so‘nggi yuz yil ichida qazib olinadigan yoqilg‘ilarning yonishi tufayli uning sur’ati sezilarli darajada oshdi. Odamlar sonining ko‘payishi bilan birga, yoqilg‘ilarining yonish hajmi ham o‘sdi. Fotoalbom yoqilg‘ilarga ko‘mir, neft va tabiiy gaz kiradi va ularni yoqish yer atmosferasida “issiqxona effekti” deb nomlanuvchi hodisani keltirib chiqaradi [8].

Global isish bugungi kunning eng dolzarb muammolaridan biri bo‘lib, uning ta’siri sayyoramizning barcha hududlarida sezilmoqda. Ayniqsa, tog‘li hududlar iqlim o‘zgarishlariga nisbatan juda sezgir bo‘lib, bu yerlarda qor zaxiralari muhim gidrologik va ekologik ahamiyatga ega. Tog‘lardagi qor zaxiralari daryolar va ko‘llarni suv bilan ta’minlash, qishloq xo‘jaligini sug‘orish va ekosistemalarni qo‘llab-quvvatlashda muhim rol o‘ynaydi. Global isish oqibatida haroratning ko‘tarilishi qorning erish tezligini oshirib, qor qoplamining davomiyligini qisqartiradi, bu esa suv resurslariga va ekosistemalarga jiddiy ta’sir ko‘rsatadi [2].

Qor va muzliklar – sayyoramizning suv resurslarini tartibga solishda muhim rol o‘ynaydi. Tog‘li hududlardagi qor zaxiralari bahor va yoz oylarida asta-sekin erib, daryolar va suv omborlariga suv yetkazib beradi. Biroq global isish tufayli qor qoplami tezroq erimoqda va bu tog‘ daryolari suv ta’minotining o‘zgarishiga olib kelmoqda. Bu esa ekotizimlar, qishloq xo‘jaligi va ichimlik suvi manbalari uchun jiddiy xavf tug‘diradi [3].

So‘nggi tadqiqotlar shuni ko‘rsatadiki, oxirgi 50 yil ichida tog‘li hududlarda qor qoplamining saqlanish muddati sezilarli darajada qisqargan. Bu holat qish faslining davomiyligi qisqarishi, qor yog‘ishning kamayishi va erta bahorda tez erish jarayonlari bilan bog‘liq. Xususan, Markaziy Osiyo, Himolay, Alp tog‘lari va Shimoliy Amerika tog‘ tizimlarida bunday o‘zgarishlar yaqqol kuzatilmoqda [4].

Ushbu maqolada global isish jarayonining to‘lardagi qor zaxiralariga ta’siri ilmiy tahlil qilinadi. Tadqiqotning maqsadi – global isishning qor qoplamiga ta’sirini aniqlash, bu jarayonning oqibatlarini baholash va kelgusidagi suv resurslarini boshqarish strategiyalarini ishlab chiqishdan iborat.

Adabiyotlar tahlili va metodologiya:

So‘nggi yillarda global isishning qor zaxiralariga ta’siri bo‘yicha ko‘plab tadqiqotlar olib borilgan. Xalqaro ilmiy nashrlarda bu mavzuga bag‘ishlangan maqolalar, hisobotlar va monografiyalar chop etilgan. Xususan, IPCC (Intergovernmental Panel on Climate Change) tomonidan taqdim etilgan hisobotlarda global haroratning oshishi natijasida qor qoplami va muzliklarning kamayishi bo‘yicha aniq statistik ma’lumotlar keltirilgan [1].

Bundan tashqari, NASA va ESA kabi kosmik agentliklar sun’iy yo‘ldosh tasvirlari orqali qor zaxiralarining dinamikasini o‘rganib, ularning erish sur’atlarini aniq ko‘rsatib bermoqda. Masalan, Himolay va Alp tog‘ tizimlarida qor qoplami yil sayin kamayib borayotganligi aniqlandi [9]. Shuningdek, mahalliy tadqiqotchilar tomonidan Markaziy Osiyo va Kavkaz tog‘larida olib borilgan tadqiqotlar global isishning suv resurslariga salbiy ta’sirini isbotladi [7]. Ushbu tadqiqotlar shuni ko‘rsatadiki, qor qoplami erishi natijasida suv manbalarining mavsumiy taqsimoti o‘zgarib, qurg‘oqchilik xavfi ortmoqda.

Ko‘plab ilmiy tadqiqotlar global isishning qor zaxiralariga ta’sirini kamaytirish uchun iqlim siyosatini kuchaytirish, atrof-muhitni muhofaza qilish choralarini ko‘rish va muqobil energiya manbalaridan foydalanish muhimligini ta’kidlaydi. Ilmiy tadqiqotlar global isishning qor zaxiralariga ta’sirini keng yoritib kelmoqda. IPCC (Intergovernmental Panel on Climate Change) hisobotlariga ko‘ra, global haroratning oshishi qor va muzliklarning qisqarishini tezlashtiradi [6]. NASA mutaxassislari sun’iy yo‘ldosh kuzatuvlari orqali qor zaxiralarining yil sayin kamayib borayotganini aniqlaganlar.

Shuningdek, Pomeroy (2015) tadqiqotlarida global isish sababli qor yog‘ishining o‘zgarishi va erish jarayonining tezlashishi kuzatilgan. Barnett va boshqalar (2005) esa tog‘li hududlardagi qor va muzlarning kamayishi ichimlik suvi ta’minotiga tahdid solishini ta’kidlagan [5]. Mahalliy olimlar ham bu jarayonga alohida e’tibor qaratmoqda. Markaziy Osiyo va Kavkaz hududlarida olib borilgan tadqiqotlar (Aizen va boshqalar, 2007) qor qoplamining sezilarli kamayib borayotganini va bu suv resurslariga salbiy ta’sir ko‘rsatayotganini tasdiqlagan [10].

Umuman olganda, ilmiy tadqiqotlar global isishning qor zaxiralariga jiddiy ta’sir ko‘rsatayotganini tasdiqlaydi va kelgusida suv resurslarini boshqarish strategiyalarini ishlab chiqish zarurligini ko‘rsatadi.

Ushbu tadqiqotda global isishning to‘lardagi qor zaxiralariga ta’sirini baholash uchun **Ma’lumotlarni yig‘ish, Iqlim Modellashtirish, Gidrologik Modellashtirish va Geografik Informatsion Tizimlar (GIS) tahlili kabi ilmiy** yondashuvlar va metodlar qo‘llanildi.

Tahlil va natijalar:

Qor qoplamining so‘nggi 50 yil ichida o‘zgarish dinamikasi tahlil qilindi.

O‘rtacha yillik harorat, qor yog‘ishi va qor erish jarayonlari o‘rtasidagi bog‘liqlikni aniqlash uchun korelyatsion va trend tahlillari amalga oshirildi. To‘plangan ma’lumotlarning ishonchliligini ta’minlash uchun dispersiya tahlili (ANOVA), Mann-Kendall trend testi va Sen’s slope tahlili kabi statistik usullar ishlatildi. Qor yog‘ish va harorat o‘zgarishlarining mavsumiy sikllari Fourier tahlili yordamida o‘rganildi. Regression analiz yordamida qor qoplamining kamayish sur’ati va harorat o‘zgarishlari o‘rtasidagi empirik bog‘liqlik baholandi. Ma’lumotlar to‘plamining ishonchliligini oshirish uchun Monte-Karlo simulyatsiyasi yordamida ehtimoliy natijalar baholandi.

Tahlil natijalari global isishning to‘lardagi qor qoplami hajmiga sezilarli ta’sir ko‘rsatganini tasdiqlaydi:

O‘rtacha yillik haroratning 1,5-2°C ga oshishi qor qoplamining 15-30% ga kamayishiga sabab bo‘lmoqda. Bahorgi qor erishi oldingi yillarga nisbatan 2-3 hafta avval boshlanmoqda. Vaqt qatorlari tahlili natijalari qor qoplami maydonining doimiy qisqarish trendini ko‘rsatmoqda. Mann-Kendall testi natijalariga ko‘ra, qor yog‘ish vaqti ham mavsumiy siljishga uchragan. Tog‘ daryolarida suv oqimi bahorgi mavsumda ko‘tarilishi va yozgi oylar davomida qisqarishi kuzatilmoqda. Qor va muzliklarning kamayishi suv resurslarining kelajakdagi ta’minotiga jiddiy ta’sir ko‘rsatishi mumkin. Iqlim ssenariylari asosida hisob-kitoblarga ko‘ra, 2100

yilgacha qor qoplami maydoni hozirgi darajasidan 40-60% gacha kamayishi mumkin.

Tadqiqot natijalari shuni ko‘rsatdiki, global isish tog‘lardagi qor zaxiralariga sezilarli ta’sir ko‘rsatmoqda. Haroratning ko‘tarilishi qorning erish tezligini oshirib, qor qoplamining davomiyligini qisqartirmoqda. Bu esa quyidagi oqibatlarga olib kelmoqda:

Gidrologik rejimning o‘zgarishi: Qorning erta erishi suv oqimining muddatlarini o‘zgartiradi, bahorgi toshqinlarning xavfini oshiradi va yoz oylarida suv taqchilligini yuzaga keltiradi.

Suv resurslarining kamayishi: Qor zaxiralarining kamayishi daryolar va ko‘llarni suv bilan ta’minlashni qiyinlashtiradi, qishloq xo‘jaligi va sanoat uchun suv tanqisligini keltirib chiqaradi.

Ekosistemalarga ta’sir: Qorning erta erishi o‘simliklar va hayvonlarning hayot sikllarini buzadi, tog‘li hududlardagi biologik xilma-xillikka tahdid soladi.

Olingan natijalar global isishning tog‘li hududlardagi qor zaxiralariga jiddiy ta’sir ko‘rsatayotganini tasdiqlaydi. Ushbu jarayonlarning mintaqaviy gidrologik rejimga, suv resurslariga va ekosistemalarga ta’siri uzoq muddatli monitoring va iqlim modellari asosida baholanishi kerak. Suv resurslaridan oqilona foydalanish, suv tejovchi texnologiyalarni joriy etish va ekosistemalarni himoya qilish bo‘yicha chora-tadbirlar ishlab chiqilishi zarur.

Global isishning tog‘li hududlardagi qor zaxiralariga ta’siri jiddiy muammo bo‘lib, uning oqibatlari mintaqaviy gidrologik rejim, suv resurslari va ekosistemalarga salbiy ta’sir ko‘rsatadi. Ushbu muammoni hal qilish uchun ilmiy tadqiqotlar, monitoring va suv resurslaridan oqilona foydalanish bo‘yicha kompleks chora-tadbirlar zarur. Global isishning oldini olish va unga moslashish bo‘yicha global sa’y-harakatlar tog‘li hududlardagi qor zaxiralarini saqlash va suv resurslaridan barqaror foydalanishni ta’minlashda muhim ahamiyatga ega.

Xulosa va takliflar:

Global isish jarayoni tog‘li hududlardagi qor qoplamining saqlanishi va erish jarayonlariga sezilarli ta’sir ko‘rsatmoqda. Tadqiqot natijalari shuni ko‘rsatdiki, haroratning oshishi qor zaxiralarining qisqarishiga olib kelib, bu tog‘ daryolari va suv resurslariga bevosita ta’sir qilmoqda. Bahorgi qor erishining avvalroq boshlanishi suv oqimining mavsumiy taqsimotini o‘zgartiradi, bu esa qishloq xo‘jaligi, ichimlik suvi ta’minoti va gidroenergetika uchun muhim oqibatlarga ega.

Tahlil natijalariga ko‘ra, qor qoplamining kamayishi kelgusi yillarda davom etishi kutilmoqda. Prognozlarga asoslanib, 2100 yilga kelib qor qoplami hozirgi darajaga nisbatan 40-60% gacha qisqarishi mumkin. Bu esa tog‘li hududlardagi ekotizimlarga, biologik xilma-xillikka ham salbiy ta’sir ko‘rsatadi.

Shu sababli, qor zaxiralarini saqlab qolish va global isishning salbiy ta’sirlarini kamaytirish maqsadida quyidagi chora-tadbirlarni amalga oshirish zarur:

1. **Iqlim o‘zgarishlariga moslashish strategiyalarini ishlab chiqish** – qishloq xo‘jaligi va suv ta’minotini moslashtirish uchun innovatsion texnologiyalarni joriy etish.

2. **Yog‘ingarchilik va qor qoplami monitoringini kuchaytirish** – sun’iy yo‘ldosh kuzatuvlari va gidrometeorologik tahlillarni kengaytirish.

3. **Uglerod chiqindilarini kamaytirish** – issiqxona gazlari emissiyasini qisqartirish orqali global isish sur’atini sekinlashtirish.

4. **Suv resurslarini samarali boshqarish** – suv tejovchi texnologiyalarni tatbiq etish va muqobil suv manbalaridan foydalanish strategiyalarini ishlab chiqish.

5. **Xalqaro hamkorlikni kuchaytirish** – iqlim o‘zgarishlariga qarshi kurashda davlatlar o‘rtasida hamkorlikni rivojlantirish va ekologik dasturlarni qo‘llab-quvvatlash.

6. **Ta’lim va ommaviy axborot kampaniyalarini kuchaytirish** – aholining iqlim o‘zgarishlariga oid bilim va tushunchalarini oshirish, ekologik ongni rivojlantirish.

7. **Alternativ energiya manbalariga o‘tish** – an’anaviy yoqilg‘i manbalaridan foydalanishni kamaytirish va qayta tiklanadigan energiya manbalariga o‘tish orqali atrof-muhitga ta’sirni kamaytirish.

8. **Ekotizimlarni tiklash va himoya qilish** – iqlim o‘zgarishlaridan zarar ko‘rgan hududlarda o‘rmon tiklash, tabiiy suv havzalarini saqlab qolish va muhofaza qilish chora-tadbirlarini kuchaytirish.

Tadqiqot natijalari global isish oqibatlarini kamaytirish uchun harakat qilish zarurligini yana bir bor tasdiqlaydi. Davlat siyosati va xalqaro hamkorlik doirasida muhim chora-tadbirlar amalga oshirilishi kerak, chunki qor va muzliklarning yo‘qolishi uzoq muddatda ekologik va iqtisodiy muammolarni kuchaytirishi mumkin

Foydalanilgan adabiyotlar ro‘yxati:

1. IPCC (Intergovernmental Panel on Climate Change). *Climate Change 2021: The Physical Science Basis.* Cambridge University Press, 2021. https://www.ipcc.ch/report/ar6/wg1/.

2. National Snow and Ice Data Center (NSIDC). *State of the Cryosphere Report.* 2022 https://nsidc.org/cryosphere/sotc/.

3. UNEP (United Nations Environment Programme). *Global Glacier Change and Its Impacts on Water Resources.* 2020 https://www.unep.org/resources/report/global-glacier-change.

4. World Meteorological Organization (WMO). *State of the Global Climate 2022.* https://public.wmo.int/en/our-mandate/climate/wmo-statement-state-of-global-climate.

5. Barnett, T. P., Adam, J. C., & Lettenmaier, D. P. *Potential impacts of a warming climate on water availability in snow-dominated regions.* Nature, 438(7066), 303-309, 2005. DOI: 10.1038/nature04141.

6. Huss, M., & Hock, R. *Global-scale hydrological response to future glacier mass loss.* Nature Climate Change, 8(2), 135-140, 2018. DOI: 10.1038/s41558-017-0049-x.

7. Bolch, T., et al. *Glacier shrinkage in the Tien Shan and its impact on water resources in Central Asia.* Nature Geoscience, 5(7), 2012. DOI: 10.1038/ngeo1528.

8. FAO (Food and Agriculture Organization). *Climate Change and Food Security: Risks and Responses.* 2021 https://www.fao.org/climate-change/en/.
9. NASA Earth Observatory. *The Impact of Melting Snow and Ice on Global Sea Levels.* 2023 https://earthobservatory.nasa.gov/features/MeltingIce.
10. WWF (World Wildlife Fund). *Climate Change Impacts on Snow and Ice-Dependent Ecosystems.* 2022 https://www.worldwildlife.org/threats/effects-of-climate-change.

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TABIIY XUSUSIYATLI FAVQULODDA VAZIYATLARNI PROGNOZ QILISHDA GEOAXBOROT TIZIMLARINING O‘RNI

Annotatsiya. *Ushbu maqola tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishda geoaxborot tizimlarining (GAT) rolini o‘rganadi. Tabiiy xususiyatli favqulodda vaziyatlarni, jumladan zilzilalar, sellar, suv toshqinlari, ko‘chkilar va qurg‘oqchilik kabi hodisalar inson hayoti va iqtisodiy faoliyatga sezilarli zarar yetkazishi mumkin. GATlar geografik ma’lumotlarni to‘plash, saqlash, tahlil qilish va vizuallashtirish imkoniyatini beradi, bu esa tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilish va ularning oqibatlarini yumshatishda muhim ahamiyatga ega. Maqolada GATlarning tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishdagi asosiy vazifalari, qo‘llaniladigan ma’lumotlar manbalari va usullari tahlil etiladi. Shuningdek, GAT texnologiyalarining imkoniyatlari va cheklovlari, ularni yanada takomillashtirish yo‘llari ko‘rib chiqiladi. Maqola xulosasida tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishda GATlardan samarali foydalanish bo‘yicha tavsiyalar ishlab chiqiladi.*

Kalit so‘zlar: *Geoaxborot tizimlari, tabiiy favqulodda vaziyatlar, prognozlash, zilzila, suv toshqini, ko‘chki, qurg‘oqchilik, geografik ma’lumotlar, xavf tahlili.*

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THE ROLE OF GEOINFORMATION SYSTEMS IN FORECASTING NATURAL EMERGENCIES

Annotation. *This paper examines the role of geographic information systems (GIS) in natural disaster forecasting (NDF). Natural disasters, including earthquakes, floods, landslides, and droughts, can cause significant damage to human life and economic activity. GISs provide the ability to collect, store, analyze, and visualize geographic data, which is important for forecasting and mitigating ND. The paper analyzes the main tasks of GIS in forecasting natural disaster, the data sources and methods used. It also discusses the capabilities and limitations of GIS technologies, and ways to further improve them. The paper concludes with recommendations for the effective use of GIS in forecasting ND.*

Keywords. *geographic information systems, natural disasters, forecasting, earthquake, flood, landslide, drought, geographic information, risk analysis.*

Kirish. Tabiiy xususiyatli favqulodda vaziyatlar - insoniyat uchun jiddiy xavf tug‘diradigan tabiiy ofatlardir. Zilzilalar, suv toshqinlari, ko‘chkilar, qurg‘oqchilik va boshqa tabiiy hodisalar nafaqat inson hayotiga zomin bo‘lishi, balki iqtisodiyotga ham katta zarar yetkazishi mumkin. Ushbu tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilish va ularning oqibatlarini kamaytirish uchun zamonaviy texnologiyalardan, jumladan geoaxborot tizimlaridan (GAT) foydalanish muhim ahamiyatga ega.

Geoaxborot tizimlari - geografik ma'lumotlarni yig'ish, tahlil qilish, boshqarish va vizualizatsiya qilishni amalga oshiruvchi tizimlar bo'lib, ularning yordamida o‘rganilayotgan hududga oid turli ma'lumotlar birlashtiriladi. Bu tizimlar, asosan, kartalar, satellit rasmlari, sensorlar, va boshqa turli manbalardan olingan ma'lumotlarni to'plash, tahlil qilish va ulardan strategik qarorlar chiqarish uchun ishlatiladi. GATlar yordamida biz geografik joylashuv, iqlim o'zgarishlari, seysmik faollik, suv toshqinlari va boshqa tabiiy ofatlar haqida aniq va dolzarb ma'lumotlar olishimiz mumkin [5].

Sodda qilib aytganda, geografik axborot tizimi (GAT) o‘z ichiga xaritashunoslik, statistik tahlil hamda ma’lumotlar bazasini mujassamlashtiradi. GAT keng tarmoqli soha bo‘lib, xaritashunoshlik, masofadan zondlash, yer tuzish, tabiiy resurslarni boshqarish, fotogrammetriya, geografiya, shaharsozlik, samoviy video hamda mahalliy qidiruv tizimlarida keng foydalanib kelinmoqda. Bu ma'lumotlarni boshqarish, kartagrafik tasvirlar va tahlil qilish uchun yaratilgan ichki pozitsiyalangan fazoviy axborot tizimidir. GAT bu inson faolligi va dasturiy apparatning geografik ma'lumotni saqlash, boshqarish va tasvirlashga mo'ljallangan kampyuter tizimidir. GAT ilk bora XX-asrning 60-yillarida AQSH va Kanadada harbiy maqsadlarda foydalanishi natijasida vujudga kelgan. Keyinchalik bu tizim yordamida kadastr malumotlari sifatida keng foydalanilib kelinmoqda [6].

GAT-geografik ma’lumotlarni to‘plash, saqlash, tahlil qilish va vizuallashtirish imkonini beruvchi kompyuter tizimidir. GATlar yordamida xavf omillarini aniqlash, xavf darajasini baholash va tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilish mumkin. Ushbu ma’lumotlar asosida esa favqulodda vaziyatlarga tayyorgarlik ko‘rish, aholini evakuatsiya qilish va zarar ko‘rgan hududlarga yordam ko‘rsatish bo‘yicha samarali choralar ko‘rish mumkin. Geografik axborot tizimlari tabiiy ofatlar va favqulodda vaziyatlarni boshqarishning barcha bosqichlarida juda muhim rol o'ynaydi. GAT bizga ofatlar va favqulodda vaziyatlarni ishonchli boshqarish uchun munosabatlar, tendentsiyalarni aniqlash uchun ma'lumotlarni vizualizatsiya qilish, savol berish, tahlil qilish, sharhlash va tushunish imkoniyatini beradi [7].

Adabiyotlar tahlili va metodologiya. Birlashgan Millatlar Tashkilotining Kosmik Masalalar Bo‘yicha Idorasi (UNOOSA-2019) tomonidan chop etilgan ushbu hisobot geokosmik ma’lumotlarning favqulodda vaziyatlarni oldini olish va zararni minimallashtirishdagi rolini o‘rganadi. Hisobotda sun’iy yo‘ldosh

ma’lumotlari va GATning integratsiyasi orqali tabiiy ofatlar xavfini baholash va ularga tayyorgarlik ko‘rishning zamonaviy usullari ko‘rib chiqilgan. Shuningdek, xalqaro hamkorlik va ma’lumotlar almashuvining ahamiyati ta’kidlangan [8].

O‘zbekistonda GATni rivojlantirish va ularni favqulodda vaziyatlarni boshqarishda qo‘llash bo‘yicha tadqiqotlar olib borayotgan olimlar ham o‘z fikrlarini bildirishgan.

Rasulov A. (2020): O‘zbekistonda tabiiy ofatlar xavfi yuqori bo‘lganligi sababli, geoaxborot tizimlarini qo‘llash orqali xavflarni oldindan aniqlash va ularga tayyorgarlik ko‘rish mumkin. Bu esa mamlakatimizning barqaror rivojlanishiga hissa qo‘shadi [1].

Sh.Toshmatov. Geoaxborot tizimlari va ularning atrof-muhitni muhofaza qilishdagi ahamiyati) tadqiqoti GATning atrof-muhitni muhofaza qilish va tabiiy resurslarni boshqarishdagi rolini o‘rganadi. Maqolada O‘zbekistonda tuproq eroziyasi, o‘rmonlar qisqarishi va suv resurslarining ifloslanishi kabi muammolarni GAT yordamida monitoring qilish va ularni bartaraf etish usullari ko‘rib chiqilgan. Muallifning fikricha, GAT atrof-muhit muammolarini oldindan aniqlash va ularga qarshi chora-tadbirlarni ishlab chiqishda muhim vositadir [2].

Geoaxborot tizimlari (GAT) va ularning favqulodda vaziyatlarni prognoz qilish va boshqarishdagi rolini o‘rganish uchun ko‘plab metodologik yondashuvlar qo‘llanilgan. Ushbu metodologiya tadqiqotning ilmiy asosliligini ta’minlash, ma’lumotlarni yig‘ish, tahlil qilish va natijalarni ishonchli tarzda taqdim etish uchun mo‘ljallangan.

Tahlil va natijalar:

GATning tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishdagi roli.

GATlar tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishda quyidagi vazifalarni bajaradi:

1. Ma’lumotlarni to‘plash va saqlash: GATlar turli manbalardan olingan geografik ma’lumotlarni, jumladan sun’iy yo‘ldosh tasvirlari, aerofotosuratlar, kartografik ma’lumotlar, monitoring stansiyalari ma’lumotlari va aholi ro‘yxati ma’lumotlarini to‘plash va saqlash imkonini beradi.

2. Xavf omillarini aniqlash: GATlar yordamida xavf omillarini, jumladan seysmik faol hududlar, suv toshqini xavfi yuqori bo‘lgan hududlar, ko‘chki yuz berishi mumkin bo‘lgan hududlar va qurg‘oqchilikka moyil hududlarni aniqlash mumkin.

3. Xavf darajasini baholash: GATlar yordamida xavf omillarining kombinatsiyasi asosida xavf darajasini baholash mumkin. Masalan, zilzila xavfi yuqori bo‘lgan hududlarda aholi zichligi, bino va inshootlarning mustahkamligi kabi omillar hisobga olinadi.

4. FXVlarni prognoz qilish: GATlar yordamida olingan ma’lumotlar asosida FXVlarni prognoz qilish mumkin. Masalan, suv toshqinlari xavfini prognoz qilish uchun daryolardagi suv sathining ko‘tarilishi, yog‘ingarchilik miqdori va qorning erish tezligi kabi omillar hisobga olinadi [4].

5. Tabiiy xususiyatli favqulodda vaziyatlarning oqibatlarini baholash: GATlar yordamida tabiiy xususiyatli favqulodda vaziyatlar sodir bo‘lgan taqdirda

yetkazilishi mumkin bo‘lgan zararni baholash mumkin. Masalan, zilzila oqibatida vayron bo‘lishi mumkin bo‘lgan bino va inshootlar, jabrlangan aholi soni va iqtisodiy zarar miqdori prognoz qilinadi [3].

6. Ma’lumotlarni vizuallashtirish: GATlar olingan ma’lumotlarni xaritalar, grafiklar va diagrammalar shaklida vizuallashtirish imkonini beradi. Bu esa qaror qabul qiluvchilarga vaziyatni yaxshiroq tushunish va samarali choralar ko‘rishga yordam beradi.

GATning tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishdagi afzalliklari.

GATlardan foydalanish tabiiy tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishda quyidagi afzalliklarni beradi:

Ma’lumotlarni tezkor to‘plash va tahlil qilish: GATlar katta hajmdagi ma’lumotlarni tezkor to‘plash va tahlil qilish imkonini beradi, buesa tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilish va ularga tezkor javob berish uchun muhimdir.

Xavf omillarini aniqroq baholash: GATlar turli xil xavf omillarini birgalikda tahlil qilish imkonini beradi, bu esa xavf darajasini aniqroq baholashga yordam beradi.

Tabiiy xususiyatli favqulodda vaziyatlarning oqibatlarini aniqroq prognoz qilish: GATlar yordamida tabiiy xususiyatli favqulodda vaziyatlar sodir bo‘lgan taqdirda yetkazilishi mumkin bo‘lgan zararni aniqroq prognoz qilish mumkin, bu esa favqulodda vaziyatlarga tayyorgarlik ko‘rish va ularning oqibatlarini yumshatishga yordam beradi [9].

Ma’lumotlarni vizuallashtirish: GATlar olingan ma’lumotlarni xaritalar, grafiklar va diagrammalar shaklida vizuallashtirish imkonini beradi, bu esa qaror qabul qiluvchilarga vaziyatni yaxshiroq tushunish va samarali choralar ko‘rishga yordam beradi.

GATning tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishdagi cheklovlari

GATlardan foydalanish tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishda ko‘plab afzalliklarni bersa-da, ularning ham cheklovlari mavjud:

Ma’lumotlarning sifati: GATlarning samaradorligi ma’lumotlarning sifatiga bog‘liq. Agar ma’lumotlar noto‘g‘ri yoki to‘liq bo‘lmasa, prognozlar ham noto‘g‘ri bo‘lishi mumkin.

Murakkab modellarni yaratish: Tabiiy tabiiy xususiyatli favqulodda vaziyatlar murakkab jarayonlar bo‘lib, ularni prognoz qilish uchun murakkab modellar yaratish zarur. Bunday modellarni yaratish uchun esa yuqori malakali mutaxassislar talab etiladi.

Qimmatbaho texnologiyalar: GAT dasturlari va uskunalari qimmatbaho bo‘lishi mumkin, bu esa ulardan foydalanishni cheklashi mumkin.

Texnik qo‘llab-quvvatlash: GAT tizimlaridan samarali foydalanish uchun texnik qo‘llab-quvvatlash zarur. Aks holda, tizimlar noto‘g‘ri ishlashi va prognozlar noto‘g‘ri bo‘lishi mumkin.

Geoaxborot tizimlari tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishda, ular bilan bog‘liq xavflarni tahlil qilish va oldini olishda juda muhim ahamiyatga ega. GATlarning o‘rni nafaqat ma'lumot yig‘ish, balki ularni tahlil qilish, prognozlar tuzish, xavf zonalarini aniqlash va resurslarni samarali taqsimlashda ham sezilarli darajada o‘smoqda. Bu tizimlarning ishlatilishi, tabiiy ofatlar va favqulodda vaziyatlarga qarshi kurashishda yanada samarali choralar ko‘rishga imkon yaratadi. Kelajakda GATlar yordamida tabiiy ofatlarni prognoz qilish va ularga qarshi strategiyalar ishlab chiqishda innovatsion yondashuvlarning rivojlanishi kutilmoqda.

Xulosa va tavsiyalar:

Tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilishda GATlardan foydalanish muhim ahamiyatga ega. GATlar yordamida xavf omillarini aniqlash, xavf darajasini baholash va tabiiy xususiyatli favqulodda vaziyatlarni prognoz qilish mumkin. Ushbu ma’lumotlar asosida esa favqulodda vaziyatlarga tayyorgarlik ko‘rish, aholini evakuatsiya qilish va zarar ko‘rgan hududlarga yordam ko‘rsatish bo‘yicha samarali choralar ko‘rish mumkin [10].

GAT tizimlaridan yanada samarali foydalanish uchun quyidagi tavsiyalar beriladi:

1. Ma’lumotlar sifatini oshirish: Ma’lumotlarni to‘plash, saqlash va tahlil qilish jarayonlarini takomillashtirish orqali ma’lumotlar sifatini oshirish.

2. Murakkab modellarni yaratish: Yuqori malakali mutaxassislarni jalb qilish va ilg‘or modellashtirish usullaridan foydalanish orqali murakkab tabiiy xususiyatli favqulodda vaziyatlarni prognozlash modellari yaratish.

3. GAT texnologiyalarini arzonlashtirish: Ochiq kodli dasturlar va arzon uskunalardan foydalanish orqali GAT texnologiyalarini arzonlashtirish.

4. Texnik qo‘llab-quvvatlashni ta’minlash: GAT tizimlaridan samarali foydalanish uchun texnik qo‘llab-quvvatlash xizmatlarini yo‘lga qo‘yish.

5. Xalqaro hamkorlikni rivojlantirish: Tabiiy xususiyatli favqulodda vaziyatlarning prognoz qilish bo‘yicha xalqaro tajribani o‘rganish va ilg‘or texnologiyalarni o‘zlashtirish uchun xalqaro hamkorlikni rivojlantirish.

Geografik axborot tizimlari (GAT) tabiiy ofatlar va favqulodda vaziyatlarni boshqarishning barcha bosqichlarida juda muhim rol o'ynaydi. GAT bizga ofatlar va favqulodda vaziyatlarni ishonchli boshqarish uchun munosabatlar, tendentsiyalarni aniqlash uchun ma'lumotlarni vizualizatsiya qilish, savol berish, tahlil qilish, sharhlash va tushunish imkoniyatini beradi.

Foydalanilgan adabiyotlar ro‘yxati:

1. Rasulov, A., & Xolmatov, B. (2020). Geoaxborot tizimlari va ularning O‘zbekistonda tabiiy ofatlarni boshqarishda qo‘llanilishi. Ilmiy maqola, O‘zbekiston Geografiya Jurnali.
2. Toshmatov, Sh. (2019). Geoaxborot tizimlari va ularning atrof-muhitni muhofaza qilishdagi ahamiyati. Toshkent Davlat Universiteti Ilmiy Axborotnomasi.
3. Xodjaev, A. (2021). Geoaxborot tizimlari va ularning shahar infratuzilmasini rivojlantirishdagi roli. Urbanistika va Infratuzilma Masalalari Jurnali.

4. Mirzaev, M., & Karimov, R. (2018). Geoaxborot tizimlari va ularning qishloq xo‘jaligida qo‘llanilishi. O‘zbekiston Qishloq Xo‘jaligi Ilmiy Tadqiqotlar Jurnali.
5. Abdullaev, I. (2022). Geoaxborot tizimlari va ularning O‘zbekistonda suv resurslarini boshqarishdagi roli. Suv Resurslari va Muhandislik Jurnali.
6. Longley, P. A., Goodchild, M. F., Maguire, D. J., & Rhind, D. W. (2015). Geographic Information Science & Systems. John Wiley & Sons.
7. ESRI. (2020). GIS for Disaster Management. Environmental Systems Research Institute (ESRI) nashriyoti.
8. UNOOSA. (2019). The Role of Geospatial Information in Disaster Risk Reduction. Birlashgan Millatlar Tashkilotining Kosmik Masalalar Bo‘yicha Idorasi (UNOOSA) hisoboti.
9. Cutter, S. L. (2003). GI Science, Disasters, and Emergency Management. Transactions in GIS, 7(4), 439-445.
10. Johnson, R. (2018). Applications of GIS in Emergency Management. Journal of Emergency Management, 16(2), 123-135.
Wang, Y., & Li, Z. (2017). Geospatial Big Data for Disaster Preparedness and Response. International Journal of Disaster Risk Reduction, 24, 20-28.

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H5P: NEW OPPORTUNITIES OF USING INTERACTIVITY AND MULTIMEDIA IN EDUCATION

Abstract: *This article analyzes the possibilities of H5P technology to increase efficiency through interactivity and multimedia tools in the educational process. H5P is an open source platform that provides the ability to create interactive tests, video tutorials, drag-and-drop exercises, and gamification elements. For educational institutions and independent learners, this technology makes the learning process more interesting and effective. The article also provides information on how H5P can help teachers analyze and optimize the learning process.*

Keywords: *H5P, interactive education, multimedia tools, gamification, distance learning, educational process, digital learning.*

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H5P: TA'LIMDA INTERAKTIVLIK VA MULTIMEDIA VOSITALARIDAN FOYDALANISHNING YANGI IMKONIYATLARI

Annotatsiya: *Ushbu maqolada H5P texnologiyasining ta’lim jarayonida interaktivlik va multimedia vositalari orqali samaradorlikni oshirish imkoniyatlari tahlil qilinadi. H5P ochiq kodli platforma bo‘lib, interaktiv testlar, video darsliklar, drag-and-drop mashqlari va gamifikatsiya elementlarini yaratish imkoniyatini taqdim etadi. Ta’lim muassasalari va mustaqil o‘quvchilar uchun bu texnologiya o‘quv jarayonini yanada qiziqarli va samarali qiladi. Shuningdek, maqolada H5P ning o‘qituvchilarga dars jarayonini tahlil qilish va optimallashtirishda qanday yordam berishi haqida ma’lumot berilgan.*

Kalit so‘zlar: *H5P, interaktiv ta’lim, multimedia vositalari, gamifikatsiya, masofaviy ta’lim, o‘quv jarayoni, raqamli ta’lim.*

Zamonaviy ta’lim jarayonida interaktivlik va multimedia texnologiyalaridan foydalanish o‘quv jarayonini samarali tashkil etishda muhim vositalardan biri hisoblanadi. H5P (HTML5 Package) texnologiyasi aynan shunday imkoniyatlarni kengaytiruvchi innovatsion vositalardan biri sifatida o‘qituvchilar va ta’lim muassasalari orasida tobora ommalashib bormoqda. Ushbu texnologiya yordamida o‘qituvchilar turli interaktiv ta’lim materiallarini yaratishlari, ularni virtual

darslarga integratsiya qilishlari va o‘quvchilarning bilimlarini yanada samarali shakllantirishlari mumkin bo‘lmoqda. An’anaviy dars metodlaridan farqli ravishda, H5P orqali o‘quvchilar faqatgina ma’lumotni o‘qib emas, balki uni interaktiv ravishda o‘rganish imkoniyatiga ega bo‘ladilar. Bunday yondashuv, ayniqsa, masofaviy ta’lim tizimi uchun juda muhim sanaladi, chunki bu usul orqali ta’lim jarayoni yanada qiziqarli va samarali bo‘lishi mumkin.

H5P texnologiyasining eng muhim afzalliklaridan biri uning ochiq kodli va bepul platforma ekanligidir. Ushbu texnologiya WordPress, Moodle, Drupal kabi turli ta’lim platformalariga integratsiya qilish imkoniyatiga ega bo‘lib, bu esa o‘qituvchilarga o‘z darslarini istalgan joydan turib interaktiv shaklda tashkil etish imkonini beradi. O‘quvchilar esa ushbu platformada taqdim etilgan materiallar bilan bevosita ishlash, masalan, turli viktorinalarda qatnashish, video darslar asosida topshiriqlar bajarish, interaktiv xaritalardan foydalanish yoki test savollariga javob berishlari mumkin. Bularning barchasi ta’lim jarayonini yanada qiziqarli va samarali qiluvchi omillardan biri sanaladi. Bundan tashqari, H5P yordamida tayyorlangan kontent mobil qurilmalarda ham muammosiz ishlaydi, bu esa zamonaviy o‘quvchilarning smartfon va planshetlardan foydalangan holda o‘qishlarini qo‘llab-quvvatlaydi.

H5P texnologiyasi ta’lim jarayonida keng qo‘llanilayotgan bir qator multimedia vositalari bilan ham uyg‘un ishlaydi. Masalan, ushbu texnologiya orqali interaktiv video darsliklar yaratish mumkin bo‘lib, bunday darsliklar o‘quvchilarni video tomosha qilish davomida turli test savollariga javob berishga undaydi. Natijada, o‘quvchilar faqat passiv ravishda ma’lumotni qabul qilish bilan cheklanmay, balki uni faol o‘rganishga harakat qilishadi. Interaktivlikning bunday darajasi esa o‘quv jarayonini ancha samarali qiladi. Shu bilan birga, H5P orqali o‘quvchilar uchun interaktiv xaritalar yaratish, mantiqiy bog‘lanishlarni mustahkamlashga yordam beradigan drag-and-drop mashqlari ishlab chiqish, shuningdek, gamifikatsiya elementlari bilan boyitilgan o‘yin shaklidagi ta’limiy materiallar tayyorlash mumkin. Bularning barchasi o‘quvchilarning darsga bo‘lgan qiziqishini oshirishga xizmat qiladi.

H5P texnologiyasining yana bir muhim jihati uning pedagoglarga dars jarayonini kuzatish va tahlil qilishda katta yordam berishidir. Dastur o‘qituvchilarga o‘quvchilarning har bir interaktiv material bilan ishlash jarayonini kuzatish va ularning natijalarini baholash imkonini beradi. Masalan, agar biror o‘quvchi test savollariga noto‘g‘ri javob bergan bo‘lsa, o‘qituvchi uning xatolarini tahlil qilib, kelgusi darslar davomida tushunarsiz bo‘lgan mavzularga ko‘proq e’tibor qaratishi mumkin. Bu yondashuv nafaqat individual ta’lim jarayonini samarali tashkil etishga, balki butun guruh uchun ham yaxshiroq ta’lim strategiyasini ishlab chiqishga xizmat qiladi. Shu sababli, H5P texnologiyasi nafaqat o‘quvchilar, balki pedagoglar uchun ham yangi imkoniyatlar eshigini ochadi.

Ta’lim jarayonida interaktivlik va multimedia texnologiyalaridan foydalanish an’anaviy yondashuvlardan farqli o‘laroq, o‘quvchilarning motivatsiyasini oshirishga va ularning ta’lim jarayoniga faol jalb etilishiga xizmat qiladi. H5P orqali ishlab chiqilgan materiallar nafaqat nazariy bilimlarni mustahkamlashga, balki

o‘quvchilarning tanqidiy fikrlash, muammo yechish, tahliliy fikrlash kabi ko‘nikmalarini rivojlantirishga ham yordam beradi. Ta’lim sifati esa faqatgina o‘qituvchi tomonidan axborot taqdim etilishi bilangina emas, balki o‘quvchining ushbu axborotni qanday o‘zlashtirgani bilan ham baholanadi. H5P esa aynan o‘quvchining faol o‘rganish jarayoniga jalb qilinishini ta’minlovchi texnologiyalardan biri sifatida qaraladi.

Ushbu texnologiya nafaqat maktab va oliy ta’lim muassasalarida, balki biznes-treninglar, kasbiy ta’lim kurslari va boshqa o‘quv dasturlarida ham samarali qo‘llanilishi mumkin. Masalan, kompaniyalar o‘z xodimlari uchun interaktiv trening dasturlarini yaratishlari, yangi xodimlarni o‘qitish jarayonini yanada samarali tashkil etishlari mumkin. Ayniqsa, bugungi kunda masofaviy ta’limning rivojlanishi bilan H5P texnologiyasining ahamiyati yanada ortib bormoqda. Onlayn kurslar, virtual universitetlar va elektron darsliklar uchun bunday texnologiyalar o‘quv jarayonining sifatini oshirishga xizmat qiladi.

Kelajakda H5P texnologiyasining yanada rivojlanishi va ta’lim tizimiga yanada chuqurroq integratsiya qilinishi kutilmoqda. Hozirda H5P asosida ishlab chiqilayotgan yangi vositalar, jumladan, sun’iy intellekt yordamida o‘quvchilarning ta’lim jarayonini individualizatsiya qilish imkoniyatlari ham muhokama qilinmoqda. Bu esa o‘quvchilarga moslashtirilgan dars materiallari tayyorlash imkonini berib, ta’lim samaradorligini oshiradi. Shu sababli, pedagoglar va ta’lim tashkilotlari H5P texnologiyasidan unumli foydalanib, ta’lim jarayonini interaktiv va samarali qilishga e’tibor qaratishlari maqsadga muvofiqdir. H5P texnologiyasi ta’lim jarayonida innovatsion yondashuvni joriy qilishda muhim vositalardan biri hisoblanadi. U HTML5 texnologiyasiga asoslangan bo‘lib, foydalanuvchilarga hech qanday dasturlash bilimiga ega bo‘lmasdan interaktiv ta’lim materiallari yaratish imkoniyatini taqdim etadi. Ushbu platforma ochiq kodli bo‘lib, WordPress, Moodle, Drupal kabi ta’lim tizimlariga osongina integratsiya qilinadi. Shu sababli, H5P pedagoglarga zamonaviy raqamli ta’lim muhitini yaratish va uni turli formatlarda boyitish imkoniyatini beradi.

H5P yordamida interaktiv testlar, viktorinalar, audio va video materiallar, drag-and-drop mashqlari, vaqtga asoslangan topshiriqlar hamda o‘quvchilarning fikrlash qobiliyatini rivojlantiruvchi boshqa ko‘plab ta’lim vositalarini yaratish mumkin. Ushbu imkoniyatlar o‘quvchilarga dars jarayonida faol ishtirok etish, mustaqil fikrlash va o‘zlashtirish darajasini baholash uchun keng imkoniyat yaratadi. Ayniqsa, H5P ning mobil qurilmalar bilan mosligi ta’lim oluvchilarga istalgan joyda o‘rganish imkoniyatini beradi. Bundan tashqari, H5P texnologiyasi gamifikatsiya elementlarini ta’lim jarayoniga integratsiya qilishga yordam beradi. Masalan, interaktiv o‘yinlar, ballar tizimi va raqobat muhitini yaratish orqali o‘quvchilarning motivatsiyasini oshirish mumkin. Bu ayniqsa, bolalar va yoshlar uchun juda samarali usul hisoblanadi, chunki ular o‘yin elementlari orqali yangi bilimlarni tez va qiziqarli shaklda o‘zlashtiradilar. Shu bilan birga, H5P yordamida yaratilgan materiallar real vaqt rejimida yangilanib, o‘quvchilarning natijalari tahlil qilinishi va ularning o‘zlashtirish darajasiga qarab individual tavsiyalar berilishi mumkin.

Xulosa qilib aytganda, H5P texnologiyasi ta’lim jarayonida interaktivlik va multimedia vositalaridan foydalanishning yangi imkoniyatlarini yaratib, o‘quvchilar va o‘qituvchilar uchun zamonaviy ta’lim muhitini shakllantirishda muhim vosita bo‘lib xizmat qilmoqda. Ushbu texnologiya orqali o‘quv materiallarini yanada jonli, qiziqarli va samarali shaklda taqdim etish imkoniyati mavjud. Shu sababli, H5P nafaqat hozirgi ta’lim jarayonini takomillashtirish, balki kelajak ta’lim tizimini yanada rivojlantirish uchun ham katta ahamiyat kasb etadi.

Foydalanilgan adabiyotlar:

1. Branch, R. M. (2009). Instructional design: The ADDIE approach. Springer.
2. Mayer, R. E. (2021). Multimedia learning (3rd ed.). Cambridge University Press.
3. Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. The International Review of Research in Open and Distributed Learning, 12(3), 80-97.
4. West, R. E. (2018). Foundations of learning and instructional design technology. EdTech Books.

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MODERN RUSSIAN LANGUAGE WORD-FORMATION MODELS

Abstract: *This article explores the structural models of word formation in the Russian language, focusing on their frequency of usage in newspaper texts and materials related to computer science. The study aims to analyze the primary methods of word formation and highlight their key characteristics within modern Russian linguistics.*

Keywords: *word formation, language, Russian, principles, linguistic process, methodology, training.*

Language is an ever-evolving phenomenon, with its vocabulary constantly expanding to accommodate societal and technological advancements. The dynamic nature of language manifests through the continuous enrichment of its lexicon, which responds to cultural, scientific, and technical progress. This study categorizes the fundamental models of word formation in the Russian language, providing insight into their functions and structural principles.

The modern Russian language exhibits several distinct methods of word formation:

1. Root Word Model
2. Non-Affix (Implicit) Word Formation Model
3. Prefixation Model
4. Suffixation Model
5. Compounding Model

Root words are characterized by their indivisibility into smaller morphemes and their unmotivated nature. Typically, Russian root words are monosyllabic or disyllabic. Additionally, borrowed words enrich the root word stock, often featuring multi-syllabic structures. Examples: дом, стол, брат.

This model relies on syntactic and semantic transitions between different parts of speech without explicit morphological markers. The process, known as conversion, involves shifts in word usage depending on syntactic distribution. Examples: бег (noun) → бегать (verb), сон (noun) → спать (verb).

The prefixation model adds meaning by attaching prefixes to base words. Russian prefixes often categorize actions, states, or intensify meaning. They are mainly used in verbs and adjectives, forming a productive part of the language. Examples: писать → переписать, ходить → выходить.

Suffixation involves adding morphemes after a root word, facilitating derivation in various parts of speech. This model contributes to categorization, indicating concepts such as profession, collectiveness, or diminutiveness. Many

Russian suffixes hold multiple semantic functions, allowing for greater flexibility in word formation. Examples: учитель (from учить), работник (from работа), красота (from красивый).

Compounding plays a significant role in Russian word formation, with productivity increasing over time. Compound words may be formed by linking morphemes of different types, and their meaning is often determined by the structure of their components. Examples: водопровод, самокат, землетрясение.

Additional methods include:

- **Reduplicated Forms:** Words created through repetition, often for emphasis or stylistic effects (e.g., еле-еле, тише-тише, гром-гром).
- **Blended Words:** Combinations of two distinct words into a single unit (e.g., медвежонок from медведь + -онок).
- **Abbreviations:** These serve as shortened forms of existing words and phrases, primarily used for efficiency rather than vocabulary expansion. Examples: МГУ (Московский государственный университет), ГИБДД (Государственная инспекция безопасности дорожого движения).

Both English and Russian share similar word-formation principles, but their dominant processes differ. English relies more on affixation, while Russian extensively employs compounding as a productive mechanism.

In our conclusion the Russian language exhibits a diverse and evolving system of word formation. While root-based and affixation models remain foundational, newer forms such as blending and abbreviation continue to shape modern vocabulary. Understanding these mechanisms provides valuable insights into linguistic development and communication strategies in Russian.

The list of used literatures

1. Stepanova, M.D., & Fleischer, V. (1984). *Theoretical Foundations of Word Formation in the Russian Language.* Higher School, Moscow.
2. Matkarimova, G.A. (2019). *Multimedia Technical Means in Modern Specialist Training.* Scientific Electronic Journal, p. 120.
3. Fleischer, W. (1976). *Wortbildung der deutschen Gegenwartssprache.* Leipzig

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AYOL QADRINI YUKSALTIRISH BORASIDA AMALGA OSHIRILGAN ISLOHOTLAR

Annotatsiya: *Jamiyatda ayol qadr-qimmati, uning huquq va erkinliklarini himoya qilish borasida davlat bosh islohotchi sifatida namoyon bo‘lmoqda. Zotan, jamiyatda xotin-qizlarning huquq va manfaatlarini ifoda etish, davlat va jamiyat munosabatlarida ayollarning o‘rni va rolini yanada oshirish, ularning siyosiy, huquqiy, ijtimoiy sohalarda manfaatlarini himoya qilish masalasi YAngi O‘zbekistonda Uchinchi Renessans avlodini shakllantirishning asosiy shartlaridan biri ekanligi ushbu maqolada ko‘rsatib berishga harakat qilingan.*

Tayanch so‘zlar: *ijtimoiy, nogironlik, BMT, «Onalikni muhofaza qilish to‘g‘risida»gi Jeneva Konvensiyasi, «Xotin-qizlarning siyosiy huquqlari to‘g‘risida», «Xotin-qizlar huquqlari kamsitilishining barcha shakllariga barham berish to‘g‘risida»gi Nyu-York Konvensiyasi, Gender.*

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REFORMS TO ELEVATE FEMALE DIGNITY

Annotation: in society, the state is manifested as the chief reformer in relation to the protection of female dignity, her rights and freedoms. Already, it was tried to show in this article that the issue of expressing the rights and interests of women in society, further increasing the role and role of women in state and society relations, protecting their interests in the political, legal, social spheres is one of the main conditions for the formation of the third Renaissance generation in New Uzbekistan.

Key words: social, disability, UN, Geneva Convention on the protection of motherhood, New York Convention on the political rights of women, on the elimination of all forms of discrimination on the rights of Women, Gender.

Dunyo mamlakatlari qatorida va xalqaro hamjamiyatda munosib o‘ringa ega bo‘lgan O‘zbekistonning davlat va jamiyat sifatidagi taraqqiyoti silsilasida ayolning o‘rni, uning siyosiy va huquqiy madaniyati alohida ahamiyat kasb etadi. Har qanday davlat va jamiyat taraqqiyoti bir qator omillar asosida yuz beradi. Bu jarayonda ayollar, ularning ijtimoiy-siyosiy munosabatlardagi ishtiroki, huquq va erkinliklari amalda ta’minlanganligi masalasi – davlatlar rivojining hamda demokratiyaning muhim indeksi sanaladi. Zotan, ayol va uning jamiyat hayotidagi o‘rni hamisha muhim mezon bo‘lib kelgan.

Bugungi kunda o‘zbek ayollarining nafaqat oila va farzandlar tarbiyasidagi o‘rni, balki, mamlakatimiz taraqqiyotiga qo‘shayotgan hissasi ham beqiyos. Bugun yurtimizda xotin-qizlarning haq-huquqlarini, qonuniy manfaatlarini ta’minlash, qobiliyat va imkoniyatlarini ro‘yobga chiqarish, bir so‘z bilan aytganda opa-singillarimizni jamiyatning teng huquqli, faol va bunyodkor a’zosiga aylantirish borasida keng ko‘lamli ishlar amalga oshirilmoqda. Ayollar ijtimoiy himoyasini kuchaytirish, jumladan, bandligini ta’minlash, sog‘ligini mustahkamlash, onalik va bolalikni muhofaza qilish, ularning turmush darajasini yaxshilashga e’tibor yuksak darajaga ko‘tarildi desak xato bo‘lmaydi. Barchamizga ma’lumki, o‘tgan qisqa davr mobaynida xotin-qizlar manfaatlarini himoya qilish, ular ahvolini tubdan yaxshilashga qaratilgan O‘zbekiston Respublikasi Prezidentining 2 ta farmoni, 2 ta qarori, O‘zbekiston Respublikasi Vazirlar Mahkamasining 6 ta qarori va 4 ta farmoyishi qabul qilinib, izchil amalga oshirilmoqda va samarali natijalar bermoqda. Davlatimiz rahbari tomonidan xotin-qizlarni har tomonlama qo‘llab-quvvatlash, ular uchun barcha sharoitlarni yaratib berishga alohida e’tibor qaratilayotgani, ayollar va oila masalalari davlat siyosati darajasiga ko‘tarilib, mazkur siyosatni mamlakatimizdagi barcha idora va tashkilot rahbarlari qo‘llab-quvvatlayotgani va uni amalga oshirishda faol ishtirok etayotganligiga barchamiz guvoh bo‘layapmiz. Ayniqsa, og‘ir ijtimoiy vaziyatga tushib qolgan, nogironligi bo‘lgan, ish bilan ta’minlanmagan xotin-qizlar ijtimoiy himoyasi borasida mamlakatimizda misli ko‘rilmagan ishlar olib borilayotganini nafaqat mamlakatimiz balkim, jahon hamjamiyati, nufuzli xalqaro tashkilotlar, chet elliklar ham tan olib, qiziqish bildirishmoqda.

O‘z navbatida bu masalaning butun dunyodagi bugungi holatiga e’tibor qaratadigan bo‘lsak, ma’lumotlar shuni ko‘rsatadiki, er sayyorasida 8,2 milliard aholini tashkil qiladi, Olmoniya sotsiologlarining hisobicha, dunyoda jami aholining 48 foizi erkaklar, 52 foizini ayollar tashkil etadi, ammo inson faoliyatining va jamiyatning ko‘pgina murakkab sohalari, ya’ni bilim, ixtisos, malaka, ko‘nikmalar talab qilinadigan sohalarida ularning ishtiroki nihoyatda ozdir. Shuningdek, hozirgi kunda dunyodagi o‘ta kambag‘al odamlarning 60 foizdan ortig‘ini, savodsiz aholining esa uchdan ikki qismini ayollar tashkil qiladi. Maktabga jalb qilinmagan bolalarning ham uchdan ikki qismi qizlar hisoblanadi. Butunjahon sog‘liqni saqlash tashkilotining ma’lumotlariga ko‘ra, butun dunyoda har uchinchi ayol (35%) hayoti davomida u yoki bu turdagi zo‘ravonlikka duch kelar ekan.

Ammo bizning mamlakatimizda ayollarga e’tibor chinakam davlat siyosati darajasiga ko‘tarildi: uning huquqiy va institutsional asoslari tubdan takomillashtirildi. Mamlakatimizda gender tenglikni ta’minlash, ayollarning ijtimoiy va siyosiy hayotdagi rolini oshirish faoliyati: ayollar huquqlari to‘g‘risidagi qonun hujjatlarini takomillashtirish; ayollarni himoya qilishning institutsional asoslarini takomillashtirish; aholining gender tenglik va ayollar huquqlari to‘g‘risida xabardorligini oshirish; huquqni qo‘llash amaliyotida ularga rioya etilishini ta’minlash uchun mas’ul mansabdor shaxslarni tegishli huquqiy me’yorlar asosida o‘qitish kabi asosiy yo‘nalishlardan iborat.

Mamlakatimizda ayol qadrini yuksaltirish borasida amalga oshirilgan keng qamrovli islohotlar, albatta, bu borada huquqiy asoslar yaratilganligi va muntazam takomillashtirib borilayotganligi bilan hal qiluvchi ahamiyatga egadir. Xususan, Yangi tahrirdagi O‘zbekiston Respublikasi Konstitutsiyasining 58-moddasida «Xotin-qizlar va erkaklar teng huquqlidirlar» deb belgilanganligi mamlakatimizda gender tenglikni ta’minlash, xotin-qizlarning jamiyat va davlat boshqaruvidagi rolini oshirish borasidagi tizimli islohotlar uchun bosh huquqiy asos bo‘lib xizmat qilmoqda.

E’tirof etish kerak, so‘nggi yillarda xotin-qizlarning huquq va qonuniy manfaatlarini ta’minlash, ularning jamiyatdagi rolini kuchaytirish, oila institutini qo‘llab-quvvatlashga qaratilgan kompleks chora-tadbirlarni amalga oshirish ishlari yangi sifat bosqichiga ko‘tarildi. O‘zbekiston xotin-qizlarni har qanday kamsitish va tahqirlashlardan himoya qiladigan barcha asosiy xalqaro hujjatlarga qo‘shildi. Bunda «Onalikni muhofaza qilish to‘g‘risida»gi Jeneva Konvensiyasi, «Xotin-qizlarning siyosiy huquqlari to‘g‘risida»gi hamda «Xotin-qizlar huquqlari kamsitilishining barcha shakllariga barham berish to‘g‘risida»gi Nyu-York Konvensiyalari, «Birlashgan Millatlar Tashkilotining transmilliy uyushgan jinoyatchilikka qarshi Konvensiyasini to‘ldiruvchi odam savdosining, ayniqsa, ayollar va bolalar savdosining oldini olish hamda unga chek qo‘yish va uning uchun jazolash haqidagi» Bayonnomasi kabi xalqaro hujjatlarni misol qilib keltirish mumkin.

2030 yilgacha bo‘lgan davrda BMT Global kun tartibining Barqaror rivojlanish maqsadlarini izchil amalga oshirish bo‘yicha tizimli ishlarni tashkil etish maqsadida Vazirlar Mahkamasining 2022 yil 21 fevraldagi 83-son qarori bilan tasdiqlangan «2030 yilgacha bo‘lgan davrda barqaror rivojlanish sohasidagi milliy maqsad va vazifalar»ning 5-maqsadi – Gender tenglikni ta’minlash va barcha xotin-qizlarning huquq va imkoniyatlarini kengaytirish – mamlakatimizda xotin-qizlar va erkaklarning teng huquq hamda imkoniyatlarini ta’minlashga qaratilgan islohotlar bilan hamohangdir. Ushbu maqsadni amalga oshirish doirasida xotin-qizlarni kamsitishning barcha shakllariga barham berish, ularga nisbatan zo‘ravonlikning barcha shakllarini, shu jumladan, odam savdosi, jinsiy ekspluatatsiya hamda ekspluatatsiyaning boshqa shakllarini, erta nikohlar va zo‘rlab nikohlash holatlarini tugatish, xotin-qizlar siyosiy, iqtisodiy va ijtimoiy hayotning barcha bosqichlarida har tomonlama ishtirok etishlarini hamda qaror qabul qilishda etakchilik qilishlari uchun teng imkoniyatlarni ta’minlash, reproduktiv salomatlikni asrash sohasida umum qamrovli tibbiy-sanitariya yordami ko‘rsatish uchun sog‘liqni saqlash xizmatlaridan umumiy foydalanishni ta’minlash va shu kabi 9 ta vazifa belgilanganki bu mamlakatimizda ayollarga bo‘lgan e’tiborning yorqin namunasidir.

Muxtasar aytganda, jamiyatda ayol qadr-qimmati, uning huquq va erkinliklarini himoya qilish borasida davlat bosh islohotchi sifatida namoyon bo‘lmoqda. Zotan, jamiyatda xotin-qizlarning huquq va manfaatlarini ifoda etish, davlat va jamiyat munosabatlarida ayollarning o‘rni va rolini yanada oshirish, ularning siyosiy, huquqiy, ijtimoiy sohalarda manfaatlarini himoya qilish masalasi

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FOYDALANILGAN ADABIYOTLAR:

1. O‘zbekiston Respublikasi Prezidenti Shavkat Mirziyoevning 2018 yil 2 fevraldagi “Xotin-qizlarni qo‘llab–quvvatlash va oila institutini mustahkamlash sohasidagi faoliyatini tubdan takomillashtirish chora-tadbirlari to‘g‘risida” gi PF-5325-son Farmoni Xalq so‘zi 2018 yil 3 fevral
2. Karimov I.A. Yuksak ma’naviyat-engilmas kuch. – Toshkent: Ma’naviyat, 2008.
3. Karimov I. A. Xotin-qizlar faolligini oshirish davr talabi // Tinchlik va xavfsizligimiz o‘z kuch-qudratimizga, hamjihatligimiz va qat’iy irodamizga bog‘liq. 12-jild. – Toshkent: O‘zbekiston, 2004.
4. Файзуллаева К. А. ТАРИХИЙ ҚАДРИЯТЛАРГА ТЎҒРИ МУНОСАБАТНИ ШАКЛЛАНТИРИШ //MODERN SCIENTIFIC CHALLENGES AND TRENDS. – 2019. – С. 111.
5. Abdullayevna F. K., Qizi R. S. D. F. AFG ‘ONISTON MARKAZIY OSIYODAGI MINTAQAVIY XAVFSIZLIKNING KAFOLATI //" ONLINE-CONFERENCES" PLATFORM. – 2023. – Т. 1. – С. 479-482.
6. Abdullayevna F. K. THE HISTORY OF SPECIAL CAMPS IN GERMANY DURING THE SECOND WORLD WAR //CURRENT RESEARCH JOURNAL OF HISTORY. – 2022. – Т. 3. – №. 01. – С. 1-5.
7. Файзуллаева К. Реформы в сфере образования.//Вестник НУУз.Тошкент-2024.-1/11/1. –С. 71-73.
8. Abdullayevna, F. K., & Zafarovna, Y. N. (2024, February). XOTIN-QIZLAR O ‘ZGARISH VA YANGILANISHLAR ILM-FAN SOHASIDA. In *INTERNATIONAL CONFERENCE ON INTERDISCIPLINARY SCIENCE* (Vol. 1, No. 2, pp. 311-314).
9. Abdullayevna, F. K., & Abdurashidovich, T. M. (2021). Supporting young people and strengthening the health of the population-as a priority in the appeal. *International Journal of Discourse on Innovation, Integration and Education*, *2*(2), 147-152.

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RAQAMLI TEXNOLOGIYALAR ASOSIDA ISHLAB CHIQARISHNI MODERNIZATSIYA QILISH

Annotatsiya: *Ushbu maqolada raqamli texnologiyalar asosida ishlab chiqarishini modernizatsiya qilish masalasi ko‘rib chiqiladi. Sun’iy intellekt (AI), avtomatlashtirilgan boshqaruv tizimlari, Internet of Things (IoT) va katta hajmdagi ma’lumotlarni tahlil qilish (Big Data) texnologiyalarining ishlab chiqarish jarayonlariga ta’siri tahlil qilinadi. Raqamli modernizatsiya jarayonlari ishlab chiqarish samaradorligini oshirish, xarajatlarni kamaytirish va moslashuvchanlikni ta’minlash imkonini beradi. Maqolada ushbu texnologiyalarning sanoatga kiritilishi natijasida erishiladigan afzalliklar, asosiy yo‘nalishlar va istiqbollarga urg‘u beriladi.*

Kalit so‘zlar: *raqamli texnologiyalar, sanoat modernizatsiyasi, sun’iy intellekt, avtomatlashtirish, Internet of Things, Big Data, ishlab chiqarish samaradorligi, raqamli transformatsiya, innovatsion rivojlanish.*

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MODERNIZATION OF PRODUCTION BASED ON DIGITAL TECHNOLOGIES

Abstract: *This article examines the issue of modernization of production based on digital technologies. The impact of artificial intelligence (AI), automated control systems, Internet of Things (IoT) and big data analysis (Big Data) technologies on production processes is analyzed. Digital modernization processes allow to increase production efficiency, reduce costs and ensure flexibility. The article emphasizes the advantages, main directions and prospects that will be achieved as a result of the introduction of these technologies into the industry.*

Keywords: *digital technologies, industrial modernization, artificial intelligence, automation, Internet of Things, Big Data, production efficiency, digital transformation, innovative development.*

Kirish. Zamonaviy sanoat ishlab chiqarish jarayonlarini optimallashtirish va samaradorlikni oshirish uchun raqamli texnologiyalarning ahamiyati ortib bormoqda. Ishlab chiqarishni modernizatsiya qilish jarayonida sun'iy intellekt (AI), Internet of Things (IoT), avtomatlashtirilgan boshqaruv tizimlari va katta hajmdagi ma’lumotlarni tahlil qilish (Big Data) kabi texnologiyalar muhim o‘rin tutadi.

Ushbu maqolada raqamli texnologiyalar asosida ishlab chiqarishni modernizatsiya qilishning afzalliklari, usullari va istiqbollari haqida so‘z yuritiladi.

V.A.Plotnikovning tadqiqotlarida raqamlashtirish bu "axborotlashtirishni rivojlantirishning zamonaviy bosqichi bo’lib, axborotni yaratish, qayta ishlash, uzatish, saqlash va vizualizatsiya qilish uchun raqamli texnologiyalardan keng ko’lamda foydalanish bilan tavsiflanuvchi yangi qurilma va dasturiy taominotning birlashmasi bilan tavsiflanadi” deb ta’rif bergan. Bundan tashqari u korxonalar raqamli texnologiyalardan foydalanganda erishadigan bir qancha afzalliklarni sanab o’tgan: - “Ishlab chiqarishning moslashuvchanligi uning tez qayta konfiguratsiyasi, ishlab chiqarish jarayoni xususiyatlarining dinamik o’zgarishi hisobiga ortadi, bu esa raqobatdosh ustunlikni yaratadi va potentsial foyda o’sishiga olib keladi; - mahsulotlarni ishlab chiqishdan tortib to utilizatsiya qilishgacha bo’lgan hayot tsiklining bosqichlarini axborot integratsiyasini ta’minlaydi, bu bizga nafaqat ishlab chiqarishni optimallashtirish, balki sifat, ekologik xavfsizlik, biznesning yangi imkoniyatlarini yaratish va hokazolarni samarali va har tomonlama hal qilish imkonini beradi[1].

Raqamli texnologiyalar va ularning ishlab chiqarishga ta’siri

1. **Avtomatlashtirish va robototexnika**. Raqamli texnologiyalarning rivojlanishi ishlab chiqarish jarayonlarini avtomatlashtirish va robototexnikani keng joriy etishga olib kelmoqda. Ushbu texnologiyalar sanoat korxonalarining samaradorligini oshirish, xarajatlarni kamaytirish va inson omiliga bog‘liq xatoliklarni minimallashtirish imkonini beradi.

Avtomatlashtirish ishlab chiqarish jarayonlarini oldindan dasturlangan algoritmlar asosida boshqarish va inson ishtirokisiz bajarish imkonini beradi. Bunga avtomatik tizimlar, aqlli dasturiy ta’minot va sun’iy intellekt bilan ta’minlangan qurilmalar misol bo‘la oladi. Natijada ishlab chiqarish jarayonlari tezlashadi, mahsulot sifati oshadi va ishlab chiqarish harajatlari kamayadi.

Robototexnika esa ishlab chiqarishda robotlardan foydalanishni anglatadi. Zamonaviy robotlar murakkab harakatlarni bajarishga, ob’ektlarni yig‘ishga, ularga ishlov berishga va yuklarni ko‘tarishga qodir. Masalan, avtomobil sanoatida robotlar payvandlash, bo‘yash va montaj ishlarini bajaradi. Elektronika sanoatida esa ular mayda detallarni aniqlik bilan joylashtirishga yordam beradi.

2. **Sun’iy intellekt va tahliliy tizimlar.** Raqamli texnologiyalar sanoat ishlab chiqarishiga chuqur ta’sir ko‘rsatib, uning samaradorligini oshirishga xizmat qilmoqda. Ayniqsa, sun’iy intellekt (SI) va tahliliy tizimlar ishlab chiqarish jarayonlarini avtomatlashtirish, optimallashtirish va boshqarishda muhim rol o‘ynamoqda. Ushbu texnologiyalar katta hajmdagi ma’lumotlarni qayta ishlash va tahlil qilish orqali samaradorlikni oshirish hamda resurslardan yanada oqilona foydalanish imkonini beradi.

3. **Internet of Things (IoT).** Raqamli texnologiyalar rivojlanishi natijasida sanoat korxonalarida **Internet of Things (IoT)**, ya’ni "Narsalar interneti" keng qo‘llanilmoqda. Ushbu texnologiya turli qurilmalar, sensorlar va dasturlarni yagona tarmoqqa bog‘lab, real vaqt rejimida ma’lumot almashishni va jarayonlarni

avtomatlashtirishni ta’minlaydi. IoT ishlab chiqarish jarayonlarini yanada aqlli, samarali va xavfsiz qilishda muhim rol o‘ynamoqda.

4. **Katta hajmdagi ma’lumotlarni tahlil qilish (Big Data). Bugungi kunda** raqamli texnologiyalar rivojlanishi natijasida sanoat korxonalarida katta hajmdagi ma’lumotlarni (Big Data) to‘plash va tahlil qilish muhim jarayonga aylandi. Big Data ishlab chiqarish tizimlarida samaradorlikni oshirish, xarajatlarni kamaytirish va jarayonlarni optimallashtirishga xizmat qiladi. U ishlab chiqarish korxonalari uchun strategik qarorlarni yanada tezkor va aniq qabul qilish imkoniyatini yaratadi. Sensorlar va IoT qurilmalari orqali yig‘ilgan katta hajmdagi ma’lumotlar ishlab chiqarish jarayonlarining har bir bosqichini tahlil qilish imkonini beradi. Bu esa jarayonlarning samaradorligini oshirish va kamchiliklarni minimallashtirishga yordam beradi.

Raqamli modernizatsiyaning afzalliklari

- ✓ Ishlab chiqarish samaradorligi va tezligi oshadi.
- ✓ Mahsulot sifati va nazorati yaxshilanadi.
- ✓ Xarajatlar kamayadi va foyda ortadi.
- ✓ Moslashuvchan ishlab chiqarish jarayonlari yo‘lga qo‘yiladi.
- ✓ Inson resurslaridan yanada samarali foydalanish imkoniyati yaratiladi.

Xulosa

Raqamli texnologiyalar asosida ishlab chiqarishni modernizatsiya qilish bugungi kunda sanoat korxonalarining raqobatbardoshligini oshirishning muhim yo‘nalishlaridan biri hisoblanadi. Zamonaviy texnologiyalar ishlab chiqarish jarayonlarini optimallashtirib, samaradorlik va sifatni oshirish imkonini beradi. Kelajakda sanoatning yanada rivojlanishi raqamli transformatsiyaning keng joriy etilishiga bog‘liq bo‘lib qolmoqda. Shuning uchun korxonalar ilg‘or texnologiyalarni tatbiq etish orqali innovatsion rivojlanishga erishishlari lozim.

Foydalanilgan adabiyotlar:

1. V. A. Plotnikov, Proceedings of St. Petersburg State University of Economics, 4 (112), 16-24 (2018).
2. Муминова, Э. А. (2016). The concept of an innovation-oriented industrial corporation: essence, definition, objectives and basic principles of functioning. Молодой ученый, (25), 330-332.
3. Kodirov, S. (2020). Some issues of digitalization in the industrial sector of the economy. ISJ Theoretical & Applied Science, 12(92), 377-384.
4. Abdusalomov A.B., & Mamatov M.A. (2023). KORXONALAR FAOLIYATIDA RAQAMLI TEXNOLOGIYALARDAN FOYDALANISH. Экономика и социум, (4-1 (107)), 26-35.

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THE REALISM OF FYODOR DOSTOEVSKY'S NOVEL THE IDIOT

Abstract: *On the 23rd of April,1849 Fyodor Dostoevsky was arrested for subversive activities against Tsar and the Russian government. Dostoevsky was accused of reading Belinsky, including the banned Letters to Gogol, and spreading copies of these and other works, and criticizing Russian politics and religion. He was initially condemned to death before finally having his sentence commuted to four years hard labor in Omsk, Siberian prison camp. That times were one of the worst years writers faced, but also most important experiences in his life, one theory is it gave him most unique insight human nature and complexities, and sharp analysis of inner parts of psyche. Dostoevsky was a prisoner, a gambler, a sinner, but also king of suffering, his stories was like whispers of dying man, who filled with madness, guilty, and desperate questions. The Idiot novel first published serially in the journal The Russian Messenger in 1868-1869. The title is reference to protagonist Lev Nikolayevich Myshkin, a young prince who is young and beautiful man. This paper aims to cover some realism aspects of Dostoevsky's second masterpiece.*

Key words: *Dostoevsky, idiot, Myshkin, realism, kindness, morality, human nature.*

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FYODOR DOSTOEVSKIY ROMANINING REALIZMI AHMOQ

Annotatsiya: *1849 yil 23 aprelda Fyodor Dostoevskiy podshoh va Rossiya hukumatiga qarshi qo'poruvchilik faoliyati uchun hibsga olindi. Dostoevskiy Belinskiyni, jumladan, taqiqlangan Gogolga maktublarni o'qiganlikda, shu va boshqa asarlarning nusxalarini tarqatganlikda, Rossiya siyosati va dinini tanqid qilganlikda ayblangan. Avvaliga u o'limga mahkum qilindi va oxir-oqibat Sibir qamoqxonasidagi Omskdagi to'rt yillik og'ir mehnatga almashtirildi. O'sha davrlar yozuvchilar boshidan kechirgan eng og'ir yillardan biri bo'lgan, shu bilan birga uning hayotidagi eng muhim tajribalari bo'lgan, bir nazariyaga ko'ra, bu unga inson tabiati va murakkabliklarini, psixikaning ichki qismlarini keskin tahlil qilish uchun eng noyob tushuncha bergan. Dostoevskiy mahbus, qimorboz, gunohkor, shu bilan birga azob-uqubatlarning shohi edi, uning hikoyalari jinnilik,*

aybdor va umidsiz savollarga to‘la o‘layotgan odamning shivirlariga o‘xshardi. Idiot romani birinchi marta 1868-1869 yillarda The Russian Messenger jurnalida seriyali nashr etilgan. Sarlavha bosh qahramon Lev Nikolaevich Myshkin, yosh va go‘zal yosh shahzoda haqida. Ushbu maqola Dostoevskiyning ikkinchi durdona asarining ba'zi realistik jihatlarini yoritishga qaratilgan.

Kalit so‘zlar: *Dostoevskiy, ahmoq, Myshkin, realizm, mehribonlik, axloq, inson tabiati.*

Introduction: The Idiot kicks off on a train, Prince Myshkin on his way to back Russia after years in sanatorium in Switzerland, because he has epilepsy, just like Fyodor Dostoevsky, on the train he meets two guy they completely different with Prince, they basically white and black. First, Parfen Ragozhin, he has money and he is going to on about how obsessed he with Nastasya Philopovna and there is Lebedov who selfish not above stirring the pot for his own benefit. Good people are Idiots is the core of the book, good people are often dismissed and often ridiculed as idiot. That idea was not just a random idea, this came from writer’s experiences and struggles which he faced through his life. Dostoevsky shows the ugliest truth about free will shape society and criticizing society. In Dostoevsky 1867 one of letters to Maykov he wrote: ‘’ I came to Geneva with big thoughts. The idea of novel has been born in my mind, and God willing, it will be great work and it will turn out well. I love it so much; I write it with a pleasure’’. Dostoevsky said about Myshkin that his is not idiot, but a noble and dear person. The Idiot is rich with scenes that exemplify realism, deepening the human complexities of human behavior, societal dilemmas. The realism art movement of nineteenth century was dramatic shift from the exotic and poetic Romanticism that dominated the art world in decades prior. Literacy realism is a literary movement that represents reality by portraying mundane, everyday experiences as they are in real life. It depicts familiar people, places and stories primarily about the middle and lower classes of society. Literary realism seeks to tell a story as truthfully as possible instead of dramatizing or romanticizing it. (1) Dostoevsky articulates some interesting reflections on the problems that ‘’ordinary’’ characters present to the novelist. One is aware of Dostoevsky ‘’fantastic realism’’ in which he defends his penchant for highly original characters acting outrageously as creating a higher realism, ultimately more revealing about the true nature of things, which is closer to what most people think of as realism. The everyday conversation, errors, pursuits and expectations pervade Dostoevsky’s novel, however there is a well-balanced mixture the extraordinary, original and outrageous. Even the common folk in The Idiot appear more absurd and trite- emphasize the ordinaries Dostoevsky comments that ‘’common people are, at every moment and by majority the essential link in the chain of human affairs ‘’ and incorporates in the novel characters such as Lebedov, Ganya, and Gen. Ivolgin, Ippolit, Varya among others who speak of platitudes such as rumours, politics, and old issues. In spite of all the ‘’extraordinary efforts of these characters to escape at all costs the rut of ordinaries and routine they end nonetheless by remaining invariably and forever nothing but routine’’. (2)

Materials and Methods: Many realists of nineteenth century battled against any myth of human progress, or any false vision for the future. Where there is no vision, the people perish, as Dostoevsky illustrates in The Idiot, with pathetic nihilist character. In fiction, the reader is impressed with a unity of the world ‘’which is not really there’’. (3) One of realism scenes in the novel the confrontation between Prince Myshkin Nastasya Flipovna and her birthday party; in this episode Dostoevsky writes raw and unfiltered emotions and social complexities of every character, harsh reality of upper class, including their hypocrisy, cruelty, and manipulation. The party shows hidden agendas among guests, as they treat Nastasya Flippovna with mix pity and disdain. Totsky treating her harshly and abusing her publicily on her own birthday, that showcases ugly sides of social class and the treatment of women in 19th century Russia. The scene delves deeply into character’s emotions, and desperation, it exposes the cruel social dynamics of the time, where a women’s reputation and worth were easily undermined by her past relationships. In party Myshkin offers marry to her no stirings, no judgement, but Nastasya cannot deal with that kind of sincerity, instead of staying she runs of with Ragozhin. Prince Myshkin did not love either Nastasya or Aglaya, he did not love them as women but as children, also Aglaya and Nastasya Filipona did not truly loved the prince, their love was spoiled from childhood, one of excessive love from parents, other by Totsky’s vicious passion. The prince was the only one who treat them as child, he loved and treated them as a child, that’s way he rushed between them. The Prince Myshkin was an adult child, who does not integrate into society.

Results: Here is what happens when you put someone truly good in society, that’s anything but, it is raw, it is brute and it sticks with you. Are morally good people fool? But being too good actually ruins you. Myshkin was pure-hearted and a priceless crystal, as they called him ‘’holy fool’’, he’s whole life was big series of people walking all over him his relatives screw him out of his inheritance, Ragozhin basically tries to kill him and he forgives them all every single time. That’s reason Aglaya mocks and hates him, and she does not understand why Prince too good for people, who treated him terribly.

Discussion: Dostoevsky presented a realistic life, he is honest how life really it is, he says life full of suffering nobody escapes it, not even rich, for he is rich but is he happy? Not even close, he is in drowning in obsession, jealousy, and inner turmoil. Prince Myshkin tries to fix the mess, but eliminated by society, which society saws him as a weakness, they take advantage of him and mocks him until there’s nothing left of him. It is real and also terrifying.

References

1. Master class articles, sep.10.2021. Dan Brown.
2. Kibin,2025, https://www.kibin.com/essay-examples/fantastic-realism-and –the-ordinary-in-the-idiot-a-novel-by-fyoder-dostoyevsky-twq0m3Nn
3. http://research-repository.st-andrews.ac.uk/ University of St Andrews

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AUTOMOTIVE TIRE PRESSURE MONITORING AND CONTROL SYSTEMS THROUGH TPMS

Abstract. *The article provides detailed information on tire pressure monitoring systems (TPMS). The correct tire pressure is important for vehicle safety, traffic efficiency, and optimal fuel consumption. The TPMS system plays an important role in ensuring the safety of the vehicle, warning the driver when the tire pressure is low*

Key words: *automobile, tire pressure, safety, fuel consumption, tires, road safety, tire wear, control system, technical failure, car crash, automotive industry.*

Introduction. Car tires play a crucial role in the safety and efficiency of a vehicle. Proper tire pressure not only ensures the comfort of driving on the road, but also plays a major role in preventing traffic accidents. Incorrect tire pressure can increase a vehicle's fuel consumption, cause faster tire wear, and even pose a risk of losing control on the road. Therefore, tire pressure monitoring and control systems (TPMS) are of great importance.

Negative and often dangerous factors that affect safety and economy can be easily eliminated with the help of tire pressure monitoring systems (English Tire Pressure Monitoring System) or TPMS.

The main part. In performing the procedures, direct test systems use sensors located inside the tires, which directly measure the pressure and temperature of the gas in the tires. Using a transmitter located inside the sensors, the state of the bus is transmitted via frequency signals. The monitor (receiver) can be located both inside the signal processing unit located on the dashboard and outside it. The signal processing unit informs the driver about the current state of the tire pressure. Indirect (indirect) systems calculate the tire pressure using the ABS system, including wheel pressure sensors and/or accelerometers, and a local computer. Indirect monitoring systems, in turn, are divided into internal - when the module is installed on the rim or tire (Fig.1) and external - the module is mounted on the wheel nipple (Fig.2).

Internal sensors are installed instead of standard nipples in such a way that the sensor is inside the tire, which is very inconvenient, since it requires the installation of additional tires, but at the same time the sensors are protected from external influences and vandalism. However, since the battery life is 5-10 years, you can only deal with the initial dismantling of the tire and installation of the sensor, and the subsequent replacement of the battery is possible when changing tires.

Analysis and process mechanisms. External sensors, unlike internal devices, are mounted on standard nipples and do not require the installation of additional tires. This allows not only to quickly install the system, but also to use it on several vehicles.

For example, dismantle the sensors from an idle vehicle and apply them to a vehicle in a queue. However, such sensors are not immune to environmental influences.

Figure 1. Example of a surveillance system based on internal sensors [3]

Figure 2. Example of a monitoring system based on external sensors.[3]

Recommendations and solutions. Energy saving is a very important aspect of the TPMS wheel module, which does not suggest replacing the battery for 5-10 years. For this, an energy saving system is used in the wheel module system. The meaning of this system is to switch to idle mode when there is no movement and to switch to active mode when moving. There are also time intervals for measuring pressure, so during normal movement, measurements can be once every 45 seconds (depending on the manufacturer), and with a sharp decrease in pressure, the measurement interval occurs once every 15 seconds.

Two types of tire pressure monitoring are currently in use. These are the direct measurement and indirect measurement systems. The direct measurement system directly measures the temperature and pressure of the tires and uses a transmitter. The indirect measurement system checks the tire pressure by differences in wheel speed. Types and examples of internal pressure monitoring systems are presented.[1]

Disadvantages of the TPMS system:

-technical failures. In the event of a malfunction in the TPMS system, the system itself or the sensors may not work, which reduces the safety of the driver.

-integration with other systems. Some cars may integrate additional systems into the TPMS system, which complicates the operation of the system.

-battery operation. TPMS systems in some cases operate on batteries, and if the batteries are not replaced in a timely manner, the system may fail.

The problem in the process and its solutions

Table 1

Problem	Cause	Solution
Low tire pressure	Tires are deflated, due to age or bad weather conditions.	TPMS system gives a warning. Check tires and restore the required pressure.
TPMS system malfunction	Dead battery in sensors or system failure.	Check sensors, replace batteries or reset the system.
Inaccurate pressure display	TPMS system malfunction or sensor calibration error.	Diagnose the system and recalibrate or replace sensors.
Error or malfunction warning	System failure or sensor malfunction.	Check the system and eliminate the malfunction. Replace sensors if necessary.
The need to constantly check the pressure	Forgetting to check tires regularly or TPMS not being activated.	Regularly inspect the vehicle and regularly monitor the condition of the TPMS system.
High fuel consumption	Incorrect tire pressure, especially low pressure.	Ensure correct tire pressure, use the TPMS system.
Faster tire wear	Low tire pressure or incorrect tire balance.	Regularly check tire pressure, regularly monitor based on TPMS system data.

The table above summarizes the main problems and solutions aimed at ensuring the correct pressure of car tires and the operation of the TPMS system. Monitoring tire pressure is important for improving road safety and extending the service life of car tires.

Conclusion: Tire pressure monitoring systems play an important role in ensuring the safety of the vehicle, improving road safety and saving resources. With the development of the TPMS system, drivers have been able to monitor tire pressure accurately and in real time, which helps to make the vehicle safer and more

efficient. Although the system has some disadvantages, its benefits are overall very large, so TPMS technology continues to find its place in the automotive industry.

References:

1. Tire pressure monitoring system (TPMS): A comprehensive guide. Tire Safety Organization, 2020.
2. Shina bosimi va avtomobil samaradorligi**.** D. Kadirov, 2022, Toshkent Texnika Universiteti nashri
3. Xakimjonovich, S. R., Qoviljanovich, I. S., & Samarbekovich, S. D. Study of chemical structure, composition, properties and mechanical activity of mineral raw materials in purchase of sanitary building product. In Archive of Conferences (2022, May). (pp. 57-61).
4. Jahongir, M., Sarvar, I., Shoxrux, A., & Farhod N., Electronic engine management diagnostic system self-propelled narrow-gauge power stationand method of experimental researchintroduction. International Journal of Early Childhood Special Education, (2022). 14(6).
5. Маннонов, Ж. А., Имомназаров, С. К., & Абдурахимов, Р. Г. Внедрение интеллектуальных систем в современные автомобили. Gospodarka i Innowacje., 33, (2023) 185-192.
6. Imomnazarov, S., Axmadaliyev, X., & Teshaboyev, R. Electronic engine control systems and its classification. Главный редактор: Ахметов Сайранбек Махсутович, д-р техн. наук, (2023). 69.
7. Султанов, С., & Имомназаров, С. (2023). Антикоррозионные композиционные материалы на основе органоминеральных ингредиентов. Инновационные исследования в современном мире: теория и практика, 2(14), 51-56.
8. Farkhod, T., Jaxongir, N., Sarvar, I., Nodira, A., Kamila, N., Sayibzhon, N., & Otabek, A. Investigation of wear of steel surfaces during contact interaction with abrasive-filled polymer coatings. Universum: технические науки, (2023) (5-6 (110)), 69-73.

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SUN'IY INTELLEKT VA UNING IJTIMOIY TA'SIRI

Annotatsiya: *Ushbu maqola sun'iy intellekt (SI) texnologiyalarining jamiyatga bo'lgan ta'sirini tahlil qiladi. Sun'iy intellektning iqtisodiy, ijtimoiy, axloqiy, va madaniy sohalardagi o'zgarishlarga qanday ta'sir ko'rsatishi ko'rib chiqiladi. Maqolada SI texnologiyalarining ish o'rinlari, avtomatlashtirish, va yangi kasblar yaratishdagi o'rni, shuningdek, axloqiy masalalar va shaxsiy ma'lumotlarning xavfsizligi kabi ijtimoiy muammolar taqdim etiladi. Shuningdek, sun'iy intellektning ta'lim, madaniyat va odamlar o'rtasidagi ijtimoiy aloqalarga ta'siri ham muhokama qilinadi. Maqola, sun'iy intellektning jamiyatdagi o'zgarishlarga moslashishi uchun ehtiyotkorlik va izlanishlarning zarurligini ta'kidlaydi. SI texnologiyalarining ijtimoiy ta'sirini boshqarish uchun yangi siyosatlar va jamoat muhokamalari zarur.*

Kalit so‘zlar. *Sun'iy intellekt, ijtimoiy ta'sir, avtomatlashtirish, ish o'rinlari, axloqiy masalalar, maxfiylik, ma'lumot xavfsizligi, ta'lim, madaniy o'zgarishlar, yangi kasblar, texnologik rivojlanish, odamlar o'rtasidagi aloqalar, ijtimoiy o'zgarishlar, jamoat siyosatlari, SI axloqi.*

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ARTIFICIAL INTELLIGENCE AND ITS SOCIAL IMPACT

Abstract: *This article analyzes the social impact of artificial intelligence (AI) technologies on various sectors of society. It examines how AI influences economic, social, ethical, and cultural changes, focusing on its effects on the workforce, automation, and the creation of new jobs. The article also discusses social issues such as ethical concerns, privacy, and data security in the context of AI implementation. Additionally, the impact of AI on education, culture, and human interaction is explored. The article emphasizes the importance of careful consideration and ongoing research to manage the societal shifts brought about by AI technologies. It highlights the need for new policies and public discussions to ensure the responsible integration of AI into society.*

Keywords: *Artificial Intelligence, social impact, automation, workforce, ethical concerns, privacy, data security, education, cultural changes, job creation,*

technological advancements, human interaction, societal shifts, public policies, AI ethics.

Sun'iy intellekt (SI) – bu kompyuter tizimlariga inson aqliga o'xshash vazifalarni bajarishga qodir bo'lgan texnologiyalar majmui. Yangi avlod texnologiyalarining rivojlanishi bilan, SI jamiyatimizning turli sohalarida inqilobiy o'zgarishlarni keltirib chiqarmoqda. Dastlab, sun'iy intellekt faqat ilmiy fantastika sohasida tasavvur qilingan bo'lsa, bugungi kunda u biznes, sog'liqni saqlash, ta'lim, transport va boshqa sohalarda keng qo'llanilmoqda. Shuningdek, SI jamiyatning iqtisodiy, axloqiy va madaniy tuzilishini o'zgartirishga hamda yangi ijtimoiy masalalarni yuzaga keltirishga olib kelmoqda. Ushbu maqolada sun'iy intellektning ijtimoiy ta'siri va unga bo'lgan turli qarashlar tahlil qilinadi.

Sun'iy intellektning iqtisodiy sohalarga ta'siri juda katta. Avtomatlashtirish, ma'lumotlarni tahlil qilish va takomillashtirilgan xizmatlar sun'iy intellektning asosiy qo'llanilishi bo'lib, bu iqtisodiyotda samaradorlikni oshirishga yordam beradi. Shu bilan birga, SI texnologiyalari ishchi kuchi bozorida katta o'zgarishlarga olib kelmoqda. Avtomatlashtirish jarayoni, masalan, ishlab chiqarish sanoatida ishchilarni almashtirishi mumkin, bu esa bir qator kasb egalari uchun ish o'rinlarini yo'qotish xavfini tug'diradi. Yangi texnologiyalar, shuningdek, yangi kasblar yaratadi, ammo bu kasblarga tayyor bo'lish uchun kadrlar tayyorlash tizimi ham yangilanishi kerak.

Sun'iy intellektning ishchi kuchiga ta'siri haqida turli fikrlar mavjud. Ba'zi mutaxassislar, SI texnologiyalarining rivojlanishi ish o'rinlarining yo'qolishiga olib kelishi mumkinligini ta'kidlashadi. Bu jarayon birinchi navbatda takroriy va mexanik ishlarni bajaradigan sohalarda, masalan, transport, ishlab chiqarish va xizmati ko'rsatish sohalarida sezilarli bo'ladi. Boshqa tomondan, SI yangi, ilg'or sohalarda ish o'rinlari yaratishi mumkin. Masalan, ma'lumotlarni tahlil qilish, kompyuter dasturlash, va sun'iy intellekt tizimlarini qo'llab-quvvatlash sohalarida yangi kasblar paydo bo'ladi. Shuning uchun SI texnologiyalarining kiritilishi, eski ish o'rinlarini yo'qotish bilan birga, yangi ish o'rinlarini yaratishni ham ta'minlaydi.

Sun'iy intellektning ijtimoiy ta'sirini ko'rib chiqishda axloqiy masalalar ham muhim ahamiyatga ega. Sun'iy intellekt tizimlari, masalan, avtomatik qarorlar qabul qilishda, bias va diskriminatsiyaga olib kelishi mumkin. Sun'iy intellektning o'zi hamma uchun teng va adolatli ishlashga qodir emas, chunki u odamlarning tarixiy qarorlari, ma'lumotlar va tajribalariga asoslanadi. Shunday qilib, agar SI tizimlari noto'g'ri yoki adolatsiz ma'lumotlarga asoslanadigan bo'lsa, ular ham ijtimoiy nohaqlikni kuchaytirishi mumkin. Masalan, ishga qabul qilishda yoki kredit olishda sun'iy intellektning qarorlari ayollar yoki etnik guruhlar foydasiga ishlamasligi mumkin. Bu esa jamiyatda noxush ijtimoiy o'zgarishlarga olib kelishi mumkin.

Sun'iy intellektning keng qo'llanilishi bilan shaxsiy ma'lumotlarning xavfsizligi va maxfiyligi masalalari ham dolzarb bo'lib qolmoqda. Ko'plab SI tizimlari katta hajmdagi shaxsiy ma'lumotlarga asoslanadi, masalan, ijtimoiy tarmoqlarda foydalanuvchilarning odatlari, qiziqishlari va faoliyatlarini tahlil qilish orqali qarorlar qabul qilinadi. Bu esa foydalanuvchilarning maxfiylik huquqini

buzishi va shaxsiy ma'lumotlarning yomon maqsadlar uchun ishlatilishiga olib kelishi mumkin. Shuningdek, internetda yolg'on va manipulyatsiyalangan axborot tarqatish, SI tizimlari orqali amalga oshirilishi mumkin, bu esa jamoatchilik fikrini noto'g'ri shakllantirishi va manipulyatsiyalarga olib kelishi mumkin.

Sun'iy intellektning ta'lim sohasidagi ta'siri ham katta. SI tizimlari ta'lim jarayonini yanada samarali qilish uchun foydalanilishi mumkin. Masalan, o'quvchilarning o'qish va o'rganish uslublarini tahlil qilib, ularga moslashtirilgan o'quv dasturlarini yaratish mumkin. Shuningdek, sun'iy intellekt yordamida o'qituvchilarga yordam beradigan virtual yordamchilar va interaktiv o'quv platformalari yaratish mumkin. Biroq, bu o'zgarishlar an'anaviy ta'lim tizimlarini siqib chiqarishi mumkin, va bu jarayon ta'limni tengsizlashtirishi mumkin, chunki ba'zi talabalarda SI tizimlaridan foydalanish imkoniyati cheklangan bo'lishi mumkin.

Sun'iy intellektning jamiyatga ta'siri, shuningdek, madaniy o'zgarishlarga ham olib keladi. U ijtimoiy o'zaro aloqalarni va odamlarning kundalik hayotini qayta tashkil etishi mumkin. Masalan, virtual yordamchilar va avtomatlashtirilgan xizmatlar jamiyatda "real" inson aloqalariga ehtiyojni kamaytirishi mumkin. Bu esa odamlarning o'zaro muloqot qilish tarzini o'zgartirishi va ba'zi hollarda izolyatsiyani kuchaytirishi mumkin. Shu bilan birga, sun'iy intellektning qo'llanilishi, masalan, san'at va madaniyat sohalarida ham yangi ijodiy imkoniyatlar yaratadi, chunki SI tizimlari yangi musiqa, rassomlik va adabiyot asarlarini yaratish imkoniyatini beradi.

Sun'iy intellekt jamiyatimizda inqilobiy o'zgarishlarga olib kelayotgan bir vaqtda, uning ijtimoiy ta'siri haqida shubhalar va ehtiyotkorliklar ham mavjud. Sun'iy intellektning iqtisodiy, axloqiy, ta'lim, ish o'rinlari va madaniyatdagi o'zgarishlarga ta'sirini ko'rib chiqish bizni bu yangi texnologiyani qanday boshqarish va undan samarali foydalanish borasida yanada jiddiy fikrlashga undaydi. SI texnologiyalarining ijtimoiy ta'sirini boshqarish, jamiyatning turli qatlamlarini xavfsiz va teng imkoniyatlar bilan ta'minlash uchun muhimdir. Bu esa, ilmiy izlanishlar va ijtimoiy muhokamalar orqali amalga oshirilishi mumkin.

Sun'iy intellekt va avtomatlashtirish jarayonlari jamiyatda mavjud tengsizlikni kuchaytirishi mumkin. O'zgarishlar, ayniqsa, kam rivojlangan mintaqalar yoki kam malakali ishchilar uchun muammolarni keltirib chiqaradi. Yangi texnologiyalarni o'zlashtirishda va SI tizimlaridan foydalanishda ba'zi hududlar va guruhlar orqada qolishi mumkin. Bu esa iqtisodiy tengsizlikni yanada oshiradi. Shuning uchun, jamiyatni yangi texnologiyalarga moslashtirishda teng imkoniyatlar yaratish muhimdir.

Sun'iy intellektning madaniyat va san'atga ta'siri ham katta. Sun'iy intellekt yordamida musiqa, rassomlik va boshqa san'at asarlari yaratilmoqda. SI tizimlari yordamida mashhur rassomlarning ishlarini takrorlash yoki yangi, ilg'or san'at asarlarini yaratish mumkin. Shu bilan birga, ba'zi odamlar sun'iy intellekt yordamida yaratilgan asarlarni haqiqiy san'at deb hisoblashadi yoki buni insonning ijodiy salohiyatiga tahdid deb bilishadi. Sun'iy intellektning san'at sohasidagi roli haqida turli fikrlar mavjud.

Foydalanilgan adabiyotlar

1. Russell, S., & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach* (4th ed.). Pearson.
2. Tegmark, M. (2017). *Life 3.0: Being Human in the Age of Artificial Intelligence.* Penguin Books.
3. Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies.* W. W. Norton & Company.
4. Boymirzayevich, I. F. (2024). SINXRON MOSHINALARNING TURLARI VA TUZILISHI.
5. Boymirzayevich, I. F. (2024). TYPES AND STRUCTURE OF SYNCHRONOUS MACHINES.
6. Irisboyev, F. (2024). THE PLACE OF NANOTECHNOLOGY IN THE PRESENT TIME. *Modern Science and Research*, *3*(1), 52-56.

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RADIOQURILMALAR VA TIZIMLARDA SUN’IY INTELLEKT TEXNOLOGIYALARINI JORIY ETISH ISTIQBOLLARI

Annotatsiya. *Ushbu maqolada radioqurilmalar va radioaloqa tizimlarida sun’iy intellekt (SI) texnologiyalarini joriy etish istiqbollari tahlil qilinadi. Sun’iy intellekt algoritmlarining chastota spektrini samarali boshqarish, signalni qayta ishlash va radioaloqa sifatini oshirishdagi roli yoritib beriladi.*

Kalit so‘zlar. *sun’iy intellekt, radioqurilmalar, radioaloqa, chastota spektri, kognitiv radio, signalni qayta ishlash, spektr monitoringi, avtomatik diagnostika, ma’lumotlarni optimallashtirish, adaptiv aloqa tizimlari, neyron tarmoqlar.*

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PROSPECTS FOR IMPLEMENTING ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN RADIO EQUIPMENT AND SYSTEMS

Abstract. *This article examines the prospects of implementing artificial intelligence (AI) technologies in radio equipment and communication systems. The role of AI algorithms in efficiently managing the frequency spectrum, processing signals, and improving the quality of radio communication is analyzed.*

Keywords. *Artificial intelligence, radio equipment, radio communication, frequency spectrum, cognitive radio, signal processing, spectrum monitoring, automatic diagnostics, data optimization, adaptive communication systems, neural networks.*

Zamonaviy radioqurilmalar va aloqa tizimlari murakkab va o‘zgaruvchan muhitda ishlaydi. Ushbu tizimlarning samaradorligini oshirish maqsadida sun’iy intellekt texnologiyalaridan foydalanish dolzarb masala hisoblanadi. SI algoritmlari yordamida radiochastotalarni samarali boshqarish, signallarni tahlil qilish va aloqa sifatini oshirish mumkin. Xususan, SI texnologiyalari radioelektron qurilmalar va tizimlarning optimal ishlashini ta’minlashga xizmat qiladiSun’iy intellekt texnologiyalari radioqurilmalarda turli yo‘nalishlarda qo‘llanilmoqda. Quyida ushbu texnologiyaning asosiy qo‘llanilish sohalari va misollar keltiriladi:

SI algoritmlari chastota resurslarini optimal taqsimlash orqali tarmoqlarning samaradorligini oshiradi. Masalan, mobil aloqa operatorlari SI asosida chastota resurslarini real vaqt rejimida boshqarish orqali tarmoq yuklamasini teng taqsimlaydi. Mashinaviy o‘rganish asosidagi tahlillar yordamida radiochastotalarning holati avtomatik ravishda nazorat qilinadi. Bu usul milliy radiochastota agentliklari tomonidan noqonuniy foydalanilayotgan chastotalarni aniqlash va ularni tartibga solish uchun ishlatiladi. Neyron tarmoqlar orqali signallarni filtrlash va shovqin darajasini kamaytirish mumkin. Misol uchun, harbiy aloqa tizimlarida SI asosida ishlovchi algoritmlar dushman tomonidan uzatilgan xalaqit signallarini aniqlab, ularni neytrallashga yordam beradi. SI algoritmlari signallarni tahlil qilish, modulyatsiya usullarini avtomatik tanlash va optimallashtirish vazifalarini bajaradi. Masalan, zamonaviy sun’iy yo‘ldosh aloqa tizimlarida AI yordamida signal sifati tahlil qilinadi va optimal kodlash usuli tanlanadi. Ushbu texnologiya radiochastota spektridan samarali foydalanish imkonini beradi. SI chastota tarmoqlarining real vaqt sharoitida o‘z-o‘zini moslashtirishiga imkon yaratib, mavjud resurslardan maksimal samaradorlikda foydalanishga xizmat qiladi.

Sun’iy intellekt texnologiyalarining radioaloqa tizimlariga joriy etilishi quyidagi afzalliklarni taqdim etadi. SI chastota diapazonini doimiy kuzatib, bo‘sh chastotalarni aniqlaydi va ulardan optimal foydalanish imkonini beradi, signal sifati va uzatilish barqarorligini ta’minlash, diagnostika tizimlari SI algoritmlaridan foydalangan holda muammolarni oldindan aniqlaydi, kiberxavfsizlik tahdidlarini oldindan aniqlash va ularning oldini olish, SI yordamida radio tizimlar real vaqt sharoitlariga moslashishi va optimal ishlashni ta’minlashi mumkin**.**

Sun’iy intellekt texnologiyalarining radioaloqada qo‘llanilishiga misollar SI yordamida signal tarqalish sharoitlarini tahlil qilish va chastotalarni avtomatik boshqarish, neyron tarmoqlar orqali signal sifati va uzatilish barqarorligini optimallashtirish, SI algoritmlari xalaqit beruvchi signallarni aniqlab, ularni neytrallash, chastotalarni taqsimlash va aloqa sifatini yaxshilash uchun algoritmik optimallashtirish usullaridan foydalanish.

Bugungi kunda sun’iy intellekt va mashinaviy o‘rganish texnologiyalari sanoatning barcha jabhalarida keng qo‘llanilmoqda. Ayniqsa, asbobsozlik tizimlarining avtomatlashtirilishi bu texnologiyalarning ahamiyatini oshirib, ishlab chiqarish jarayonlarini optimallashtirish va inson omilini kamaytirishga xizmat qilmoqda. Zamonaviy sanoat 4.0 konsepsiyasiga muvofiq, sun’iy intellekt asosida ishlovchi aqlli tizimlar ishlab chiqarish jarayonlarini yanada samarali qilish imkonini bermoqda.

Sun’iy intellekt bilan boshqariladigan tizimlar bugungi kunda sanoat, transport, sog‘liqni saqlash va boshqa ko‘plab sohalarda faol qo‘llanilmoqda. Bunday tizimlar qaror qabul qilish jarayonini avtomatlashtirish, inson xatolarini kamaytirish va resurslardan samarali foydalanish imkonini beradi. Zamonaviy texnologiyalar yordamida sun’iy intellekt real vaqt rejimida monitoring va boshqaruv vazifalarini bajara oladi. Sun’iy intellekt bilan boshqariladigan transport va logistika tizimlari quyidagi imkoniyatlarni yaratadi.ular avtonom transport

vositalarini boshqarish, harakatni optimallashtirish va tirbandliklarni kamaytirish, yuk tashish jarayonlarining samaradorligini oshirish. Sun'iy intellekt bilan boshqariladigan tizimlar kelajak texnologiyalarining ajralmas qismi hisoblanadi. Bu texnologiyalar yordamida avtomatlashtirish jarayonlari takomillashib, ishlab chiqarish, transport, shahar infratuzilmasi va boshqa sohalarda samaradorlik oshadi. Ilmiy tadqiqotlar va innovatsiyalar ushbu yo'nalishdagi rivojlanishni yanada jadallashtirishga xizmat qiladi. Zamonaviy sanoat rivojlanishida sun'iy intellekt va mashinaviy o'rganish texnologiyalarining roli tobora ortib bormoqda. Ushbu texnologiyalar ishlab chiqarish jarayonlarini avtomatlashtirish orqali samaradorlikni oshirish, ishlab chiqarish xarajatlarini kamaytirish va inson omilini minimallashtirishga xizmat qiladi. Ayniqsa, turli sohalarda avtomatlashtirilgan tizimlarning qo'llanilishi muhim ahamiyat kasb etmoqda. Mashinaviy o'rganish algoritmlari yordamida avtomatlashtirilgan tizimlar real vaqt rejimida ma'lumotlarni tahlil qilishi va optimal qarorlar qabul qilishi mumkin. Bu, ayniqsa, quyidagi yo'nalishlarda samarali ishlaydi. Nosozliklarni aniqlash va bartaraf etish, ishlab chiqarish jarayonlarining sifatini nazorat qilish, texnologik jarayonlarni moslashuvchan boshqarish. Sun'iy intellekt va mashinaviy o'rganish asosida avtomatlashtirilgan tizimlar sanoatning kelajagini belgilab bermoqda. Ushbu texnologiyalar yordamida ishlab chiqarish jarayonlari yanada samarali, xavfsiz va tejamkor bo'lishi kutilmoqda. Ilmiy tadqiqotlar va yangi innovatsiyalar sun'iy intellektning sanoat avtomatlashtirishda qo'llanilishini yanada kengaytirishga xizmat qiladi.

Robototexnika hozirgi kunda turli sanoat tarmoqlarida, jumladan avtomobilsozlik, elektronika, farmatsevtika, oziq-ovqat va boshqa ishlab chiqarish sohalarida faol qo'llanilmoqda.**Asosiy robototexnik tizimlar** o'z-o'zidan qaror qabul qila oladigan va ishlab chiqarish jarayonlarini boshqaruvchi mashinalar, inson bilan hamkorlikda ishlaydigan aqlli robotlar, mahsulotlarni yig'ish, joylashtirish va ishlov berish uchun ishlatiladigan mexanik tizimlar, yuk tashish va ishlab chiqarish liniyalarida materiallarni avtomatik ravishda harakatlantirish uchun foydalaniladi. **Robototexnik tizimlarning asosiy afzalliklari**quydagilar kiradi.Ular yuksak aniqlik va takrorlanuvchanlik, tezkorlik va unumdorlik, xavfsizlikni ta'minlash, 24/7 ishlash imkoniyati,ishlab chiqarish jarayonlarini moslashuvchan qilish.

Xulosa qilib aytganda Sun'iy intellekt texnologiyalarining radioqurilmalarga joriy etilishi aloqa tizimlarining samaradorligini sezilarli darajada oshirish imkonini beradi. SI asosida ishlovchi radio tizimlar chastota spektridan samarali foydalanish, signalni qayta ishlash va avtomatlashtirish jarayonlarini takomillashtirishda muhim ahamiyat kasb etadi. Kelgusida bu texnologiyalar yanada rivojlanib, radioaloqa tizimlarida yangi innovatsion yechimlar yaratishga xizmat qiladi.

Foydalanilgan adabiyotlar

1. Boymirzayevich, I. F. (2024). SINXRON MOSHINALARNING TURLARI VA TUZILISHI.
2. Boymirzayevich, I. F. (2024). TYPES AND STRUCTURE OF SYNCHRONOUS MACHINES.

3. Irisboyev, F. (2024). THE PLACE OF NANOTECHNOLOGY IN THE PRESENT TIME. *Modern Science and Research*, *3*(1), 52-56.
4. Irisboyev, F. (2024). THE IMPORTANCE OF ENERGY USE IN THE DEVELOPMENT OF SOCIETY. *Modern Science and Research*, *3*(1), 78-81.
5. Russell, S., & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach* (4th ed.). Pearson.
6. Tegmark, M. (2017). *Life 3.0: Being Human in the Age of Artificial Intelligence.* Penguin Books.
7. Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies.* W. W. Norton & Company.

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TIRISTORLI FAZA BOSHQARISHLI ROSTLAGICHLAR

Annotatsiya: *Tiristorli faza boshqarishli rostlagichlar (FBR)ning ishlash prinsipi, asosiy sxemalari va ularning afzalliklari tahlil qilinadi. Faza boshqarish texnologiyasi yordamida o‘zgaruvchan tokni doimiy tokka aylantirish va chiqish kuchlanishini boshqarish imkoniyati o‘rganiladi. Shuningdek, tutashish burchagi (firing angle) nazorati, garmonik buzilishlar va samaradorlik kabi muhim omillar ko‘rib chiqiladi.*

Kalit so‘zlar. *Tiristor, Faza boshqarishli rostlagich, Quvvat elektronikasi, O‘zgaruvchan tokni doimiy tokka aylantirish, Burchakni boshqarish, Garmonik buzilish, Sanoat dvigatellari boshqaruvi, Quvvat manbaini tartibga solish, Elektr isitish tizimlari.*

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THYRISTOR PHASE-CONTROLLED RECTIFIERS

*Abstract. This article explores thyristor phase-controlled rectifiers (PCRs)**,** which are widely used in power electronics for converting AC to DC with controllable output voltage. The paper discusses the working principles, circuit configurations, and advantages of phase-controlled rectifiers, highlighting their application in industrial motor drives, power supplies, and electrical heating systems**.***

Keywords. *Thyristor, Phase-controlled rectifier (PCR), Power electronics, AC to DC conversion, Firing angle control, Harmonic distortion, Industrial motor drives, Power supply regulation, Electrical heating systems.*

Tiristorli faza boshqarishli rostlagichlar (TFBR) elektr energiyasini boshqarish uchun ishlatiladigan elektron qurilmalardir. Ular asosan o‘zgaruvchan tok (AC) kuchlanishini rostlash va turli elektr yuklarni boshqarish uchun qo‘llaniladi. Ushbu rostlagichlar sanoatda, elektr haydovchi tizimlarida, isitish tizimlarida va boshqa ko‘plab sohalarda keng qo‘llanadi. Tiristor - bu yarimo‘tkazgichli to‘rt qatlamli (PNPN) elektron element bo‘lib, u boshqarish elektrodi (gate) orqali faollashtiriladi. Tiristor ma'lum bir kuchlanish yoki tok bilan

ishga tushirilgandan so‘ng, u ochiq holatda qoladi va faqat teskari kuchlanish yoki tok nolga teng bo‘lganda o‘chadi.

Faza boshqarishli rostlagichlarning ishlash printsipi AC signali fazasini nazorat qilishga asoslangan. Kirish AC kuchlanishining ma’lum bir qismi tiristor orqali yukga uzatiladi. Bu boshqarish burchagi (α) deb ataladi. Boshqarish burchagi o‘zgartirilishi bilan yukga berilayotgan o‘rtacha kuchlanish ham o‘zgaradi.Faza boshqarish ikki asosiy usulda amalga oshiriladi: Tiristorlar kuchlanish nol nuqtasidan oldin yoqiladi. Tiristorlar kuchlanishning keyingi qismida yoqiladi.TFBR-lar quyidagi turlarga bo‘linadi. Faqat bitta fazali AC tizimlarda ishlaydi. Bir fazali rostlagichlar elektr tarmoqlarida o‘zgaruvchan tokni doimiy tokka aylantirish uchun ishlatiladigan elektron qurilmalardir. Ular asosan quvvat manbalari, sanoat avtomatikasi, telekommunikatsiya tizimlari va turli elektron qurilmalarda keng qo‘llaniladi.

O‘zgaruvchan tok manbadan berilganda, diodlar faqat musbat yoki manfiy qismni o‘tkazadi.To‘liq to‘lqinli rostlagichda har ikkala yarim davr ishlatilganligi sababli, doimiy tokka yaqinroq natija olinadi. Uch fazali o‘zgaruvchan tokni doimiy tokka aylantirish uchun ishlatiladigan elektron qurilmalardir. Ular sanoat, energiya ta’minoti va kuchli elektron qurilmalarda keng qo‘llanadi. Uch fazali rostlagichlar bir fazali rostlagichlarga nisbatan yuqori samaradorlikka ega bo‘lib, doimiy tokning pulsatsiyasi ancha past bo‘ladi.Bu turdagi rostlagichda faqat o‘zgaruvchan tokning musbat yoki manfiy yarim davri ishlatiladi. Faqat **bitta diod** ishlatiladi, diod faqat musbat (yoki manfiy) yarim davrda o‘tkazadi, ikkinchi yarim davr esa bloklanadi, Natijada, chiqish kuchlanishi faqat yarim davrda hosil bo‘ladi va u pulsatsiyali bo‘ladi.Bu rostlagich o‘zgaruvchan tokning ikkala yarim davridan ham foydalanadi, natijada doimiy tokka yaqinroq chiqish olinadi. Markaziy uchli (Center-Tap) to‘liq davrli rostlagich Ikkita diod va markaziy uchli transformator ishlatiladi. Har bir yarim davrda bir diod o‘tkazadi va natijada kuchlanish doimiy tokka yaqinroq bo‘ladi. Transformatorning markaziy uchi kerak bo‘lgani uchun murakkabroq sxemalarga ega. Ko‘prikli (Bridge) to‘liq davrli rostlagich to‘rtta diod ishlatiladi**.** Tiristorli faza boshqarishli rostlagichlar quyidagi sohalarda keng qo‘llaniladi. Sanoat dvigatellarining tezligini o‘zgartirish uchun ishlatiladi. Elektr qizdirgichlarni samarali boshqarish uchun qo‘llanadi. Payvandlash quvvatini nazorat qilish maqsadida ishlatiladi. Yorug‘lik manbalarining yorug‘lik darajasini o‘zgartirish uchun ishlatiladi. Tiristorli faza boshqarishli rostlagichlar elektr energiyasini boshqarishning samarali usuli bo‘lib, sanoat va maishiy texnikada keng qo‘llaniladi. Ularning afzalliklari ko‘pligi sababli elektr tizimlarida muhim rol o‘ynaydi, ammo ularni qo‘llashda kamchiliklarni ham hisobga olish zarur.

Tiristorli faza boshqarishli rostlagichlar elektr energiyasini samarali boshqarish va nazorat qilishda muhim ahamiyatga ega bo‘lib, sanoat va maishiy qurilmalarda keng qo‘llaniladi. Ushbu rostlagichlar tiristorlar orqali elektr yukiga uzatiladigan kuchlanish va quvvatni faza burchagi asosida boshqarish imkonini beradi. Maqolada tiristorli faza boshqarishli rostlagichlarning ishlash prinsiplari, ularning asosiy turlari, afzalliklari va qo‘llanilish sohalari tahlil qilindi. Ushbu tizimlarning afzalliklari orasida yuqori samaradorlik, aniq boshqarish imkoniyati va

energiya tejamkorligi alohida ta’kidlandi. Shu bilan birga, kuchlanish buzilishlari va harmonik shovqinlarning paydo bo‘lishi kabi muammolar ham muhokama qilindi. Kelajakda tiristorli rostlagichlarning samaradorligini oshirish va ularning ekologik ta’sirini kamaytirish maqsadida yangi materiallar, ilg‘or boshqaruv algoritmlari va raqamli boshqaruv tizimlarini joriy etish muhim ahamiyat kasb etadi. Ushbu texnologiyaning yanada rivojlanishi avtomatlashtirilgan sanoat tizimlarida energiya tejamkorligi va barqarorlikni ta’minlashga xizmat qiladi.

Foydalanilgan adabiyotlar

1. Б. М. Гольдфарб – *«Силовые полупроводниковые приборы и их применение»*, Москва: Энергоатомиздат, 1987.
2. В. Ф. Коссов – *«Тиристорные преобразователи»*, Москва: Энергоиздат, 1980.
3. Ю. К. Клементьев – *«Силовая электроника»*, Санкт-Петербург: Питер, 2009.
4. Boymirzayevich, I. F. (2024). SINXRON MOSHINALARNING TURLARI VA TUZILISHI.
5. Boymirzayevich, I. F. (2024). TYPES AND STRUCTURE OF SYNCHRONOUS MACHINES.
6. Irisboyev, F. (2024). THE PLACE OF NANOTECHNOLOGY IN THE PRESENT TIME. *Modern Science and Research*, *3*(1), 52-56.
7. Irisboyev, F. (2024). THE IMPORTANCE OF ENERGY USE IN THE DEVELOPMENT OF SOCIETY. *Modern Science and Research*, *3*(1), 78-81.
8. Irisboyev, F. (2024). THE IMPORTANCE OF ENERGY USE IN THE DEVELOPMENT OF SOCIETY. *Modern Science and Research*, *3*(1), 78-81.

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SUN’IY INTELLEKT VA MASHINAVIY O‘RGANISH ASOSIDA AVTOMATLASHTIRILGAN ASBOBSOZLIK TIZIMLARI

Annotatsiya: *Ushbu maqolada sun’iy intellekt (SI) va mashinaviy o‘rganish (MO) texnologiyalarining avtomatlashtirilgan asbobsozlik tizimlarida qo‘llanilishi tahlil qilinadi. Zamonaviy ishlab chiqarish jarayonlarida SI va MO algoritmlari yordamida ishlab chiqarish samaradorligini oshirish, nosozliklarni oldindan bashorat qilish va sifat nazoratini avtomatlashtirish imkoniyatlari ko‘rib chiqiladi. Shuningdek, IoT, kompyuterli ko‘rish va aqlli robototexnika tizimlarining asbobsozlik sanoatidagi o‘rni yoritiladi. Maqolada avtomatlashtirilgan tizimlarning afzalliklari, uchraydigan muammolar va kelajak tendensiyalari haqida ma’lumot beriladi. Natijada, sanoat 4.0 konsepsiyasi asosida ishlab chiqarish jarayonlarini innovatsion yondashuvlar bilan takomillashtirish istiqbollari ko‘rib chiqiladi.*

Kalit so‘zlar: *Sun’iy intellekt, mashinaviy o‘rganish, avtomatlashtirish, asbobsozlik tizimlari, sanoat 4.0, IoT, robototexnika, aqlli ishlab chiqarish, kompyuterli ko‘rish, prediktiv texnik xizmat, raqamli egizaklar.*

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AUTOMATED MACHINING SYSTEMS BASED ON ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Abstract: *This article explores the application of artificial intelligence (AI) and machine learning (ML) technologies in automated instrumentation systems. In modern manufacturing processes, AI and ML algorithms enhance efficiency, predict failures, and automate quality control. The integration of IoT, computer vision, and intelligent robotics in instrumentation industries is examined. The article discusses the benefits of automation, challenges, and future trends. As a result, it highlights innovative approaches to improving manufacturing processes within the framework of Industry 4.0.*

Keywords: *Artificial intelligence, machine learning, automation, instrumentation systems, Industry 4.0, IoT, robotics, smart manufacturing, computer vision, predictive maintenance, digital twins.*

Bugungi kunda sun’iy intellekt va mashinaviy o‘rganish texnologiyalari sanoatning barcha jabhalarida keng qo‘llanilmoqda. Ayniqsa, asbobsozlik tizimlarining avtomatlashtirilishi bu texnologiyalarning ahamiyatini oshirib, ishlab chiqarish jarayonlarini optimallashtirish va inson omilini kamaytirishga xizmat qilmoqda. Zamonaviy sanoat 4.0 konsepsiyasiga muvofiq, sun’iy intellekt asosida ishlovchi aqlli tizimlar ishlab chiqarish jarayonlarini yanada samarali qilish imkonini bermoqda.

Ilmiy tadqiqotlar va innovatsiyalar ushbu yo‘nalishdagi rivojlanishni yanada jadallashtirishga xizmat qiladi. Zamonaviy sanoat rivojlanishida sun’iy intellekt va mashinaviy o‘rganish texnologiyalarining roli tobora ortib bormoqda. Ushbu texnologiyalar ishlab chiqarish jarayonlarini avtomatlashtirish orqali samaradorlikni oshirish, ishlab chiqarish xarajatlarini kamaytirish va inson omilini minimallashtirishga xizmat qiladi. Ayniqsa, turli sohalarda avtomatlashtirilgan tizimlarning qo‘llanilishi muhim ahamiyat kasb etmoqda. Mashinaviy o‘rganish algoritmlari yordamida avtomatlashtirilgan tizimlar real vaqt rejimida ma’lumotlarni tahlil qilishi va optimal qarorlar qabul qilishi mumkin. Bu, ayniqsa, quyidagi yo‘nalishlarda samarali ishlaydi. Nosozliklarni aniqlash va bartaraf etish, ishlab chiqarish jarayonlarining sifatini nazorat qilish, texnologik jarayonlarni moslashuvchan boshqarish. Sun’iy intellekt va mashinaviy o‘rganish asosida avtomatlashtirilgan tizimlar sanoatning kelajagini belgilab bermoqda. Ushbu texnologiyalar yordamida ishlab chiqarish jarayonlari yanada samarali, xavfsiz va tejamkor bo‘lishi kutilmoqda. Ilmiy tadqiqotlar va yangi innovatsiyalar sun’iy intellektning sanoat avtomatlashtirishda qo‘llanilishini yanada kengaytirishga xizmat qiladi.

Zamonaviy texnologiyalar rivojlanishi natijasida atrofimizdagi qurilmalar internet orqali o‘zaro bog‘lanib, avtomatlashtirilgan tizimlarni yaratmoqda. IoT (Internet of Things – Narsalar interneti) – bu turli qurilmalar va sensorlarning tarmoqqa ulangan holda ma’lumot almashish imkonini beruvchi tizimdir. IoT texnologiyasining asosiy elementlaridan biri bu aqlli datchiklar bo‘lib, ular real vaqt rejimida turli parametrlarni o‘lchaydi va ushbu ma’lumotlarni tahlil qilish uchun markaziy tizimlarga uzatadi. IoT texnologiyasi sanoat, tibbiyot, qishloq xo‘jaligi, transport, uy xo‘jaligi kabi ko‘plab sohalarda qo‘llaniladi. Ushbu tizimlarning ishlashida aqlli datchiklarning o‘rni juda katta. Datchiklar turli xil ma’lumotlarni yig‘ib, ularni tahlil qilish va kerak bo‘lsa, avtomatik ravishda tegishli javob qaytarish imkonini beradi. Masalan:

Sanoatda – jihozlarning holatini monitoring qilish va nosozliklarni oldindan aniqlash.

Tibbiyotda – bemorlarning yurak urishi, qon bosimi kabi parametrlarini nazorat qilish.

Qishloq xo‘jaligida – tuproq namligini o‘lchash va sug‘orish tizimini avtomatlashtirish.

Asbobsozlik tizimlarida kompyuterli ko‘rish yordamida mahsulotlarning sifat nazorati va nuqsonlarini aniqlash avtomatlashtiriladi. Kameralar va SI algoritmlari ishlab chiqarish liniyalarini real vaqt rejimida kuzatadi.

Zamonaviy ishlab chiqarish sanoati innovatsion texnologiyalar yordamida tobora avtomatlashtirilib bormoqda. Robototexnika va aqlli ishlab chiqarish tizimlari ishlab chiqarish jarayonlarini optimallashtirish, mehnat unumdorligini oshirish va inson omilidan kelib chiqadigan xatolarni kamaytirish imkonini beradi.

Robototexnika – bu mashinalar, manipulyatorlar va dasturlashtirilgan tizimlardan foydalanish orqali ishlab chiqarish jarayonlarini avtomatlashtirish bilan shug‘ullanuvchi sohadir. Aqlli ishlab chiqarish esa sun’iy intellekt (AI), IoT (Internet of Things), bulutli hisoblash va ma’lumotlarni tahlil qilish texnologiyalarini o‘z ichiga olgan tizimli yondashuv hisoblanadi.

Sun’iy intellekt (SI) va mashinaviy o‘rganish (MO) asosidagi avtomatlashtirilgan asbobsozlik tizimlari sanoatning samaradorligini sezilarli darajada oshirishga imkon beradi. Tadqiqotlar shuni ko‘rsatadiki, bu texnologiyalar ishlab chiqarish jarayonlarida yuqori aniqlik va samaradorlikni ta'minlaydi, nosozliklarni oldindan bashorat qilish va texnik xizmatni optimallashtirishda katta yordam beradi. Avtomatik sifat nazorati tizimlari, SI algoritmlari yordamida ishlab chiqarish jarayonida sifatni doimiy ravishda kuzatib borish va nazorat qilish imkonini yaratadi, bu esa ishlab chiqarish samaradorligini oshiradi va materiallar isrofigini kamaytiradi.

IoT va aqlli sensorlar orqali olingan ma'lumotlar, real vaqt rejimida ishlab chiqarish jarayonlarini nazorat qilish imkonini beradi. Bu tizimlar yordamida mashinalar va uskunalar holatini aniq baholash mumkin bo‘ladi, bu esa ularning ishlash muddatini uzaytirishga va texnik nosozliklarni oldindan aniqlashga yordam beradi. Biroq, bunday tizimlar ishlab chiqarishda ko‘plab muammolarni ham keltirib chiqaradi. Ularning texnik murakkabligi, dasturiy ta’minotdagi xatoliklar va ma'lumotlar xavfsizligi masalalari ishlab chiqarish jarayonlariga salbiy ta’sir ko‘rsatishi mumkin. Sun’iy intellekt algoritmlarining xatolik darajasi va mashinalarning adaptatsiya qobiliyati hali ham muammo bo‘lib qolmoqda. Shuningdek, avtomatlashtirilgan tizimlarning joriy etilishi yuqori narx va yuqori texnik qo‘llab-quvvatlash talablariga olib keladi.

FOYDALANILGAN ADABIYOTLAR

1. Xamrayev, T., & Karimov, R. (2020). Avtomatlashtirilgan asbobsozlik tizimlarida sun’iy intellekt va mashinaviy o‘rganish texnologiyalarining qo‘llanilishi. O‘zbekiston Fanlar Akademiyasi, Toshkent, 134-137 bet.
2. Karimov, S., & Akramov, S. (2021). Sun’iy intellekt va aqlli robototexnika tizimlari. TIIAME, Toshkent, 102-110 bet.
3. Boymirzayevich, I. F. (2023). THE INPUTS ARE ON INSERTED SILICON NON-BALANCED PROCESSES.
4. Boymirzayevich, I. F. (2024). SINXRON MOSHINALARNING TURLARI VA TUZILISHI.

5. Boymirzayevich, I. F. (2024). TYPES AND STRUCTURE OF SYNCHRONOUS MACHINES.
6. Irisboyev, F. (2024). THE PLACE OF NANOTECHNOLOGY IN THE PRESENT TIME. Modern Science and Research, 3(1), 52-56.

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STATE ISSUES OF EFFECTIVE MANAGEMENT OF BUDGET EXPENDITURES

Abstract. *This article studies the theoretical and practical aspects of effective management of local budget expenditures. It analyzes the structure of local budget expenditures, management methods and modern approaches to their optimization. It also discusses international experiments and In Uzbekistan current processes based on improvement measures offer done*

Keywords: *State budget, revenues, expenditures, tax system, economic growth, tax reforms, benefits, digitalization*

Login

The state budget is an important part of the country's economic policy, aimed at ensuring the allocation of state financial resources and their effective use for socio-political purposes. Budget expenditures, ensuring economic growth, and financing state programs serve the sustainable development of the country.

In his speeches, the President of the Republic of Uzbekistan, Sh.M. Mirziyoyev, expressed the opinion that “In today's difficult conditions, our main task must be to ensure the continuity of the comprehensive reforms launched in our country and the bold steps we are taking towards building a new Uzbekistan. Ensuring economic and political stability in the context of the global crisis, targeted solutions to existing problems in the regions, supporting our compatriots in need, and realizing the dreams and aspirations of our youth should be the main tasks of leaders at all levels, starting with the President. The main requirement for implementing these extremely important tasks is to ensure effective cooperation between state and public institutions, increasing efficiency and quality in this process” [“Xalq so'zi” No. 19 (7521), December 29, 2020].

The state performs the tasks of creating a legal, regulatory and institutional framework for the production of goods and services necessary for society and citizens of the country, the effective functioning of economic sectors and social spheres, and thereby creating the necessary conditions for the life and work of its citizens [Law No. 657 of December 25, 2020].

Analysis and results

Budget expenditures are divided into two types: general government expenditures and local government expenditures.

General government expenditures are usually implemented from the republican budget of the state budget and mobilize funds to finance activities of state importance. Local authorities, based on territorial and local needs, implement budget expenditures from the budget of the Republic of Karakalpakstan, the budgets of Tashkent city and regions, as well as city/district budgets.

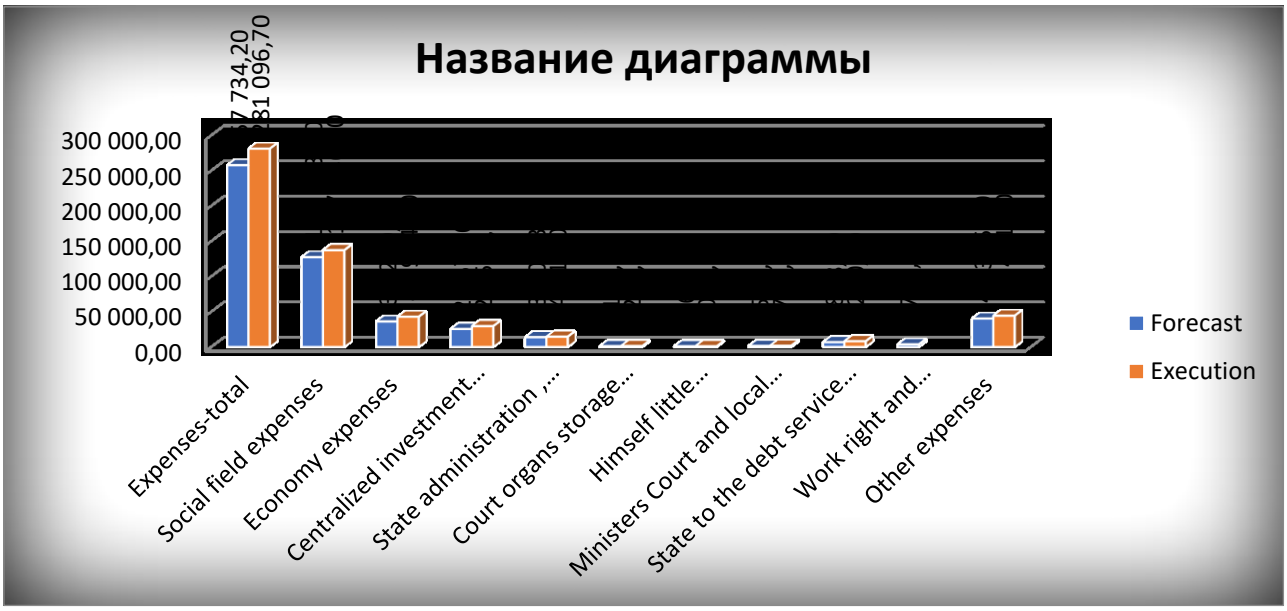
Structure of State Budget Expenditures for 2023 [Budget for Citizens - 2023 Draft **]. (Forecast and Execution)**

Table 1

	Forecast	Execution
Expenses-total	**257 734.2**	**281 096.7**
Social field expenses	127 383.5	137 246.7
Economy expenses	36 210.7	42 924.3
Centralized investment projects and territories infrastructures development expenses	25 570.0	29 581.6
State administration , justice , procuracy and court organs storage expenses	13 905.3	14 618.0
Court organs storage expenses	1 111.4	1 295.4
Himself little management organs storage also state by NGO and citizenship society other institutions with your hand support expenses	996.6	1 087.8
Ministers Court and local budget backup funds	1 524.6	1 720.4
State to the debt service to show percent expenses	6 878.4	8 220.6
Work right and commune services tariffs increase expenses *	3 797.9	
Other expenses	40 355.8	44 401.9

2023 State budget expenses forecast and of execution analysis

Graph 1



If we look at the 2023 state budget expenditure forecast and the implementation of budget expenditures in 2023, budget expenditures were implemented at 109.1 percent, an increase of 9.1 percent.

If we look at the types of expenses, the following types of expenses were exceeded [Budget for Citizens -2023 draft and implementation]:

1. Social field expenses
2. Economy expenses
3. Centralized investment projects and territories infrastructures development expenses
4. State administration , justice , procuracy and court organs storage expenses
5. Court organs storage expenses
6. Costs of maintaining self-governing bodies and state support for NGOs and other civil society institutions
7. Ministers Court and local budget backup funds
8. State to the debt service to show percent expenses
9. Other expenses

Despite the forecast of 3797.9%, no funds were spent on the following type of expenditure:

Work right and commune services tariffs increase expenses.

Conclusion

In conclusion, it should be said that minimizing state budget expenditures and controlling proper spending contributes to the economic stability of the state.

Introduction of digital technologies :

It is necessary to implement digital monitoring systems to optimize cost control and management.

Taking into account regional needs :

Taking into account the economic and social needs of regions when distributing local budget funds increases efficiency.

Transparency and report to give reinforcement :

Costs about to the public open information presented to grow through budget from the funds use over control strengthen possible.

Staff qualification increase :

Financial management according to experts preparation and to them modern methods to teach budget process efficiency increases.

References

1. Address of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Oliy Majlis on December 29, 2020. “Xalq so'zi” No. 19 (7521), 29.12.2020.
2. Law of the Republic of Uzbekistan No. 657 “On the State Budget of the Republic of Uzbekistan for 2021”. December 25, 2020.
3. "Budget for Citizens -2023 Project" www.openbudget.uz
4. Prepared by the author on the "Budget for Citizens -2023 Project" and "Budget for Citizens -2023 Implementation" www.openbudget.uz

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O‘ZBEKISTONDA KICHIK BIZNES VA XUSUSIY TADBIRKORLIKDA MEHNAT MUNOSABATLARINI RIVOJLANISHI

Annotatsiya: *Tadbirkorlik faoliyatida mehnatni tashkil etish u yoki bu xo‘jalik faoliyati turi bilan shug‘ullanuvchi subyektning nafaqat o‘ziga xos xususiyati bilan, balki milliy iqtisodiyotning rivojlanish bosqichi xususiyatlari bilan ham uzviy bog‘liq.*

Kalit so‘zlar: *kichik biznes, tadbirkorlik, mehnat, mehnat munosabatlari, mehnatni tashkil etish, mehnat me’yorlari, rag‘batlantirish.*

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DEVELOPMENT OF LABOR RELATIONS IN SMALL BUSINESS AND PRIVATE ENTREPRENEURSHIP IN UZBEKISTAN

Abstract: *The organization of work in entrepreneurial activity is inextricably linked not only with the specific characteristics of the subject engaged in one or another type of economic activity, but also with the characteristics of the stage of* ***development of the national economy.***

Key words: *small business, entrepreneurship, labor, labor relations, labor organization, labor standards, incentives.*

Mamlakatimizda so‘nggi yillarda tadbirkorlikda mehnat munosabatlarining rivojlanishi, mazkur jarayonni qo‘llab-quvvatlash va rag‘batlantirish borasida amalga oshirilayotgan izchil tadbirlar, bu bo‘yicha qabul qilinayotgan qator dasturiy yo‘nalishlar mazkur sohaning rivojlanishiga olib kelmoqda.

Mamlakatimizda iqtisodiyotni liberallashtirish sharoitida keng ko‘lamli islohotlar bevosita tadbirkorlikda mehnat munosabatlari rivoji bilan bog‘liq bo‘lib, unda mehnat munosabatlarining rivojlanishi bandlikni ta’minlashdek jamiyatning ijtimoiy-iqtisodiy taraqqiyotiga sezilarli ta’sir ko‘rsatadi.

“Mehnat munosabatlari - xodim va ish beruvchi o‘rtasida ish beruvchi zarur mehnat sharoitlarini yaratib bergan holda xaq to‘lanishi hisobiga xodim tomonidan shaxsan mehnat funksiyasini (shtat ro‘yxatiga muvofiq, kasbi, ixtisosligi bo‘yicha topshiriladigan aniq ishni) bajarish yuzasidan kelishuv natijasida paydo bo‘ladigan munosabatlardir. Mehnat munosabatlarining sub’ektlari - xodim va ish beruvchi hisoblanadi. Mehnat munosabatlari ijtimoiy xususiyat kasb etganda, ushbu sub’ektlar katoriga davlat ham ko‘shiladi.

“Kichik biznes va xususiy tadbirkorlik sub’ektlarida ish bilan bandlikning egiluvchan shakllari - qisman ish bilan bandlik, ish joyini taqsimlash, moslashuvchan ish grafigi, egiluvchan va virtual ish joyi iqtisodiy faol aholini munosib ish bilan ta’minlashning samarali yo‘li bo‘lib, u ish beruvchilarga iqtisodiy vaziyat, bozor kon’yunkturasidan kelib chiqqan holda, ishlab chiqarishning yo‘nalishini, xodimlarning soni va tarkibini qisqa muddatda o‘zgartirishga yordam beradi”

Mazkur mehnat faoliyatini tashkil etish xususiyatlari, vazifalari, tarkibi va taraqqiyot asoslarini o‘rganish muhim ahamiyat kasb etadi. Bu jarayonni rivojlantirishning mehnat faoliyatini baholashda uslubiy yondashuvlarga majmuaviy asosda ko‘rib chiqish ilmiy zaruriyat hisoblanadi va sohada islohotlarni takomillashtirish uchun olib borilayotgan tashkiliy-iqtisodiy tadbirlarga e’tibor qaratish lozim. Ish beruvchilar va yollanuvchilar manfaatlarining uyg‘unligi esa nafaqat tashkiliy-iqtisodiy omillarga, balki ijtimoiy va innovatsion omillarga ham bog‘liq bo‘ladi. Uni belgilash uchun mehnatni tashkil etish, rag‘batlantirish xodimlarga munosib mehnat sharoitlari yaratish, mehnat motivatsiyasini ijodiy, mazmun jihatdan boy mehnat jarayoniga o‘tish orqali ta’minlash, bo‘sh vaqt ajratish bilan rag‘batlantirish, jamoada qulay muhitni yaratish maqsadga muvofiq bo‘ladi.

Kichik biznes va xususiy tadbirkorlik mehnat munosabatlarining tarkibiy tuzilishi va rivojlanishining asosi agentlari namoyon bo‘lsa ham, uning ikki asosiy nazariy jihatlari farqlanadi. Birinchidan, bu yo‘nalishda tahlil qilinayotgan mehnat shakli va turlarini aniq tarkiblashtirish imkonini beradi. Bu shu bilan bog‘liqki ishchining hayotiy siklining barchasi har doim ham ketma-ketlikda ketmaydi, chunki ishchi yuqoridagi bosqichlarning har birida o‘zining ichki his-tuyg‘ulariga asoslanadi.

Xodim uchun ishchini ishga yollanish va mehnat sharnomasini tuzgandan so‘ng ish beruvchi ham, ishga yollanuvchi ham mehnat shartnomasiga ma’lum o‘zgartirishlarni kiritishi mumkin yoki ishchi o‘z malakasini oshirgandan so‘ng yangi mehnat shartlarini qo‘yadi v.x.k., ikkinchidan, ushbu yo‘nalish nazariy ahamiyatga ega, uning amaliy ahamiyati kamroq. CHunki kichik ishlab chiqarishda yollangan mehnatni aniq davrlarga ajratish qiyin va murakkabdir, bunga sabab kichik va xususiy tadbirkorlikni ichki va tashqi rivojlanish sharoitlari yo‘l qo‘ymaydi.

Ikkinchisini – shartli ravishda ijtimoiy takror ishlab chiqarish deb atashimiz mumkin. Bu holda ijtimoiy-mehnat munosabatlari umumlashtirilgan holda kichik korxona ishchisi shaxsiy va kasbiy jihatlarini hamda uni ijtimoiy xavf-xatardan (ya’ni hayot siklining har bir bosqichida mehnat qilish qobiliyatini,

ishini, yashash manbaini yo‘qotishdan) himoyalashni ta’minlash bo‘yicha takror ishlab chiqarish bo‘yicha munosabatlar sifatida qaraladi. Bu holda shuni e’tirof etish mumkinki, ijtimoiy-mehnat munosabatlari tarkibini shakllantirishning asosi sifati uning mazmuni va namoyon bo‘lishi mezonlarini olishimiz mumkin.

Kichik biznes va xususiy tadbirkorlik bilan shug‘ullanuvchi sub’ektlarning barchasi ishlab chiqarish xodimlarini (ishchilarni) va boshqaruvchilarni, xizmatchilarni, menejerlarni yollashda mehnatga qiziqishi mezoniga bir xil ahamiyat bilan qarashadi. Bunday holatni mehnat motivatsiyasiga qarab turlicha talqin qilish mumkin. Ammo bizning fikrimizcha, kichik korxonalar faoliyatining samarali natijasi uning mehnat jamoasining birgalikdagi faoliyati jarayonida kilayotgan mehnat motivatsiyasiga uzviy bog‘liqdir.

Innovatsion tuzilish rasmda keltirilganidek, innovatsion faoliyat sohasidagi siyosatni amalga oshirish mexanizmlarini ishbilarmonlik muhiti, tashabbuskorlik singari mehnat munosabatlari (ishlab chiqarish kuchlarini (ishchi kuchini)) takror barpo qilish bo‘yicha munosabatlarning zamonaviy xususiyatlariga olib keladi.

Kichik biznes faoliyatida har bir ishlovchi normal mehnat yuklamasi bilan ta’minlanishi lozim. Buning uchun ko‘plab omillarni inobatga olish kerak. Xususan: jismoniy, psixologik, atrof-muhit shart-sharoiti kabilarni, mehnat yuklamasini normallashtirish yoki mehnat sharoitini yaratish va muhofazasini ta’minlash mehnat sharoitining asosi bo‘lib maydonga chiqadi.

Kichik biznes va xususiy tadbirkorlikda mehnat munosabatlarining tarkibiy tuzilishi mehnat, ijtimoiy-iqtisodiy, innovatsion tuzilish bo‘yicha guruhlanib, unda mehnat munosabatlari iqtisodiy faoliyatni samarali tashkil etish, an’anaviy tadbirkorlikka nisbatan ko‘proq natija olib keluvchi innovatsion tadbirkorlik munosabatlarini takomillashtirishni ifodalaydi. Mazkur munosabatlarni takomillashtirish tadbirkorning oldiga ham o‘ziga xos talablar qo‘yadi, ularning doimiy ravishda ijod qilishi va izlanishi, yangi bilimlarni o‘zlashtirishi, amaliyotga joriy etishi, yangi texnologiyalarni qidirishi va ulardan samarali foydalanishni taqazo etadi.

Mamlakatimizda 523,5 ming kichik biznes sub’ektlari rasmiy ravishda faoliyat yuritib, yalpi ichki mahsulotning 51,8 foizi ularning hissasiga to‘g‘ri keladi, shuningdek, mehatga layoqatlilarning 78,2 foizi aynan shu sohada ish bilan band. Bundan tashqari «Har bir oila – tadbirkor» dasturini amalga oshirish to‘g‘risidagi PQ 3777 – son qarori ijrosi doirasida 47 mingdan ortiq fuqaro va tadbirkorlik sub’ektlariga qariyb bir trilliondan ortiq imtiyozli kreditlar ajratilgan.

O‘zbekiston Respublikasida tadbirkorlik faoliyatini tashkil qilish, boshqarishning me’yoriy-huquqiy hujjatlarini o‘rganish shuni ko‘rsatdiki, bu borada tashkiliy tizim samarali faoliyat yuritish bo‘yicha faoliyat olib borilmoqda. Natijada, bu faoliyatning samaradorligini oshirish, faoliyat yuritishida qonuniy-huquqiy asoslar mazkur maqsadni amalga oshirishni rag‘batlantirish, kreditlash, unda mehnat munosabatlarni takomillashtirishni nazarda tutadi.

O‘zbekiston Respublikasida kichik biznes va xususiy tadbirkorlik sohasidagi mehnat munosabatlarini rivojlantirish – bu nafaqat iqtisodiyotning barqarorligini ta’minlash, balki jamiyatning ijtimoiy-iqtisodiy farovonligini oshirish yo‘lida ham

muhim ahamiyatga ega jarayondir. Ushbu sohada amalga oshiriladigan chora-tadbirlar mamlakatning kelajakdagi muvaffaqiyatdir.

ADABIYOTLAR RO'YXATI:

1. Rasulova S., Jabborova Z. PRINCIPAL DIRECTIONSON THE DEVELOPMENT OF ENTREPRENEURSHIP //International Finance and Accounting. – 2019. – T. 2019. – №. 3. – S. 18.
2. Jabborova Z. M. O SISTEME NEPRERЫIVNOGO OBRAZOVANIYA V RESPUBLIKE UZBEKISTAN //Aktualnые nauchnые issledovaniya v sovremennom mire. – 2018. – №. 12-4. – S. 47-50.
3. Mamasodikovna J. Z. DEVELOPMENT OF THE ECONOMY OF THE REPUBLIC OF UZBEKISTAN TO SUPPORT SMALL BUSINESS AND PRIVATE ENTERPRISE.
4. Jabborova Z. M. KICHIK BIZNES VA XUSUSIY TADBIRKORLIK FAOLIYATIDA MEHNAT MUNOSABATLARINING RIVOJLANISHI //IJTIMOIY FANLARDA INNOVASIYA ONLAYN ILMIY JURNALI. – 2023. – T. 3. – №. 1. – S. 55-60.

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EXPLORATION OF MARKETING MANAGEMENT IN THE ERA OF NETWORK ECONOMY

Abstract: *In the era of network economy, the rapid development of information technology and the wide application of Internet technology have injected new vitality into the field of marketing, but also brought unprecedented challenges. The further development of Internet technology can not only provide support for the development of science and technology, but also change people's way of work and live. The network economy has become one of the main economic growth points in the new era. If the enterprise does not keep pace with The Times when carrying out marketing management, failing to adapt to the public consumption habits and preferences will reduce the level of marketing management, from a certain point of view, it is not conducive to the subsequent development of enterprises. This paper aims to deeply analyze these changes to improve the quality and level of marketing work. By exploring the unique characteristics of the network economy, we summarize the main opportunities and challenges faced by the marketing management institute, and put forward a series of scientific and reasonable coping strategies accordingly. These strategies can not only give full play to the advantages of network economy, but also further improve the overall effect of marketing, providing useful reference and reference for marketing management.*

Key words: *Network Economy, Marketing, Opportunities, Challenges*

Introduction

With the vigorous development of Internet economy, the innovation of marketing strategy is increasingly prominent. The rapid progress of digital technology and the comprehensive popularization of the network have brought unprecedented opportunities and challenges for enterprises. The behavior mode of consumers has changed rapidly under the impact of the information wave, and the traditional marketing means have been difficult to meet the current market demand. In the context of the era of network economy, the way the public obtains information has changed significantly, and it is more inclined to obtain fast and timely information through Internet intelligent devices. Among them, the emergence of "short video" and other emerging communication modes has provided new channels and new opportunities for enterprise marketing. However, this also requires enterprises to change the traditional marketing thinking mode, and develop scientific and effective marketing strategies in line with the background of The Times, so as to enhance the market competitiveness.

Marketing background in the era of network economy

Network economy is a broad concept, which refers to the sum of all economic activities associated with modern communication networks (including the Internet, telecommunication network, TV network and all other modern information transmission networks). These economic activities cover the production and operation activities of network communication infrastructure, network equipment and other hardware, the development and production activities of various network services and network software, as well as the network transaction activities with e-commerce as the core content. It not only includes the rapid growth of the information technology industry with computer as the core, but also covers the rapid development of the whole high-tech industry based on modern computer technology, and also includes the profound changes of traditional industries and traditional economic sectors caused by the promotion and application of high and new technology. Some scholars have clearly put forward that the network economy refers to "all economic activities built on the basis of the information network formed by the modern communication network and the electronic computer network". Therefore, the network economy is actually an advanced economic development form produced on the basis of the traditional economy and through the promotion of modern information technology.

With its unique advantages, such as all-day operation, globalization, immediacy and self-expansion, the network economy is profoundly reshaping the pattern and development direction of the world economy, and becoming the core driving force of economic development in today's era.

The key advantage of the network economy lies in its ability to operate around the clock. Unlike traditional economic models, which heavily rely on workers' schedules and are constrained by time and location, the network economy transcends these limitations. For instance, brick-and-mortar stores and factories adhere to fixed business hours, causing economic activities to pause outside of these periods. In contrast, leveraging advanced Internet technology and high-tech solutions, the network economy enables seamless 24/7 operations. Whether late at night or early in the morning, transactions and business activities continue uninterrupted, both domestically and internationally. This continuous operation model maximizes time efficiency, turning every moment into a potential business opportunity and significantly enhancing economic benefits. By eliminating time constraints on economic activities, it accelerates economic operations, improves efficiency, and fully harnesses the economic value of time.

Globalization is another prominent feature of the network economy. With the rapid development of Internet technology, the network economy has built a convenient bridge of economic exchange and cooperation for all countries in the world. In the traditional economic era, the economic exchanges between countries are restricted by geographical distance, information transmission speed and other factors, and the communication channels are limited and the efficiency is low. Now, with the Internet platform, companies, consumers and governments around the world can communicate and trade quickly in real time. A small business in a

developing country can display and sell its special products to the world online; consumers in developed countries can easily buy goods and services from the other side of the world. This globalized model of economic exchanges has made countries more interconnected and interdependent, which has given a strong boost to the development of global economic integration and formed a complex but closely connected global economic network.

The network economy's immediacy has greatly enhanced its competitiveness. Traditional economies suffered from slow information transmission and geographical constraints, causing delays in transactions. For instance, contract signing by mail took days or weeks, and goods transportation was time-consuming. However, with high-speed information channels, the network economy eliminates these barriers, enabling instant communication and rapid transaction execution. Whether in stock trading or e-commerce, speed is a defining feature, boosting efficiency and accelerating business activities. Companies can swiftly adjust strategies to market changes, while consumers enjoy instant access to goods and services, fostering continuous economic growth.

Marketing management opportunities in the era of network economy

With the rapid development of the network economy, the traditional marketing model is increasingly lagging behind. In the past, corporate marketing was highly dependent on manpower, which was not only time-consuming, but also costly. This model limits the market expansion and brand influence of enterprises. However, the rapid progress of modern technology, especially the popularization of Internet technology, has provided a strong impetus for the transformation of a traditional marketing model. Enterprises began to use online platforms to achieve product marketing and the scale of efficiency. Through the Internet, enterprises can break through the geographical restrictions and promote their products to every corner of the world. This has not only greatly increased sales, but also expanded the consumer group and enhanced brand awareness. This transformation and upgrading enables the enterprise to maintain a leading position in the fierce market competition and achieve a qualitative leap in the marketing model.

In the traditional economy, high logistics costs restricted enterprise marketing, increasing burdens and slowing expansion. However, with the rise of e-commerce and technological advancements, the logistics industry has undergone a revolution. The network economy enhances logistics speed and accuracy, allowing businesses and consumers to access product information faster while protecting their rights. This leap in logistics efficiency lowers enterprise costs, accelerates e-commerce growth, and expands marketing opportunities.

In the era of network economy, consumers' consumption concept has undergone profound changes. They not only have higher requirements for the quality and function of commodities, but also are more active in the process of commodity selection, and their personalized needs are increasingly prominent. In the past, consumers' choices were relatively limited, and they often were in a passive position. But that is being completely changed, driven by Internet technology. Nowadays, the Internet provides consumers with a massive commodity information

platform. Consumers can browse, compare and choose products anytime and anywhere according to their own preferences and needs. This kind of initiative not only changes the shopping habits of consumers, but also poses new challenges to the traditional marketing model. In order to meet the personalized needs of consumers, businesses begin to pay attention to the personalized design of products, so that the products are more in line with the actual needs and aesthetic preferences of consumers. At the same time, the rise of the network market has also broken the limit of time and place, so that consumers can more easily obtain the goods and information they need, which undoubtedly brings new development opportunities for marketing.

Challenges of marketing management in the era of network economy

With the rapid rise of the network economy, many enterprises have poured into this field, competing to share the dividends brought by the network economy. However, in this transformation boom, some enterprises do not hesitate to take improper means in the pursuit of profit maximization, among which the market monopoly phenomenon is particularly prominent. These enterprises take advantage of the advantages of network technology, eliminate opponents and destroy market fairness by restricting competition and market manipulation. This behavior not only damages the interests of other enterprises, but also has a serious impact on the healthy development of the whole industry. In order to maintain the fairness and fairness of the market, the relevant departments of the state must stand up and introduce strong policies to severely crack down on the enterprises that violate the rules. Only in this way, can we effectively curb the market monopoly behavior, guarantee the fair competition of enterprises, and promote the healthy development of the market.

The rapid development of Internet technology has given rise to many emerging technologies. However, with the progress of technology, relevant laws and regulations have failed to follow up in time, resulting in many legal blind spots in the market. The existence of these blind spots makes the regulatory authorities face many difficulties in the process of law enforcement, and the balance of market development is therefore affected. Due to the relatively low threshold of the network economy, the market access has become relatively easy, which provides more opportunities for enterprises, but also brings many problems. Some bad enterprises take advantage of this opportunity to produce and sell inferior quality products, infringing on the rights and interests of consumers. In order to improve this situation, the regulatory authorities must strengthen the formulation and implementation of laws and regulations to ensure that the market environment is fair, transparent and standardized. At the same time, enterprises should also consciously abide by the relevant regulations, strengthen self-supervision, improve product quality and service level, and jointly maintain the healthy development of the market.

The Crisis of marketing reputation

In the network economy market, the controversy between copyright and piracy has not stopped. Some consumers, due to the lack of discrimination, often

accidentally buy pirated products when shopping, thus suffering economic losses. This situation not only damages the rights and interests of consumers, but also seriously affects the credibility and credibility of the brand. Once a brand loses credibility, consumers' trust in their products will decline significantly, and their market share will gradually shrink, which may even lead to the bankruptcy of the brand. In order to maintain the market order and the rights and interests of consumers, the relevant departments must intensify efforts to crack down on piracy and raise consumers' awareness of the genuine products. At the same time, enterprises should also take active measures to strengthen brand building, improve product quality and service level, so as to rebuild consumers' trust in the brand.

With the diversification of consumption channels, consumers' shopping process becomes more and more complex and tedious. In order to simplify the shopping process and improve the consumer experience, one-stop marketing arises at the historic moment. This strategy through the integration of commodity introduction, maintenance, after-sales support and other links, to provide consumers with comprehensive and convenient services. One-stop marketing not only simplifies the shopping process, but also greatly improves the satisfaction and loyalty of consumers, thus promoting the growth of consumer demand and bringing more economic sources for enterprises. In order to effectively implement the one-stop marketing strategy, enterprises need to accelerate the optimization and upgrading of the industrial structure, and increase the investment of capital and technology. At the same time, the training of professional marketing managers is also the key, they need to have enough ability and keen market insight, in order to develop effective marketing strategies, to meet the diversified needs of consumers. When the enterprise is successfully transformed into a functional enterprise, its competitiveness will be significantly improved, and then driving the upgrading and development of the whole industry.

In the era of big data, data has become one of the most valuable assets of enterprises. Database marketing systematically collects consumers' consumption information, deeply understands their needs and intentions, and provides a scientific basis for marketing decisions. Enterprises can use professional statistics and data analysis technology to deeply dig the information in the database, reveal the shopping habits, preferences and trends of different consumers, so as to develop personalized marketing management plans.

Under the background of the rapid development of science and technology and the popularization of the Internet, e-commerce has become one of the important channels of product sales. Enterprises need to keep up with the pace of The Times and constantly innovate marketing models to adapt to the changes in the market and consumer needs. By increasing product innovation, enterprises can launch more distinctive products, more in line with the market demand of products, so as to stand out in the fierce market competition. In addition to product innovation, companies can also hold various marketing campaigns to attract consumers' attention. For example, limited time discount, full reduction discount, gift activities, etc., are effective promotion means. These activities can not only stimulate consumers'

desire to buy, but also increase the visibility and brand recognition of enterprises. At the same time, innovative marketing mode can also help enterprises to realize the transformation and upgrading of industrial structure, expand new business areas, and achieve maximum benefits.

In the background of economic globalization and increasingly fierce market competition, the cooperation between enterprises is particularly important. By strengthening enterprise cooperation, enterprises can share resources, complement advantages and share risks, so as to achieve win-win development. In order to build an effective enterprise cooperation platform, enterprises need to follow the principles of fairness, openness and transparency. Such platforms can facilitate information flow and sharing, enabling companies to keep abreast of market developments, technological progress and cooperation opportunities. At the same time, enterprises also need to establish a mutual trust mechanism to ensure the stability and reliability of cooperation by signing contracts and jointly abiding by agreements.

Conclusion

In the network economy environment, enterprises should pay more attention to market research, data research and analysis, quickly change their thinking, and actively innovate. Use information technology to promote product research and development and innovation, improve product content and quality, to meet the diversified needs of consumers. At the same time, enterprises also need to seize the development opportunities brought by the network economy, constantly innovate production and marketing mode, improve their market competitiveness. In marketing management, enterprises should abandon traditional concepts, break through the institutional restrictions, give full play to the advantages of network, enrich marketing means, accurately position market demand, provide high-quality services for consumers, so as to enhance the core competitiveness of enterprises and promote the long-term and stable development of enterprises.

References

1. **Sheng Xiao**. From the self. The revolutionary significance of the network economy // *New Economic Forum*. 2001. №15.
2. **Dundeff**. Characteristics of network economy and its impact on business management // *Logistics Technology*. 2012. T. 31, №9. Pp. 63-64.
3. **The Manager**. Ma Yun Hangzhou cloud conference speech record: the future is beyond imagination. URL: http://www.managershare.com/post/301360
4. **Zhang Yan**. Research on the new retail business model // *Business Economics Research*. 2018. №20. Pp. 16-18.
5. **Hou Yang, Han Lulu, Cai Zhe**. The dilemma and countermeasures of Chinese traditional retail enterprises transforming to Internet sales // *Reform and Strategy*. 2017. T. 33, №7. Pp.159-161.
6. **Xiang Lele**. The change and innovation of marketing strategy in the digital age // *Modern Business Research*. 2024. №6. Pp. 137-139.

7. **Wu Wenjuan, Wang Yawen, Ruina Guo**. Strategic Discussion on the Collaborative innovation of Marketing and logistics in the digital age // *Storage and Transportation in China*. 2024. №5. Pp. 187-188.

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THE ROLE AND IMPORTANCE OF SMALL BUSINESS IN THE ECONOMY

Abstract: *Small businesses are one of the most important components of the economy. They not only stimulate economic growth, but also play an important role in creating new jobs, implementing innovations and ensuring social stability. The role of small businesses in the economic system and their growth support the developing economic forms in many countries.*

Key words: *local, foreign trade, small business, stability, social equality, sustainable growth, incentive.*

A small business is an organization that primarily produces or provides services on a small scale. Small businesses typically operate with small teams and limited resources, but they play a very important economic role. Here are some important facts about small businesses:

1. Type of Business: Small businesses come in many different types, such as retail, food services, construction, services, and many more.

2. Resources: Small businesses typically start with little capital and resources. They compete by providing quality service or products to their customers.

3. Production or Services: Most small businesses either produce specialized products or provide specific services (such as repair, design, education, transportation).

4. Competitiveness: Small businesses often have greater flexibility and quality in their products or services than larger businesses, which helps them compete successfully.

5. Economic Importance: Small businesses are of great importance in the economy. They create many jobs, foster innovation, and have a positive impact on the local economy.

6. Growth and Development: Small businesses may start out small, but over time, with the right strategy and management, they can grow to the level of large companies.

7. Financial Assistance: There are loans, grants, and other types of financial assistance available to small businesses. They often use banks or special programs provided by the government.

The Importance of Small Businesses in Economic Development. Small businesses play a key role in the economy. They provide a wide range of products and services and usually affect many sectors of the country's economic system.

Small businesses contribute to growth in the economic system and increase competition in the global market. Their rise leads to rapid development of the local and global economy.

In addition, small businesses play an important role in the labor market by creating new jobs. During their activity, they can have a positive impact on the country's domestic production and foreign trade. For example, in the USA, Germany and other developed countries, small businesses are one of the main sources of economic growth.

The Social Importance of Small Business. Small businesses not only achieve economic success, but are also socially important. They support local communities, create new jobs and ensure stability in society. Through small businesses, many segments of the population improve their economic situation. In developing countries such as Uzbekistan, the growth of small businesses helps to ensure social equality.

The development of small businesses also stimulates innovation, increasing their number as much as possible. Local entrepreneurs use new technologies in the production of their products, develop them and provide services in accordance with market demand. This will not only increase the country's competitiveness and stability in the market, but also ensure its growth.

Necessary Conditions for Small Business Development. For the successful development of small businesses, it is necessary to create favorable legal and economic conditions. The government's policy to support small businesses is important in creating opportunities for them to access financial resources. This, in turn, includes supporting new innovations, providing tax incentives for small businesses, and providing other assistance.

It is also necessary to provide training programs and training opportunities for the development of small businesses. This will help to master the necessary knowledge and skills for successful business activities. By supporting local businesses, increasing their number, and organizing training programs, it is possible to increase business culture.

Factors Affecting the Success of Small Businesses. The success of small businesses depends on many factors. Their main factors include: management skills, access to financial resources, marketing strategies and the use of technology. Proper management strategies and financial plans play a key role in creating a successful business. Developing a marketing strategy for small businesses is also very important, as it allows them to master the market and overcome competition.

Risks and vulnerabilities can also negatively affect the activities of small businesses. Also, one of the important factors affecting the success of small business sole proprietors is their flexibility. Small businesses can quickly adapt their products and services to market demand, which contributes to their sustainable growth.

Small businesses have a significant impact not only on economic progress, but also on social stability in the economy. They create new jobs, stimulate innovation, and have a positive impact on the local and global market.

REFERENCES USED

1. Elmurodov, M. N., and M. M. Tojiyeva. "Kichik biznes subyektlari faoliyatini tashkillashtirishda moliyaviy hisobning ahamiyati." *Qo ‘qon universiteti xabarnomasi* (2023): 44-47.
2. Yusupov, A. A. "Kichik biznes subyektlari faoliyatida inson resurslaridan foydalanishning metodologik asoslari." *Qo ‘qon universiteti xabarnomasi* 7 (2023): 46-48.
3. Husanbek, Q. and Raximova, K.N., 2022. Oilaviy Kichik Biznes Va Xususiy Tadbirkorlikni Rivojlantirishning Ahamiyati Va Zaruriyati. *Gospodarka i Innowacje.*, *24*, pp.1103-1108.

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QURILISH ISHLARIDA GEODEZIK ISHLARNI TAKOMILLASHTIRISH UCHUN GEOFAZOVIY TEXNOLOGIYALARNI QO‘LLASH

Annotasiya: *Maqolada hozirgi kunda geofazoviy ma’lumotlar orqali xavodan va sun’iy yo‘ldoshlar yordamida fazoviy usullardan foydalanib amalga oshirilmoqda. SHuningdek, masofadan zondlashda nafaqat fotoplyonkalar, balki raqamli fotoapparatlar, skanerlar, videolar, radar va termal sensorlar ishlatilmoqda.*

Kalit so’zlar: *GLONASS, distansion zondlash,* GIS, *3D relyef, geoaxborot.*

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THE USE OF GEODETIC TECHNOLOGIES TO IMPROVE GEODETIC WORK IN CONSTRUCTION WORK

Abstract: *The article is currently carried out by spatial methods using geospatial data from the air and satellites. Also, remote sensing uses not only photographic films, but also digital cameras, scanners, video, radar and thermal imaging sensors.*

Key words: *GLONASS, remote sensing, GIS, 3D relyef, geoinformation.*

Kirish.

Qurilishni geodezik ta’minlash uchun geofazoviy texnologiyalarni qo‘llash qurilish jarayonida aniqlik, samaradorlik va xavfsizlikni ta’minlashda muhim rol o‘ynaydi. Geofazoviy texnologiyalar geodeziya, geoinformatika va geofizika kabi sohalarni qamrab oladi va qurilish loyihalarini rejalashtirish, amalga oshirish va monitoring qilishda qo‘llaniladi. Shuningdek geoaxborot tizimini bundan oldin faqatgina aniq bir mutaxassislar guruhigina ishlatishi mumkin, degan qoidalar mavjud bo‘lgan bo‘lsa, bugungi kunga kelib internet tarmog‘idagi veb-portallar, turli navigatsiya tizimlari, uyali telefonlardagi dasturlarning ishlab chiqilishi oddiy fuqaroning ham ushbu sohani bilishiga asos yaratdi. Geoaxborot tizimi kartografiya va masofadan zondlash, fotogrammetriya va topografiya bilan chambarchas bog‘liq hamda matematik, kartografik, masofadan zondlashda qo‘llaniladigan usullar bilan bir qatorda yer qatlami geologiyasi, tuproqshunoslik, o‘rmonchilik, geografiya, iqtisodiyot, biologiya kabi fanlarni o‘zaro birlashtiradi [3].

Tadqiqot natijasi

GPS/GNSS texnologiyalari qurilish maydonchasida aniq joylashuv ma'lumotlarini olish uchun qo'llaniladi. Bu texnologiya yordamida qurilish ob'ektlarining koordinatalari, balandliklari va chegaralari aniq belgilanadi. Geofazoviy ma'lumotlar geoaxborot tizimini boshqa axborot tizimlaridan ajratib turadi. Geofazoviy ma'lumotlar, o'z navbatida, tizimda ikki turga bo'linadi, ya'ni vektor va rastr ma'lumotlar. Topografik tadqiqotlar qurilish maydonchasining relyefi, tuproq tuzilishi va boshqa geografik xususiyatlarini o'rganish uchun qo'llaniladi.

Zamonaviy axborot ijtimoiy jamiyatining asosiy xususiyatlaridan biri axborotni eng muhim strategik boshqaruvga aylantirish muhim resurslaridan biridir [2]. Turli xil geofazoviy ma'lumotlar orasida boshqaruv faoliyatini ta'minlashda axborot alohida o'rin egallaydi. Ushbu ma'lumotlar masofadan zondlash mahsulidir. Sun'iy yo'ldosh orqali masofadan zondlash qurilish imkoniyatlarini kengaytirib, ko'proq turdagi axborotlarni tez sur'atlarda to'plash imkonini beradi. Oxirgi yillarda sun'iy yo'ldosh suratlarining geometrik, spektral va radiometrik o'lchamlari sezilarli darajada o'zgardi. Amalda, ular shaharlarda juda kam ilovalarga ega edi, yomon geometrik o'lchamlari tufayli atrof-muhit o'rganilmagan edi. Hozirgacha bu o'zgargan. Misol uchun, Geodeziya va Geopozitsion Tizimlar (GPS/GNSS GPS/GNSS texnologiyalari qurilish maydonchasida aniq joylashuv ma'lumotlarini olish uchun qo'llaniladi. Bu texnologiya yordamida qurilish ob'ektlarining koordinatalari, balandliklari va chegaralari aniq belgilanadi. Topografik kartadagi tadqiqotlar qurilish maydonchasining relyefi, tuproq tuzilishi va boshqa geografik xususiyatlarini o'rganish uchun qo'llaniladi[3].

Geoinformatika va geografik axborot tizimlari (GIS): GIS texnologiyalari qurilish loyihalarini rejalashtirish va boshqarishda muhim vositadir. GIS yordamida qurilish maydonchasining geografik ma'lumotlari, infratuzilma ob'ektlari va ularning o'zaro ta'siri tahlil qilinadi. 3D modellashtirish qurilish loyihalarini vizualizatsiya qilish va loyihalash jarayonini yaxshilash uchun qo'llaniladi.

Geodezik ta'minlash, qurilish jarayonida geofazoviy texnologiyalarni qo'llashning muhim qismi hisoblanadi. Bu jarayon qurilish ob'ektlarini rejalashtirish, loyihalash va qurilish ishlarini amalga oshirishda aniq geodezik ma'lumotlarni ta'minlashga qaratilgan. Geofazoviy texnologiyalar esa Yer yuzasini va uning resurslarini o'rganish, monitoring qilish va boshqarish uchun foydalaniladigan zamonaviy usullardir. Ushbu texnologiyalar orqali qurilish jarayonlarini samaraliroq va aniqroq boshqarish mumkin.

Lazerli skanerlovchi texnologiyalar: Lazerli skanerlovchi qurilish ob'ektlarining aniq 3D modellarini yaratish uchun qo'llaniladi. Bu texnologiya yordamida binolar, inshootlar va ularning atrofidagi muhitni yuqori aniqlikda o'lchash mumkin. Sun'iy yo'ldosh suratlarining barcha to'plami orasida [4] mavjud: oq-qora, yarim-butun ko'rinadigan qismga sezgir bo'lgan suratni qabul qilgichdan olingan spektr yoki uning alohida bo'limlari; rangli (uch o'lchamli), tasvirlarni berish tabiiy rang berish bilan; spektral (multispektral, giper-spektral), spektrning ma'lum qismlariga sezgir bo'lib, beradi shartli ranglardagi

uyg‘unlashgan tasvirlar; radiolokatsiyalardan foydalanish yer yuzasi va antropogen xususiyatlarini aks ettiruvchi elektromagnit spektrning radiodiapazonidagi ob’ektlardir.

Xulosa

Geofazoviy texnologiyalarni qurilishni geodezik ta’minlashda qo‘llash loyihalarni aniq rejalashtirish, resurslarni samarali boshqarish va qurilish jarayonlarini xavfsiz va sifatli amalga oshirish imkonini beradi. Bu texnologiyalar qurilish sohasida zamonaviy yondashuvlarni qo‘llashning muhim qismi hisoblanib quyidagilarga imkon beradi: birinchidan, 2030 yilgacha bo‘lgan davr mobaynida Respublikamiz mintaqalarida davlat siyosatining asoslarini amalga oshirish bo'yicha yagona siyosat manfaatlari yo‘lida geofazoviy faoliyat natijalaridan foydalangan holda iqtisodiyotini modernizatsiya qilish va uning mintaqalarini rivojlantirish; ikkinchidan, mintaqaviy hokimiyat va boshqa manfaatdor tomonlar va iste’molchilarni ma’lumotlar bilan o‘z vaqtida va to‘liq ta’minlash; uchinchidan, potentsial imkoniyatlarni amalga oshirish darajasini oshirish, ijtimoiy-iqtisodiy faoliyatning barcha sohalarida geofazoviy ma’lumotlar bilan ta’minlangan mintaqalar yaratish maqsadga muvofiqdir.

Adabiyotlar ro‘yxati

1. Алланазаров, О. Р., & Худайкулов, Н. Д. (2024). СОЗДАНИЕ ЦИФРОВЫХ КАРТ НА ОСНОВЕ МОДЕЛИ БАЗЫ ДАННЫХ ГИС МИРОВОЙ РАСТИТЕЛЬНОСТИ КАДАСТРА. *ГЛОБАЛИЗАЦИЯ НАУКИ: ИСТОРИЯ, СОВРЕМЕННОЕ СОСТОЯНИЕ, ПЕРСПЕКТИВЫ*, 10.
2. Barabash P. A. Infocommunication technologies in global information infrastructure [Info kom-munikatsionnye tekhnologii v global’noi informatsionnoi infrastructure] / Barabash P. A., etc. ; under the editorship of B. Ya. Sovetov. SPb.:Science [Nauka], 2008. 5.
3. Улуғбек Абдукаримович Карабеков, & Вохид Шокир Угли Каримов (2021). Использование ГИС-технологий в городах строителство. Science and Education, 2 (5), 257-262.
4. Улуғбек Абдукаримович Карабеков, Санжар Шодмон Ўғли Худойқулов, & Марғуба Шавкатовна Исматова (2023). Инновацион технологиялар асосидаер ресурсларидан самарали фойдаланиш. Science and Education, 4 (4), 113-119.
5. Karabekov, U. A. (2022). IMPROVE THE USE OF GIS IN LAND MANAGEMENT FOR AGRICULTURE AND FARMERS. Евразийский журнал академических исследований, 2(3), 256-259.

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THE IMPORTANCE OF INNOVATIVE METHODS IN TEACHING COMPOSITION

Abstract: *The article discusses the need, process and results of innovative approaches to the structure and teaching of composition in fine arts, the use of modern innovative methods, increasing the creative potential of students, helping them in creative freedom, independence, finding their own style and direction in the world of art.*

Keywords: *Composition, painting, innovative methods, student, artist, interactive master classes, digital technologies, art, experience, practical training, analysis, study of works of art.*

Introduction. Science, art and sports play an important role in people and countries understanding the world, as well as in further strengthening friendship and relations between peoples. The head of our state Sh. M. Mirziyoyev signed Decree No. PP-4688 dated April 21, 2020 "On measures to further improve the efficiency of the fine and applied arts" concerning the future of young artists. According to it, the goal is to restore our national heritage in the field of fine and applied arts, fully transfer the rich creative heritage of Komoliddin Behzod to our people, perpetuate the memory of outstanding artists and folk craftsmen who have made a significant contribution to the development of the industry, organize postgraduate education in the creative sphere, retrain and improve the skills of personnel, further improve the efficiency of the fine and applied arts and design industries in our country. The decrees and orders of our President in this area of art pose a number of important tasks for modern artists. First of all, in order to create meaningful and expressive works of fine art, an artist must have a perfect command of the laws and rules of composition. The goal of teaching composition is to encourage young artists to think freely, independently and creatively, to observe and study the works and experience of masters, and to create beautiful works of art that bring aesthetic pleasure to the viewer. The aesthetic value, content and emotional impact of each work of art largely depend on its composition. The correct organization of the composition, the harmony of all elements play an important role in conveying a certain message or emotional experience to the viewer [1]. This reflects the artist's worldview, level and skill. Composition is the science of arranging details on the surface of paper or canvas (and other materials) of the chosen size so that they form a single whole. When the composition reaches an ideal state, it is no longer possible to add any additional details, lines or remove any unnecessary details. A correctly chosen compositional solution is the basis of the work. This knowledge and skills, the laws of composition remain unchanged for centuries and are the basis of composition. If the artistic solution of the composition is found successfully, the viewer may not

notice some of the shortcomings of the work. Therefore, the importance of the artistic solution of the composition of the work is incomparable with anything [2]. The creation and methods of composition are related to historical conditions, the aesthetic views of society, the demands of the era, and creative methods develop and improve with their changes. The creation of a composition with high skill, based on realistic methods, is the merit of every great artist [3:7]. Composition improves the aesthetic skills of young artists, promotes the further development of their creative freedom and ideas, and teaches them the basic principles that are of paramount importance for the creation of new works of art that attract the attention of the viewer. Today, many artists are moving away from realism and creating works in new styles of modern art. In particular, pointillism and abstraction are modern art styles that allow us to express the natural manifestations of color and form in new artistic forms [4]. A young artist must conduct creative research in new and modern styles. In recent years, a number of reliable interactive methods and teaching methods have been sought to increase the effectiveness of educational content. In modern practice, problem-based learning involves teachers and educators creating problem situations in class and active independent work by students aimed at solving them. As a result, students acquire professional knowledge, skills and abilities, and develop thinking skills [5:144]. Today, a traditional lesson:

theoretical - art history, color theory, rules of composition, teaching and forcing students to create only in traditional ways;

limitation - discussing students' creative work, the teacher's approach to it only in accordance with his own style, sometimes without taking into account the students' capabilities;

compositional law - deviation from the rules - sometimes with creative restrictions that encourage working in a certain style;

instructions and examples - the lack of constant updating of visual aids such as books and resources and sometimes the limitations of traditional teaching methods in generating new ideas also lead to creative and mental fatigue in students and the inability to fully satisfy their needs in art. The concept of "modern requirements" refers to the requirements for teaching, taking into account the achievements in the field of art and science, the level of development of society, and serves as preparation for further educational, professional and pedagogical activity in accordance with the goals and objectives of fine education [6:21]. Indeed, innovative methods used in modern teaching of composition to art students, including digital technologies, interactive teaching methods and project-based approach, help to make the research activities of young artists more interesting and effective. Such teaching methods not only make the process interesting and effective, but also stimulate teamwork and creative thinking of students.

Literature Review. Among the masters of fine art of the past, who mastered the art of creating a composition and brought it to perfection in their works, we can name: Leonardo da Vinci, Michelangelo, A. Durer, I. D. Ingres, P. Rubins, Raphael, Tintoretto, A. Ivanov, K. Bryullov, I. E. Repin, Yu. Mateiko and others. We can list

some Uzbek artists who worked in various types and genres of fine art and currently create remarkable works. O. Tansykbaeva, I. Ikromova, Z. Inogomov, Ch. Akhmarova, H. Khusniddinkhodjaeva, A. Abdullaeva, R. Akhmedova, R. Chorieva, I. Jabborova, A. Boymatova, J. Umarbekova, Sh. Abdurashidova, A. Mirzaev, S. Abdullaeva, A. Ikromzhanov, B. Dzhalolova, A. Nuritdinov, O. Kazokova and many other artists can be safely called masters of composition, analyze the positive aspects of their works and learn from them, which, of course, serves as a theoretical basis for conducting educational exercises [7:49]. In teaching composition, the analysis of the masters' creativity, methods, technologies and the effectiveness of their work, as well as the use of innovative methods along with traditional ones, contributes to the development of their creative thinking, the formation of aesthetic skills, and the enhancement of competencies that meet the requirements of contemporary art. In fine art, aesthetic concepts are expressed in such forms as beauty, aesthetic experience, imagery and symbolism. Beauty had its own interpretations in each era and culture, and it was a fundamental concept of composition, determining the aesthetic values of people and finding expression in fine art. Through aesthetic experience, artists emotionally experience works of art and create their creative works through their own feelings and experiences [8]. By creative scientific research of young artists we mean viewing, analyzing and selecting scientific journals, articles, books, research papers aimed at the successful mastery of science. Innovative methods of teaching composition include the following methodological approaches:

Traditional methods: young artists get acquainted with theoretical knowledge through practical classes and lectures. Traditional teaching methods are important for young artists because they allow them to develop the basic knowledge necessary for the creative process. The teacher can use visual aids, show and analyze examples from the history of art, rules of composition, works of Uzbek and world literature.

Innovative methods: the use of digital technologies and interactive teaching methods based on traditional methods, online learning platforms, multimedia resources and virtual exhibitions makes the educational process interesting and effective, creates an environment of cooperation between creators, and develops free, creative and independent thinking.

Project-based learning: creating conditions for young artists to develop a compositional project on a theme and in a chosen genre. In doing so, they also develop teamwork and problem-solving skills. Art and literature analysis serves as a leading resource for young artists.

Discussion. Students studying fine arts will be able to successfully master the science of composition by observing and absorbing books and scientific sources, and by applying the latest achievements and experience in their work. This allows them to explore new ideas, new styles and works of art through observation and analysis, and to achieve a deeper understanding and mastery of the aspects of composition. World experience shows that the organization of practical classes and interactive lectures based on multimedia technologies in the educational process is effective. After all, compared with traditional teaching methods, students will be

able to actively participate in interactive lectures, ask questions on different parts of the educational material and receive clear answers. The integration of modern software tools of information and communication technologies into multimedia technologies ensures an increase in the level of perception of information by various senses of students, namely: audio information (voice), video information, animation (cartoon, "live video"). This ensures that lessons will be organized in an interesting and effective way [8:87]. Teachers will have the opportunity to make the educational process more qualitative and effective through the use of innovative methods, which will serve to train specialists who will successfully work in the field of art in the future.

Results. The introduction of innovative methods led to the following key findings:

Efficiency of innovative approaches: digital technologies and interactive teaching methods ensure active participation of students in the learning process. Deep analysis of existing scientific sources opens the way to new ideas and approaches. This process helps students to better understand the principles of composition in their creative work. The methodological approach of teachers directly affects the success of students in the educational process. In addition to traditional methods, innovative approaches allow students to freely express their ideas and expand their knowledge. As a result, students' aesthetic skills and interest in art will further increase. The observation results show the importance of literature analysis and the use of innovative methods in teaching composition to art students. Thanks to these approaches, teachers will be able to prepare students in accordance with the requirements of contemporary art and design. This will contribute to the success of students in their future professional careers.

Conclusion. The results of the analysis showed the need to use modern approaches that make the learning process more effective and interesting. Thanks to digital technologies and interactive teaching methods, students become active, develop creative thinking skills and are able to apply their knowledge in practice. In addition to traditional methods, innovative approaches create opportunities for students to freely express their ideas and expand their knowledge. The joint use of innovative methods and techniques helps improve the quality of education. As a result, students develop aesthetic skills, interest in art and creativity. As a final conclusion, it can be said that the use of literature analysis and innovative methods in teaching composition to students of the painting department increases the effectiveness of the educational process and is important for developing students' drawing skills in accordance with the requirements of modern art. Such approaches contribute to the success of students in their future professional careers and the further development of their creative potential.

References:

1.Boxodirovna, Karshiboyeva Dilafruz. "KOMPOZITSIYANING O‘ZIGA XOS QONUNIYATLARI VA ULARNING AHAMIYATI." *MASTERS* 3.2 (2025): 137-141.

2.Bohodirovna, Karshiboyeva Dilafruz. "TASVIRIY SAN'ATDA O‘ZBEK MILLIY O‘YINLARI KOMPOZITSIYASINING YORITILISHI VA UNING TARBIYAVIY AHAMIYATI". *JOURNAL OF INNOVATIONS IN SCIENTIFIC AND EDUCATIONAL RESEARCH* 7.12 (2024): 34-37.
3.N.Xusanov “Kompozitsiya” (dastgohlik grafika). O‘quv qo‘llanma. “Sharq” nashriyot-matbaa aksiyadorlik kompaniyasi bosh tahririyati. Toshkent - 2007
4.Boxodirovna, Karshiboyeva Dilafruz, and Boqiyeva Tahmina Bunyodovna. "PUANTILIZM VA ABSTRAKTSIYA USLUBLARIDA" BAHOR IFORI" MAVZUSI." *MASTERS* 3.2 (2025): 142-146.
5.S.Sulaymanova “Muammoli ta’lim texnologiyasining tavsifi va unning samaradorligi” Oriental Renaissance: Innovative, educational, natural and social sciences. 3(12),Dec.,2023
6.S.Abdirasilov, N.Tolipov “Tasviriy san’at o‘qitish metodikasi” “Aloqachi”nashriyoti,Toshkent-2007
7.B.Tojiev, N.Isaxojieva “Qalamtasvir, rangtasvir va kompozitsiya asoslari” Toshkent-2011
8. Bohodirovna, Karshiboyeva Dilafruz. "TASVIRIY SAN’AT VA FALSAFA O‘RTASIDAGI O‘ZARO BOG’LIQLIK HAMDA ULARDAGI ESTETIK TUSHUNCHALARNING INSONIYAT MADANIYATIGA TA’SIRI." *Научный Фокус* 2.19 (2024): 356-358.
9.U.Nazarov, A.Karimov “Ta’limda axborot texnologiyalari” fanidan ma’ruzalar matni. – Samarqand: SamDAQI nashri, 2014.

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THE ROLE OF COMPOSITION IN ACTIVATION OF CREATIVE ABILITIES

Abstract: *The article examines the importance of the basic laws of fine art, in particular, the description of elements related to color, form, texture and other visual means, their role in activating creative abilities, the practical theory of composition in the creative process, as well as the possibility of establishing a connection with the artist's own traditional and modern style and individual characteristics, and its influence on a person's mood.*

Keywords: *fine art, composition, light and shadow, form, proportion, color, practical, theoretical, ability, creativity, being, artist.*

"If young people want to try themselves in science and fine art,
"First of all, they must be able to draw well."
Leonardo da Vinci

Introduction. Composition is the science of arranging details on the surface of paper or canvas (and other materials) of a chosen size so that they form a single whole. Once the composition reaches an ideal state, it is no longer possible to add any additional details, lines or remove unnecessary details. A correctly chosen compositional solution is the basis of the work. This knowledge and skills, the laws of composition remain unchanged for centuries and are the basis of composition. If the artistic solution of the composition is found successfully, the viewer may not notice some of the shortcomings of the work. Therefore, the importance of the artistic solution of the composition of the work cannot be compared with anything else [1]. Composition is the main tool that organizes the overall structure of a work of art and helps maintain the relationship and balance between details. Straight lines in the structure of a work, the interrelationships of colors, the plasticity of details do not reveal to the viewer the main goal - the creation of a holistic, reliable work of art. After all, the integrity of a work requires that everything in it simultaneously be in harmony with each other. Composition is formed in the process of the artist's study and cognition of life with the purpose of creating a work. The placement of objects in space, the expression of their relationships, coloristics, the display of primary and secondary elements, the use of color, emphasizing the expressiveness of light and shadow, proportions, symmetry, etc. are the main tasks in the process of creating a composition [2:10].

Methods. That is, it is important to describe how the composition is the process of unifying all the elements of production art - color, form, line, texture and other visual means - and what is the scope of the arrangement and balance. Competently composed composition allows the viewer to clearly and effectively

convey the idea and design of the god. In fine art, composition is a key part of every work of art, as the success of a work often depends on the correct construction of the composition. For example, when we look at the famous portrait of the Renaissance artist Leonardo da Vinci "Mona Lisa", we see that he applied wonderful rules of composition in creating the work. The artist managed to reveal the inner world of the character through facial expressions, colors and lines, including the central position and center of gravity of the face, the consistent expression of breathing and the mastery of composition. The central position of the face and the centers of gravity in his works, as well as the consistent transmission of breathing, demonstrate the mastery of composition. The importance of composition in creative work depends on the goal that the artist sets for himself in his work. That is, creative work is the artist's opportunity to express his words, ideas and feelings in the process of creating a work of art.

Discussion: There are several functions of composition, including:

Explanatory note: Composition plays an important role in conveying the artist's idea, events, and phenomena in the work to the viewer through form and color. If the composition of the work is organized correctly, the viewer can correctly understand the work and gain a deeper understanding of its content.

Emotional impact: Balance and contrast between shapes and colors, when chosen and applied correctly, can evoke strong emotions in the viewer, allowing the work of art to have an emotional impact on the viewer. For example, a symmetrical composition reflects peace and balance, while an asymmetrical composition represents more dynamics and movement. In particular, colors in a work also have symbolic meaning, and in ancient times, our ancestors diagnosed people's illnesses by looking at the color of their faces. Those who think philosophically through colors. For example, they learned information such as a person's position and religious affiliation from the color of a turban. Even today, color plays a significant role in the development of fine arts and occupies a special place in human life. After all, colors can have a positive and effective impact on a person’s mood and psychology. In addition, it not only theoretically and practically teaches young people how to accurately depict the sizes of surrounding objects, but also their structural structure, proportions, laws of perspective, color, color range of paints in nature, contrast, and serves to educate aesthetic taste. In fine arts, aesthetic concepts are expressed in such forms as beauty, aesthetic experience, imagery, and symbolism. Beauty has had its own interpretations in every era and culture, and it is a fundamental concept of composition that determines people’s aesthetic values and finds expression in fine arts [3].

Creative experience: Composition gives the artist creative freedom. That is, the placement of colors and shapes, the identification of relationships between elements, the implementation of their skills - all this provides the artist with freedom in the creative process. The place and meaning given to each shape and element in a work of art reflects the personal and creative approach of the artist.

Application of stylistic skills in composition: Every artist has his own unique style and develops stylistic skills that help to create a unique character in his works.

For example, Pablo Picasso, a Spanish painter, sculptor, graphic artist, ceramist, designer and the founder of Cubism, created a new style in the visual arts by organizing form and space in a new compositional order. His compositions challenge the viewer, prompting him to think in a new way, offering him a unique thought. Observing his compositions, the viewer involuntarily imbues himself with the thoughts and fantasies of the artist.

Results. Today, among the artists, we find many artists who work in their own unique style and philosophical approach, such as Akmal Nur, Khurshid Ziyahanov, Dilbek, Tokhtakulov, Faizullo Akhmadaliev and Dilafruz Karshiboeva. D.Karshiboeva is a graphic artist. Member of the Union of Artists. Many of his works are done in graphic and color, and he creates in his own philosophical style. If we analyze his work "Philosophy of Life", we will see that the composition is written in a graphic style, and through its black and white lines we will witness a masterful depiction of the good and evil of life, its tireless efforts and hardships. The basis of graphic works are lines, contours, volumetric details and other drawings. (mainly in black and white) [4]. In this work we see tree branches and twigs symbolizing the human body growing in all directions, mountains surrounding the tree, clouds, swallows, a carriage, a cradle and various patterns. This is because the birth of a person is one, but his fate takes on different aspects and different manifestations. Today, many artists are moving away from realism and creating works in new styles of contemporary art. In particular, pointillism and abstraction are modern art styles that allow us to express natural manifestations of color and form in new artistic forms [5]. That is, the creative compositions of many young artists in these styles attract even more attention and interest from viewers to the visual arts.

«Philosophy of life» 30x70. 2025r.

Conclusion. The entire work is permeated with symbolic meanings, involuntarily setting the viewer up for philosophical reflections on the joys and sorrows of life. Birds, intoxicated by the joys and worries of the world, are a symbol of the human heart and soul. The swallow continues to circle around the material world, which is the meaning of life, and when life comes to an end, it enters the world of spirits through the only door, and, unfortunately, the tree of life continues to grow and live without you, and how painful it is. In this canvas, the artist, through philosophical reflections, calls on a person to understand the meaning of being and

life. In fine art, such compositional means as rhythm, balance, contrast, nuance, perspective and emotional impact play an important role in creating the composition of a work. With the help of these tools, the artist strives to convey his works to the viewer in the best possible way, and he succeeds. After all, it is the relationship and correct placement of each detail that form the content, aesthetic value and emotional impact of the work [6]. The above-mentioned practical and theoretical principles and laws, the role of composition in fine arts, its importance in creative activity are unparalleled. Composition allows the artist to freely and effectively express his ideas and feelings in the creative process. This provides an opportunity to develop creative approaches, establish emotional connections with the audience and demonstrate stylistic mastery in his works. Also, through composition, the artist increases the aesthetic value of his work and brings it closer to the viewer. The elements of composition are rhythm, balance, contrast and perspective, which together form the content and emotional impact of each work. This has a positive effect not only on the artist himself, but also on the society using the work of art. So, we can know that composition is the most important and integral part of the work. It also plays an important role in deepening the meaning of the work of art and highlighting important social and cultural issues of society. Understanding the importance of composition in fine arts allows artists to convey broader and deeper ideas through their works.

Adabiyotlar ro‘yxati:

1. Bohodirovna, Karshiboyeva Dilafruz. "TASVIRIY SAN'ATDA O‘ZBEK MILLIY O‘YINLARI KOMPOZITSIYASINING YORITILISHI VA UNING TARBIYAVIY AHAMIYATI." *JOURNAL OF INNOVATIONS IN SCIENTIFIC AND EDUCATIONAL RESEARCH* 7.12 (2024): 34-37.
2. N.Xusanov “Kompozitsiya (dastgohlik grafika)” Qo‘llanma. “Sharq” nashriyot-matbaa aksiyadorlik kompaniyasi bosh tahririyati. Toshkent-2007.
3. Bohodirovna, Karshiboyeva Dilafruz. "TASVIRIY SAN’AT VA FALSAFA O‘RTASIDAGI O‘ZARO BOG’LIQLIK HAMDA ULARDAGI ESTETIK TUSHUNCHALARNING INSONIYAT MADANIYATIGA TA’SIRI." *Научный Фокус* 2.19 (2024): 356-358.
4. Boxodirovna, Karshiboyeva Dilafruz. "GRAFIKA SAN’ATI TARIXI VA RIVOJLANISHI." *Journal of new century innovations* 12.3 (2022): 26-30.
5. Boxodirovna, Karshiboyeva Dilafruz, and Boqiyeva Tahmina Bunyodovna. "PUANTILIZM VA ABSTRAKTSIYA USLUBLARIDA" BAHOR IFORI" MAVZUSI." *MASTERS* 3.2 (2025): 142-146.
6. Boxodirovna, Karshiboyeva Dilafruz. "KOMPOZITSIYANING O‘ZIGA XOS QONUNIYATLARI VA ULARNING AHAMIYATI." *MASTERS* 3.2 (2025): 137-141.
7. Ch, Sadatov, and D. O. Xamidov. "AUTOCAD DASTURINING UCH O‘LCHAMLI LOYIHALASH IMKONIYATLARI." MODELING" PANELI BUYRUQLARI." VISUAL STYLES"," VIEW" PANELI BUYRUQLARI VA ULARNING IMKONIYATLARI." Экономика и социум 5-2 (108) (2023): 325-329.

8. Berikbaev, Alisher. "TEACHING PROFESSION AND SKILLS WAYS TO BE A TEACHER." Archive of Conferences. Vol. 23. No. 1. 2021.
9. Rustambek o‘g’li, Khudoyberdiyev Dostonbek. "USING NEURAL NETWORKS TO ANALYZE THE CREATIVE PROCESS." INTELLECTUAL EDUCATION TECHNOLOGICAL SOLUTIONS AND INNOVATIVE DIGITAL TOOLS 3.33 (2025): 63-67.

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METHODS OF INFORMATIZATION IN USE OF PUBLIC TRANSPORT

Annotation: *This article discusses the development of information technology in public transport, improving its service, namely "smart" bus stops, which can create convenience for passengers and provide information, saving our passengers' time and increasing the efficiency of public transport.*

Keywords: *Smart stations, 3TM, 2GIS, TfL Oyster, electronic board.*

Information about public transport is provided on physical and electronic media. For example, navigation in cars, trains and planes is carried out using electronic devices, and maps, speed data and discounts on travel are provided to users through online platforms. In addition, information about transport and travel schedules is provided to users by phone, through websites and mobile applications. In general, providing information to public transport helps people move faster than average and makes their trips easier.

In Russia and the United States, we can talk about specialized "smart" technologies and devices used in the transport sector called "Smart Stops". These technologies are developed to optimize the use of transport systems and infrastructure, manage traffic, monitor road routes, solve problems with road conditions and collect information related to other transport problems.

In Russia and the US, Smart Stops are used in the transportation sector in the following areas:

1. Traffic and road management: monitoring road and traffic conditions, and managing routes according to public transportation and road conditions.
2. Transport automation: unmanned and automated processes for vehicles such as cars, trains, and pushcarts.
3. Electronic payment systems: online payment options for road tolls, parking fees, and other transportation services.
4. Information and communication: Providing information on transportation routes, fares, and discounts.

Smart Stop technologies are used to improve the efficiency of the transportation sector and help people determine their travel routes. These devices contribute to the comprehensive development of the transportation industry, improving the accuracy and safety of road traffic.

Figure 1. A fancy bus stop on North Hollywood Street in Los Angeles, USA.

Figure 2. Smart station in Moscow.

There is a lot of work going on around the world to develop smart applications and mobile technologies to manage public transport services.

They provide people with the opportunity to study the traffic situation, monitor it, manage it and make online payments.

1. Traffic and Transport Monitoring: These apps help in monitoring the vehicles and their movements. They can use maps, view the speed of the transport, location, tracking and other information.

2. Payments: People can use their smartphones to pay for transport services. These apps can be used to make payments, make subscription fees, deposits, discounts and other transport services.

3. Routes and Schedules: There are apps that help you view all types of transport routes, schedules and fare discounts. These apps allow users to choose the shortest routes to reach their destination faster.

4. Directions and Navigation: These apps allow users to choose the shortest routes and stop the traffic at the right time.

5. Information and News: Users are provided with public transport news, discounts, transport and other traffic related information.

Such applications help in exploring and managing other types of transport services such as metro, tram, bus, etc.

Smartphone applications for public transport services (3TM, 2G, Yandex Maps) can have several main goals and tasks for the passenger. These applications help passengers use the transport system more conveniently and efficiently. Let's look at some of the main goals and tasks:

Goals:

1. Transport planning and management:

With the help of applications, passengers can determine transport routes and choose the best way to get to their destination. This is especially useful for those who are exploring new roads or short public transport routes.

2. Transport schedule and arrival time tracking:

With the help of applications, passengers can track real-time information about the arrival time of buses, trolleybuses, trams and other vehicles. This allows passengers to save time and plan their trips.

3. Show GPS-based routes:

Yandex Maps and other applications that use GPS help passengers find the most convenient and fastest route. Passengers can also be directly redirected to public transport via the app.

5. Additional services and payment system: Some apps include payment systems so passengers can purchase tickets and make payments online.

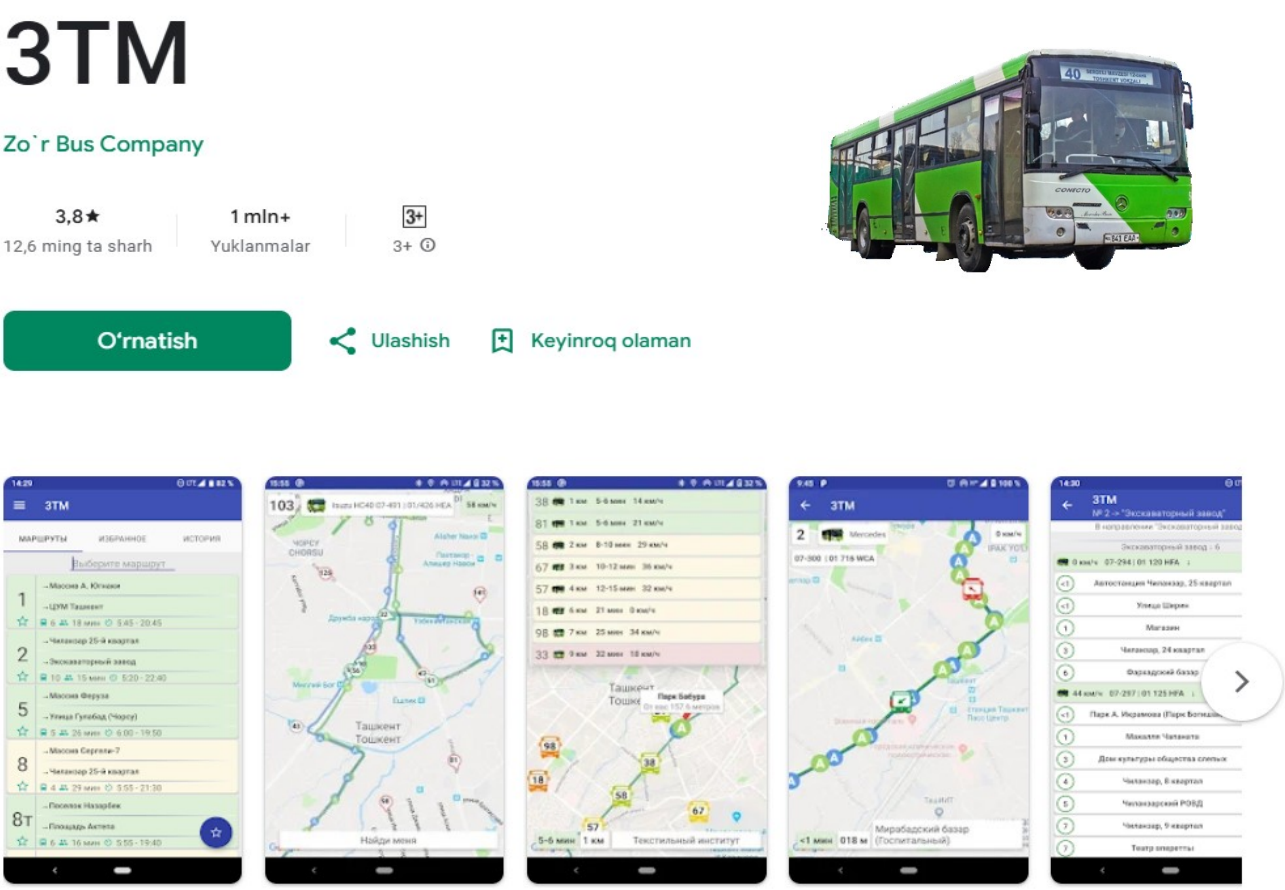

Figure 3. 3TM app.

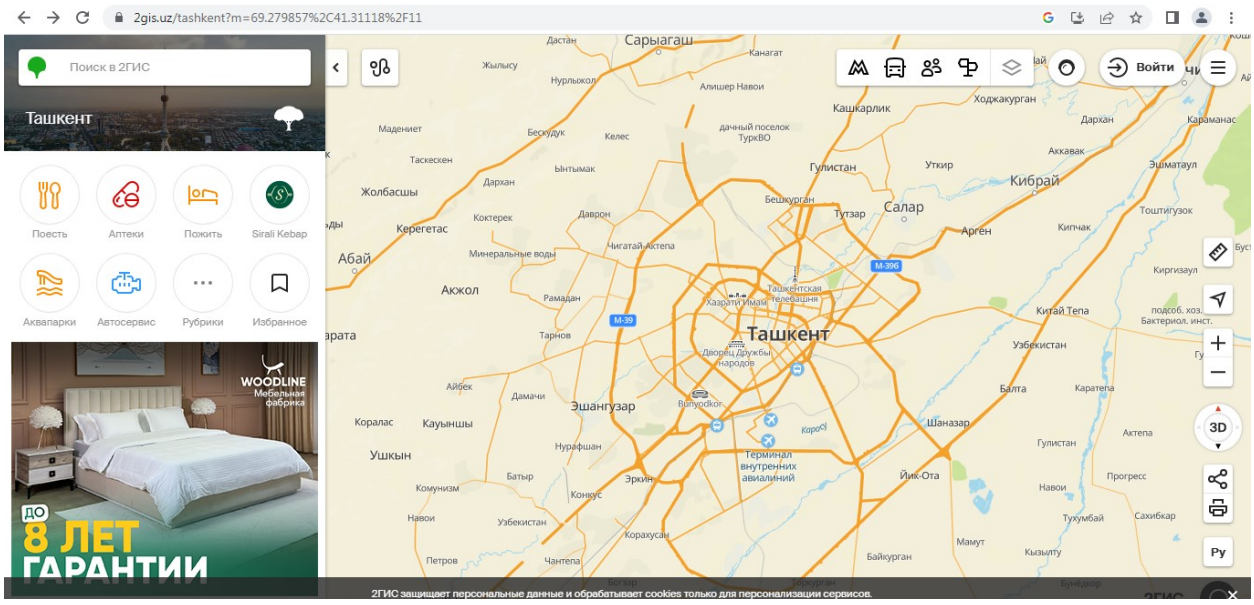

Figure 4. 2gis app.

In addition, the TfL Oyster app is one of the most important smartphone apps provided by Transport for London (TfL) and helps you navigate the public transport system of the City of London. This app integrates with the Oyster card system provided by TfL and provides a convenient experience for users.

Through the TfL Oyster app, users can access the following features:

1. Access transport: Supports users to use their Oyster card to access transport, allowing them to save time and money on purchasing transport tickets.

2. Track transport: With the app, users can track transport movements, i.e. know which tube, bus or train is going where and when it will arrive.

3. Buy tickets: Users buy tickets for travel on transport through the app. This makes the process of obtaining tickets easier and faster.

4. Route planning: The TfL Oyster app helps you choose the fastest route by identifying public transport routes and different stops.

5. Funds Management: Users can add funds to their Oyster card, check their balance, and withdraw funds through the app.

This app plays an important role in managing public transport in the City of London and provides convenience to users. It makes it easier for users to access transport, buy tickets, and track their transport.

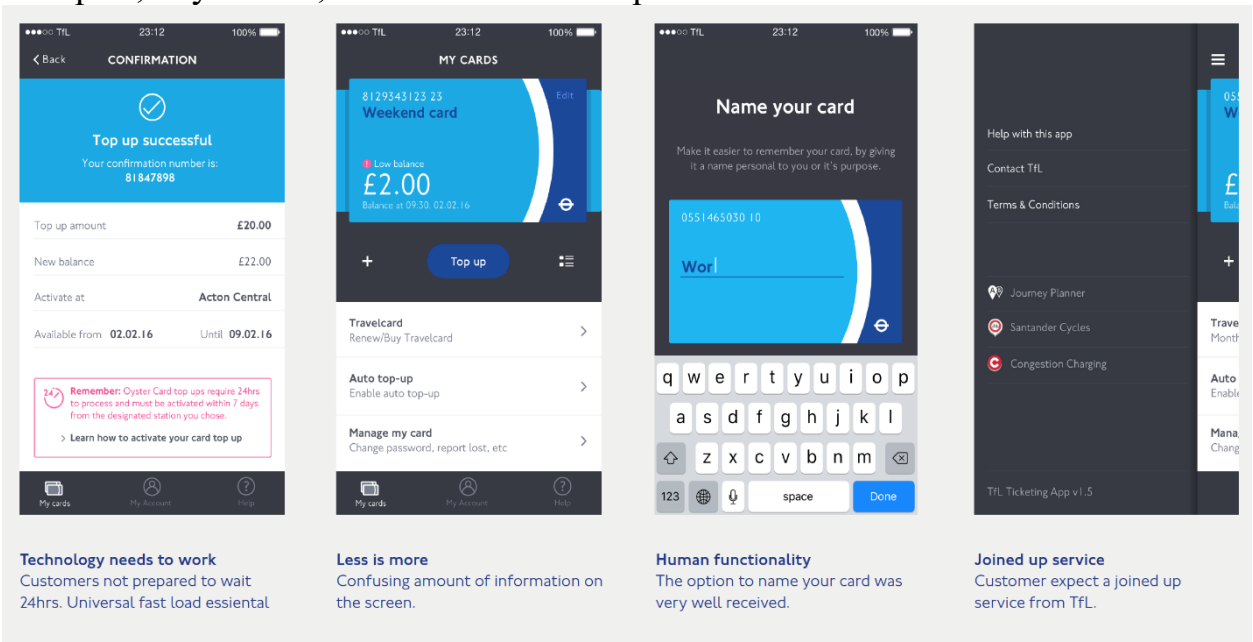

Figure 5: TfL Oyster program for public transport in London

The image below shows an electronic information board installed inside a tram (Germany). The sign shows that tram number 11 is approaching the Postplatz stop, as well as how long it will take to get to this stop. For example, tram number 1 to Prohlis will arrive at this stop in 3 minutes.

Figure 6. Electronic information board installed inside the tram.

The GPS tracking application can provide the following information about buses:

1. Location information: Information about the current location and previous route of the bus.
2. Speed and speed limit: Information about the bus speed and speed limit.
3. Movement history: Information about the previous route of the bus and the distance traveled.
4. Route: Information about the direction of the bus.
5. Stops and rushes: Information about where and how long the bus stopped and rushed.
6. Discounts and savings: Information about bus fares, discounts and savings.
7. Speeds: Information about changes in the speed and direction of the bus.

This information will be useful for managing bus transportation and improving the efficiency of public transportation systems. GPS tracking helps dispatchers and users to get real-time traffic and speed information.

GPS bus tracking involves using GPS technology to track the location and movement of cars and other vehicles. This monitoring system helps track the movements of buses in real time, collects data about buses and helps to assimilate this data for other applications.

Conclusion

From the above, we can conclude that due to the introduction of new drivers of informatization methods in using of public transport, the productivity and information content of public transport in big cities will increase. Most importantly, this is in line with the reforms carried out in the public transport sector of Uzbekistan.

References

1. Xakimov Sh.K. Intellektual transport vositalarining texnologiyalari: Darslik. - Toshkent, 2025. – 160 b.

2. Kenneth Li-Minn Ang , Jasmine Kah Phooi Seng, Ericmoore Ngharamike and Gerald K. Ijemaru. . Emerging Technologies for Smart Cities' Transportation: Geo-Information, Data Analytics and Machine Learning Approaches
3. https://www.gazeta.uz/oz/2021/02/25/tashkent/
4. Caves, RW (2004). Shahar entsiklopediyasi . Routledge. p. 141.
6. https://www.slideshare.net/alnargiza/ss-61129929

Komiljonov J.O‘.
assistenti
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BIR VA UCH FAZALI ASINXRON MOTORLARINING ISHLASH PRINSIPLARI TAHLILI

Annotatsiya:*Ushbu maqolada bir va uch fazali asinxron motorlarning ishlash prinsipi va qollanilish sohalari organilgan. Bir fazali motorlarda aylanuvchi magnit maydonni hosil qilish uchun yordamchi fazali o‘ramlar yoki sig‘imlardan foydalanish zarurligi, uch fazali motorlarda esa bu jarayon tabiiy ravishda amalga oshishi ko‘rsatilgan. Tadqiqotda har ikkala motor turi uchun energiya samaradorligi, barqaror ishlash va ishga tushirish usullari matematik modellar asosida tahlil qilingan.*

Kalit so'zlar: *Asinxron motor, chulg'am, rotor, stator,kondensator, o'zgaruvchan tok, magnit maydon, qarshilik, tok, induktiv tok.*

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ANALYSIS OF THE PRINCIPLES OF OPERATION OF SINGLE- AND THREE-PHASE ASYNCHRONOUS MOTORS

Abstract: *In this article, the principle of operation of single-phase and three-phase asynchronous motors and their fields of application are organized. It is shown that in single-phase motors it is necessary to use auxiliary phase windings or capacitors to create a rotating magnetic field, and in three-phase motors this process is carried out naturally. In the study, energy efficiency, stable operation and starting methods for both motor types were analyzed based on mathematical models.*

Key words: *Asynchronous motor, coil, rotor, stator, capacitor, alternating current, magnetic field, resistance, current, inductive current.*

Kirish: Asinxron motorlar elektr energiyasini mexanik energiyaga aylantirib beruvchi uskunadir. U konstruksiyasining soddaligi, arzonligi, ishda ishonchliligi, texnik xizmat ko'rsatish osonligi sababli sanoat, qishloq xo'jaligi va xalq xo'jaligining barcha sohalarida keng qo'llaniladi. Sanoat korxonalarida va ishlab chiqarish sohalarida ishlayotgan motorlarning 80 foizidan ko'prog'ini asinxron motorlar tashkil etadi. Bunday katta talabni qondirish uchun motorsozlik zavodlarida har yili ishlab chiqarilayotgan asinxron motorlarning quvvati vattning bir necha ulushlaridan, bir necha ming kilovattgacha, ish kuchlanishi esa 127 V dan 10 kV gacha bo'ladi.

Asinxron motorning rotori stator ichiga o'rnatiladi. Rotor val, po'lat o'zak va uning pazlariga joylashtirilgan qisqa tutashgan chulg'am yoki uchta fazaviy chulg'amdan iborat. Stator stanina, po'lat o'zak va uning pazlariga joylashgan bir, ikki yoki uch fazali chulg'amdan iborat. Stator va rotorning po'lat o'zaklari maxsus elektrotexnik plastinalardan yig'iladi.

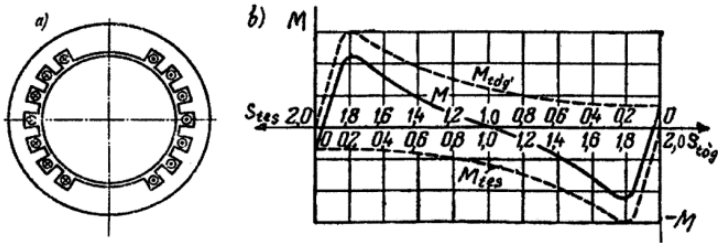
Asinxron motorlar rotorining tuzilishiga qarab ikki xil bo'ladi:

1) qisqa tutashgan rotorli asinxron motor(rotor chulg'ami qisqa tutashgan);

2) faza rotorli asinxron motor (rotor chulg'ami uch fazali).

Bir fazali asinxron motorlar haqida ma'lumot: Bir fazali asinxron motorlar asosan kichik va o'rta quvvatdagi yuklamalarda qo'llaniladi. Ularning ishlash prinsipi nisbatan sodda, ammo samaradorlikni oshirish uchun turli yordamchi usullar, masalan, kondensatorlar yoki yordamchi fazali o'ramlar qo'llaniladi.

Maqolaning maqsadi bir va uch fazali asinxron motorlarning ishlash prinsiplari va ularning samaradorligini taqqoslash, har ikkala turdagi motorlar uchun energiya samaradorligini oshirish va amaliy qo'llanilish sohalarini o'rganishdir. Bu yondashuv motor konstruktsiyasining takomillashtirilishi va sanoatdagi energiya sarfini kamaytirish borasida yangi ilmiy yondoshuvlarni rivojlantirishga imkon yaratadi.Bir fazali asinxron motorlar (P2≤ 600 W) avtomatik qurilmalarda va uy xo'jaligi elektr asboblarida (ventilyator, sovutgich, kir yuvish motorsi, elektr ustara va boshqalar) ishlatiladi. Bir fazali asinxron motorning statorida bir fazali chulg'am bo'lib, rotorida esa qisqa tutashtirilgan chulg'am bo'ladi (1-rasm).



1-rasm. Bir fazali asinxron motor statorining ko'ndalang qirqimi (a) va motorning mexanik xarakteristikalari (b); ishga tushirish chulg'ami bilan ta'minlangan bir fazali asinxron motorni kondensatorli ishga tushirish sxemasi (c).

Ishlash prinsipi. Uch fazali asinxron motorning stator chulg„amiga uch fazali tok berilganda vujudga keladigan magnit yurituvchi kuch (MYuK) statorda aylanish chastotasi n=60f/p bo'lgan aylanma magnit maydonni hosil qiladi. Bu maydon kuch chiziqlari stator chulg„ami o'ramlarini kesib o'tib, ularda EYuK lar hosil qiladi. Aylanma magnit maydonning aylanish chastotasi n1 bilan rotorning aylanish chastotasi n, orasidagi nisbiy farqqa sirpanish (s) deyiladi va u quyidagicha aniqlanadi.

$$s(\%) = \frac{n_1 - n}{n_1} \cdot 100\%$$

Ish rejimlari. Stator magnit maydonining aylanish chastotasi va rotorining aylanish chastotasi larning qiymatlariga bog„liq holda asinxron motor motor, generator va elektromagnit tormoz rejimlarida ishlashi mumkin. Bundan tashqari qisqa tutashuv va salt ishlash rejimlari ham mavjud. Ishlash prinsipi. Uch fazali asinxron motorning stator chulg„amiga uch fazali tok berilganda vujudga keladigan magnit yurituvchi kuch (MYuK) statorda aylanish chastotasi n=60f/p bo'lgan aylanma magnit maydonni hosil qiladi. Bu maydon kuch chiziqlari stator chulg„ami o'ramlarini kesib o'tib, ularda EYuK lar hosil qiladi. Aylanma magnit maydonning aylanish chastotasi n1 bilan rotorning aylanish chastotasi n, orasidagi nisbiy farqqa sirpanish (s) deyiladi va u quyidagicha aniqlanadi.

Masalan, bir fazali asinxron motorning n1=1500 ayl/min, n2=1450 ayl/min va f1 = 50 Hz bo'lsa quyidagini olamiz:

$$s_{to'g'} = (1500 - 1450)/\ 1500 = 0{,}033;$$

$$f_{2to'g'} = 0{,}033 \cdot 50 = 1{,}8Hz;$$

$$s_{tes} = (1500 + 1450)/\ 1500 = 1{,}96;$$

$$f_{2tes} = 1{,}96 \cdot 50 = 98\ Hz.$$

Asinxron motorning rotorini birorta mexanizm yordamida stator magnit maydoni aylanish chastotasidan kata (n>n_1) bo'lgan chastotada aylantirilsa rotor chulg„ami o'tkazgichlaridagi EYuK, tokning aktiv tashkil etuvchisi va sirpanishlar o'z yo'nalishini o'zgartiradilar. Bunda elektromagnit moment M ham o'z yo'nalishini o'zgartirib tormozlovchi bo'ladi, ya'ni asinxron motor generator rejimiga o'tadi. Asinxron motor generator rejimmda birlamchi motordan mexanik energiya olib, uni elektr energiyaga aylantirib tarmoqqa beradi. Agar asinxron motorning rotorini boshqa motor bilan stator magnit maydoni aylanishiga teskari yo'nalishida aylantirailsa, rotor chulg„ami o'tkazgichlaridagi EYuK va tokning aktiv tashkil etuvchisi motor rejimidagi singari yo'nalgan bo'adi, ya‘‘ni motor tarmoqdan energiya oladi. Lekin bu rejimda elektomagnit moment rotor aylanishiga

teskari yo’nalib, tormozlovchi bo’ladi. Bu rejim- asinxron motorning elektromagnit tormoz rejimi deyiladi.

Uch fazali asinxron motorlar yuqori samaradorlikka ega, ayniqsa ular katta quvvatda ishlashganda. Samaradorlikka ta'sir qiluvchi omillar orasida voltajning barqarorligi, yuk darajasi, va rotorning qurilishi muhim rol o'ynaydi. Ushbu motorlar energiya tejashda samarali bo'lib, asosan sanoat va elektr tarmoqlarida keng qo'llaniladi.

Xulosa: Uch va bir fazali asinxron motorlar o'zining yuqori samaradorligi, oddiy tuzilishi va ishonchliligi tufayli sanoat va kundalik hayotda keng qo'llaniladi. Ushbu motorlar energiyani tejash va iqtisodiy jihatdan samarador tizimlarni yaratishda muhim rol o‘ynaydi. Tadqiqotlar shuni ko'rsatadiki, texnologik rivojlanish asinxron motorlarning ishlash samaradorligini oshirish va texnik xizmat ko‘rsatish jarayonlarini soddalashtirish imkonini beradi. Kelgusida innovatsion boshqaruv tizimlari va yangi materiallarni joriy qilish ushbu motorlarning yanada samarali ishlashini ta’minlaydi.

Foydalanilgan adabiyotlar ro’yxati:

1 . A. S. Saodullayev, n. B. Pirmatov, a. E. Bekishev, n. A. Qurbonov. (jizzax - 2022) maxsus elektr motorlari- darslik. – t.: 2022

2 . Asinxron motorning tuzilishi, ishlash prinsipi va ish rejimlari **(**xursanov fazliddin rustam o‘g‘li termiz muhandislik-texnologiya instituti assistenti eshmirzayev abdukarim ergash o‘g‘li termiz muhandislik-texnologiya instituti talabasi)

3 . A. S. Saodullayev, n. B. Pirmatov, a. E. Bekishev, n. A. Qurbonov. (jizzax - 2022) maxsus elektr motorlari- darslik. – t.: 2022 [73-75]

4. https://uz.wikipedia.org/wiki/Asinxron_elektr_motor

5. https://uz.wikipedia.org/wiki/Asinxron_elektr_motor

6. Internet sayitlari: CHatGPT suniy intelekt.

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AYTMATOV VA O‘ZBEK ADABIYOTI: O‘XSHASHLIKLAR VA FARQLAR

Anotatsiya: *Chingiz Aytmatov o'z asarlarida xalqining tarixiy va madaniy xususiyatlarini chuqur tasvirlagan, uning asarlari keng geografik hududlarda tanilgan. O'zbek adabiyoti bilan Aytmatovning asarlari orasida bir qator umumiy jihatlar mavjud, jumladan, insonning tabiati, milliy o'zlik, oilaviy qadriyatlar va tabiiy dunyo bilan aloqalari. Biroq, Aytmatovning asarlarini o'zbek adabiyotidan ajratib turadigan bir qator o'ziga xos jihatlar ham bor.*

Ushbu maqolada Chingiz Aytmatovning asarlaridagi umumiy adabiy va madaniy temalar bilan o'zbek adabiyotining rivojlanish yo'nalishlari solishtiriladi. Maqolada, birinchi navbatda, Aytmatovning o'zbek adabiyotining ayrim katta namoyandalari — Abdullah Qodiriy, Erkin Vohidov va boshqa shoir va yozuvchilarning asarlari bilan o'xshashliklarini ko'rib chiqish rejalashtirilgan. Aytmatov va o'zbek adabiyotining o'ziga xos ma'naviy qadriyatlari, milliy identitet, sevgi, sadoqat, inson va tabiat munosabatlari kabi asosiy temalar orqali adabiyotlararo o'xshashliklar va farqlarni aniqlashga harakat qilinadi.

Shuningdek, maqolada o'zbek adabiyotidagi erkinlik, ijtimoiy adolat va tabiatni inson hayotiga ta'siri kabi masalalar bilan Aytmatovning "Jamila", "Oq kema" kabi asarlaridagi tasvirlar solishtiriladi. Shunday qilib, maqola Aytmatov va o'zbek adabiyoti o'rtasidagi o'xshashliklar va farqlarni tahlil qilish orqali ikkala adabiyotning umumiy ma'naviy merosi haqida yangi qarashlar taklif etadi.

Kalit so'zlar: *Chingiz Aytmatov, O'zbek adabiyoti, Adabiy o'xshashliklar ,Milliy identitet, Tabiat va inson, Inson tabiati, O'zbek yozuvchilari, Madaniy qadriyatlar, Sevgi va sadoqat, Ijtimoiy adolat, Adabiyotlararo solishtirish, O'zbek va qirg'iz adabiyoti, Aytmatovning asarlari, Milliy madaniyat, Aytmatov va Qodiriy, Aytmatov va Vohidov, Aytmatovning personajlari.*

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AYTMATOV AND UZBEK LITERATURE: SIMILARITIES AND DIFFERENCES

Abstract: *Chinghiz Aitmatov, in his works, has deeply portrayed the historical and cultural characteristics of his people, and his works are known in a wide geographical area. There are several common aspects between Aitmatov's works and Uzbek literature, including the nature of man, national identity, family values, and the relationship with the natural world. However, there are also several distinctive features in Aitmatov's works that set them apart from Uzbek literature.*

This article compares the common literary and cultural themes in Chinghiz Aitmatov's works with the developmental trends of Uzbek literature. The article plans to primarily explore the similarities between Aitmatov's works and the works of prominent figures of Uzbek literature, such as Abdullah Qodiriy, Erkin Vohidov, and other poets and writers. Through the exploration of key themes like Aitmatov and Uzbek literature's unique spiritual values, national identity, love, loyalty, and the relationship between man and nature, the article aims to identify the similarities and differences between the two literatures.

Additionally, the article compares the depiction of issues such as freedom, social justice, and the influence of nature on human life in Uzbek literature with Aitmatov's works such as Jamila and The White Ship. Thus, the article offers new perspectives on the shared spiritual heritage of both literatures by analyzing the similarities and differences between Aitmatov and Uzbek literature.

Keywords: *Chinghiz Aitmatov, Uzbek literature, Literary similarities, National identity, Nature and man, Human nature, Uzbek writers, Cultural values, Love and loyalty, Social justice, Cross-literary comparison, Uzbek and Kyrgyz literature, Aitmatov's works, National culture, Aitmatov and Qodiriy, Aitmatov and Vohidov, Aitmatov's characters.*

Chingiz Aytmatov – jahon adabiyotining yorqin namoyandalaridan biri bo'lib, uning asarlari o'ziga xos g'oyaviy, falsafiy va estetik mazmuni bilan mashhur. Qirg'iz adabiyotining taraqqiyotiga katta hissa qo'shgan Aytmatov, nafaqat o'z xalqining madaniyatini, balki Markaziy Osiyo xalqlarining umumiy tarixiy tajribasini ham chuqur tahlil qilgan. Uning asarlari universal g'oyalarga asoslangan bo'lib, insonning tabiati, milliy identiteti, sadoqat, muhabbat va o'zgaruvchan ijtimoiy sharoitda yashash masalalarini yoritadi.

O'zbek adabiyoti ham o'zining boy tarixiy va madaniy merosiga ega bo'lib, o'z xalqining turli ijtimoiy-siyosiy holatlarini, insonning ichki dunyosini tasvirlashda katta yutuqlarga erishgan. Aytmatovning asarlari va o'zbek adabiyotining o'ziga xos xususiyatlarini solishtirish, ikki millatning adabiy tajribasini yanada yaxshiroq tushunishga imkon beradi. O'zbek va qirg'iz adabiyotlari o'rtasida ko'plab o'xshashliklar mavjud bo'lsa-da, ular o'ziga xos yondashuvlar, madaniy elementlar va tarixiy kontekstlar orqali farqlanadi.

Ushbu maqolada, Aytmatovning asarlarini o'zbek adabiyotining mashhur vakillari, masalan, Abdullah Qodiriy, Erkin Vohidov kabi yozuvchilarning asarlari

bilan solishtirishga harakat qilinadi. Aytmatovning inson va tabiat, sevgi va sadoqat, milliy o'zlik kabi universal mavzulari o'zbek adabiyotining katta adabiy merosi bilan qanday bog'liqligi va shu bilan birga, farqlari qandayligini aniqlashga qaratilgan tahlil amalga oshiriladi.

Bu solishtirish, ikki adabiyotning rivojlanish yo'nalishlaridagi umumiyliklar va o'ziga xos xususiyatlarni ochib berish, shuningdek, adabiyotlararo aloqalar va ta'sirlarni yoritish imkonini beradi. Maqola Aytmatov va o'zbek adabiyoti o'rtasidagi o'xshashliklar va farqlarni tahlil qilish orqali ikki millatning madaniy merosi va adabiyotining mustahkam bog'lanishini ko'rsatishga intiladi.

Chingiz Aytmatovning asarlari, bir tomondan, o'zbek adabiyotining ko'plab yirik namoyandalari kabi, insoniyatning universal qadriyatlari – sevgi, sadoqat, milliy o'zlik, tabiat va inson munosabatlarini yoritadi. Biroq, Aytmatovning o'ziga xos uslubi, voqealar rivoji, xarakterlar va ularning ichki dunyosini tasvirlashda qanday farqlar mavjudligini ham ko'rish muhimdir. Aytmatov va o'zbek adabiyotining o'ziga xos xususiyatlarini tahlil qilishda quyidagi asosiy mavzularni ko'rib chiqamiz.

Aytmatovning asarlarida milliy identitet va o'zlikni saqlab qolish mavzusi markaziy o'rinni egallaydi. "Jamila" va "Oq kema" kabi asarlarda, qirg'iz xalqining tabiiy va madaniy qadriyatlari, uning turmush tarzini ifodalovchi obrazlar shakllantirilgan. Aytmatovning personajlari ko'pincha o'z millatining tarixiy xotirasini saqlashga harakat qilishadi, ammo ular zamonaviy dunyo bilan yuzlashgan holda, o'z kelajagini qurishga intiladi. Ushbu fikrlarni o'zbek adabiyoti bilan solishtirganda, xuddi shu masalalar Erkin Vohidovning "Odamlar" yoki Abdullah Qodiriy ning "O'tkan kunlar" asarlarida ham ko'rinadi. O'zbek adabiyotida ham milliy o'zlik, an'analar va qadriyatlar muhim rol o'ynaydi, ammo Aytmatovda bu tema ko'proq umumbashariy kontekstdan yoritiladi. Qirg'iz yozuvchisining asarlarida o'zlik va xalqning kelajagi o'rtasidagi ziddiyatlar va konfliktlar chuqurroq ifodalangan.

Aytmatovda tabiatning inson hayotidagi o'rni va ahamiyati alohida e'tibor qaratilgan. Uning asarlarida tabiat, nafaqat tashqi muhit, balki insonning ruhiy holati va ichki dunyosini aks ettiruvchi vosita sifatida ishlatiladi. "Beshinchi palata"da, tabiatning inson ongiga ta'siri, shu bilan birga, ijtimoiy adolat va azob-uqubatlar tasvirlanadi. "Oq kema"da esa tabiat, yosh bola ongsiz ravishda qidirayotgan orzular va umidlar bilan bevosita bog'liq. Tabiat va inson o'rtasidagi bu chuqur aloqani o'zbek adabiyotida ham ko'rish mumkin. Masalan, Erkin Vohidovning she'rlarida tabiat inson ruhining izhorini topadigan maydon sifatida qaraladi, va o'zbek yozuvchilarining ko'plab asarlarida ham tabiatda insonning ichki dunyosining aksini ko'rish mumkin. Biroq, Aytmatovda tabiatni insonning ichki dunyosiga bevosita ta'sir qiluvchi omil sifatida ko'rish, adabiyotdagi o'ziga xos yondashuvni ko'rsatadi.

Aytmatovning asarlarida insoniyatning mavjudligi, uning ma'nosi va axloqiy masalalar ko'plab personajlar orqali o'rganiladi. "Jamila" asarida, sevgi va sadoqat, odamning o'z his-tuyg'ularini boshqarish qiyinligi haqida chuqur falsafiy mulohazalar mavjud. O'zbek adabiyotida ham, xususan, Abdulla Qodiriy va

Chinghiz Aytmatovning zamondoshlarida, aynan insoniyatning axloqiy masalalari va insonning ichki iztiroblari o'rganiladi. Qodiriy "O'tkan kunlar" asarida ijtimoiy toifadagi o'zgarishlarni tasvirlasa, Aytmatovda bu o'zgarishlar faqat tashqi ko'rinishda emas, balki insonning ichki dunyosida ham yuz beradi. Shunday qilib, Aytmatovda axloqiy masalalar, ayniqsa insonning tanlovlari va uning oqibatlari o'rtasidagi bog'lanish, o'zbek adabiyotining boshqa vakillaridan farq qiladi.

Aytmatovning personajlari odatda katta ichki iztiroblarga ega, ular o'zlarini va atrofdagi dunyoni tushunishga harakat qiladilar. Ularning ichki dunyosi ko'pincha tashqi dunyo bilan ziddiyatda bo'ladi. "Beshinchi palata"dagi qahramonlar ijtimoiy tizim va uning cheklovlari bilan yuzlashadilar, "Oq kema"da esa yosh bola orzulari orqali o'zining ichki olamiga sayohat qiladi. O'zbek adabiyotida ham qahramonlarning ichki iztiroblari muhim o'rin tutadi, masalan, Qodiriy asaridagi Rustam va Shohniso qahramonlarining ichki kurashlari. Ammo Aytmatovda personajlarning ichki iztiroblari ko'pincha kosmik, falsafiy darajada kengayadi, bu o'zbek adabiyotidagi qahramonlarning ko'proq ijtimoiy-psixologik portretlaridan farq qiladi.

Aytmatovning adabiy uslubi sodda, ammo chuqur ma'no bilan boyitilgan. Uning yozish uslubi, ko'plab adabiy an'analarga sodiq bo'lib, o'zbek adabiyotining katta yozuvchilarining uslubi bilan o'xshashliklar ko'rsatadi. Biroq, Aytmatovda nafaqat tilning an'anaviy shakllari, balki ilmiy-falsafiy yondashuvlar ham mavjud. Aytmatovning tilida ko'pincha qadimgi folklor elementlari, ma'naviy qadriyatlar, shu bilan birga zamonaviy ijtimoiy masalalar o'rganiladi. O'zbek adabiyotida ham xuddi shunday tildan foydalaniladi, ammo Aytmatovning ko'proq ruhiy va falsafiy mushohadalari uning adabiy uslubiga o'ziga xoslik qo'shadi

Chingiz Aytmatov va o'zbek adabiyoti o'rtasidagi o'xshashliklar va farqlarni solishtirish orqali, ikki millatning adabiy va madaniy tajribalarini yanada chuqurroq tushunish mumkin. Aytmatovning asarlari, o'zbek adabiyotining o'ziga xos jihatlari bilan birga, insoniyatning universal qadriyatlarini yoritishda muhim o'rin tutadi. Ikkala adabiyotda ham tabiat va inson, milliy o'zlik va ijtimoiy adolat kabi temalar keng muhokama qilinadi. Aytmatovning falsafiy va ma'naviy yondashuvlari, o'zbek adabiyotidagi chuqur ijtimoiy ma'nolar bilan bog'lanib, ikkala adabiyotning taraqqiyotiga ta'sir ko'rsatgan. Bu tahlil, nafaqat Aytmatov va o'zbek adabiyotining o'ziga xos xususiyatlarini ochib beradi, balki ularning o'zaro aloqalari va o'xshashliklarini yanada yaxshiroq tushunishga yordam beradi.

Chingiz Aytmatov va o'zbek adabiyoti o'rtasidagi o'xshashliklar va farqlarni tahlil qilish, ikki millatning madaniy va adabiy merosining o'zaro bog'liqligini chuqurroq tushunishga imkon beradi. Aytmatov o'z asarlarida milliy identitet, tabiat, inson va ijtimoiy adolat kabi universal g'oyalarni o'ziga xos uslubda ifodalaydi. Ushbu g'oyalar o'zbek adabiyotida ham muhim o'rin tutadi, masalan, Abdullah Qodiriy, Erkin Vohidov va boshqa o'zbek yozuvchilari asarlarida insonning ichki dunyosi, sevgi, sadoqat va milliy qadriyatlar yoritilgan. Biroq, Aytmatovning asarlaridagi voqealar rivoji, personajlar va ularning ichki iztiroblari ko'proq falsafiy va kosmik darajada kengayadi, bu esa uning adabiy uslubiga o'ziga xoslik qo'shadi.

Aytmatov va o'zbek adabiyoti o'rtasidagi asosiy o'xshashliklardan biri – insonning ichki iztiroblari va uning ijtimoiy, axloqiy muammolar bilan yuzlashishi. Aytmatovning qahramonlari, o'zbek adabiyotidagi personajlar kabi, turli murakkabliklar va konfliktlar orqali o'zlarini tushunishga, dunyo bilan muvofiqlashishga intilishadi. Biroq, Aytmatovda bu masalalar ko'proq kosmik darajada, umumbashariy nuqtai nazardan qaraladi. Masalan, uning "Oq kema" asarida bolalikning orzulari va ulkan dunyo o'rtasidagi ziddiyatlar orqali insonning ruhiy holati ko'rsatilgan.

Aytmatov va o'zbek yozuvchilari o'rtasidagi farqlardan biri, ularning adabiy uslubi va yondashuvida namoyon bo'ladi. O'zbek adabiyotida ijtimoiy masalalar, tarixiy voqealar va odamlarning hayotiga oid tasvirlar keng o'rin tutadi. Aytmatov esa ko'proq tabiat bilan bog'liq falsafiy va ma'naviy masalalarni o'rgatadi. U tabiatni va uning inson hayotidagi o'rnini ko'proq bevosita va ramziy tarzda ifodalaydi, bu esa o'zbek adabiyotidan farqlanadi. O'zbek adabiyotida tabiat, asosan, ijtimoiy va psixologik holatlarni aks ettiruvchi vosita sifatida ishlatiladi.

Shuningdek, Aytmatovning asarlarida milliy o'zlik va o'z xalqining qadriyatlari, tabiiy hayot va zamonaviy dunyo o'rtasidagi ziddiyatlar ko'proq hissiy va falsafiy kontekstda ko'rsatiladi. O'zbek adabiyotida ham milliy qadriyatlar muhim rol o'ynaydi, ammo ularning ko'rsatilishi va yoritilishi ko'proq ijtimoiy-siyosiy asosga tayanadi. Aytmatov o'z asarlarini nafaqat qirg'iz xalqining, balki butun Markaziy Osiyo xalqlarining tarixiy va madaniy tajribalariga asoslaydi, bu esa uning asarlariga ko'proq umumiy insoniylik va jahonqarashli yondashuv qo'shadi.

Umuman olganda, Chingiz Aytmatov va o'zbek adabiyoti o'rtasidagi o'xshashliklar va farqlarni solishtirish, ikki millatning adabiy, madaniy va ma'naviy dunyosini yanada yaxshiroq tushunishga yordam beradi. Aytmatovning asarlari, o'zbek adabiyoti bilan solishtirganda, ko'proq falsafiy va universum masalalariga e'tibor qaratadi. Biroq, har ikkala adabiyotda ham insonning tabiat bilan munosabati, milliy o'zlik, axloqiy tanlovlar va adolat masalalari muhim o'rin tutadi. Shu tariqa, Aytmatov va o'zbek adabiyotining o'xshashliklari va farqlari nafaqat badiiy yondashuvda, balki insoniyatning ma'naviy va ijtimoiy qadriyatlari haqida ham chuqur mulohazalarni shakllantiradi. Bu esa ikki adabiyotning bir-biriga ta'siri va o'zaro boyishidagi muhim omildir.

Foydalanilgan adabiyotlar ro'yxati

1. Aytmatov, Ch. (1980). Jamila. Tashkent: O'zbekiston davlat nashriyoti.
2. Aytmatov, Ch. (1985). Oq kema. Tashkent: Sharq.
3. Lukin, A. (2010). Chingiz Aytmatov: Hayoti va asarlari. Moscow: Nauka.
4. Seyitov, M. (2014). Markaziy Osiyo adabiyoti: o'zbek va qirg'iz adabiyoti ta'siri. Tashkent: Sharq.

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TOKNING ASOSIY SO‘RUVCHI ZARARKUNANDALARI BIOLOGIYASI VA UNING ZARARINI ANIQLASH

Annotatsiya. *Tok zararkunandalari. Hayot kechirishi. Kurash choralari. Tashkiliy xo‘jalik va o‘simlik bardoshliligini oshiradigan agrotexnik chora-tadbirlar.*

Kalit so‘zlar: *tok, zararkunanda, lichinka, tuxum, zararini aniqlash.*

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THE BIOLOGY OF THE MAIN SUCKING PESTS OF THE VINE AND THE DETERMINATION OF ITS HARM

Abstract. *Vine pests. Living life. Countermeasures. Organizational management and agrotechnical measures that increase plant tolerance.*

Key words: *vine, pest, larvae, eggs, damage detection.*

Kirish. Tok - qimmatbaho subtropik o‘simlik. Uning mevasi o‘zining parxezlik va oziqaligi jihatidan inson organizmi uchun eng zarur mahsulot hisoblanadi. Pishib yetilgan uzum tarkibida, ayniqsa kishmish navlarida 28-30 %gacha organizm tomonidan tez o‘zlashtiriladigan qandlar-glyukoza, fruktoza va saxaroza bor. Fruktoza - oshqozon osti bezining ishtirokisiz tez singadi. Shu tufayli qand kasalligi (qandli diabet)ning oldini olishda muhim ahamiyatga ega. Shuningdek, yangi uzilgan uzum tarkibida inson salomatligi uchun zarur bo‘lgan olma, vino, limon, qahrabo, shavel, chumoli va boshqa bir qancha organik kislotalar, kaliy, kalsiy, fosfor, natriy kabi mineral tuzlar, meva po‘sti tarkibida rang beruvchi moddalar (pigmentlar), dubil moddalar bor.

Tok o‘simligiga bir qator zararkunandalar zarar yetkazadi. Bulardan keng tarqalgan zararkunandalari unsumon uzum va komstok qurtlari, uzum kanasi, uzum sikadasi, shingil qurti, akatsiya soxta qalqondori. Ularning zarari natijasida meva tarkibidagi vitamin va minerallar miqdorining o‘zgarishi hamda hosildorlikningsezilarli kamayishi olib keladi. Bu zararkunandalarning ko‘pchiligi sanchib-so‘ruvchi og‘iz apparatiga ega bo‘lib, asosan tokning yangi o‘sib chiqqan barg va novdalarini zararladi. Unsimon uzum va komstok qurtlari (chervetslar). Har ikkala hasharotning tuzilishi hamda hayot kechirishi bir-biriga yaqin bo‘lganligi uchun birga ta’riflanadi. Bu hasharotlar orasida ayniqsa, komstok qurti kengning keng bo‘lib, uni o'zbekiston barcha tarmoqlarida uchratish mumkin.

Unsimon uzum qurti esa keng tarqalgan bo‘lmasada, bazan uzumga kuchli huruj qilishi mumkin. Ta’rifi. Bu xasharotlarning tashqi tuzilishida jinsiy dimorfizm, yani turli shakllanish keskin ko‘zga tashlanadi. Urg‘ochisi qanotsiz, beso‘naqay, kattaligi 3,5-4 mm keladi, sekin harakatlanadi, o‘ziga xos yassi shaklga ega, tanasining atrofida yetarlicha uzunlikka ega 17 juft mumsimon ip qurishda o‘siqlari bor. Bu o'sishlarning oxirgi jufti qolganlaridan uzun bo'lib, "dum" shaklida bo'ladi. Har ikkala turga mansub urg‘ochi zotlarni ayni shu belgi ajratib turadi: komstok qurtining ushbu o‘simtalari uzun bo‘lib, tananing yarmigacha keladi, uzum unsimon qurtining o‘simtalari esa kaltaroq (tanasining uchdan yoki to‘rtdan biriga teng). Qurtning tusi sarg‘ish-jigarrang bo‘lib, at maxsus bezlar mahsuli - oq mumsimon qoplama bilan egallangan. Erkak zoti mayda (1,2-1,5 mm), bir juft qanotli hasharot bo‘lib, tanasining oxirida ikkita dum ipi, uzunligi esa uzun cho‘tsimon mo‘ylovi mavjud. Hayot kechirishi. Komstok qurti voyaga etmagan lichnkalik shaklida, uzum unsimon qurti esa tuxum shaklida, asosan po‘stloqlar ostida hamda turli pana joylarda qishlab chiqadi. Komstok qurtining lichinkalari, uzum unsimon qurtining esa voyaga yetgan urg‘ochi zotlari bahorda, mart oyining oxiri aprelning boshlarida paydo bo‘ladi. Ular oziqlangach, voyaga yetganlari asosan partenogenetik (erkaksiz) tuxum qo'yib, ko'paya boshladi. Har bir urgochi zot 15-30 kun ichida, jami 250-600 ta tuxum qo‘yishi mumkin. Tuxumdan ochib chiqqan lichinka 3 yoshni boshdan kechiradi. Uchinchisi tinchlik davrni kechib, yana yetuk urg‘ochi zotga aylanadi. Bir mavsumda unsimon qurtlar 3-4 bog'in berishi mumkin. Har ikkala unsimon qurtlarning barcha hayotiy sharoitida qishlab qolishi mumkin. Lekin komstok qurtining faqat ovisak – to‘rvadagi tuxumlari, uzum unsimon qurtining esa faqat yetilmagan urg‘ochi zotlarigina omon qoladi, qolganlari qirilib ketadi. Zarari. Unsimon qurtlar hosil uzum emas, turli daraxtlarga (hammaxo‘r): olma, nok, o‘simliklari sitrus, anjir, anor, tut va boshqa o'simliklarga ham huruj qilishi mumkin. Bu zararkunandalarning lichinkalari sanchib-so‘ruvchi og‘iz apparati bilan o'simliklarning turli a'zolarini shikastlashi mumkin: barg, tana, novda, meva va boshqalar. Shikastlangan o'simliklar o'sish va rivojlanishdan orqada qoladi, hosil sifatsiz bo‘lib, 50-70% gacha quriladi. Unsimon qurtlar narsani tok (uzum) hamda barcha boshqa daraxtlardan oqib tushayotgan shiradan yoki chumolilar ko‘payganidan bilish mumkin.

Kurashish choralari: 1. Tashkiliy-xo‘jalik va o‘simlik bardoshliligini oshiradigan, agrotexnik chora-tadbirlar. 2. Biologik usul sifatida unsimon qurtlarning samarali kushandasi - pseudoficus (pseudaphicus malinus gah.) Qo'zg'atuvchisi. Undan tabiatda bu qurtlarning boshqa samarali kushandasi ham bor. Masalan, bona mushkasi (pashshasi) - leucopisbona rohd. Uning larvae comstock kurtining ko‘plab qismini kiradi. 3.kimyoviy kurash tarzida turli sintetik pyrethroid hamda organofosfor insektisidlar qo'llaniladi. Toklarga mavsum mobaynida 2-3 mart ishlov berish lozim. Oxirgi kelishi uzumidan 30 kun oldin tugallanishi shart.

Shingil barg o‘rovchisi (Polychrosis botrana) – O‘zbekistonda, qo‘shni davlatlarda, Yevropa, Afrika, Shimoliy Amerika qit’alarining ko‘pgina davlatlarida tarqalgan. Zararkunandaning kapalagi qanotlarini yozganda 12-13 mm keladi.

Oldingi qanotlari zaytun-qo‘ng‘ir bo‘lib, ko‘ndalangiga ikkita och bog‘i bor. Qanotining oldingi chekkasida, o‘rtasi yaqinida qora dog‘lardan iborat xira jilosi bor. Orqadagi qanotlari kul rang, asosi tashqi chekkasiga qaraganda ochroq bo‘ladi.Tuxumining uzunligi taxminan 0,5-0,7 mm; rangi sariq, ust tomoni bir oz bosilgan.Qurtining uzunligi 12 mm gacha boradi, dastlab oqimtir (boshi qora) bo‘ladi, keyinchalik sarg‘imtir yoki yashilroq, boshi esa och qo‘ng‘ir tusga kiradi. G‘umbagining uzunligi 5-7 mm, jigar rang tusda bo‘lib, 10-12 mm kattalikdagi dugsimon oq pillaning ichida turadi.Shingilbarg o‘rovchisi po‘stloq ostida, poya yoriqlarida, barglar ostida g‘umbaklik stadiyasida qishlaydi. Aprel-may oylarida kapalaklari uchib chiqadi, hamda tok shingillariga tuxum qo‘yadi, tokning qorong‘iroq joylaridagi shingillarini xush ko‘radi. Urg‘ochisi umrida 50-60 ta tuxum qo‘yadi.May oxirida qurtlarning birinchi avlodi o‘sib yetishadi, ular asosan shingil bilan oziqlanadi va boshqa ko‘pgina o‘simliklarda ancha kamroq bo‘ladi. Qurtlarning birinchi nasli tokning turli navlariga birday zarar yetkazadi.Iyulning birinchi yarmida tok barg o‘rovchisining ikkinchi nasli, avgustning yarmiga kelib-uchinchi nasli va oktabrning yarmi-oxirlariga kelib-to‘rtinchi nasli paydo bo‘ladi. To‘rtinchi, qisman uchinchi naslning g‘umbaklari qishlaydi. Birinchi nasl qurtlaridan boshqa qurtlar avval g‘o‘ra bilan, so‘ngra pishayotgan uzum bilan oziqlanadi: yosh qurtlar uzum donasini ichidan yeyaveradi, o‘sgan qurtlar esa tashqaridan o‘yib kiradi.Qurtlar namni hohlaganidan ikkinchi nasldan boshlab yerda qoldirilgan yoki uzum boshi g‘uj bo‘ladigan toklarga ko‘proq tuxum qo‘yadi. Uchinchi va to‘rtinchi nasl qurtlaridan zararlangan uzum boshlari ko‘pincha irib ketadi, yerga tegib turgan, shuningdek zich uzum boshlari ayniqsa ko‘p iriydi. To‘rtinchi nasl qurtlari hasharotning qishlaydigan joylarida g‘umbakka aylanadi, dastlabki uch nasl esa buklangan barglar ostida, poya yoriqlarida va tuproq donalari ostida, asosan uzum boshlarining orasida g‘umbakka aylanadi.Shingil barg o‘rovchisining zarari yuqori bo‘lib, ushbu zararkunandani hisobga olishda har bir avlodi uchun alohida 3 martadan kuzatuv ishlari olib boriladi. Birinchi hisoblash ishlari tahminan shonalash yarmi, ikkinchisi shonalashning ikkinchi yarmida, uchinchisi – uzumlarni yig‘ishtirib olish davrida o‘tkaziladi. Uzumlarni shingil (tok) bargo‘rovchisi bilan zararlanishini hisoblash vaqtida har 20 ga maydonda 10 namuna (uchastka) tuplari olinadi. Har bir tup namunada umumiy shingillar soni va ularni dastlabki kartonga yozib boriladi. Bundan tashqari, har bir tup bo‘yicha zararlangan shingil darajasi (kuchsiz, o‘rta, kuchli), keyinchalik ko‘z chamasi yo‘li bilan aniqlanadi. Zararlanish bo‘yicha o‘rtacha foizi yozgi kuzatuv daftariga yozib boriladi.

FOYDALANILGANADABIYoTLAR.

1. Xo‘jaev Sh.T. O‘simliklarni zararkunandalardan uyg‘unlashgan himoya qilishning zamonaviy usul va vositalari. – Toshkent: Navro‘z, 2015. – 552 b.
2. Yaxontov V.V. O‘rta Osiyo qishloq xo‘jaligi zararkunandalari. – Toshkent:O‘rta va oliy maktab, 1962.
3. Arslanov M.T., Po‘latov Z.A., Aliev Sh.K. va boshqalar. Mevali bog‘lar, dukkakli don ekinlar poliz va sabzavot hamda boshqa turdagi qishloq xo‘jalik

ekinlari zararkunandalari, kasalliklarini tarqalishini hisobga olish. – Toshkent: Navro‘z, 2019. – 364 b.
4. https://www.hufocw.org/Download/file/6646

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ASSESSING THE CURRENT STATUS OF SYRIA'S CULTURAL HERITAGE SITES (AMRIT SITE IN TARTOUS AS A CASE STUDY)

Abstract:

The Amrit Archaeological Site in Tartus is one of the most important heritage sites in Syria, facing many natural and human-made challenges that threaten its sustainability. This study aims to assess the natural and human-made risks facing the site. The methodology was used an analytical descriptive. The findings highlight the urgent need for comprehensive protection strategies, including early warning systems, strict law enforcement, and increasing community awareness about the importance of preserving cultural heritage. The results showed that strengthening cooperation between local authorities and international organizations to ensure the site's sustainability as a key tourist attraction, contributing to the development of heritage tourism and ensuring the preservation of heritage for future generations

Key words: *Cultural heritage, natural and human risks, development Amrit, Syria.*

First: Introduction

Cultural heritage plays a crucial role in shaping national identity, as it encompasses not only historical monuments and artistic works but also archaeological sites, architectural structures, and cultural landscapes that reflect the history and creativity of civilizations [2]. Due to their historical and cultural significance, many heritage sites are legally recognized and protected, serving as essential links between past and present societies [3].

As a key component of tourism, cultural heritage attracts visitors and introduces them to the history and traditions of different civilizations. Many international organizations, such as UNESCO, actively work to preserve these heritage sites and promote them as major tourist attractions [21]. The evaluation of cultural heritage plays a crucial role in developing sustainable cultural tourism by bridging the past with the present, offering tourists a meaningful and immersive experience [24]. In this context, the Amrit site in Tartus, Syria, serves as a notable

example of how heritage sites can contribute to cultural tourism development. This site embodies Syria's rich historical legacy and cultural diversity, which can be effectively marketed to tourists through systematic and well-structured evaluation mechanisms.

Cultural heritage, in all its forms, represents a source of national pride, reflecting authenticity and reinforcing the connection between past and present. It plays a vital role in tourism and economic growth, making its protection a collective responsibility shared by individuals, communities [20], and governments at local, regional, and global levels. Safeguarding cultural heritage is essential, as it preserves the collective memory of societies and human history, emphasizing the importance of raising awareness about its protection [1].

1.1. Research Problem: Amrit site in Syria is one of the important heritage sites historically and geographically, and it faces significant challenges in preserving its cultural heritage due to natural and human-made risks. The research problem lies in evaluating these risks and how they affect the site. Therefore, the following question can be raised: How can the current situation of the Amrit heritage site be assessed? This question leads to the following questions:

1. What are the geographical and historical features of the Amrit site?
2. What are the natural and human-made risks threatening the Amrit site?
3. How can the impact of these risks on the site be assessed?

1.2.Research Objectives:

2. To identify the attractions in the Amrit site.
3. To assess the natural and human-made risks threatening the site.
4. To study ways to assess the impact of these risks on the site.

1.3.Research Methodology: An analytical descriptive approach was adopted, focusing on describing the phenomenon under study to clarify the fundamental concepts of the research. This involves gathering information from scientific sources and references, followed by an analysis through a field study of the Amrit site, assessing its current condition.

1.4.Research Boundaries: The research boundaries are spatial, temporal, and scientific. As for the spatial boundaries, the research was applied to cultural heritage sites in Syria. The temporal boundaries refer to the year 2025, in which the research was applied. The scientific boundaries lie in the importance of cultural heritage, the assessment of natural and human-made risks.

Second: The Geographical, Historical, and Archaeological Framework of the Amrit Site

Tartous Governorate is situated in the western part of Syria, bordered by Latakia to the north, Homs and Hama to the east, Lebanon to the south, and the Mediterranean Sea to the west. The governorate covers an area of approximately 1,960 square kilometers and is positioned at a longitude of 35°52'30" east of Greenwich and a latitude of 34°53'30" north of the equator, giving it a unique strategic geographical location [10]

Amrit, historically known as Marathos, was an ancient Canaanite city that thrived along the Syrian coast. The name "Amrit" was recorded in historical

campaigns as "Qart Amrit," where "Qart" means "city" in the Phoenician language. During the Greek and Roman periods, the city was called "Marathos," a name that also appeared in Alexander the Great's campaigns, indicating that it was a prosperous and significant urban center [8].

The site dates back to the late third millennium BCE, with its foundation as an Amorite city around 2100 BCE. Over time, Amrit remained under the rule of the Kingdom of Arwad, serving as its coastal extension. The city experienced great prosperity during the Persian period (559-330 BCE), becoming a vital trade hub and even housing a Persian royal palace [17]. Due to its strategic location, Amrit played a crucial role in commerce between the Mediterranean and Mesopotamia [13].

During the Hellenistic period, the city was known as "Marathos" and remained a wealthy and beautiful Phoenician city within the Kingdom of Arwad, both of which eventually fell under Seleucid control. The archaeological site of Amrit contains significant architectural remains, including a temple, a stadium, and a rare collection of anthropomorphic burial sarcophagi, which have been discovered in large numbers along the coasts of Syria and Lebanon [14]. These rectangular tombs cover an area of 110 meters from north to south and 140 meters from east to west, with varying elevations reaching up to 18.5 meters in some areas,This rich archaeological heritage highlights the grandeur and historical significance of Amrit throughout the ages [7].

Third: Touristic and Heritage Landmarks at the Amrit Site

3.1. The Amrit Stadium:

Believed to have been built between the 5th and 6th centuries BCE, the Amrit Stadium was closely linked to religious rituals dedicated to the god Baal, as seen in its architectural similarities with the nearby temple [4]. Phoenicians from the Syrian coast played a key role in introducing sports from Amrit to Greece [12]. Carved into natural rock, the stadium measures 230 meters in length and 30 meters in width, with seven rows of seating for around 11,000 spectators [9]. It featured an apse with two exits for athletes and hosted events like running, wrestling, and jumping (Fig.1) [16].

Fig.1- Amrit Stadium (by authors).

3.2. The Amrit Temple:

Carved in the 5th or early 4th century BCE [6], The temple features a rock-hewn basin (56.33 × 50.49 m) and a water pool (48 × 38 m, 3 m deep) surrounded by decorated columns, A sacred spring and carved channels provided water for purification and healing. Dedicated to Melqart, the temple was a site for rituals, including circumambulation (Fig.2) [15].

Fig.2- The Amrit Temple (by authors)

3.3. Amrit Tombs:

A rare collection of tombs was discovered in Amrit, topped with memorial structures of various shapes, locally known as "Maghazel", These tombs were likely built for the kings and people of Arwad, who sought burial space on the mainland due to limited land on their island (Fig.3) [15].

Fig.3- Amrit Tombs (by authors)

Fourth: Assessment of Natural and Human Risks at the Amrit Site:

A disaster is a severe event that significantly disrupts community life, arising from the Amrit interaction of hazards with exposure, vulnerability, and available capacities, leading to human, material, economic, and environmental losses [16]. Disaster risk refers to the likelihood of losses in lives or damage to property and infrastructure within a specific period, depending on the level of hazards, and the capacity to respond (Table.1) [18].

Table 1- Natural and Human Risks for Amrit (by authors)

	Type of Risk	Number of Risk	Cause
1	Natural Risks	6	Earthquakes, floods, drought, plant growth, microorganisms, water leakage
2	Human Risks	3	Illegal excavation, urban expansion, theft and vandalism

4.1. Natural Risk Evaluation for Amrit:

Natural disasters are classified based on different scales that measure their intensity, such as the Richter scale for earthquakes and the Saffir-Simpson scale for hurricanes, making direct comparisons difficult. While some disasters have standardized rating systems, others are assessed geographically without a unified classification.

In Amrit, the region faces multiple natural hazards, including earthquakes, floods, and coastal storms, which require careful assessment by disaster management centers. These centers identify the most likely disasters—whether individual or combined—such as earthquakes triggering tsunamis or storms causing flooding and landslides. By evaluating their potential impacts, authorities can make informed decisions and allocate resources effectively. However, assessing these risks remains complex due to the different measurement systems used for various types of disasters. This highlights the importance of a comprehensive disaster management strategy for Amrit to enhance preparedness and resilience against multiple threats (Table.2) [5].

Table 2- Natural Risk Evaluation for Amrit (by authors)

Risk Type	Location	Cause	Impact	Proposed Plan	Number of Occurrences
Earthquakes and Volcanoes	Parts of the site	Geophysical activity	Destruction of site sections	Structural reinforcement and seismic monitoring	Recurring risk over time
Water-Related Incidents	Most of the site	Seasonal rainfall	Stone deformations in the stadium and temple due to water erosion	Improve drainage systems and add protective barriers	Annual risk during the rainy seasons
Drought	Entire site	Prolonged dryness	Cracking and breaking of some stones	Regular stone maintenance and humidity control	Occurs every few years
Animal Encroachment	Temple, Stadium. Tombs	Presence of animals within the site	structural deterioration and accumulation of animal waste	Install protective fencing and restrict animal access	Ongoing issue
Vegetation Growth	Entire site	Growth of invasive plants like weeds and algae	Large cracks in temple and stadium stones due to plant roots	Regular removal of vegetation and chemical treatments	Increases during humid seasons
Microorganisms	Entire site	Growth of bacteria and fungi in humid environments	Structural deformations in significant areas due to stone decay	Cleaning, disinfection, and controlled humidity	Ongoing issue, worsening over time

4.2. Human Risks and Their Impact on the Amrit Archaeological Site: Anthropogenic hazards, also known as human-induced hazards, arise from human activities and decisions, often leading to environmental and cultural degradation. These hazards include industrial pollution, infrastructure failures, deforestation, uncontrolled urban expansion, and direct threats to heritage sites such as looting, vandalism, and unauthorized excavations. Unlike natural hazards, which stem from environmental processes, anthropogenic hazards are caused by human intervention

and mismanagement, posing severe risks to cultural heritage, economic stability, and the environment [19].

The Amrit archaeological site faces multiple human-induced threats that endanger its historical and cultural significance. Illegal excavations and looting have led to the loss of invaluable artifacts, depriving researchers of critical historical insights. Additionally, theft and vandalism contribute to the site's deterioration, with ancient structures suffering irreversible damage. A lack of awareness among tourists further exacerbates these risks, as irresponsible behavior—such as touching, climbing, or removing fragments from the ruins—accelerates erosion and structural decay [22].

These human-induced threats parallel broader challenges highlighted in global reports, such as the UNDRR's 2022 Global Assessment Report [23]. which outlines how anthropogenic hazards, alongside natural ones, are escalating worldwide. The report states that by 2030, the world is expected to face 1.5 disasters daily, many of which are human-induced. The increasing exposure to these risks is due to socio-economic vulnerabilities, weak protective measures, and poor management of both human and environmental factors, mirroring the situation at Amrit where inadequate protection and human negligence are contributing to the site's deterioration.

Without proper conservation strategies, stricter enforcement against looting, and increased public awareness, the Amrit site remains at risk of irreversible loss, reflecting the global patterns outlined in the UNDRR's report. These global trends emphasize the urgent need for action to prevent further destruction of cultural

heritage due to both anthropogenic and natural hazards (Table. 3) [23].

Table 3- Human Risks and Their Impact on the Amrit Archaeological Site (by authors)

	Aspect from of risks	**Description:**
1	Types of Human Risk	Includes human activities that lead to environmental and heritage degradation, such as pollution, infrastructure failure, deforestation, and sabotage, including looting and illegal excavations.
2	Threats to the Amrit Archaeological Site	The Amrit archaeological site faces human – induced risks such as illegal excavations, theft, vandalism, and irresponsible tourist behavior, all of which contribute to the site deterioration.
3	Impact on Heritage	Destruction of the site and loss of significant artifacts, hindering historical research and contributing to the deterioration of cultural and heritage stability.

4	Global Trends	The 2022 UNDRR report highlights the increasing human-induced risks globally, with expectations of more disasters caused by human activities by 2030.
5	Proposed Actions	The need for effective protection strategies, raising public awareness about heritage preservation, and preventing illegal activities such as looting and vandalism.

Conclusion:

The study highlights the significant threats facing the Amrit archaeological site due to both natural and human-induced hazards. Natural disasters such as earthquakes, floods, and coastal storms pose severe risks, necessitating precise assessments and effective response strategies. Additionally, anthropogenic threats, including illegal excavations, vandalism, and unregulated urban expansion, accelerate the site's deterioration and diminish its archaeological value. Furthermore, irresponsible tourist activities contribute to the site's degradation, emphasizing the need for immediate intervention.

To mitigate these risks, a comprehensive risk management strategy is essential. This should involve continuous assessment, protective measures, and targeted awareness campaigns to ensure the site's preservation. Strengthening the implementation of laws to prevent illegal activities, establishing early warning systems for earthquakes and floods, and developing emergency response procedures are crucial steps toward safeguarding Amrit. Moreover, raising awareness among local communities and visitors about the importance of heritage conservation is vital. Collaboration between local authorities and international organizations should also be reinforced to enhance protection efforts. Additionally, training local teams on rapid response strategies will further support preservation initiatives.

By implementing these measures, the sustainability of the Amrit site as a cultural and touristic landmark can be ensured, allowing future generations to appreciate and benefit from its historical and archaeological significance

References

1. Alghafri, M. Veklenko,V &Ali, M .(2020).cultural Heritage Management as Generator of Socio- Economic Development (The case Study Of Syria). EDP Sciences .76(9)01025:1-9.
2. Alghafri, M, & Al-Fawal, A. (2023). Preservation of Cultural Heritage and the Tourism Industry in Syria Using Geographic Information Systems Technologies. Damascus University Journal for Historical Studies, 147(4), 163-190. (in Arabic).
3. Alghafri, M. (2024). Funding Cultural Heritage Projects in Syria During the Crisis: Reality – Opportunities – Challenges. Damascus University Journal for Historical Studies, 148(1), 121-164. (in Arabic).
4. Boutros, L. (1976). The Phoenician stadium of Amrit. Beirut: Lebanon. American University of Beirut.

5. Caldera, H. J., & Wirasinghe, S. C. (2022). A universal severity classification for natural disasters. Natural Hazards,vol 111, 1533–1573.
6. Dunand, M, & Salibi, N. (1962). The Temple of Amrit. Syrian Archaeological Annals Journal, Vol. 11-12, pp. 129-132. Damascus, Syria: Directorate-General of Antiquities and Museums. (in Arabic).
7. Dunand, M, Salibi, N, & Keraichian, A. (1955). Amrit Excavations in 1954. Syrian Archaeological Annals Journal, Vol. 4-5, pp. 171-179. Damascus, Syria: Directorate-General of Antiquities and Museums. (in Arabic).
8. Dunand, M. (1953). Archaeological Investigations in the Amrit Area. Syrian Archaeological Annals Journal, Vol. 3, pp. 148-151. Damascus, Syria: Directorate-General of Antiquities and Museums. (in Arabic).
9. Hanna, Z. (1992). Castles and Archaeological Sites in Tartus Governorate. Damascus, Syria: (N.P.). (in Arabic).
10. Issa,N & Al-Zayed, I. (2024). Discover Syria: Nature, People, Economy, and Tourism. Damascus, Syria: Ministry of Culture. (in Arabic)
11. Jamous, B. (1998). The Syrian Coast. Damascus, Syria: University of Damascus. (in Arabic).
12. Kerkouki, R. (2017). Assessment of the Current Status of Amrit City and the Mechanism for Site Protection and Preservation. Al-Baath University Journal, Vol. 39, Issue 45, pp. 117-83. Homs, Syria: Faculty of Architecture. (in Arabic)
13. Kiwan, K. (2005). Preliminary Report on the Coins Discovered in Marathos (Ancient Amrit) During the 2005-2006 Excavation Seasons and in Tell Al-Ghamqa, Tartus. Syrian Archaeological Annals Journal, Vol. 47-48, pp. 161-169. Damascus, Syria: Ministry of Culture, Directorate-General of Antiquities and Museums. (in Arabic).
14. Mustafa.B.(2016).The Anthropoid Sarcophagi of Amrit /Aradous (study): A Study of Archaeolgical Contextualization. **Scientific culture**.vol:2, No :2. p.p:1-8. Homs, Syria. Wadi International University.
15. Omeiri, I. (1995). The Coastal Mountain Range. 1st Edition. Damascus, Syria: Dania for Studies, Printing, and Distribution. (in Arabic).
16. Salibi, N. (1984). Amrit South of Tartus. Damascus, Syria: Directorate-General of Antiquities and Museums Publications. (in Arabic).
17. Shawaf, Q. (2011). The Phoenicians and the Olympic Games. Damascus, Syria: Aladdin Publishing and Distribution House. (in Arabic).
18. Shi, P., Ye, T., Wang, Y., and others. (2020). Disaster risk science: A geographical perspective and a research framework. International Journal of Disaster Risk Science, 11(4), 426–440.
19. UNDRR, 2017. “Terminology on Disaster Risk Reduction.” United Nations Office for Disaster Risk Reduction. [Online] Available at: https://www.undrr.org/terminology/hazard.
20. UNESCO. (2012). Risk management at heritage sites: a case study of the Petra world heritage site. Jordan. UNESCO and Katholieke Universiteit Leuven, Faculty of Engineering, Raymond Lemaire International Centre for Conservation.p:178

21. UNESCO. (2021). Cultural heritage preservation. Retrieved from https://whc.unesco.org
22. United Nations Development Programme (UNDP). (2014). Human development report 2014: Sustaining human progress – Reducing vulnerabilities and building resilience. UNDP. Retrieved from https://hdr.undp.org/content/human-development-report-2014
23. United Nations Office for Disaster Risk Reduction (UNDRR). (2022). Global assessment report on disaster risk reduction (GAR 2022). UNDRR. Retrieved from https://digitallibrary.un.org/record/3969846
24. World Tourism Organization. (2018). Cultural tourism and sustainable development. Retrieved from https://www.unwto.org.

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TALABALARNI AXBOROT VA TAHLILIY KOMPETENTLIGINI RIVOJLANTIRISHDA AXBOROT-KOMMUNIKATSIYA TEXNOLOGIYALARINING O’RNI

Annotatsiya:*Ushbu maqolada talabalarni AKT vositalari orqali ushbu ko‘nikmalarni shakllantirishning samarali usullari, zamonaviy texnologiyalarning o‘quv jarayonidagi ahamiyati va ulardan foydalanishning afzalliklari yoritilgan. Shuningdek, AKTdan foydalanish orqali talabalar mustaqil fikrlash, kreativlik va tahliliy yondashuv qobiliyatlarini rivojlantirish imkoniyatlari muhokama qilinadi. Tadqiqot natijalari esa talabalarning axborot va tahliliy kompetentligini oshirishga yo‘naltirilgan muhim tavsiyalarni o‘z ichiga oladi.*

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THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE DEVELOPMENT OF STUDENTS' INFORMATIONAL AND ANALYTICAL COMPETENCE

Annotation: *This article examines effective methods for developing these skills in students through the use of ICT tools, the significance of modern technologies in the learning process, and the advantages of their application. Additionally, it discusses the opportunities for fostering independent thinking, creativity, and an analytical approach in students through the use of ICT. The research findings include important recommendations aimed at enhancing students' information and analytical competence.*

Axborot-kommunikatsiya texnologiyalari (AKT) bugungi kunda talabalarni axborot va tahliliy kompetentligini rivojlantirishda muhim rol o’ynaydi. AKT talabalarga turli xil axborot manbalariga kirish, uni tahlil qilish, qayta ishlash va taqdim etish imkoniyatini beradi. Quyida AKTning talabalarni axborot va tahliliy kompetentligini rivojlantirishdagi o’rnini batafsil ko’rib chiqamiz:

1. Kengroq axborotga kirish:

❖ Internet: Internet orqali talabalar dunyoning har qanday burchagidan axborotga kirish imkoniyatiga ega.

❖ Onlayn kutubxonalar: Talabalarga elektron kitoblar, maqolalar, ilmiy ishlar va boshqa resurslarga kirish imkoniyatini taqdim etadi.

❖ Ma'lumotlar bazalari: Talabalarga ilmiy tadqiqotlar uchun kerakli ma'lumotlar bazalariga kirish imkoniyatini beradi.

❖ Ochiq ta'lim platformalari: Khan Academy, Coursera, edX kabi platformalar talabalarga turli xil sohalarda bepul ta'lim olishlari imkonini beradi.

2. Axborotni tahlil qilish va qayta ishlovchi vositalar:

❖ Qidiruv tizimlari: OpenAI, Bing, DuckDuckGo kabi qidiruv tizimlari talabalarga kerakli axborotni samarali topishga yordam beradi.

❖ Ma'lumotlarni vizualizatsiya qilish vositalari: Excel, Tableau, Power BI kabi vositalar talabalarga ma'lumotlarni grafiklar, jadvallar va boshqa shakllarda ko'rsatishga yordam beradi.

❖ Ma'lumotlar tahlil dasturlari: SPSS, R, Python kabi dasturlar talabalarga katta hajmdagi ma'lumotlarni tahlil qilishga yordam beradi.

❖ Onlayn tahrir dasturlari: OpenAI Docs, Microsoft Word kabi dasturlar talabalarga matnlarni tahrirlash, formatlash va hujjatlar yaratishga yordam beradi.

3. Hamkorlik va kommunikatsiyani rivojlantirish:

❖ Onlayn muhokama platformalari: Talabalar bir-biri bilan fikr almashish, savol-javob qilish, guruhli loyihalarni amalga oshirish uchun forumlar, chatlar va boshqa platformalardan foydalanishlari mumkin.

❖ Video konferentsiya dasturlari: Zoom, Skype, OpenAI Meet kabi dasturlar talabalarga masofadan turib birgalikda ishlash imkonini beradi.

❖ Ijtimoiy tarmoqlar: Talabalar ijtimoiy tarmoqlar orqali axborotni bo'lishish, fikr almashish, guruhli loyihalarni muhokama qilish uchun foydalanishlari mumkin.

4. O'qitish va Mashg'ulotlar:

❖ Onlayn kurslar va treninglar: Talabalar axborot va tahliliy kompetensiyalarni rivojlantirish bo'yicha onlayn kurslarga qatnashishlari mumkin.

❖ Interaktiv o'quv materiallari: Talabalar o'rganish jarayoniga jalb qiladigan interaktiv o'quv materiallari yaratish mumkin.

❖ Onlayn o'quv platformalari: Moodle, Canvas, Blackboard kabi platformalar talabalarni o'rganish jarayoniga jalb qilish, ularga o'quv materiallariga kirish imkonini berish va o'zlashtirish darajalarini baholashga yordam beradi.

5. O'zlashtirishni Shakllantirish:

❖ Shaxsiylashtirilgan o'rganish: Talabalar o'zlarining o'rganish tezligiga va o'rganish uslublariga moslashish imkoniyatiga ega bo'ladilar.

❖ Doimiy o'rganish: Talabalar o'z bilimlarini doimiy ravishda yangilab turishlari mumkin.

❖ Mustaqil o'rganish: Talabalar o'z bilimlarini o'zlashtirishda mustaqil bo'ladilar.

❖ AKT talabalarni axborot va tahliliy kompetentligini rivojlantirishda muhim rol o'ynaydi. AKT talabalarga turli xil axborot manbalariga kirish, uni tahlil

qilish, qayta ishlash va taqdim etish, hamkorlik va o’zlashtirish imkoniyatini beradi.

❖ Shuning uchun ta’lim tizimi AKTni o’quv jarayoniga samarali integratsiya qilish, talabalarni AKTdan foydalanishga o’rgatish va ularning axborot va tahliliy kompetentligini rivojlantirishga qaratilgan dasturlarni yaratishga e’tibor qaratishi kerak. Ta’lim jarayonida zamonaviy axborot-kommunikatsiya texnologiyalaridan samarali foydalanish, axborotli, ijtimoiy, kasbiy axborotlar bilan ishlash oshishiga, talabalarning kasbiy axborotlar bilan ishlash kompetensiyalarni bosqichma-bosqich rivojlantirishiga, o‘qitishning qulayligiga erishilishiga olib keladi. Axborot bilan ishlash tizimi shiddat bilan shakllanib ketayotgan bir paytda bo‘lajak pedagoglarni bunga mutonosib jalb qilish zarur. O‘zbekiston Respublikasining Ta’lim to‘g‘risidagi qonunida o‘qitishning ilg‘or shakllari va yangi pedagogik texnologiyalarni, ta’limning axborot vositalarini o‘quv jarayniga joriy etish, ta’limda zamon bilan hamnafas ta’lim texnologiyalarini yaratishni taqozo etadi. Ilmiy texnika yutuqlari va ilg‘or tajribalarga asoslangan texnika, texnologiya, boshqaruv va mehnatni tashkil etish kabi sohalardagi yangiliklarning qo‘llanilishi innnovatsiyani aks ettiradi. Innovatsiya–yangilanishni, o‘zgarishni amaliyotga joriy etish jarayoni va faoliyati bo‘lib, ingliz tilidan tarjima qilinganda innovatsiya kiritilgan yangilik ixtiro degan ma’nolarni anglatadi. O‘quv jarayonida axborot-kommunikatsiya texnologiyalaridan foydalanish foydalanuvchilarning tafakkur ko‘nikmalarini va murakkab vazifalarni hal qilish malakalarini rivojlantirishning yangi yo‘llarini ochib beradi, ta’limni faollashtirish uchun prinsipial yangi imkoniyatlarni taqdim qiladi. Axborot-kommunikatsiya texnologiyalari ta’lim oluvchining xatti-harakatiga zudlik bilan javob berish, turli toifadagi ta’lim oluvchilar uchun materialni takrorlash, tushuntirish, puxtaroq tayyorgarlikka ega bo‘lgan ta’lim oluvchilar uchun yanada murakkab va o‘ta murakkab materialga o‘tish imkoniyatini ta’minlaydi. Bunda ta’lim va innovatsion tadqiqotlar, individual sur’atlarda o‘qitish oson va tabiiy tarzda amalga oshiriladi. Axborot-kommunikatsiya texnologiyalarining pedagogik axborot ta’lim muhiti– bu talaba, pedagok va axborot texnologiyalari vositalari o‘rtasidagi o‘quv axborotli xatti–harakatlar jarayoni paydo bo‘lishi va rivojlanishiga imkon beruvchi shart – sharoitlari majmuasi hamda muayyan fanlar bo‘yicha predmetli mazmuni muhiti komponentlari, namoyish qiluvchi jihozlar, dasturiy vositalar va tizimlar, o‘quv ko‘rgazmali va boshqalar, jamlangan sharoitda talabaning faol bilish faoliyatini shakllantirish jarayonidir. Axborot kompetentligi rivojlantirish jarayoniga komponentlarning kiritilishi o‘rganilayotgan til mamlakatining tarixi, madaniyati, ijtimoiy-madaniy an’analari, milliy dunyoqarashi xususiyatlariga oid masalalarni kiritish zarurligini e’tirof etishga olib keldi. Dars beruvchining kreativligi va komptentligi bilan birgalikda uning dars berish maxorati tarkibida interfaol metodlar va treyninglarning mavjud bo‘lishi xam ta’lim beruvchi xam ta’lim oluvchi uchun qiziqarli zerikarsiz bo‘lishi, talabalarning o‘z soxasi bo‘yicha bilimlarini chuqur va qiziqish bilan egallashida va mustaqil izlanishlar olib borishi va o‘z ustida ijod qilishiga olib keladi. Bu esa davlat va jamiyat qurishda zamon tendensiyalari mos rivojlanishga olib kelishi shubxasizdir. Dunyoda integrativ ta’limning rivojlanishi ijtimoiy hamda axborot-kommunikatsiya bilan o‘zaro tizimli

aloqadorligi, ilm-fanning istalgan yo‘nalishida kuzatilayotgan integrativ jarayonlarning barchasi jamiyatning zamonaviy ta’lim oldiga qo‘ygan talablarini qondirishga qaratilgan o‘quv-tarbiya jarayoning samarasini belgilaydi. Bugungi kunda talabalarimiz zamonaviy fikrlay olishi, Integrativ yondashuv asosida bo‘lajak o‘qituvchilarni axborot kompetentligini rivojlantirishi, ta’lim jarayonida axborot kommunikatsiya texnologiyalaridan foydalanishda axborot kompetentligi tushunchasi ilmiy va o‘quv jarayonida mustahkam o‘rin olgan. Axborotlar bilan ishlash kompetensiya” atamasini ishlatish dars berishdagi axborotlar bilan ishlash yondashuv bilan hamda urg‘uni

Xulosa o‘rnida shuni aytish lozimki, talaba-yoshlarning ijodkorlik faoliyatida axborot va pedagogik texnologiyalari va innovatsion texnologiyalarni joriy etish va qo‘llash imkoniyatlari ahamiyati kattadir. Chunonchi, yoshlarning ongida sog‘lom immunitet shakllanishida va ularning vataniga kasbiga oilasiga sodiq va vafodor fidokor va ijodkor bo‘lib etishishiga asos bo‘la oladi.

Foydalanilgan adabiyotlar:

1. Murodullayevich, M. N. (2023). PROBLEMS OF ORGANIZING DISTANCE EDUCATION. *ASIA PACIFIC JOURNAL OF MARKETING & MANAGEMENT REVIEW ISSN: 2319-2836 Impact Factor: 8.071*, *12*(05), 54-59.
2. Abdullaeva, N., Mamurova,F., & Mallaboev, N. (2020). Efficiency of experimental preparation use multimedia to enlarge some questions.Экономика и социум,(6),11-13.
3. Murodullayevich, M. N. (2023). PROBLEMS OF ORGANIZING DISTANCE EDUCATION. ASIA PACIFIC JOURNAL OF MARKETING & MANAGEMENT REVIEW ISSN: 2319-2836 Impact Factor: 8.071, 12(05), 54-59.
4. Murodullaevich, M. N., & Sharifjanovna, Q. M. (2023). Stages of introduction of electronic government. INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES ISSN: 2349-7793 Impact Factor: 6.876, 17(01), 15-17.
5. Murodullaevich, M. N., & Sharifjanovna, Q. M. (2023). The role of information systems in the management structure. INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES ISSN: 2349-7793 Impact Factor: 6.876, 17(01), 18-21.

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THE ESSENCE OF INFORMATIONAL AND ANALYTICAL COMPETENCE IN THE DIGITAL EDUCATIONAL ENVIRONMENT

Abstract: *This article examines the key components of informational competence, methods for its formation, and its application in the educational environment. Additionally, the role of analytical thinking in the learning process, factors influencing its development, and its connection with modern pedagogical technologies are analyzed. The research results include important recommendations for the effective acquisition of knowledge and the development of analytical competence in the digital educational environment.*

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RAQAMLI TA’LIM MUHITIDA AXBOROT VA TAHLILIY KOMPETENTLIGINING MOHIYATI

Annotasiya: *Maqolada axborot kompetentligining asosiy komponentlari, uni shakllantir ish usullari hamda ta’lim muhitida qo‘llash imkoniyatlari yoritilgan. Shuningdek, tahliliy fikrlashning ta’lim jarayonidagi o‘rni, uning rivojlanishiga ta’sir etuvchi omillar va zamonaviy pedagogik texnologiyalar bilan bog‘liqligi ko‘rib chiqiladi. Tadqiqot natijalari raqamli ta’lim sharoitida samarali bilim olish va tahliliy kompetentlikni rivojlantirish bo‘yicha muhim tavsiyalarni o‘z ichiga oladi.*

Raqamli ta’lim muhitida axborot va tahliliy kompetentlik an’anaviy ta’lim muhitiga qaraganda ancha kengroq va chuqurroq ma’noga ega bo’ladi. Bu kompetentlik talabalarga raqamli dunyoda samarali harakatlanish, ma’lumotlarni qidirish, tanlash, baholash, tahlil qilish va ulardan foydalanish qobiliyatini beradi.

Ta’lim sohasini rivojlantirishning zamonaviy boschqichi aniq kelajakka mo‘ljallangan kompetentlik yondashuvni izchil tadbiq etishi bilan ajaralib turibdi. Har bir inson ta’lim olish imkoniyatlari muvaffaqiyatli, professional va shaxsiy faoliyati inobatga olishida va aniq vaziyatlarda o‘zining imkoniyatlariga odil baho

berish orqali tanlash qobiliyatida nomoyon bo‘ladi. Umumiy olinganda kompetentlik yondashuv quyidagi shartdan kelib chiqmoqda, hayotda muvaffaqiyatli bo‘lishi uchun ta’lim olish jarayonida har bir inson aniq amaliyotga asoslangan bilim olishi, ijtimoiy va professional muhim sifatlarini rivojlantirishi lozim. Ta’limning yuqori texnologiyali sohaga o‘zgarishi pedagogik izlanish va kelajak mutaxassislarining axborot kompetensiyasini (vokolatlarini) shakllantirish bilan bog‘liq bo‘lgan muammolarni aniqlash masalalarini aktuallashtimoqda. Axborot kompetensiyasiga (vakolatiga) ega pedagogni shakllantirishda oliy ta’lim muassasasida o‘zlashtirilgan, amaliy bilimlarga va o‘zini bilimini yangi pedagogik sharoitlarda va vaziyatlarda ishlatish qobiliyatiga asoslangan bilim muhim ahamiyat kasb etmoqda. Oliy ta’lim muassasasi me’yoriy hujjatlari va amaliyotiga “professional kompetentlik” degan tushuncha kirib kelgan. Tadqiqotchilar ushbu atama bo‘yicha ham har xil yondashuvga ega. Psixologik-pedagogik adabiyotlarda “professional kompetentlik” ga) ish samaradorligini aniqlaydigan bilimlar yig‘indisi mehnatga amaliy va nazariy jihatdan tayyorgarlik birligi professional shaxsiy fazilatlar va bilimlar kompleksi keltirilgan va boshqa izohlar har xil bo‘lganligi bilan ularda leksik umumiy kognitiv va hissiy elementlar mavjud. Ushbu izohlarni umumlashtirib, “professinal kompetentlik”ni pedagog professional faoliyatini olib borishda samalari loyihalashtirish uchun lozim bo‘lgan integratsiyalashgan bilim, ko‘nikma va tajribalar yig‘indisi deb tushinamiz.

Shunday qilib pedagogika va ta’limning doimiy tushunchaviy yangilanishi yangi xar xil ko‘rinishda talqin qilinayotgan “kompetensiya”, “kompetentlik”, axborot kmpetentlik” kabi tushunchalarning mohiyatini tushinib yetish bilan birgalikda amalga oshirilishi ta’kidlab o‘tishimiz lozim. Shuning uchun zamonaviy pedagogika fanida kompetensiya va kompetentlikni tasniflash masalasi muammo bo‘lib qolmoqda. Bugungi kunga qadar kompetensiyaning yagona tasnifi mavjud emas. Talabada oliy pedagogik ta’limni olayotganda qancha va qanaqa kompetensiyalar shakllanishi to‘g‘risida yagona fikr yo‘q. Ilmiy adabiyotlarda kompetensiya quyidagi guruxlarga ajratiladi:

Professional kompetensiya. Chet el adabiyotida bilim va ko‘nikmalar asosida metodik to‘g‘ri va vaziyatni to‘g‘ri baholagan holda vazifa va muammolarni maqsadli yechishga tayyorgarlik holati deb qayd etilgan. Olimlar ta’lim olish sohasida professional ko‘nikmalar, texnologiyalar va metodlar deb tushiniladi .

Asosiy (bazaviy kompetensiyalar. Abstakt mavzularda fikrlash, analiz va sintezqilish, lider bo‘lish, vazifa va muammolarni yechish, moslashish, jamoada va alohida ishdash deb tushiniladi. Umuman olganda bu xamma odamlar uzining professinal darajasidan qat'iy nazar ega bo‘lishi lozim bo‘lgan kompetensiyalar.

. Shaxsning o‘ziga, boshqa shaxslar bilan o‘zaro munosabatlarda, jamiyatda tegishli bo‘lgan kompetensiyalar yig‘indisidir. Kompyuter texnologiyalari yordamida professional faoliyatida samarali ish yuritishga yo‘naltirilgan bilim, ko‘nikmalar va faoliyat turlari yig‘indisi sifatida tushiniladi. Shuni aytib o‘tish joizki, ushbu kompetensiya guruxlariga xar hil asoslar keltirilgan. Birinchidan, xamma shaxslarga tegishli bo‘lgan hamda aniq tavsifiga (sifatlari) yo‘naltirilgan. Ikkinchidan, bu kompetensiya guruxlari asosida amaliyotga yo‘naltirilgan

yondashuv mavjud va bunga axborot kompetensiyasi ham kiradi.

Axborot va tahliliy kompetentligining asosiylariga quyidagilar ajratiladi:

Rag‘batlantiruvchi, qiymatli (talabaga qiymatni tushinib yetish sharoitlarini yaratish). Asosiy qiymatli yo‘nalishlarni tanlashga yordam beruvchi, o‘z ishiga va xayotiga ta’sir ko‘rsatuvchi shaxsning rag‘batlantiruvchi xissiyotlarini tavsiflaydi.

Axborotni ishlatish, ta’limiy ma’lumotlarni izlashning zamonaviy metod va usullariga egalik qilish, xar xil manbalardan ma’lumot topish qobiliyati, ma’lumotlarni umumlashtirish va guruhlarga ajratish qobiliyati, olingan ma’lumotlarni professional pedagogik faoliyatida ishlata olish qobiliyati. Texnik-texnologik. Ma’lumotlarni izlashni avtomatlashtirish va ma’lumotlarni qayta ishlashda texnik vositalarni ishlash prinsipini, imkoniyatlari va cheklovlarni tushinish, ularning asosiy tasnifiga ko‘ra klassifikatsiyalash va uni yechish uchun texnik vosita turini tanlash.

Ikkinchi shaxsga ma’lumotlarni berishda (verbal, noverbal), rasmiy va tabiiy tillarni bilishda texnik vositalarni ishlata bilish, tushinish va ishlatish.

Kommunikativ, metodik, tashkiliy va konstruktiv faoliyatida aks etadigan.

Bizning fikrimizcha, keltirilgan elementlardan umumlashtirgan holda foydalanish kelajakdagi talabalarning axborot va tahliliy kompetentligini shakllantirish va rivojlantirishga olib keladi. Axborot va tahliliy kompetentligi barcha elementlarini maqsadli shakllantirish pedagogika oliy ta’limi muassasalarida yetuk professional mutaxassislarni tayyorlashda yordam beradi. Shunday qilib, axborot va tahliliy kompetentligi mohiyati va tuzilmasini o‘rganish, nazariy yondashuv tahlili plyuralizm fikrlari mavjudligini, “kompetensiya”, “kompetentlik”, “axborot kompetensiyasi”, “professional kompetentlik”, “axborot va tahliliy kompetentligi” atamalarining turlicha izohi borligini va ushbu yangi atamalar pedagogika ta’limida tadqiqot predmeti hamda ta’lim amaliyoti ko‘p qirrali dastur sifatida qabul qilinishini ko‘rishimiz mumkin. Biz “kompetensiya” atamasini pedagogik ta’lim muassasalarida o‘qish davridaolingan, o‘zining samarali professional faoliyatiga yo‘naltirilgan bilim, ko‘nikma vafaoliyat usullari sifatida qabul qilamiz. Kompetentlik esa oliy ta’lim muassasalaridata’lim va professional vazifalarni yechish uchun olingan kompetensiyalarni ishlatish qobiliyati sifatida tushinamiz. Professional kompetentlik atamasini biz pedagogga professional faoliyatini samarali loyihalashtirish va amalga oshirishga yo‘naltirilgan integratsiyalashgan bilim, ko‘nikma, tajriba va shaxsiy sifatlar yig‘indisidir. “Kompetensiya”, “kompetentlik” va “professional kompetentlik” atamalarini tushinib yetish pedagogika oliy ta’lim muassasalari talabalarining axborot va tahliliy kompetentligi atamasini tushinishga olib keladi. U integrativ sifat ko‘rinishidaaxborot texnologiyalari sohasida yuqori darajadagi nazariy bilim va amaliy ko‘nikmalar, ularni asosiy oliy ta’lim dasturini o‘zlashtirishda foydalanish va ishlatish qobiliyatida, o‘quv tarbiyaviy jarayonlarda axborot texnologiyalaridan foydalanishga tayyorgarligida o‘z aksini topadi. Ushbu izohdan kelib chiqib, pedagogika oliy ta’lim muassasasida talabaning axborot va tahliliy kompetentligi tuzilmasida o‘zlashtiriladigan axborot va tahliliy kompetentligi jamlanmasini ajratishimiz mumkin. Terminologik kompetensiya, ma’lumotlarni qayta ishlash,

standart vositalarga egalik qilish kompetensiyasi, kompyuter texnologiyalaridan foydalangan holda o‘quv ishlarini tashkil etish sohasidagi kompetensiya. Axborot va tahliliy kompetentligi tuzilmasini aniqlash bo‘yicha yondashuvlarga tizimlash, ularning asosiy qismlarini, rag‘batlantiruvchi-qiymatli, professional faoliyatli, texnik-texnologik, kommunikativ va tezkorlik komponetlarini ajratishga imkon beradi. Ta’lim amaliyotiga kompetentlik yondashuvning joriy etilishi jahon tendensiyalariga mos keladi va ta’limni innovatsion rivojlantirish talablariga javob beradi va “bilim-ko‘nikma-tajriba” instrumental-pedagogik usul bilan yetarli darajada moslashadi. Ta’lim standartlarining yangi avlodiga “kompetensiya” normativ talabini joriy etish talabalarning kompetensiyalarini bilish, ishlatish va rivojlantirishga urg‘u berilishini anglatadi hamda o‘quv, professional faoliyatida shaxsiy rivojlanish va ijtimoiy, professional vazifalarni hal etishga yordam beradi.

Foydalanilgan adabiyotlar:

1. Murodullayevich, M. N. (2023). PROBLEMS OF ORGANIZING DISTANCE EDUCATION. *ASIA PACIFIC JOURNAL OF MARKETING & MANAGEMENT REVIEW ISSN: 2319-2836 Impact Factor: 8.071*, *12*(05), 54-59.
2. Abdullaeva, N., Mamurova,F., & Mallaboev, N. (2020). Efficiency of experimental preparation use multimedia to enlarge some questions.Экономика и социум,(6),11-13.
3. Murodullayevich, M. N. (2023). PROBLEMS OF ORGANIZING DISTANCE EDUCATION. ASIA PACIFIC JOURNAL OF MARKETING & MANAGEMENT REVIEW ISSN: 2319-2836 Impact Factor: 8.071, 12(05), 54-59.
4. Murodullaevich, M. N., & Sharifjanovna, Q. M. (2023). Stages of introduction of electronic government. INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES ISSN: 2349-7793 Impact Factor: 6.876, 17(01), 15-17.
5. Murodullaevich, M. N., & Sharifjanovna, Q. M. (2023). The role of information systems in the management structure. INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES ISSN: 2349-7793 Impact Factor: 6.876, 17(01), 18-21.

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PSIXOLOGIK EXTIYOJLAR TUFAYLI O'SMIRLARNING BIR BIRIGA QARAMLIKLARI

Annotatsiya: *ushbu maqola orqali yoshlarni bir-biri bilan do'stlashishlariga bo'lgan psixologik ehtiyojlari haqida yoritib o'tilgan.*

Kalit so'zi: *psixologiya, sezgi, idrok, ruhiyat, ontogenetika, fiziologiya, filogenetika, pedagogika, ehtiyoj.*

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INTERDEPENDENCE OF ADOLESCENTS DUE TO PSYCHOLOGICAL DEMANDS

Annotation: *this article covers the psychological needs of young people to make friends with each other.*

Keyword: *psychology, intuition, perception, psyche, ontogenetics, physiology, phylogenetics, pedagogy, need.*

Psixologiya - inson faoliyati va hayvonlar xatti-harakati jarayonida voqelikning psixik aks etishi, ruhiy jarayonlar, holatlar, hodisalar, hislatlar to‘g‘risidagi fan. Psixologiyaning tadqiqot predmetiga sezgilar va idrok obrazlari, tafakkur va hissiyot, faoliyat va muomala kabi psixologik jarayonlar, kategoriyalar kiradi. Psixologiyaning asosiy vazifalari — psixika qonuniyatlarini, inson ruhiy holatlari shakllanishini filogenetik va ontogenetik taraqqiyot birligida ochishdan iboratdir. Mazkur vazifalar yechimini topishda psixologiya bir tomondan, biologiya fani sohalari bilan jumladan, fiziologiya bilan, boshqa tomondan esa, sotsiologiya, pedagogika, madaniyat tarixi, mantiq hamda ijtimoiy fanlar bilan jips aloqaga kirishadi. Psixologiya eng avvalo, psixikaning insonga xos shakli bo‘lmish ong va o‘zini o‘zi anglashni tadqiq etadi.

O`smir o`quvchilarni ta’lim va tarbiya berish ishlarida uchraydigan ayrim qiyinchiliklar bu yoshdagi bolalarning psixik rivojlanishi va hususiyatlarini ba’zan etarli darajada bilmaslikdan yoki inkor qilishdan kelib chiqadi. Kichik va katta yoshdagi maktab o’quvchilariga qaraganda o`smirlik yoshidagi bolalarni tarbiyalashda juda ko’p qiyinchiliklar bo`ladi. Chunki, kichik bolaning katta odamga aylanishi jarayoni juda qiyin kechadi. Bu jarayon o’smirlar psixologiyasining odamlar bilan bo’lgan munosabat formalarining jiddiy ravishda o’zgarishi, hamda hayot sharoitining o’zgarishi bilan bog’liqdir. Bu davrda o’smirlarning o’z shaxsiy fikrlari paydo bo’ladi. Ularda o’z qadr-qimmatlari haqidagi tushuncha kengayadi. Ilmiy psixologiyaning aniqlashi bo’yicha o`smirlarning psixik taraqqiyotini harakatga keltiruvchi kuchlar, ularning faoliyatlari bilan tug’iladigan extiyojlar bilan bu extiyojlarni qondirish imkoniyatlari o’rtasidagi dialektik qarama-qarshiliklarni yuzaga kelishi va bartaraf qilinishidan iboratdir.

Qarama-qarshiliklar ancha yuksak darajadagi psixik taraqqiyotini, ancha murakkab shakldagi faoliyat turlarini va shaxsning qator yangi psixologik hususiyatlarini tarkib toptirish orqali bartaraf qilishdan iboratdar. Shundan keyin psixik taraqqiyotning yuksakroq bosqichiga o`tiladi. Sana shu nuqtai nazardan o`smirlik yoshini yanada oydinroq qarab chiqaylik. Bola boshlang`ich sinfni tugatadi. Bolaning o`rta maktabda o`qishga o`tishi uning hayotida burilish davri hisoblanadi.

Ehtiyoj – insonning yashashi va kamol topishi uchun kerakli hayotiy vositalarga bo‘lgan zaruriyat. Ehtiyoj kishilarning hayotiy vositalariga bo‘lgan zaruriyatini ifodalovchi ilmiy kategoriya sifatida taraqqiyotning hamma bosqichlari uchun umumiy va doimiydir. Uning bozor iqtisodiyoti sharoitidagi tarixiy ko‘rinishi talab tushunchasidir. Talab ehtiyojdan farq qilib, mustaqil iqtisodiy kategoriya (ilmiy tushuncha) sifatida amal qiladi. Ehtiyojning faqat pul bilan ta’minlangan qismi talabga aylanadi. Demak, talab – bu pul bilan ta’minlangan ehtiyojdir.

O‘smirlik – yoshlik davridagi hayot davri va ko‘pincha bolalik va kattalik (yetuklik) o‘rtasidagi vaqtni anglatadi. Shuningdek, u “yosh kishiga xos ko‘rinish, kuch – quvvat va boshqalar” deb ta’riflanadi. Uning ma’lum bir yosh oralig‘idagi ta’riflari turlicha bo‘ladi, chunki yoshlik xronologik jihatdan ma’lum bir yosh oralig‘iga bog‘lanishi mumkin bo‘lgan bosqich sifatida belgilanmagan. Uning yakuniy nuqtasini tugallanmagan ish yoki jinsiy aloqa kabi muayyan faoliyat turi bilan bog‘lab bo‘lmaydi.

Ho’sh o’smirlik davridagi bolalar psihologik ehtiyojlar oshib boradi chunki bu davrda bola o’zi uchun yangiliklar yaratishni boshlaydi bu davrda unda sinfdoshlar o’rtoqlar do’stlar, o’zidan katta yoshdagi bolalar, oilaviy tengdoshlar bilan birga harakatlanish boshladi, bunday harakatlar davomida bolalarda o’z psixologiyasiga mos psixologiyaga ega bola bilan birga bo’ladi.

Buni koproq biron sinfda guruhda aholida ajralib qolishadi bunday bolalarda harakterlari va psihologik o’zgarishlari bir xilda bo’lgani sabablari ular bir birlari bilan oson muloqot qilishadi va oson til topishadilar, bunday juftliklar 2 yoki 3

kishidan tarkib topishi mumkin to'g'ri bundan ko'p bolalardan tarkib topishishi ham mumkin. Lekin unda sir saqlash tomonlari ishonchli bo'lmaydi. Ayrim hollarda faqat ikki kishi iborat bolganda sirdosh va yaqin o'rtoqlik yuzaga keladi.

Bunday juftlik mukammal bo'lishiga ularning psixologik ko'rsatkichlari yutuq va kamchiliklari bir birlarini to'ldirishidadur. O'zingizga ma'lumku o'sib kelayotgan yoshlar tashqi muhitga moslasha olmasliklari juda katta muommolarga olib keladi. Kuzatuvdagi yoshlar, Ikki kishi tengdoshlar

Maktabda birga bir maktab bir sinfda o'qishgan lekin bittasi o'qishini boshqa maktabga ko'chirgan va uzoq vaqt uchrashishmagan.

Kuzatuv obyektlar malumotlari (shartli ma'lumotlar bilan M va O ismli yigitlar)

M ismli yigit

Yoshi: 27 yoshda
Ma'lumoti: tugallanmagan oliy
Metalni qayta ishlash kichik korhonasida muhandis mehanik
Oila qurmagan

O ismli yigit

Yoshi: 28 yoshda
Ma'lumoti: o'rta maxsus
Mashina tuzatadigan usta
Oila qurmagan

Bu ikki yigit deyarli 6-7 yil davomida bir biri bilan uchrashishmagan chunki ikkasasini ham ishi boshqa boshqa va ularni bog'lovchi jiddiy bir sabab bo'lmagan. M ismli yigit mashina sotib olgach yigit bir biri bilan ko'p uchrasha boshlashdi. Ularning harakterlari va psixologiyasi shu darajada bir biriga mos tushdiki 1-2 oy ichida ularning orasidan qil ham o'tmaydigan do'stlarga aylanishdi. Bu yigitlarning psixalogiyasi va harakterlariga to'xtalib o'tmaslik hato bo'ladi.

M ismli yigit

Temperamenti xolerik (o'ta qaysar)
Harakteri tez o'zgaruvchan lekin ko'p holatlarda og'ir bosiq
Hamma ishni rostmona qilishni va rost gapirishni yoqtiradi
Jahli juda tez chiqadi.
Har qanday tashqi ta'sirga javob qaytaradi.

O ismli yigit

Temperamenti xolerik (o'ta qaysar)
Harakteri tez o'zgaruvchan lekin ko'p holatlarda og'ir bosiq
Hamma ishni oxirigacha qilishga harakat qiladi
Jahli juda tez chiqadi va buni sezdirishdan qo'rqmaydi.
Har qanday tashqi tasirga javob qaytaradi.

Ko'rib turganizdek ikki do'st psixologiyasi bir biriga juda yaqin va biri biri bilan yaxshi chiqishadi. M va O ismli yigitlar boshqa o'rtoqlar va do'stlar davrasida bir-birini himoya qilishlari taqsimga loyiq ya'ni ular tashqi olam bilan munosabatlarda bir-biriga tayangan holda ish yurutishlari bir biriga bo'lgan

psixologik ehtiyojlaridur. Bu yigitlar birga bo'lgan paytlarida yengilmas lekin yolg'iz holda bo'lishsa juda oson mag'lub bo'lishadi.

O'smirning nerv sitsemasining tarkib topayotgan munosabatlari tarkibiy natijasida kuchayadi va mutsahkamlanadi. O'smirni ish o'qish hamda sport mashg'ulotlari paytida to'g'ri va chuqur nafas olishga o'rgatish zarurdir. Bu narsa shuning uchun ham muhimdirki, bo'yning tez o'sishi organizmda modda almashishining jadallashishi bilan o`smir ko`p miqdorda kislorodga muhtoj bo'ladi. Bu yoshda o'smirning toza havoda bo'lishi ayniqsa muhimdir. O'smirlik yoshida yurak ikki baravardan ko'proq o'sadi, gavda esabir yarim barobar o'sadi. Arteriyalari diametrining o'sishi yurakning o'sishidan orqada qoladi. Qon tomirining yo'li yurak hajmiga nisbatan kamayadi va bu nerv qalqonsimon bezlari faoliyatining kuchli darajada tezlashuvi bilan birgalikda qon bosimining ortishiga va yurak faoliyatining kuchayishiga olib keladi.

Foydalanilgan adabiyotlar:

1. Maxammadjanovna, B. Z. (2020). O'smirlik davrida delinkventlikninig shakllanishiga ta'sir etuvchi omillar. *Евразийский научный журнал*, (1), 60-62.
2. Bobayeva, Z. M. Q. (2023). Boshlang'ich sinf o'quvchilarining intelektual qobilyatlarini rivojlantirish. *Science and Education*, *4*(2), 973-977.
3. Бобаева, З. М. (2021). Формирование толерантности у школьников в процессе изучения этнокультуры различных народов. In *Диалог культур и толерантность общения* (pp. 66-71).
4. Ogli, M. M. A. X., & Qizi, O. Z. M. (2024). O'SMIRLAR YOSHLARDA AGRESSIV XULQ-ATVORNING VAQTINCHALIK VA DAVOMLI SHAKLLANISHIGA TA'SIR ETUVCHI OMILLAR. *Eurasian Journal of Social Sciences, Philosophy and Culture*, *4*(2), 68-72.

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QUYONLARDA CHUVALCHANGSIMON O`SIMTASI NERV TUZILMALARINING YOSHGA BOG`LIQ MORFOLOGIK O`ZGARISHLARI

Annotatsiya: *Ushbu maqolada quyonlarning chuvalchangsimon o`simtasi innervatsiyasining yoshga bog`liq rivojlanishi o`rganilgan. Quyonning chuvalchangsimon o‘simtasi devoridagi mushaklararo nerv tolalari va nerv hujayralaridan iborat nerv chigallari hosil bo‘lgan.*
Kalit so'zlar: *quyon, chuvalchangsimon o‘simta, innervatsiya, Kampos usuli bilan singdirilgan nerv apparati, nerv tolalari.*

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AGE-RELATED MORPHOLOGICAL CHANGES IN THE NERVE STRUCTURES OF THE APPENDIX IN RABBITS

Abstract: *This article describes the development of innervation of the rabbit vermiform appendix. In the wall of the rabbit appendix there is a well-developed intermuscular plexus formed by bundles of nerve fibers and nerve nodes.*
Keywords: *rabbit, vermiform appendix, innervation, nervous apparatus, impregnated by the Kampos method, nerve fibers.*

Kirish. Chuvalchangsimon o‘simtaning inervatsiyasiga bag`ishlangan ilmiy ishlar ko`p bo`lsada, qarama-qarshi fikirlar ko`plap uchraydi. Ayrim olimlar shiliq osti Auerbex nerv chigallari yaxshi rivojlanmagan deb xisoblaydi. Bundan farqli o'laroq, boshqa mualliflar vermiform appendiksning devorining shiliq osti qavatida Auerbax nerv chigallaridan iborat kuchli asab tizimi mavjudligini ta'kidlashadi.

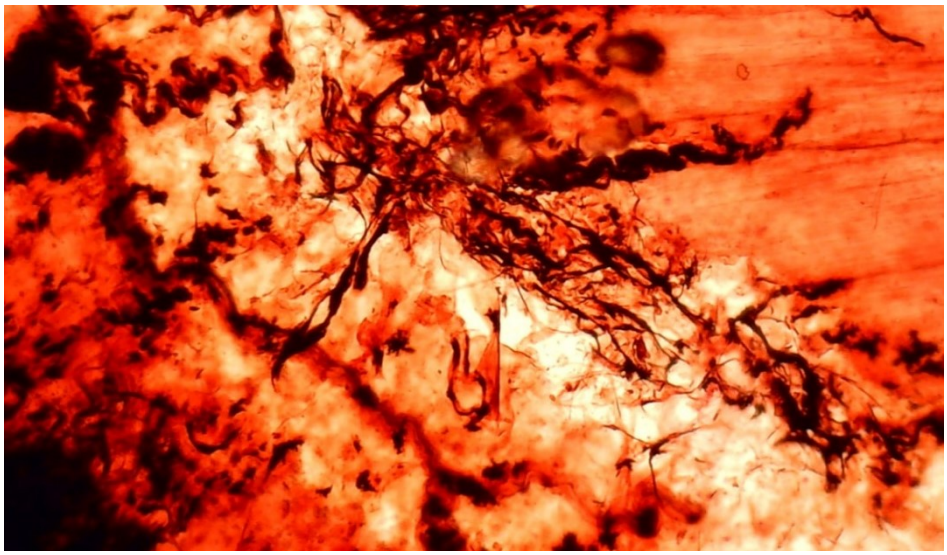
Shu ilmiy mavzuga yanada aniqlik kiritish maqsqdida quyonlarda chuvalchangsimon o`simtasi nerv tizimini o`rganish uchun quyidagi maqsadni qo`ydi.

Tadqiqot maqsadi: Quyonlarda chuvalchangsimon o`simtasi innervatsiyasining yoshga bog`liq rivojlanishini o`rgandik.

Tadqiqot materiallari va usullari: Tadqiqotimizni yngi tug`ilgan va voyaga etgan jami 12 ta quyonlardan olingan materallarda olib borildi. Olingan chuvalchaosimon o`simta neytral formalinning 12% eritmasida qotirildi, Muzlatuvchi mikrotomda 10-12 mikron qalinlikda kesilib, olingan kesmalardan

gistologik preperatlar tayorlandi. Nerv tolalarining gistologik tuzilishni o`rganish uchun Bilshovskiy-Gros va Campos usularida bo`yaldi.

Tadqiqot natijalari: O'rganilgan materiallarning tahliliga asoslanib, quyonlarning chuvalchangsimon o`simtasi devoridagi mushaklar orasida joylashgan nerv tolalari va nerv chigallari yaxshi rivojlangan degan fikrga kelish mumkin. Yangi tug'ilgan quyonlarda chuvalchangsimon o`simta devoridagi Auerbax nerv chigallari hayotning birinchi kunlarida to`liq shakillanmagan. Nerv tolalari nozik ingichka tuzilishga ega. Yoshi ortishi bilan nerv chigallari rivojlanib keng ilmoqli, to'rtburchak va kamroq uchburchak va ko'pburchak shaklga ega bo'lgan verv chigallarini tashkil qiladi. Voyaga etgan quyonlarda nerv poyalari shakillanib, nerv tolalari ancha qalinlashadi. Nerv toialari soni ortib qalin tolalar paydo bo'ladi[rasm-1].



Rasm- 1. Chuvakchansimon o`simta devoridagi mushaklararo nerv tolalari.

Obektiv-40. Okulyar- 10 kattalashtirilgan.

Yangi tug’ilgan quyonlarda nerv chigallarining xajmi dastlabki kunlarda eng katta diametri 13 mikronni tashkil qiladi. To’rt haftalik quyonlarda chigallarning shakli kattalashib, o’sib boradi va ikki-uch oylik quyonlarda 17 mikronga etadi. Voyaga etgan quyonlarda esa 200iametric 26 mikronga etadi. Nerv chigallarining diametric 64 mikrongcha o`sadi. Nerv tolalari kesishgan joylarida turli o’lcham va shakldagi nerv tugunlari joylashgan. Yangi tugilgan quyonlarda ko’pincha uchburchak shaklida bo’ladi. Ularning o’lchamlari 13x8 mikrondan 21x13 mikrongacha katalashadi. To’rt haftalik quyonlarda kichik tugunlardan tashqari 34x27 mikronga yetadigan nerv tugunlari ham bor. 2-3 oylik quyonlardagi nerv tugunlarning o’lchamlari 52x10 mikronga etadi. Ayrim quyonlarda 2-3 yoshda 107x17 mikron o’lchamdagi tugunlar ham topiladi. Nerv tugunlarining katalashi bilan birga xar-xil yoshdagi nerv xujaralari farqlanadi. Yangi tug’ilgan quyonlarda asosan neyroblast tipidagi nerv hujayralaridan iborat. Neyroblastlar orasidagi

201iametric 13-15 mkm bo’lgan dumaloq yoki oval shakldagi individual, ko’proq farqlangan nerv hujayralari ham mavjud. Bu hujayralar 2-3 ta qisqa nozik tolalarga ega. Neyroblast xujayralarida yadrolari odatda eksentrik tarzda joylashgan. Yadro 201iametric 4 mikronni tashkil qiladi. Yadroda 2-3 ta yadrochalar aniq ko’rinadi.

Xulosa. Shunday qilib, yangi tugilgan quyonlarga nisbatan voyaga etgan quyonlarda chuvalchansimon o`simta devoridagi mushaklararo Auerbax nerv chigallariining tugunlarida differentsiatsiyalangan hujayralar soni ortadi. Ularning hajmi va rivojlanish soni ortadi. 2-3 oylik quyonlarda tugunlarning shakillanish darajasi voyaga etgan quyonlardagi nerv tugunlaruga yaqin. Voyaga yetgan quyonlarning Auerbax chigalidagi nerv xujayralari asosan Dogel 1- tipdagi hujayralarni tashkil qiladi. Dogel II tip hujayralariga juda o’xshash hujayralar ham mavjud. Nerv hujayralari nafaqat nerv tolalari to’plamlari kesishgan joyda joylashgan ganglion apparatini hosil qiladi, balki nerv tolalari to’plamlari bo’ylab alohida to’plamlar shaklida yotadi. Ilmiy adabiyotlardagi mavjud ma’lumotlarga muvofiq bizning ilmiy ta`hlilarimiz ham chuvalchansimon o`simtasining nerv tolalarining rivojlanishi uning devori qavatlarining rivojlanishi bilan chambarchas bog’liq holda sodir bo’ladi degan xulosa qilish imkonini beradi.

Foydalanilgan adabiyotlar:

1. Маматалиев А., Орипов Ф. Гистологическое строение интрамурального нервного аппарата общего желчного протока и желчного пузрья у кролика, в норме и после удаление желчного пузыря //Журнал биомедицины и практики. – 2021. – Т. 1. – №. 3/2. – С. 117-125.

2. Маматалиев А. Р. и др. АНАТОМО-ТОПОГРАФИЧЕСКОЕ СТРОЕНИЕ И АКТИВНОЕ СОКРАЩЕНИЕ СТЕНОК ВОРОТНОЙ ВЕНЫ ЛАБОРАТОРНЫХ ЖИВОТНЫХ //Академические исследования в современной науке. – 2024. – Т. 3. – №. 30. – С. 163-168.

3. Abdullaeva, D. R., Ismati, A. O., & Mamataliev, A. R. (2023). Features of the histological structure of extrahepatic bile ducts in rats. Golden brain, 1(10), 485-492 (in Russ).

4. Mamataliev, A., & Oripov, F. (2021). Histological structure of the intramural nervous apparatus of the common bile duct and gallbladder in a rabbit, in norm and after gallbladder removal. Journal of Biomedicine and Practice, 1(3/2), 117-125(in Russ).

5. Mamataliev, A. R., Tukhtanazarova, Sh. I., Zokhidova, S. Kh., Omonov, A. T., & Rakhmonov, Sh. Sh. Anatomical and topographic structure and active contraction of the walls of the portal vein of laboratory animals. Academic research in modern science, (2024). 3(30), 163-168(in Russ).

6.Satybaldiyeva, G., Minzhanova, G., Zubova, O., Toshbekov, B., Rasulovich, M. A., Sapaev, B., ... & Khudaynazarovna, T. I. Behavioral adaptations of Arctic fox, Vulpes lagopus in response to climate change. *Caspian Journal of Environmental Sciences*, (2024); *22*(5): 1011-1019.

7.Mamataliev, A. R. (2024). Nervous apparatus of extrahepatic bile ducts in rabbit after experimental cholecystectomy. International journal of recently scientific researcher's theory, 2(4), 161-165(in Russ).

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QISHLOQ XO‘JALIGINI AXBOROTLASHTIRISHDA RAQAMLI TEXNOLOGIYALAR

Annotatsiya: *Ushbu maqola qishloq xo‘jaligini raqamli texnologiyalar asosida axborotlashtirishning dolzarb masalalariga bag‘ishlangan. Maqolada qishloq xo‘jaligi sohasida raqamli texnologiyalarni joriy etishning ahamiyati, ularning samaradorligi va fermerlarga qo‘shgan imkoniyatlari ko‘rib chiqilgan. Raqamli texnologiyalar yordamida yer maydonlarini boshqarish, hosildorlikni oshirish, resurslardan samarali foydalanish kabi masalalar yoritilgan.*

Kalit so‘zlar: *Qishloq xo‘jaligi, raqamli texnologiyalar, axborotlashtirish, mobil telefonlar, sun’iy intellekt, IoT, fermerlar, samaradorlik, resurslardan foydalanish, atrof-muhit.*

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DIGITAL TECHNOLOGIES IN AGRICULTURAL INFORMATIZATION

Annotation: *This article is devoted to the pressing issues of digitalization in agriculture based on digital technologies. The article discusses the importance of implementing digital technologies in the agricultural sector, their efficiency, and the opportunities they provide to farmers. It highlights topics such as land management, increasing productivity, and the efficient use of resources through digital technologies.*

Keywords: *Agriculture, digital technologies, digitalization, mobile phones, artificial intelligence, IoT (Internet of Things), farmers, efficiency, resource utilization, environment.*

KIRISH

Hozirgi davrda qishloq xo‘jaligi ishlab chiqarish jarayonlarini zamonaviy texnologiyalar bilan qo‘llab-quvvatlash global miqyosda muhim vazifaga aylandi. Innovatsion usullarni joriy etish orqali ish samaradorligini oshirish, tabiiy resurslarni tejash va atrof-muhitga zarar yetkazmagan holda mahsuldorlikni ko‘paytirish imkoniyati yaratiladi. Axborot texnologiyalari qishloq xo‘jaligida yangi yechimlar va mexanizmlarni amalda qo‘llashga xizmat qiladi. Bu sohadagi texnologik yutuqlar yer maydonlarini boshqarishdan tortib, hosilni yig‘ib olishgacha bo‘lgan jarayonlarning barcha bosqichlarini optimallashtiradi. Masalan, tuproqdagi ozuqa moddalarini aniqlash, iqlim sharoitlarini tahlil qilish va zararkunandalarni aniqlash uchun ilg‘or tizimlardan foydalanish fermerlarga aniqroq qaror qabul qilish imkonini beradi.

ADABIYOTLAR TAHLILI

Raqamli iqtisodiyot atamasi ikki xil turli tushunchalarni ifodalash uchun ishlatiladi. Birinchidan, raqamli iqtisodiyot – bu rivojlanishning zamonaviy bosqichi hisoblanib, u ijodiy mehnat va axborot ne'matlarining ustuvor o'rni bilan tavsiflanadi. Ikkinchidan, raqamli iqtisodiyot – bu o'ziga hos nazariya bo'lib, uning o'rganish ob'ekti, axborotlashgan jamiyat jarayonlari hisoblanadi. "Raqamli iqtisodiyot" atamasi ilmiy amaliyotga ispaniyalik va amerikalik sotsiolog, axborotlashgan jamiyatning yetakchi tadqiqotchisi Manuel Kastels tomonidan kiritilgan. Bu borada u o'zining "Axborot davri: iqtisod, jamiyat va madaniyat" nomli uch jildli monografiyasini chop etgan. [2]. Raqamli texnologiyalar va ularning xizmat ko'rsatish sohasiga ta'siri bo'yicha keng qamrovli ilmiy adabiyotlar mavjud bo'lib, ular zamonaviy xizmat ko'rsatish jarayonlarida raqamli texnologiyalarni qo'llashning turli jihatlarini o'rganadi. Xususan yurtimiz olimlaridan S.S. Gulyamov va R.H. Ayupovlar "Raqamli iktisodiyot va elektron tijorat asoslari" nomli o'quv qo'llanmasida hozirgi paytda raqamli olam va jismoniy (yoki moddiy) olamlar kundan-kunga bir-biriga tezkorlik bilan yaqinlashib kelmoqda, bu ikki olamning jipslashuvi, oxir-oqibat, o'zaro bog'liqlik tushunchasi katta ahamiyat kasb etuvchi idrokli olamga olib keladi deya ta'kidlaganlar [2]. Masalan, Porter va Heppelmann (2015) o'zlarining tadqiqotlarida aqlli xizmat ko'rsatish tizimlari va raqamli platformalarning mijozlarga xizmat ko'rsatish jarayonlarida qanday yangi imkoniyatlar yaratishini tahlil qilganlar. Misol uchun fermer xo'jaligida, namlik sensorlaridan olingan ma'lumotlar ob-havo prognozlari bilan birlashtirilishi mumkin, bu esa sug'orish uskunalarini optimallashtirish va suv iste'molini kamaytirish imkonini berishini shu bilan birga raqamli texnologiyalar yordamida xizmat ko'rsatish jarayonlari samaradorligini oshirish va mijozlarga xizmat ko'rsatish sifatini yaxshilash imkoniyatlarini ko'rsatib bergan [3]. Shu bilan birga, Davenport va Ronanki (2018) raqamli transformatsiya va sun'iy intellektning xizmat ko'rsatish sohasidagi o'rnini o'rganganlar. Ularning tadqiqotlari raqamli texnologiyalar yordamida xizmat ko'rsatish jarayonlarini avtomatlashtirish va optimallashtirish bo'yicha qimmatli ma'lumotlarni taqdim etadi. Ular o'rgangan 152 loyiha ichida eng keng tarqalgan turi raqamli va jismoniy vazifalarni avtomatlashtirish bo'lgan. Tadqiqotlaridan kelib chiqqan holda sun'iy intellekt texnologiyalaridan foydalanish orqali xizmat ko'rsatish jarayonlarini qanday samarali boshqarish mumkinligini yoritib berganlar [4].

TADQIQOT METODOLOGIYASI:

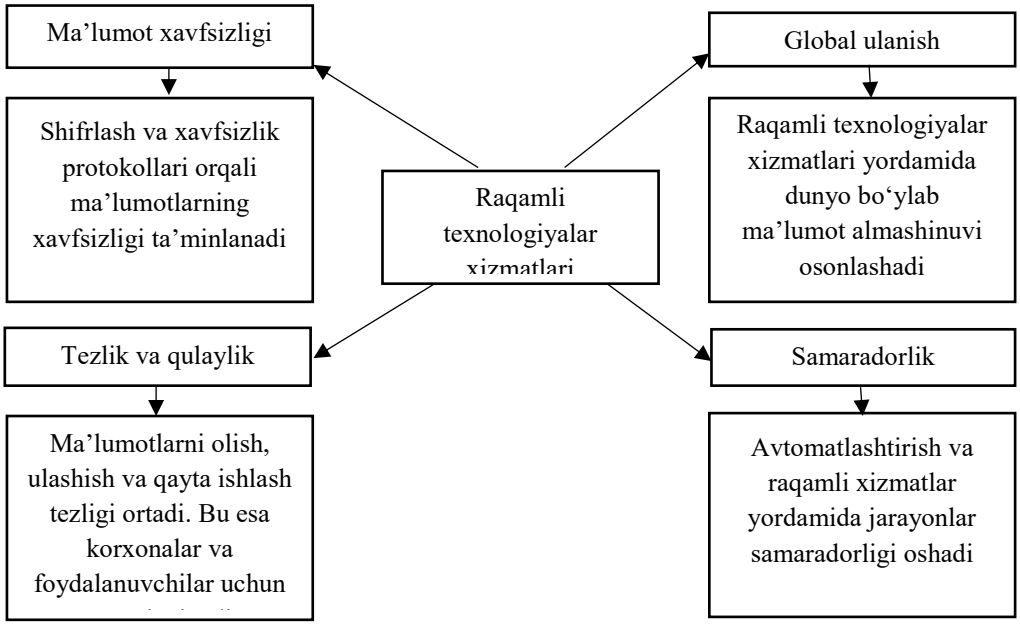
Tadqiqotda ilmiy adabiyotlar tahlili, statistik ma'lumotlar va amaliy loyihalarning natijalari asosida qishloq xo'jaligini raqamlashtirishning samaradorligi va ularning fermerlarga qo'shgan imkoniyatlari o'rganilgan.

MUHOKOMA VA NATIJALAR

Chet el mamlakatlari olimlari qishloq xo'jaligi sohasida mobil telefonlardan foydalanishning samaradorligi bo'yicha tadqiqotlarida ushbu xulosaga kelganlar. Okello, Kirui, Njirani va Gitonga (2012) [5] fikriga ko'ra, fermerlar tomonidan mobil telefonlardan foydalanish ta'lim va bilim olish, shuningdek, fikrlarni tarqatish vositasi sifatida foydalanish qobiliyatini mustahkamladi, yoshlar texnologiyaga

nisbatan ko‘proq moslashuvchan bo‘lib, ular qayerda bo‘lishidan qat’i nazar, mobil telefonlardan foydalanish bilan ijobiy bog‘liqlikka ega. Shuning uchun yosh fermerlar bu texnologiyadan kundalik tranzaksiyalar uchun foydalanishga moyil bo‘lishlari kutilmoqda. Kirui va boshqalar (2010) kichik fermerlarning ta’lim darajasi past bo‘lganligi va bu zamonaviy texnologiyalar, masalan, mobil telefonlardan foydalanishda qiyinchiliklar tug‘dirganligini ta’kidladilar [6]. Kirui va boshqalar (2010) ning ishi Okello va boshqalar (2009) ning ishini tasdiqladi, bu esa fermerlarning savodxonlik darajasi mobil telefonlardan ma’lumot olish uchun foydalanishda muhimligini va telefon menyularini, odatda xalqaro tillarda yozilgan, navigatsiya qilishda qiyinchilik darajasiga ta’sir qilishi mumkinligini ko‘rsatdi [7]. Shuning uchun fermerlarning savodxonlik darajasi va ijtimoiy inklyuziyasi mobil telefonlardan foydalanishga turlicha ta’sir ko‘rsatdi (Chigona, Beukes, Vally va Tanner, 2009) [8] va Nigeriyaning turli jamoalarida qabul qilish darajasiga ta’sir qilishi mumkin. Bu esa, xizmatlar bilan bevosita bog‘liq bo‘lib o‘z navbatida, ularning ishlab chiqarish samaradorligini oshiradi, hosildorlikni yaxshilaydi va umumiy iqtisodiy o‘sishga hissa qo‘shadi.

Raqamli texnologiyalar xizmatlari blok sxemasi[13].**1-rasm.**



Qishloq xo‘jaligi insoniyatning eng qadimiy va muhim sohalaridan biri bo‘lib, uning samaradorligini oshirish va resurslardan optimal foydalanish har doim dolzarb masala bo‘lib kelgan[1].

Bu muammo, ayniqsa, yuqori texnologiyali ishlab chiqarishlar va faoliyat sohalari, aholi bandligi tarkibida ustunlik qilmaydigan hududlarda keskin bo‘ladi. Raqamli texnologiyalarni qo‘llash natijasida xizmat ko‘rsatish sohasida yangi funksiyalar paydo bo‘lib, ular o‘z navbatida mutaxassislarning vazifalarini ham qayta ko‘rib chiqishga majbur qilmoqda.

XULOSA

Xulosa sifatida, shunin aytish mumkinki qishloq xo‘jaligini raqamlashtirish

[13] Muallif tadqiqotlari asosida

nafaqat mahsuldorlikni oshirish, balki resurslardan samarali foydalanish va atrof-muhitni muhofaza qilish yo‘lida muhim qadam hisoblanadi. Raqamli texnologiyalarni qo‘llash orqali fermerlar aniqroq qarorlar qabul qilish, xarajatlarni kamaytirish va umumiy iqtisodiy o‘sishga hissa qo‘shish imkoniyatiga ega bo‘lishadi. Kelajakda qishloq xo‘jaligini raqamlashtirish sohasidagi tadqiqotlar va amaliy loyihalarni kengaytirish, shuningdek, fermerlarning texnologiyalarga kirishini osonlashtirish ushbu sohani yanada rivojlantirish uchun muhim vazifa sifatida qaralmoqda.

FOYDALANILGAN ADABIYOTLAR

1. Carlsson B. The Digital Economy: what is new and what is not? / B. Carlsson // Structural Change and Economic Dynamics. – 2004. – №15 (3). – Pp. 245-264.
2. С.С. Гулямов, Р.Ҳ. Аюпов рақамли иқтисодиёт ва электрон тижорат асослари ўқув қўлланма тошкент – 2020.
3. Business management How Smart, Connected Products Are Transforming Companies by Michael E. Porter and James E. Heppelmann From the Magazine (October 2015)
4. Davenport, T. H., & Ronanki, R. (2018, January 9). Artificial Intelligence for the Real World. Harvard Business Review (HBR). https://www.bizjournals.com/boston/news/2018/01/09/hbr-artificial-intelligence-for-the-real-world.html
5. Okello, J., Kirui, O.K., Njirani, G.W. & Gitonga, Z. M. (2012). Drivers of Use of Information and Communication Technologies by Farm Households: The Case of Smallholder Farmers in Kenya, Journal of Agricultural Science, 111-124.
6. Kirui, O.K., Okello, J.J. & Nyikal, R.A (2010). Awareness and use of m-banking services in agriculture: The case of smallholder farmers in Kenya. Contributed Paper presented at the Joint 3rd African Association of Agricultural Economists (AAAE) and 48th Agricultural Economists Association of South Africa (AEASA) Conference, Cape Town, South Africa, September 19-23, 2010.
7. Okello-Obura, C., Minishi-Majanja, M.K, Cloete, LM. & Ikoja-Odongo, J.R. (2009). Proposed Business Information System Design (BISD) for Small and Medium Enterprises (SMEs) in Northern Uganda. International Journal of Libraries and Information Services, 59(1), 31-44.
8. Wallace Chigona , Darry Beukes , Junaid Vally , Maureen Tanner EJISDC (2009) 36, 7, 1-16 Can mobile internet help alleviate social exclusion in developing countries? EJISDC (2009) 36, 7, 1-16

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OLIY O‘QUV YURTLARIDA KONFLIKTOLOGIK MUAMMOLAR VA ULARNING YECHIMLARI

Annotatsiya:*Ushbu maqolada konfliktni olimlar tomonidan o‘rganilganligi, konfliktning moxiyati, konflikt xolati yuz berganda ularni boshqarish, shuningdek, konfliktlarni bartaraf etish usullari yoritib berilgan.*

Kalit so‘zlar: *konflikt, konfliktning yaratuvchanlik, konfliktning vayron qilish imkoniyati, o‘zini ustun qo‘yish, agressiyaga moyillik, egoizm, konfliktlarni bartaraf etishning usullari, kompromiss, hamkorlik.*

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CONFLICTOLOGICAL PROBLEMS IN HIGHER EDUCATION INSTITUTIONS AND THEIR SOLUTIONS

Abstract: *This article explores the study of conflict by scholars, the essence of conflict, the management of conflict situations, and methods for their resolution.*

Keywords: *creative potential of conflict, destructive consequences of conflict, desire for dominance, tendency toward aggression, egoism, methods of conflict resolution, compromise, cooperation.*

Hayot konfliktlarga to’la. Insonning jamiyatdagi yashash tarzini turli ziddiyatlarsiz tasavvur etib bo’lmaydi. Turli nizo va ziddiyatlar bilan umr davomida, har qanday yoshda, har qanday joyda, har qanday vaziyatda to’qnash

kelish mumkin. Konfliktlar uyda, maktabda, ko'chada, o'quvchilar orasida, ota-onalar va farzandlar, xodim va uning raxbariyati orasida, jamoa a'zolari o'rtasida sodir bo'lishi mumkin. Konfliktlar, odatda, ko'p vaqt odamlar birga bo'ladigan hollarda, ya'ni ular uzoq' muddat bir-birlari bilan va ruxiy muloqotda bo'ladigan hollarda, ular ma'lum muddat uzaro birga bo'lishga majbur bo'lgan paytlarida ko'prok, sodir bo'ladi.

Konflikt – o'zaro qarama-qarshi bo'lgan ziddiyatli manfaatlar va munosabatlarning ochiq to'qnashuvidir. [3. 11 b]

S.I.Ojegov lug'atida konflikt – to'qnashuv, jiddiy fikrlar qarama–qarshiligi, bahs sifatida izohlanadi.

Agar tabiat, – A.Eynshteyn fikricha, – u murakkab hamda yomonlik tashimaydigan bo'lsa, konfliktlar bo'ladigan munosabat boshqacha bo'lishi mumkin. Konfliktga boruvchi kuchlar yovuz, adolatli va xolis bo'lishi mumkin.

Hech bir inson o'zini va boshqa insonni konfliktlardan doimiy muhofaza qilingan deb hisoblay olmaydi. Chunki konfliktlar ba'zan qo'qqisdan, hech kutilmagan holda vujudga kelishi hamda inson hayot tarzini tubdan o'zgartirib yuborishi mumkin. Demak, konflikt – bu ikki, yoki undan ko'p tomonlarning o'z maqsadlariga yetish yo'lida turli mafaatlar to'qnashuvidir.

Konfutsi ta'limotida har bir vaziyat va holatning ikki ajralmas tarkibiy qismi ta'kidlab o'tilgan:

- Konfliktning yaratuvchanlik imkoniyati mavjudligi.
- Konfliktning vayron qilish imkoniyati mavjudligi.

Konfliktning yaratuvchanlik imkoniyati quyidagi hollarda ijobiy imkoniyatlarga ega:

➢ yashirin imkoniyatlar va muommoning yangi qirralarining ochilishiga sabab bo'ladi;

➢ muammo yechimining yangi yo'l – yo'riqlari, imkoniyatlari va usullarini kashf etadi;

➢ ishonch, samimiylik, hamkorlik va haqiqatni tan olishga qaratilgan yangi munosabatlar qurilishiga sabab bo'ladi;

➢ odamlarni umumiy g'oyalar asosida birlashtiradi;

➢ samimiy va ochiq, iliq muloqot uchun imkon yaratadi va shunday munosabatlarga insonlarni o'rgatadi;

➢ o'z fikr va o'ylaringizga aniqlik kiritishga va o'zpozitsiyangizni qayta ko'rib chiqishga majbur qiladi

Konflikt quyidagi hollarda vayron qilish imkoniyati ega bo'ladi:

➢ konflikt yechimi topilmasa va uni boshqarish imkoniyati boy berilsa;

➢ g'azab, jahl, dilsiyohlik, hafagarchilik, nafrat va qasos hislarining kelib chiqishiga sabab bo'lganda;

➢ juda qattiq stressga olib kelganda;

➢ odamlar o'rtasida uzoq muddatli nizo va ixtilof vujudga keltirganda;

➢ pashshadan fil yasab, kichkina muammoni katta majoraga aylantirganda;

➢ zo'ravonlik va urushga sabab bo'lganda.

Konflikt vaziyatlarning kelib chiqishida “konfliktogen”larning juda muhim rol o‘ynashidir. Konfliktogen – konfliktga imkon beruvchi, konflikt uchun sharoit yaratuvchi sifatida tarjima qilinadi.

O‘zini ustun qo‘yish Buyruq berib gapirish, tahdid qilish, birovni niqtab gapirish, salbiy munosabatlar, tanqid, ayblash, birov ustidan kulish, pichin, kesatiq va x.k.

Agressiya. Agressiyaga moyillik ham erkaklarga, ham ayollarga xos xususiyatdir. Erkaklar agressiyasi o‘zini ochiq ifoda qiladi, ya’ni, o‘zi uchun ko‘proq jismoniy kuch ishlatish shaklini tanlab oladi. Ayollar agressiyasi esa ochiq ifodalanmaydi. Ular orqavorotdan, asta, bilintirmay, zimdan harakat qilishadi.

Egoizm. Egoizm faqat o‘z mafaatlarini ko‘rish qobiliyati bo‘lib, o‘zbek tilida xudbinlik so‘ziga to‘g’ri keladi. Xudbinlik forscha so‘z bo‘lib, “xud” – o‘z, o‘zim, “bin” – ko‘rish ma’nolarini bildiradi. Demak, xudbin so‘zining ma’nosi – faqat o‘zini ko‘rishga to‘g’ri keladi. Doimiy agressiyaning ildizlaridan biri egoizmga borib taqaladi.

Konfliktlarga duch kelinganda: konfliktning yuzaga kelishi tabiiy hol hamda uning vujudga kelishidan qo‘rqmaslik va dovdiramaslik lozim; konfliktning sub’ektiv va ob’ektiv kelib chiqish sabablarini muhokama qilish darkor; konfliktning yechimini topish uchun ikki tomonning ixtiyoriy sa’yi-harakatlar olib borishi va konflikt yechimini topishga rozi-rizoligi talab etiladi; har qanday konfliktning o‘z yechimi mavjud, faqat uni topa bilish zarur; konflikt yechimini ijobiy topish uchun ma’lum bilim va malakalarni egallash darkor; konflikt yechimini topish jarayonida ziddiyat qarama-qarshi odamga, uning shaxsiyatiga emas, balki ikkala tomon o‘zaro birlashib, o‘z mulohazalarini mavjud muammoga qaratishi darkor; konfliktni insonlar emas, balki vaziyatlar va manfaatlar vujudga keltiradi; konfliktlar har doim mavjud bo‘ladi, shuning uchun ham kishilar ularni boshqarish malakasiga ega bo‘lishi lozim. Yuqoridagi kabi nizoli holatlar yuzaga kelmasligi uchun eng avvalo, ta’lim muassasalari, tashkilotlar va jamoalarda sog’lom psixologik muhitni yaratishga erishish lozim. Jamoada konfliktni holatini o‘rganish bo‘yicha olib borilgan tadqiqot natijalariga ko‘ra, qachonki sub’ekt o‘zining hayotini mazmunan boyitsa, uning hayotdan qoniqqanlik darajasi umumiy ravishda ortadi.

Konfliktlarni bartaraf etishning shaxslararo munosabatlarga aloqador usullari mavjud. Ular quyidagilar:

- bosh tortish – nizoga nisbatan shunday reaktsiya, nizoga guvox bo‘lganlar aslida uning mavjudligini tan olmaydilar, unga aralashishdan bosh tortadilar. Odatda bunday sharoitda rahbar yoki ayni paytda vaqti yo‘qligini, imkoniyat yo‘qligini, nizoning sababi arzimas holat ekanligini vaj qilib, uni xal qilishga aralashishdan bosh tortadi. Yoki u vaziyat taqozosi bilan paydo bo‘lgan nizo vaqt o‘tishi bilan o‘z o‘zidan yechimini topadi, odamlar insofga kelib qolishiga umid qiladi;
- tekislash – bu nizolashuvchi tomonlardan birini mavjud holatga “ko‘ndirish”, moslashtirish va shu yo‘l bilan o‘zining ham muayyan manfaatlarini himoya qilishdir.

• kompromiss – bu ochiq muloqot va vaziyatni, nizokashlarning hulq – atvori va va fikrlarini muhokama qilish yo‘li bilan ikkala tomon ham ma’qul bo‘lgan yechimni qidirishdir. Bu usulning samaradorligi shundaki, nizoga aralashgan shaxs ikkala tomonning ham aybini, ular tomonidan yo‘l qo‘yilgan xatolarni ochiq, xolis o‘rtaga tashlaydi va eng ma’quli – har bir shaxs o‘z burch va ma’suliyatlarini taroziga solib olishlari ekanligini uqtiradi.

• hamkorlik – bu nizoni hal qilishning shunday usuliki, bunda ikkala tomonning shaxsiy manfaatlari nizoni keltirib chiqargan muammodan ustun qo‘yiladi.

Oliy o‘quv yurtlarida sog’lom psixologik muxitni yaratishda raxbar va pedagoglarning o‘zlari ayniqsa muomala odobi borasida namuna bo‘lmoqlari maqsadga muvofiqdir. Xulosa qilib aytganda, oliy o‘quv yurtlarida nizoli holatlarni keltirib chiqaruvchi psixologik omillarni o‘rganishimiz va ularni bartaraf etishning psixologik mexanizmlarini ishlab chiqishimiz lozim. Shuningdek, o‘qituvchi va talaba o‘rtasidagi nizoli holatlar va ularni bartaraf etishni psixologik asoslashning mazmuni, yo‘llari, shart-sharoitlari, metodlarini belgilab olishimiz talab etiladi. Oliy o‘quv yurtlarida o‘qituvchi va talaba o‘rtasidagi nizoli holatlarni bartaraf qilishning nazariy-amaliy asoslarini yaratish, nizolarni bartaraf qilishga doir mashg’ulotlar semenar-treninglar puxta ishlangan, ilmiy asoslangan bo‘lishi maqsadga muvofiqdir.

FOYDALANILGAN ADABIYOTLAR

1. Bashkin M. V. Konfliktnaya kompetentnost: Metod ukazaniya - Yaroslavl: YarGU, 2014.
2. Grishina N. V. Psixologiya konflikta SPb. : Piter, 2008-544 s.
3. Axmedova M.T. Pedagogik konfliktologiya (O’quv qo’llanma)-T.: Adabiyot uchqunlari, 2016- 319 b
4. Mamurova, F. T., Abdullayeva, N. K., & Qahhorovna, S. M. (2020). Innovative approach and modern trends in the development of science and education. *Journal of Critical Reviews*, *7*(7), 1061-1063.
5. Mamurova, F. T., Abdullayeva, N. K., & Mallaboyev, N. (2019). Using the «assessment» method in assessing students knowledge. *Theoretical & Applied Science*, *11*, 80-83.

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O‘ZBEKISTONDA ZILZILABARDOSHLI ZAMONAVIY XUSUSIY UYLAR QURISH YO‘LLARINI TAKOMILLASHTIRISH

Annotatsiya: *maqolada oxirgi 100 yil davomida sodir bo‘lgan zilzilalar oqibatlari bo‘yicha statistik ma’lumotlar va boshqa manbalar o‘rganilgan. Zililabardosh uylar qurishning turli tuman usullari tahlil qilingan. O‘zbekistonda zilzilabardoshli zamonaviy xususiy uylar qurish yo‘llarini takomillashtirish bo‘yicha taklif va tavsiyalar ishlab chiqilgan.*

Kalit so‘zlar: *qurilish texnologiyasi, zilzilabardoshli uylar, uy-joy fondi, qurilish maydoni, shinali poydevor, gidroizolyatsiya.*

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IMPROVING THE WAYS OF BUILDING MODERN PRIVATE HOUSES WITH EARTHQUAKE RESISTANCE IN UZBEKISTAN

Abstract: *The article examines statistical data and other sources on the effects of earthquakes over the past 100 years. Various district methods of building houses on stilts were analyzed. Proposals and recommendations have been developed to improve the ways of building modern private houses with earthquake resistance in Uzbekistan.*

Keywords: *construction technology, earthquake-resistant houses, housing stock, construction site, tire installation, waterproofing.*

Kirish. O‘zbekiston Respublikasi aholisining 63,7 foizi qishloq joylarda yashaydi. Ularning aksariyati kuchli vayronkor zilzilalar sodir bo‘lish xavfi bor hududlarda istiqomat qiladi, shuning uchun kam qavatli binolarning seysmik xavfsizligini ta’minlash muammosi bugungi kunning ham dolzarb vazifalaridan biri bo‘lib qolmoqda.

Afsuski, hozirgi paytda aksariyat xususiy uylarni (individual binolar) qurishda zilzilabardoshlikni ta’minlashning prinsiplari qo‘pol tarzda buzilmoqda. Hatto, zilzilabardoshlikni ta’minlovchi oddiy hajmiy va konstruktiv talablar ham bajarilmay qolmoqda. Shuning uchun, ular zilzilaga bardoshli emasligi sababli, kuchli zilzila vaqtida jiddiy shikastlanadi, hattoki ba’zilarining butunlay buzilib ketish ehtimoli yuqori darajada saqlanib turadi. O‘zbekiston hududida XX asrning

ikkinchi yarmi va XXI asrning birinchi yigirma yilligida sodir bo‘lgan kuchli zilzilalarning oqibatlari bundan yaqqol dalolat beradi.

Mavzuga oid adabiyotlar tahlili. Shu kunga qadar respublikamizning yetakchi olimlari tomonidan binolarning zilzilabardoshlik holati bo‘yicha izlanishlar olib borilib, muayyan miqdordagi eslatmalar, qo‘llanmalar va tavsiyalar ishlab chiqilgan. O‘zbekiston Respublikasi Fanlar Akademiyasi akademigi T.R.Rashidov va boshqalar tomonidan yaratilgan, 2016 yilda nashr qilingan “Farg‘ona vodiysi xususiy uy-joylarini seysmik xavfsizligini ta’minlash” nomli monografiya[5], dotsent R.X. Haydarov va boshqalar tomonidan yaratilgan, 2021 yilda nashr qilingan “Mahalliy xom ashyodan xususiy uylarni (individual binolarni) qurishda elementar seysmik mustahkamlik choralarini ko‘rish” nomli uslubiy qo‘llanma [8], Toshkent arxitektura-qurilish instituti, “Qurilish mexanikasi va inshootlar zilzilabardoshligi” kafedrasi dotsenti t.f.n. S.A.Saidiy tomonidan yaratilgan va 2012 yilda nashr qilingan “Zilzilabardosh uy qanday quriladi?”, nomli amaliy qo‘llanma [6] shular jumlasidandir. Ammo, amaldagi eslatma, qo‘llanma va tavsiyalarda O‘zbekiston Respublikasida mahalliy xom ashyolardan tiklangan binolar o‘rnini bosuvchi zamonaviy zilzilabardosh uylar qurish bo‘yicha xalqaro tajribalarni joriy etish masalalari yoritilmagan. Shu boisdan, ushbu ilmiy maqolada rivojlangan xorijiy mamlakatlarning ilg‘or tajribasini o‘rganish asosida, respublikamizda zamonaviy zilzilabardoshli uylar qurish bo‘yicha taklif va tavsiyalar ishlab chiqish nazarda tutilgan.

Tadqiqot metodologiyasi. Tadqiqot jarayonida sifatli yondashuv doirasida ilmiy adabiyotlar, xalqaro va mahalliy tashkilotlarning hisobotlari va ekspert fikrlari tahlil qilindi. Miqdoriy yondashuv doirasida o‘tgan davrdagi zilzilalar oqibatlari bo‘yicha statistik ma’lumotlar va boshqa manbalar o‘rganildi. Shuningdek, statik va dinamik nazariyalar strukturaviy mexanika haqidagi taniqli taxminlarga asoslangan usullar asosida nazariy tahlillar amalga oshirildi.

Tahlil va natijalar. O‘zbekiston Respublikasi uy-joy fondida 1-2 qavatli binolar salmoqli o‘rin tutadi. Kam qavatli binolar qurilishda devorbop material sifatida xom va pishirilgan g‘isht, mayda blok, paxsa va yog‘och sinchlardan keng foydalaniladi. Qurilish tashkilotlari tomonidan loyiha asosida quriladigan imoratlar antiseysmik (zilzilabardoshlilik) qoidalariga amal qilingan holda quriladi. Binoning zilzilaga bardoshliligi loyihada ham, qurilish paytida ham hisobga olinadi. Biroq, yakka tartibda quriladigan aksariyat imoratlarda antiseysmik qoidalar qo‘pol ravishda buziladi, buning natijasida imorat zilzila kuchi ta’siriga chidamsiz bo‘lib qoladi, bu o‘z navbatida yer silkinishlari vaqtida ko‘ngilsiz oqibatlarga olib keladi.

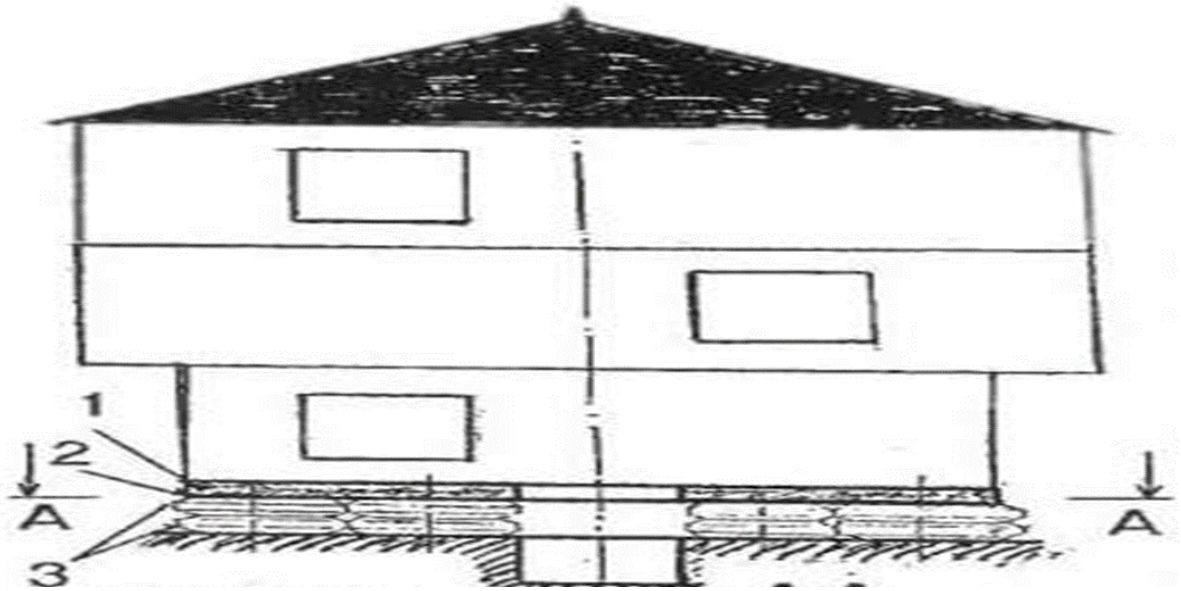
Ta’kidlash lozimki, bugungi kunda zililabardosh uylar qurishning turli tuman usullari mavjud. Bunday uylardan biri “shinali uy” hisoblanadi. Yaroqsiz avtomobil shinalari poydevorining muallifi Rossiyaning Sankt-Peterburg shahrida istiqomat qiluvchi Mixail Semeykin hisoblanadi. Uning sharafiga ushbu loyiha nomlangan bo‘lib, dastlab u qurilish materiali sifatida trolleybus shinalaridan foydalangan va keyinchalik patentlangan texnologiyani ishlab chiqdi.

Shinali poydevor -bu xususiy uylar (indvidual binolar) ostida amalga oshirilishi mumkin bo‘lgan mutlaqo yangi poydevor hisoblanadi. Xususiy uy yoki

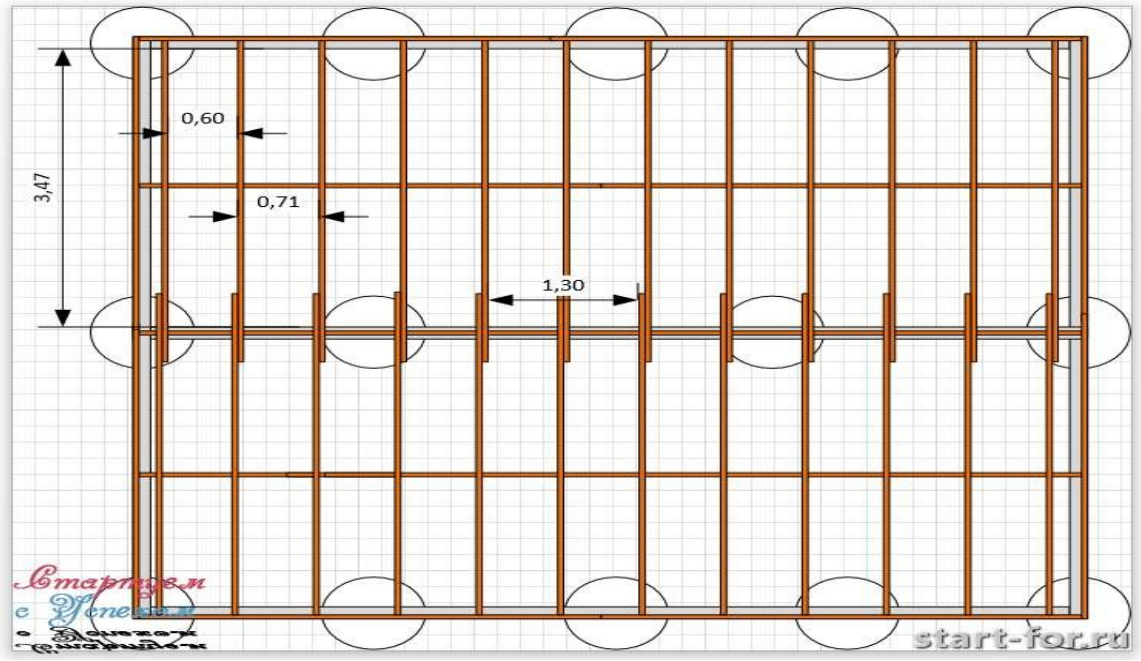
hammom kabi mustahkam loyihalar haqida gap ketganda yaroqsiz holga kelgan shina materiallaridan foydalanish orqali binoning narxini sezilarli darajada kamaytirish mumkin.

Uning afzalliklari quyidagilardan iborat: uzoq muddat xizmat qiladi; zilzilabardoshlilik; ekologik tozaligi; egiluvchanlik; qurilishning soddaligi; gidroizolyatsiyani tashkil etishga ehtiyoj yo‘qligi; yuqori ishonchlilik.

Shinalarning jiddiy kamchiligi yuqori havo haroratlarida zararli moddalarni chiqarishi ehtimoli yuqoriligidir. Bunga yo‘l qo‘ymaslik uchun shinalar to‘g‘ridan-to‘g‘ri quyosh nurlaridan himoyalangan bo‘lishi kerak. Shinali poydevorlarning “Plastinka” (1-rasm) va “Ustunli” (2-rasm) usullari mavjud. Ularning farqlari shundaki, birinchi holda, shinalar qurilish maydonchasining butun maydoniga joylashtiriladi, ikkinchisida faqat alohida ustunlar shinalardan yaratilib, ular ustiga keyinchalik yog‘och ustunlar o‘rnatiladi.



1-rasm. Shinali poydevorning “Plastinka” usuli: 1 - beton plitalar, 2 - linolyum (Ruberoid), 3 – shinalar [7].



2-rasm. Shinali poydevorning “Ustun” usuli: 1 - beton plitalar, 2 - linolyum (Ruberoid), 3 – shinalar [7].

“Semeykin poydevori”ni yaratish juda oddiy hisoblanadi, shu bilan birga, ushbu poydevor ko‘plab yaroqsiz holga kelgan avtomobil shinalarini talab etadi. Shinali poydevorni o‘rnatish bo‘yicha quyidagi tavsiyalar mavjud:

qurilish maydonini chiqindilar va o‘simliklardan tozalash (daraxt ildizlarini olib tashlashga alohida e’tibor berilishi kerak). Taxminan 20-30 sm chuqurlikda tuproqning unumdor qatlamini olib tashlash;

shinalarni ikki qatlamda qumga yoki yerga yotqizish;

shinalar orasidagi bo‘shliqlarni hamda shinalarning ichki bo‘shliqlari qum yoki shag‘al bilan to‘ldirish;

gidroizolyatsiya materialini yoyish (linlyum yoki rubiroid);

poydevorning perimetri bo‘ylab beton plita o‘rnatish va uni mustahkamlash. Plitalarni gidroizolyatsiya qatlamiga yotqizish;

perimetr bo‘yicha apalubka o‘rnatish va uni beton aralashmasi bilan to‘ldirish;

beton qotgandan keyin apalubkani demontaj qilish.

Xulosa va takliflar. Umuman olganda, zilzilabardoshli zamonaviy xususiy uylar qurish yo‘llarini takomillashtirish maqsadida, quyidagi innovatsion yondashuvlardan foydalanish taklif etiladi:

seysmik faol hududlarda istiqomat qiladigan aholi orasida yakka tartibda xususiy turarjoy binolarini qurish va kapital ta’mirlash masalalariga bag’ishlangan ilmiy adabiyotlarni barcha aholi qatlamiga mos tarzda soddalashtirish;

mahalliy qurilish materiallaridan qurilgan binolarga sodir bo‘lgan zilzilalarning ta’siri to‘grisidagi ma’lumotlarni keng aholi vakillariga yetkazishni tashkil etish;

individual ravishda quriladigan bino va inshootlarni seysmik mustahkam qurilishiga oid davlat nazoratini o'rnatish;

mustahkamligi past bo'lgan materiallardan kam qavatli binolarni tiklashda bevosita foydalaniladigan mahalliy materiallar (tuproq, xomg'isht)dan to'g'ri foydalanish bo'yicha tavsiyalar ishlab chiqish;

devorbop sopol buyumlar sanalgan pishirilgan g'ishtlarni texnik xususiyatlariga javobgarlikni g'isht ishlab chiqaruvchilar zimmasiga yuklash;

individual ravishda quriladigan binolarda yog'och mahsulotlaridan foydalanishda yog'och mahsulotlarining mexanik xossalariga to'g'ri keladigan tuzilmalar shakllantirish;

qadimdan mavjud qurilish jarayonlarini tahlil qilish natijasida ota bobolarimizning qurilish sohasida amalga oshirgan izlanishlari va yutuqlaridan bugungi kunda ham foydalanishni tashkil etish;

respublikamizda qurilgan individual binolarning qurilish texnologiyasini o‘rganish va zamonaviy qurilish usullarini amaliyotga keng joriy etish;

qurilish sohasida yangicha qarash bilan dunyoni zabt etayotgan konteyner uy va shinali poydevorni birgalikda qo'llash bo'yicha tavsiyalar ishlab chiqish.

Xulosa o‘rnida shuni ta'kidlash lozimki, xususiy uylarning seysmik xavfsizligi masalasi qator murakkab aspektlarni ko‘ndalang qo‘yadiki, ularning muvaffaqiyatli yechimi dolzarb muammodir. Ikkinchi tomondan mazkur muammo fan yutuqlarini loyihalash va qurilish jarayoniga doimiy ravishda tadbiq qilishni talab qiladi. Bino va inshootlarni seysmik ta'sirga hisoblash va loyihalash qay darajada to‘g‘ri olib borilgani zilzila “sinov”ida ma'lum bo‘ladi.

FOYDALANILGAN ADABIYOTLAR RO‘YXATI

1. O‘zbekiston Respublikasi Prezidentining 2022 yil 30 maydagi “O‘zbekiston Respublikasining seysmik xavfsizligini ta'minlash tizimini yanada takomillashtirish chora-tadbirlari to‘g‘risida”gi PF 144-sonli Farmoni.
2. O‘zbekiston Respublikasi Prezidentining 2020 yil 30 iyuldagi “O‘zbekiston Respublikasi aholisi va hududining seysmik xavfsizligini ta'minlash tizimini tubdan takomillashtirish chora-tadbirlari to‘g‘risida”gi PQ-4794 sonli qarori.
3. Abdullabekov Q., Ilyasova Z. Favqulodda vaziyatlar tarixidan: Zilzila. To‘plam T.: FMI kichik bosmaxonasi, 2016. – 164 b.
4. Raxmonov B., Siddiqov M. Binolar zilzilabardoshligi. Urganch, 2007-146 b.
5. Rashidov T. va boshqalar “Farg‘ona vodiysi xususiy uy-joylarini seysmik xavsizligini ta'minlash” Monografiya, Toshkent, CHP “Vaxitova Sh.T.” 016-283 b.
6. Saidiy S.A. Zilzilabardosh uy qanday quriladi? Amaliy qullanma, 2-qism, Toshkent, 2012 - 42 b.
7. Jalilov A.I. “O‘zbekistonda individual ravishda qurilgan binolarning zilzilabardoshligini oshirish yo‘llarini takomillashtirish” Magistrlik dissertatsiyasi –T 2021 – 101 b.
8. Xaydarov R.X. va boshqalar Mahalliy xom ashyodan xususiy uylarni (individual binolarni) qurishda elementar seysmik mustahkamlik choralarini ko‘rish. Uslubiy qo‘llanma.. – T.: FMI, 2021. – 70 b.
9.https://www.popmech.ru/technologies.

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BIPOLYAR TRANZISTORLAR ISHLASH PRINSIPLARI VA ZAMONAVIY ILOVALARINI TAKOMILLASHTIRISH USULLARI

Annotatsiya. *Bipolyar tranzistorlar (BJT) elektronika sohasida asosiy komponentlardan biri bo‘lib, kuchlanish va tokni boshqarish imkonini beradi. Ushbu maqolada BT-larning ishlash prinsiplari, afzalliklari va kamchiliklari, shuningdek, zamonaviy elektron qurilmalarda qo‘llanilishi muhokama qilinadi. Tranzistorlarning yuqori issiqlik chiqarishi, past chastota ishlash qobiliyati va energiya samaradorligining pastligi kabi cheklovlar mavjud. Biroq, ularning yangi materiallar va ishlab chiqarish texnologiyalari yordamida samaradorligini oshirish imkoniyatlari ko‘rib chiqilgan. Maqolada BJT-larning zamonaviy tizimlarda qo‘llanilishi va ularning raqobatbardoshligini oshirish uchun taklif etilgan yechimlar taqdim etiladi.*

Kalit so‘zlar. *Bipolyar tranzistor, issiqlik chiqarish, energiya samaradorlik, chastota ishlash, yarimo‘tkazgich materiallari, sovutish tizimlari, MOSFET, miniaturizatsiya, gibrid qurilmalar, elektronika, tranzistorlar integratsiyasi.*

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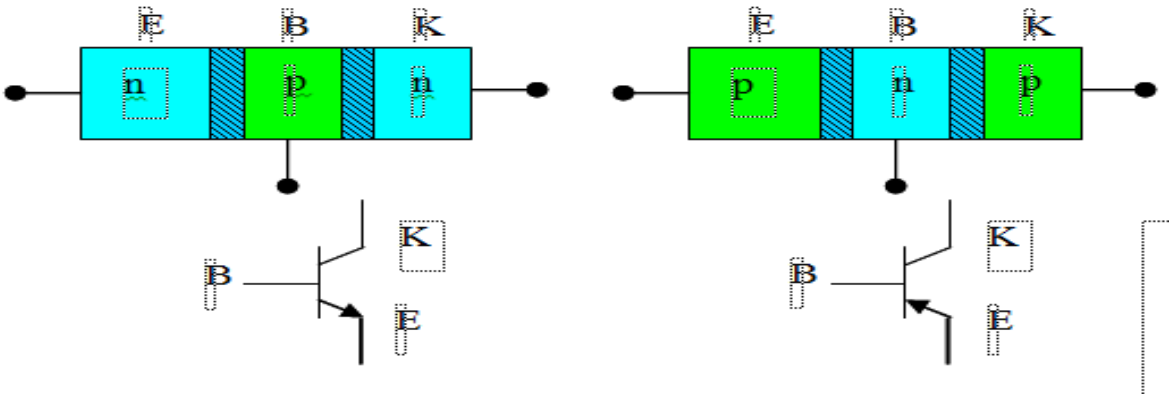
METHODS FOR IMPROVING THE OPERATING PRINCIPLES AND MODERN APPLICATIONS OF BIPOLAR TRANSISTORS

Abstract: *Bipolar Junction Transistors (BJTs) are one of the fundamental components in electronics, enabling control of voltage and current. This article discusses the operating principles, advantages, and disadvantages of BJTs, as well as their applications in modern electronic devices. The limitations of BJTs, such as high heat dissipation, low-frequency operation capability, and low energy efficiency, are discussed. However, opportunities for improving their efficiency through new materials and manufacturing technologies are considered. The article presents solutions proposed to enhance the competitiveness of BJTs in modern systems.*

Keywords: *Bipolar transistor, heat dissipation, energy efficiency, frequency operation, semiconductor materials, cooling systems, MOSFET, miniaturization, hybrid devices, electronics, transistor integration.*

Bipolyar tranzistorlar (BT) — bu elektron qurilmalarda kuchli signallarni boshqarish uchun ishlatiladigan yarimo‘tkazgich komponentlari bo‘lib, ular ikkita turdagi yarimo‘tkazgich materialidan tashkil topgan pozitiv (P) va negativ (N). Ular o‘zining kuchaytirish xususiyatlari va kuchli oqimni boshqarish qobiliyati bilan elektron tizimlarning ajralmas qismiga aylanadi. Bipolyar tranzistorlar har xil elektron qurilmalarda ishlatiladi, jumladan, audio amplifikatorlar, kuchlanish regulyatorlari, oscillyatorlar, va raqamli mantiq sxemalarida. Ularning ishlash prinsiplari va turli ilovalardagi o‘rni yuqori samarali elektron tizimlarning ishlashini ta’minlashda muhim ahamiyatga ega.[1-3]

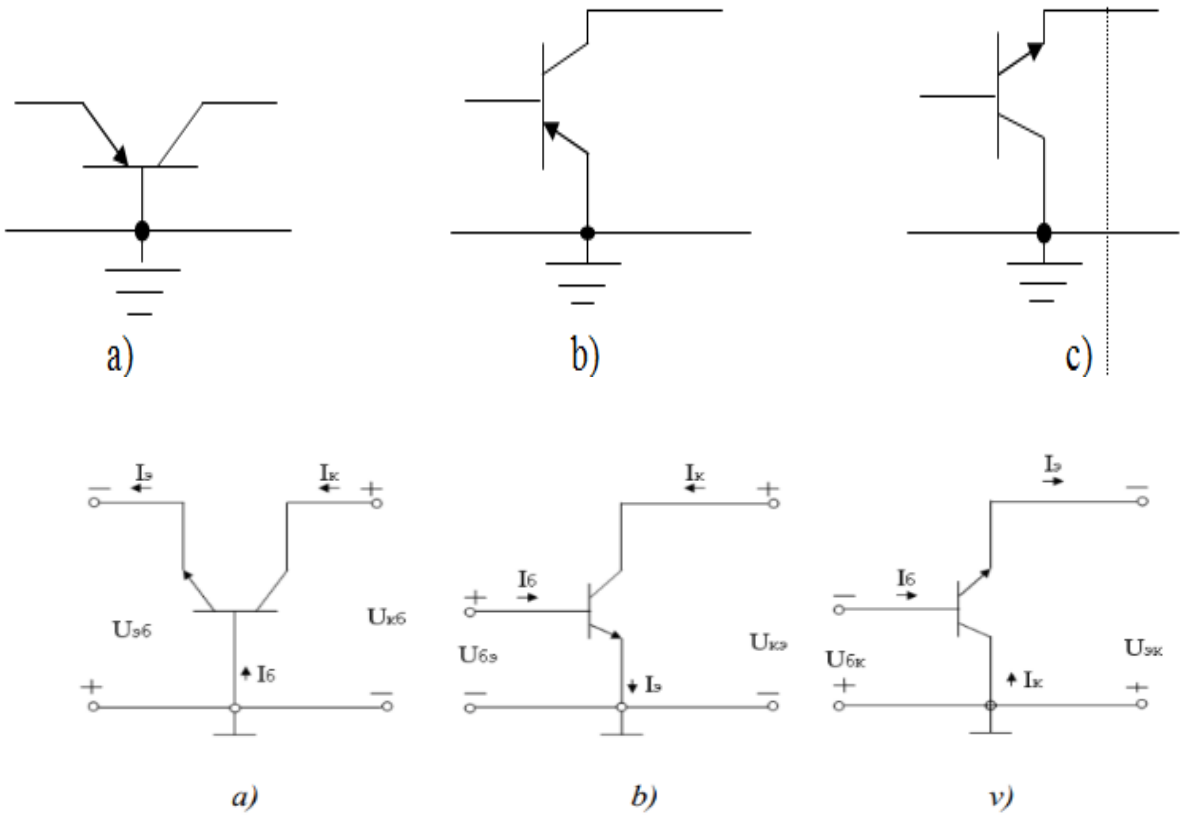
Bipolyar tranzistorlarning ishlashini tushunish uchun ularning tuzilishini va harakatdagi elektr zaryadlarining rolini bilish muhim. Tranzistorlar uchta asosiy qismdan tashkil topgan: emitter (chiquvchi), baza (asosiy) va Kollektor (qabul qiluvchi).



1-rasm. *Bipolyar tranzistor strukturasi va sxemada belgilanishi*

N-P-N Tranzistorlar emitter negativ (N) yarimo‘tkazgich materialidan tayyorlanadi, bu yerda elektronlar chiqariladi. Baza pozitiv (P) yarimo‘tkazgich materialidan tayyorlangan, u juda yupqa qatlam bo‘lib, faqat kichik oqimni boshqaradi. Kollektor negativ (N) yarimo‘tkazgich materialidan tayyorlangan, u bazadan chiqayotgan elektronlarni yig‘adi va kuchaytirilgan oqimni chiqaradi. Ishlash prinsipi quyidagicha bo‘ladi. Emitterdan bazaga juda kichik oqim yuboriladi, bu esa bazada zaryadlarning ko‘payishiga olib keladi. Bu kichik oqim, katta oqimni Kollektor orqali boshqarish imkoniyatini yaratadi, bu tranzistorning kuchaytirish xususiyatini ta’minlaydi.[4-5]

P-N-P Tranzistorlar pozitiv (P) materialdan tayyorlanadi va u teshiklarni chiqaradi. Baza negativ (N) materialdan tayyorlanadi va teshiklarni boshqaradi. Kollektor pozitiv (P) materialdan bo‘lib, u bazadan chiqayotgan teshiklarni yig‘adi. Ishlash prinsipi quyidagicha. P-N-P tranzistorda emitterdan bazaga teshiklar yuboriladi va bu teshiklar bazada ko‘payib, ularning oqimi kollektor orqali boshqariladi.



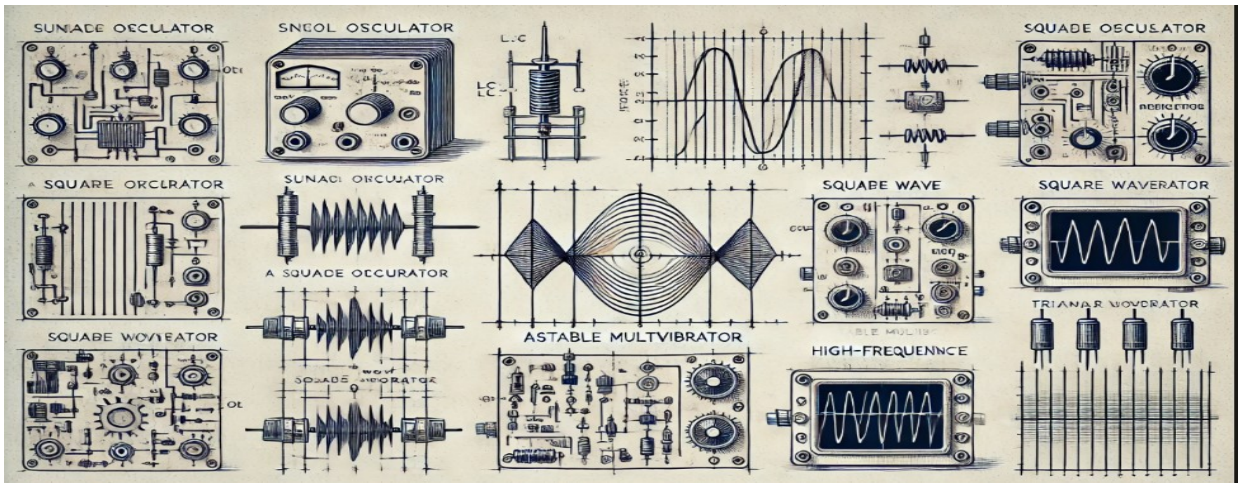
2-rasm. *Ulanish sxemalari. umumiy baza (a), umumiy emmetr (b) va umumiy kollektor (c).*

Bipolyar tranzistorning ishlashida baza-emitter (BE) va kollektor-baza (KB) ulanishlar muhim rol o‘ynaydi. Baza-Emitter ulanish (BE). Bu yerda bazaga kichik kuchlanish qo‘llaniladi, bu esa emitterdan elektronlarning bazaga o‘tishiga olib keladi. Kollektor-Baza ulanish (KB). Bu yerda tranzistorning kuchaytirish xususiyati ishlaydi. Baza bilan emitter o‘rtasidagi kuchlanishning o‘zgarishi, kollektor va emitter o‘rtasidagi katta oqimni boshqarish imkonini beradi.

Bipolyar tranzistorlarning xususiyatlari. Bipolyar tranzistorlar o‘zining yuqori kuchaytirish xususiyatlari bilan ajralib turadi. Ular turli xil texnikalar va qurilmalarda ishlatiladi. Ularning asosiy xususiyatlari quyidagilardan iborat.

Yuqori Kuchaytirish (Gain): Bipolyar tranzistorlar kichik bir oqimni katta oqimga aylantirish qobiliyatiga ega. Bu kuchaytirish xususiyati, ayniqsa, audio amplifikatorlari, signal kuchaytirgichlari va tarmoq uzatish tizimlarida juda muhimdir.[6-9]

Signal kuchaytirgich bipolyar tranzistorlar audio, video va sanoat amplifikatorlarida ishlatiladi. Masalan, audio kuchaytirgichlarida ular signalni kuchaytirish va kerakli darajaga etkazishda qo‘llaniladi. Shuningdek, televiziya va radio transmitterlarida ham amplifikatsiya jarayonida ishlatiladi. [10-12]



3-rasm. *Generator ishlab chiqargan turli xil signal ustuda amallar.*

Bipolyar tranzistorlar, ayniqsa, raqamli signalning yuqori tezlikda ishlashini ta’minlaydi. Telekommunikatsiya tizimlarida bipolyar tranzistorlar kuchaytirish va signalni uzatish uchun ishlatiladi. Mobil telefonlar, simli va simsiz tarmoqlar, shuningdek, televiziya uzatish tizimlarida ularning qo‘llanilishi juda kengdir. Bipolyar tranzistorlar kuchli energiya tizimlarida, masalan, elektr ta’minotlarini boshqarishda ishlatiladi. Ular energiya konvertorlari va voltajni barqarorlashtirish tizimlarida ishlatiladi, bu esa ularni elektron qurilmalar va sanoat uskunalarida qo‘llash imkonini beradi. Bipolyar tranzistorlar xavfsizlik va monitoring tizimlarida, masalan, signalni kuchaytirish, monitoring qilish va avtomatik boshqarish tizimlarida ishlatiladi. Ular tezkor javob va yuqori kuchaytirish xususiyatlari tufayli sanoat tizimlarida samarali ishlaydi.

Foydalanilgan adabiyotlar

1. Sattarov, S. A., & Metinqulov, J. T. (2023). PREPARATION OF METAL-CONTAINING NANOSTRUCTURES IN NANOREACTORS OF POLYMER MATRICES. *Экономика и социум*, (11 (114)-2), 412-418.
2. Metinqulov, J. T. (2024). MA’LUMOTLARNI QAYTA ISHLASHDA KP580VM80A MIKROPROTSESSORINING O’RNI. *Экономика и социум*, (1 (116)), 332-334.
3. Podlepetskiy, B., & Metinqulov, J. T. (2024). MIKROKONTROLLERLARGA O‘RNATILGAN TAYMERLAR. *Экономика и социум*, (3-2 (118)), 281-284.
4. Metinkulov, J. T. (2024). GETTING TO KNOW THE ARDUINO UNO BOARD AND LEARNING HOW TO PROGRAM IT. *Экономика и социум*, (2 (117)-1), 429-432.
5. Метинкулов, Ж. Т. (2024). ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ МЕТОДОВ АДРЕСАЦИИ В КОМПЬЮТЕРНЫХ ТЕХНОЛОГИЯХ. *Экономика и социум*, (2-1 (117)), 1163-1168.
6. Irisboyev, F. B., & Mukhtorov, D. N. U. (2024). TECHNOLOGY OF MANUFACTURING OF SOLAR ELEMENTS. *Oriental renaissance: Innovative, educational, natural and social sciences*, *4*(2), 107-110.

7. Irisboyev, F., & Qayumov, D. (2024). FEATURES AND AREAS OF USE OF DIGITAL MICROCIRCUITS. DIGITAL SIGNAL REFLECTION DEVICES. *Interpretation and rese*
8. Irisboyev, F. B. (2024). VAKUUMLI FLUORESSENT INDIKATORLARI. *Iqtisodiyot va jamiyat* , (3-2 (118)), 144-147.
9. Huang, X., & Zhang, L. (2019). Graphene and Two-Dimensional Materials in Electronics: Challenges and Applications. Springer.
10. Ghandi, S. (2015). Modern Semiconductor Devices for Integrated Circuits. Prentice Hall.

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YANGI MATERIALLAR VA BIPOLYAR TRANZISTORLARNING KELAJAGI

Annotatsiya. *Yangi materiallar va bipolyar tranzistorlarning kelajagi haqidagi maqolada, zamonaviy elektronika va yarimo‘tkazgichlar sanoatining rivojlanishiga yangi materiallarning qo‘shilishining ta'siri tahlil qilinadi. Kremniy asosidagi materiallarning cheklovlari sababli, grafen, 2D materiallar va perovskit kabi yangi materiallar sinovdan o‘tmoqda. Ushbu materiallar yuqori samaradorlik, energiya tejamkorligi va kompyuter texnologiyalari hamda elektron qurilmalaridagi inqilobiy yutuqlarni ta'minlashi mumkin. Maqola, shuningdek, bipolyar tranzistorlarning zamonaviy texnologiyalar va yangi materiallar bilan integratsiyasi orqali kelajakka qanday ta'sir ko‘rsatishi haqida mulohaza yuritadi.*

Kalit so‘zlar. *Yangi materiallar, bipolyar tranzistorlar, grafen, 2D materiallar, perovskit materiallar, elektronika, yarimo‘tkazgichlar, elektr o‘tkazuvchanlik, tranzistor texnologiyalari, yangi texnologiyalar.*

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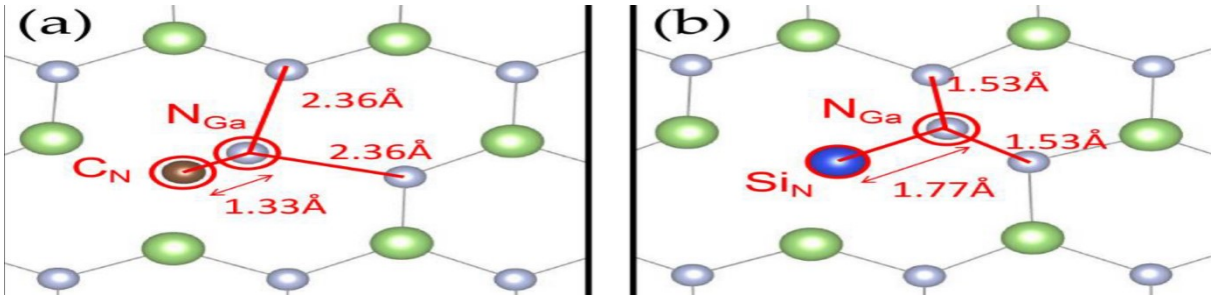
THE FUTURE OF NEW MATERIALS AND BIPOLAR TRANSISTORS

Abstract: *The article on the future of new materials and bipolar transistors analyzes the impact of the integration of new materials on the development of modern electronics and the semiconductor industry. Due to the limitations of silicon-based materials, new materials such as graphene, 2D materials, and perovskites are being tested. These materials could provide high efficiency, energy savings, and revolutionary advancements in computer technologies and electronic devices. The article also discusses the potential impact of integrating bipolar transistors with modern technologies and new materials on the future.*

Keywords: *New materials, bipolar transistors, graphene, 2D materials, perovskite materials, electronics, semiconductors, electrical conductivity, transistor technologies, new technologies.*

Bipolyar tranzistorlar (BT) elektronika sanoatida muhim rol o‘ynab, signalni kuchaytirish, quvvat taqsimlash va raqamli qurilmalarda muhim komponent sifatida ishlatiladi. An’anaviy ravishda silitsiy (Si) asosida ishlab chiqarilgan tranzistorlar uzoq yillar davomida elektronika sanoatida ustunlik qilgan. Biroq, yangi texnologiyalar va talablar rivojlanishi bilan yanada samarali va bardoshli materiallar kerak bo‘lib qoldi. Shunday materiallardan biri **silitsiy karbidi (SiC), galliy nitrid (GaN)** va **grafen** hisoblanadi. Ushbu materiallar bipolyar tranzistorlarning ishlash samaradorligini oshirish, energiya tejash va ishonchliligini yaxshilash imkonini beradi.[1-2]



1-rasm. *Galiy, azot, uglerod va kremniy atomlari defuziya ko‘rinishi*

Silitsiy asosidagi tranzistorlar keng tarqalganligi, ishlab chiqarish texnologiyalari rivojlanganligi va iqtisodiy jihatdan qulayligi sababli ko‘p yillar davomida asosiy material bo‘lib kelgan. Ular yuqori ishonchlilikka ega bo‘lishiga qaramay, ba’zi kamchiliklarga ham ega.[3]

Silitsiy tranzistorlar yuqori chastotalarda samaradorligini yo‘qotadi va ortiqcha issiqlik chiqaradi, bu esa sovutish tizimlarini talab qiladi. Bundan tashqari, silitsiy materialining tabiiy o‘tkazuvchanligi cheklanganligi sababli yuqori kuchlanishli va yuqori quvvat talab qiluvchi ilovalarda samaradorligi pasayadi. Silitsiy tranzistorlar, ayniqsa, energiyani tejash talab qilinadigan qurilmalarda muammo tug‘diradi. Masalan, zamonaviy **mobil qurilmalar, 5G aloqa tizimlari va sanoat quvvat boshqaruvi** kabi sohalar yanada samarali materiallarni talab qilmoqda. Silitsiy karbidi yarimo‘tkazgich material sifatida yuqori samaradorlikka ega va silitsiyga nisbatan bir qancha ustunliklarga ega. SiC tranzistorlari yuqori harorat va kuchlanishda barqaror ishlaydi. Bu material 200°C dan yuqori haroratlarda ham barqarorligini saqlab qoladi va quvvat yo‘qotishlarini kamaytiradi.[4-6]

SiC tranzistorlarining tezkor elektron harakati ularni yuqori chastotali ilovalar uchun ideal qiladi. Masalan, **elektr transport vositalarida, sanoat avtomatizatsiyasi va quvvat boshqaruv tizimlarida** foydalaniladi. Tesla va Toyota kabi avtomobil kompaniyalari elektr transport vositalarining samaradorligini oshirish uchun SiC tranzistorlaridan foydalanmoqda.[7]

Kelajakda bipolyar tranzistorlarning rivojlanishi yangi materiallarga bog‘liq bo‘ladi.

- **Silitsiy karbidi** yuqori quvvat talab qiluvchi qurilmalarda keng qo‘llaniladi.
- **Galliy nitrid** esa 5G, radiochastotali qurilmalar va aerokosmik sohada muhim o‘rin tutadi.
- **Grafen** esa yangi avlod kompyuter va nanoelektronika tizimlari uchun katta imkoniyatlar yaratadi.

Yangi materiallardan foydalangan holda tranzistorlar tezroq, bardoshliroq va energiya tejamkor bo‘ladi. Bu esa sanoat, telekommunikatsiya, avtomobil va kosmik texnologiyalar sohalarida sezilarli yutuqlarga olib keladi.[11-12]

Yangi materiallar va bipolyar tranzistorlar kelajagi istiqbolli bo‘lsa-da, ular hozirgi texnologiyalar va ishlab chiqarish usullariga bog‘liq bir qator muammolarni hal qilishni talab qiladi. Texnologik inqilobga erishish uchun ilm-fan va sanoat birlashib, materiallarni ishlab chiqarish samaradorligini oshirish, ekologik xavfsizligini ta'minlash va yangi tranzistorlar turlarini yaratish ustida ishlashlari lozim. Yangi materiallar va tranzistorlar kelajagi haqidagi izlanishlar davom etishi kerak, chunki bu soha juda tez rivojlanmoqda va uning imkoniyatlari katta.

Yangi materiallar va bipolyar tranzistorlar elektronika va yarimo‘tkazgichlar sanoatining kelajagi uchun katta ahamiyatga ega. Hozirgi kunda bu soha rivojlanishda davom etsa-da, u hali bir qator muammolarni hal qilishi kerak. Yangi materiallarning yuqori narxi, ishlab chiqarishning murakkabligi, ekologik xavfsizlik va uzoq muddatli barqarorlik masalalari, shuningdek, tranzistorlarning energiya sarfi va issiqlikni boshqarishdagi cheklovlar mavjud.

Foydalanilgan adabiyotlar

1. Sattarov, S. A., & Metinqulov, J. T. (2023). PREPARATION OF METAL-CONTAINING NANOSTRUCTURES IN NANOREACTORS OF POLYMER MATRICES. *Экономика и социум*, (11 (114)-2), 412-418.
2. Metinqulov, J. T. (2024). MA’LUMOTLARNI QAYTA ISHLASHDA KP580VM80A MIKROPROTSESSORINING O’RNI. *Экономика и социум*, (1 (116)), 332-334.
3. Podlepetskiy, B., & Metinqulov, J. T. (2024). MIKROKONTROLLERLARGA O‘RNATILGAN TAYMERLAR. *Экономика и социум*, (3-2 (118)), 281-284.
4. Metinkulov, J. T. (2024). GETTING TO KNOW THE ARDUINO UNO BOARD AND LEARNING HOW TO PROGRAM IT. *Экономика и социум*, (2 (117)-1), 429-432.
5. Метинкулов, Ж. Т. (2024). ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ МЕТОДОВ АДРЕСАЦИИ В КОМПЬЮТЕРНЫХ ТЕХНОЛОГИЯХ. *Экономика и социум*, (2-1 (117)), 1163-1168.
6. Irisboyev, F. B., & Mukhtorov, D. N. U. (2024). TECHNOLOGY OF MANUFACTURING OF SOLAR ELEMENTS. *Oriental renaissance: Innovative, educational, natural and social sciences*, *4*(2), 107-110.

7. Irisboyev, F., & Qayumov, D. (2024). FEATURES AND AREAS OF USE OF DIGITAL MICROCIRCUITS. DIGITAL SIGNAL REFLECTION DEVICES. *Interpretation and rese*
8. Irisboyev, F. B. (2024). VAKUUMLI FLUORESSENT INDIKATORLARI. *Iqtisodiyot va jamiyat* , (3-2 (118)), 144-147.
9. Huang, X., & Zhang, L. (2019). Graphene and Two-Dimensional Materials in Electronics: Challenges and Applications. Springer.
10. Ghandi, S. (2015). Modern Semiconductor Devices for Integrated Circuits. Prentice Hall.

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FUNGAL DISEASES OF APPLE AND SYSTEMS TO FIGHT AGAINST THEM

Abstract: *This article describes the fungal diseases of apple, one of the most consumed fruits in the world, and modern methods of combating them. Several pathogenic fungi that damage apple trees and their fruits are highlighted. Modern methods of control include chemical, biological, and agrotechnical methods. This article discusses in detail the main fungal diseases of apple trees, the factors that lead to their development, and the systemic methods used to combat these diseases.*

Key words: *Malus domestica, flower, moisture, protein, mildew, tree, areation, leaf, fungus, fungicide.*

Apple (Malus domestica) is a widespread and economically important fruit tree in many countries. Apple trees play an important role in agriculture due to their high yield potential and long storage life. However, a number of diseases, in particular fungal diseases, can occur during apple cultivation, which negatively affect the quality, quantity and marketability of the crop. Fungal diseases, in turn, lead to deterioration of apple fruit quality, significant yield reduction and damage to the agricultural economy.

Fungal Diseases of Apples Various fungal diseases are observed in apple trees. Each of these diseases has its own characteristics and develops depending on different conditions and climate. The main fungal diseases of apples are:

Apple rot (Venturia inaequalis) The fungus Venturia inaequalis is one of the most common and damaging pathogens of apple trees. This disease mainly affects leaves, flowers, branches and fruits. The onset of the disease is mainly associated with unfavorable climatic conditions (constant humidity) and excess water in agricultural areas. The main effect of the fungus is the appearance of black spots on the leaves, which reduces the photosynthesis process of the apple and negatively affects the overall development of the tree. The disease also causes rotting of the apple fruit, which leads to the loss of a significant part of the crop.

Apple powdery mildew (Podosphaera leucotricha) Powdery mildew, caused by the fungus Podosphaera leucotricha, appears on the leaves and branches of the apple tree. In this disease, whitish, cotton-like spots form on the new plant parts. If the disease persists for a long time, the leaves dry and wither, and the fruits become small and lose quality. To significantly reduce this disease, it is necessary to properly care for the trees and remove the affected parts.

Apple Downy Mildew (Botrytis cinerea) Botrytis cinerea is the pathogen that causes a disease called gray mold. This disease develops in conditions of high humidity and mainly affects apple fruits. The disease causes the appearance of gray

and black spots on the surface of the fruit, which deteriorates the appearance of the crop and makes it unmarketable. The disease spreads quickly, especially in connection with dead or damaged fruit.

Apple Downy Mildew (Pseudoperonospora cubensis) Downy mildew, caused by the fungus Pseudoperonospora cubensis, causes white spots on the leaves of apple trees. This disease often develops in conditions of high humidity and cold weather. It slows down the growth of the tree, causes leaf fall and deterioration of fruit quality. It also causes a decrease in apple yields.

Fungal Disease Control Systems Modern and effective approaches are required to combat fungal diseases of apples. Systems for combating such diseases include chemical, biological, agrotechnological and ecological methods. Each method has its advantages and disadvantages, and their combined use gives the most effective results.

Chemical control methods Chemical methods are widely used in the fight against fungal diseases of apples. Fungicides are chemicals used to prevent or treat diseases. There are special preparations to control Venturia inaequalis, Botrytis cinerea and other fungi. Chemicals are sprayed on trees or leaves and stop the spread of diseases.

However, caution should be exercised in chemical control. Because excessive and improper use of chemicals can harm the environment and lead to resistance of plants and microorganisms. Therefore, chemical control methods should be carried out carefully and under the supervision of specialists.

Biological control methods In biological control, natural antagonistic organisms, such as beneficial bacteria or other fungi, are used to combat fungal diseases. Such organisms destroy harmful fungi or slow down their growth. Biological control methods are a more environmentally friendly and sustainable approach. For example, microorganisms such as Trichoderma harzianum can be used to protect apple trees.

Agrotechnological methods Agrotechnological methods are carried out in plant care, soil preparation, and crop irrigation. To prevent damage and diseases of apple trees, proper irrigation regime, maintaining the distance between trees, stable care, and free air circulation between plants are necessary. Another important agrotechnological method is the regular removal of damaged parts and keeping the trees clean.

Mechanical and ecological services With the help of mechanical and ecological services, manual cleaning and cutting of diseased leaves also play an important role in protecting apple trees from fungal diseases. Also, the spread of diseases can be prevented by regularly aerating the soil between plants, reducing excess moisture, and maintaining the correct distance between plants.

Fungal diseases of apples pose a major problem for agriculture, as they negatively affect the quality and quantity of the apple crop. The use of effective methods to combat these diseases includes chemical, biological, agrotechnological and ecological approaches. By using the right control systems, significant success can be achieved in combating fungal diseases of apples.

To protect apple crops from fungal diseases, it is necessary to properly combine these methods and use resources efficiently. Thus, it is possible to obtain a high-quality harvest of apples and successfully sell them on the market.

REFERENCES USED

1. ARSLONOV M, RASHIDOV M, XALILOV Q, YUSUPOV A, SULAYMONOV B. O SIMLIKLARNI BIOLOGIK HIMOYA QILISH.
2. Abdurahmonov, D., Mirzaitova, M., Mirzaumarov, M., Qo'ziboyeva, S., Shokirova, X. and Usmonov, S., & Abdullayev, B.(2023). BOG'ZARARKURANDALARIGA QARSHI KURASH USULLARI. *Science Promotion*, *1*(2), pp.386-394.
3. Aliyev, S., Tuychiyev, I., Mirzaumarov, M., & Abdurahmonov, D. (2021). Influence of the preparation of humate as a stimulator of growth on sowing the winter wheat in irrigated conditions of Andijan region. *Интернаука*, (9-2), 14-16.

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FORMATION OF THE OUTER CITY IN HISTORIC CITY CENTERS

Abstract*:This article examines the phenomenon of outer city formation in historical urban centers, using the Central Asian region and the specific example of Khiva as case studies. It investigates the origins of Khiva's Ichan Kala (inner city) and the subsequent development of the Dishan Kala (outer city) as an organically linked extension.*

Keywords: *Historic Center, Outer City, Dishan Kala, Ark, Shahristan, Rabot*.

INTODUCTION

By the Middle Ages, historical urban centers emerged in Central Asia. The central parts of cities usually started at the city gate and continued to the next gate. They consisted of community buildings such as caravanserais, trading posts, mosques, madrasas, baths, and khanaqohs. In historical centers, there were urban community centers formed around the main square called Registan and the main mosques called Jome, and small community centers - guzars - formed in the neighborhood centers.

When studying the compositional structure of the historical streets of Khiva, analyzing and comparing the city-wide monumental ensemble and the streets in it and the neighborhood centers, the small neighborhood ensembles clearly differ from each other in their compositional planning structure, ornamentation, and the width and narrowness of the streets, contrasting with the city-wide ensembles. The purpose of this was to highlight the main structures.

Such a degree of non-repetition of historical monuments in the city of Khiva and Dishan Kala and Ichan Kala also influenced the emergence of outer cities.

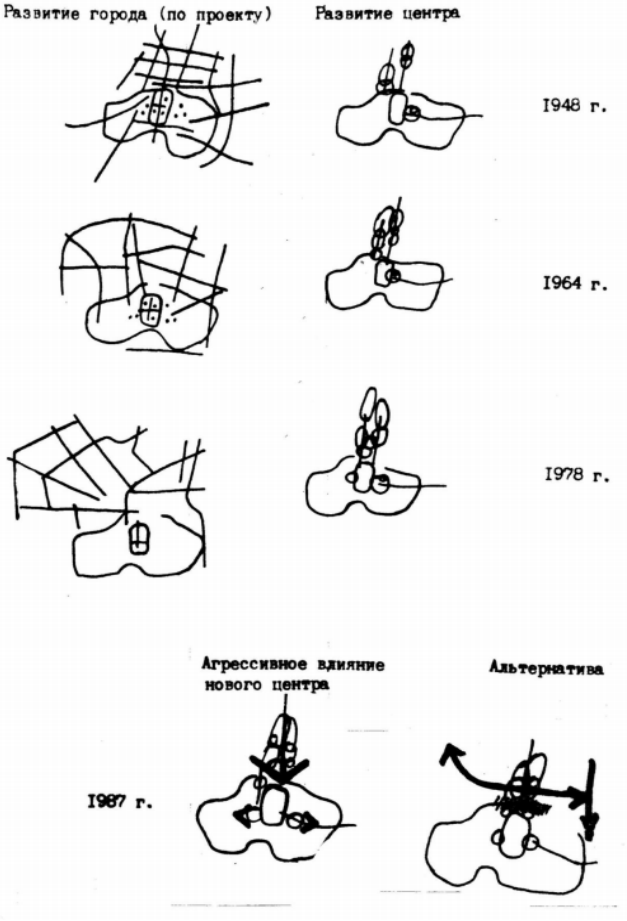
In the 19th century, Khiva fell under the dominion of Tsarist Russia. By 1920, it was integrated into the Soviet Union. This era marked the influx of European cultural influences into Central Asia, visibly impacting urban landscapes and prompting modifications to street and road networks. Broad avenues were constructed beyond the traditional Old City, giving rise to new building typologies. These streets often radiated from central points, creating interconnected nodes. Architectural styles reflecting Neo-Gothic and Russian influences led to the creation of a "new city" juxtaposed against the old. The introduction of railways, modern communication technologies, advancements in medicine, and educational reforms fostered new intellectual currents within Khiva. However, the suppression of private property ownership had a profound impact, leading to the decline of traditional crafts between 1920 and 1940.

The khanqah, a structure featuring a sequence of domed chambers arranged in a portal-and-enfilade style that originated during the Timurid dynasty, was widely employed in cities like Shahrisabz, Khiva, Bukhara, Tashkent, Herat, and

Turkestan. As science and technology advanced, the construction industry embraced a wider array of building materials and structural designs, resulting in innovative techniques. For instance, the Ruhobod Mausoleum (Burhoniddin Sogarjiy) in Khiva utilizes simple brickwork, with its dome resting upon a 32-sided base. In contrast, the Shahi-Zinda, Guri-Amir, and Bibi Khanum complexes showcase diverse dome structures and forms, each unique in its design and construction. Over fifty variations of single- and double-story domes and related substructures, including the Turkestani, Balkhi, and Mirzoi types, were employed and refined during this period.

MAIN SECTION

Building ornamentation incorporated a rich variety of artistic techniques, including *parchin* (mosaic paneling), *koshin* (glazed tilework), *koshinburush* (projecting tilework), *kundal* (gilded and painted decoration), *kirma* (inlaid work), *ganch* (carved stucco), and diverse bricklaying patterns (e.g., longitudinal, transverse, diagonal, horizontal, and edged). Stone, marble, ceramics, wood, stucco, and other materials were also employed to create a diverse range of aesthetic effects. Many of the advanced construction techniques developed during this era remain relevant today, as evidenced in the design and appearance of traditional houses. The aesthetic character of these streets, in turn, influenced the lifestyles and activities of residents, contributing to the gradual emergence of an outer city.



The development of the city center of Khiva. I.I. Notkin.

The formation of outer cities in historical centers can be understood in two ways: Firstly, as a historical process specific to a particular era, and secondly, in terms of its implications for contemporary urban planning.

The historical evolution of Khiva exemplifies this process. Initially, the Ichan Kala emerged as the primary settlement. Over time, the Dishan Kala developed as an outer city, organically connected to the Ichan Kala. In essence, the outer city represents a continuous process of urban adaptation, with each era adding new structures and features that reflect contemporary needs and aesthetics. The Nurullaboy Complex, constructed between the late 19th and early 20th centuries, can be viewed as a modern khan's palace, analogous to the Kuna Ark and Tosh Khovli within the Ichan Kala.

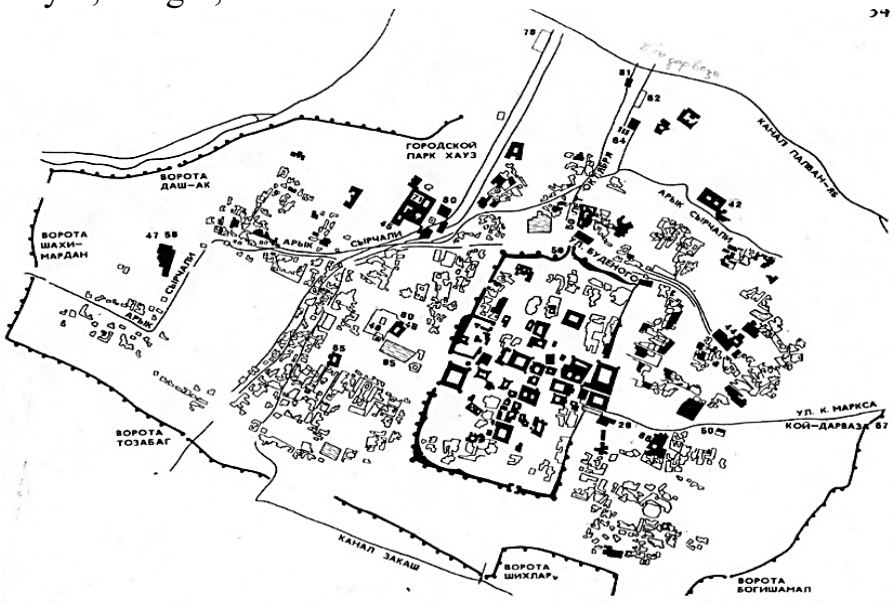
The construction of the Nurullaboy Complex was motivated by two primary factors. First, the population within the Kohna Ark (citadel) of the Ichan Kala had outgrown its capacity. Second, it was customary for each ruling khan to construct a new palace for his personal residence. The old palace was typically allocated to the previous khan's close relatives, such as his mother and other family members. Muhammad Rahim Khan Feruz's visit to St. Petersburg, where he witnessed the city's modern infrastructure, particularly its illuminated streets and buildings, also played a significant role. Impressed by these advancements, he shared his observations with his vizier, Islam Khoja. Upon their return to Khiva, the khan and vizier embarked on the construction of a new palace equipped with modern amenities to alleviate overcrowding within the Kohna Ark and to adhere to tradition. A key requirement was the integration of electricity. Experts from St. Petersburg were commissioned to establish electricity production in Khiva. Given that water and fuel were essential for electricity generation, the Russian specialists emphasized the need for a substantial water source near the planned power plant. Consequently, the khan and vizier sought a location for the new palace and power station that was both close to a water source and in proximity to the Ichan Kala. A site near the Sirchali Canal in the Dishan Kala, northwest of the Ichan Kala, was selected. Construction commenced on the first two courtyards of the palace, a portion of the *Arzkhana* (court of justice), the entrance section, the residence of Ibrahim Khoja, and the power plant. For safety reasons, the power plant was situated further south, along the banks of the Sirchali Canal, taking into account Khiva's prevailing south-to-north winds. By 1897, the third and fourth courtyards, the remaining section of the *Arzkhana*, and several pools were completed. Isfandiyor Khan, who ascended to the throne in 1910, continued the construction, adding a madrasah, a residence for the Tungotars (royal guard), a fifth courtyard in the European style, a new official reception hall, and a recreational garden by 1912.

The Nurullaboy Complex has undergone numerous maintenance, restoration, and renovation projects throughout its history.

The complex encompasses a series of interconnected structures, including the palace and its gardens, a reception hall, the arzkhana, a madrasah, and residential quarters. The palace serves as the centerpiece of the complex. Dimensions: Overall – 185.6x143 m; Isfandiyor Khan's Reception Hall – 27.3x32.1 m; Arzkhana –

82.0x71.0 m; Palace – 87.1x65.0 m; Palace Wall Height – 7.5 m; Portal Height – 10.0 m. The Khan's post office and hospital, among other facilities, also date from this period.

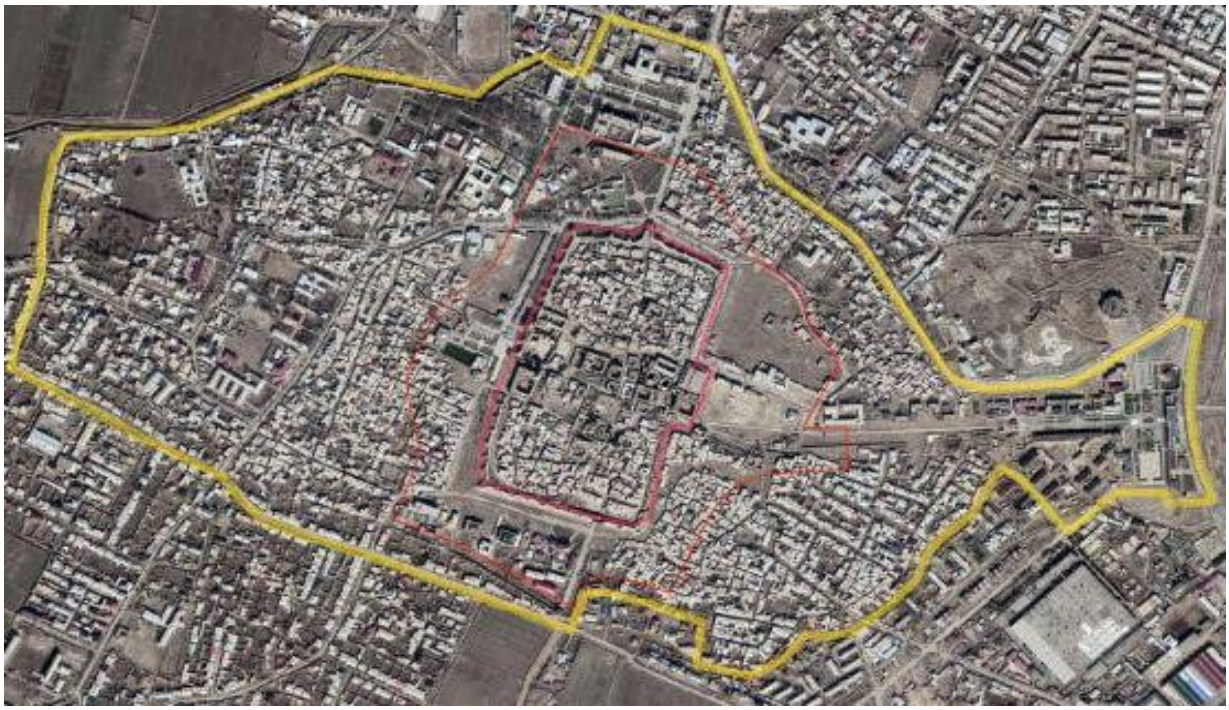
In contemporary urban planning, the formation of outer cities in historical centers signifies the transformation of a city's system and environment through the addition of external structures. This includes recent urban development projects in Khiva, particularly the master plan for the Dishan Kala, which functions as Khiva's rabot (suburb). Currently, the Khiva district comprises nine rural citizen assemblies: Dashyoq, Gandimyon, Juryon, Oqyop, Irdimzor, Sayot, Shomahulum, Chinobod, and Eski Qiyot. The city of Khiva is further divided into 13 major districts, known as mahallas (neighborhoods). The Ichan Kala itself constitutes one such mahalla. Outside the Ichan Kala are the mahallas of Pahlavon Mahmud, Oqyob, Kaptarxona, Shohimardon, Gazchi, Yangi Turmush, Qumyasqa, Do'stlik, Toza bog', Yangi Hayot, Sangar, and Gilamchi.



Khiva city plan, XIX-XX centuries.

1-Ark. 2-Shahristan. 3-Rabad.

Today, the Dishan Kala area of Khiva features schools, preschools, service facilities, artisan workshops, tourist services, small shops, hotels, and various other modern structures and functions.



Khiva (today) - Ark, Shahristan and Rabod.

CONCLUSION

The term "*shahar*" (city) originates from the Persian word for "*fortress*," reflecting the historical practice of encircling urban centers with defensive walls. The inner, central part of these cities, often containing the palace, rulers' residences, administrative and religious buildings, the main square (Registan), and sometimes residential areas, was known as the *shahristan*. Access was controlled through gates. Surrounding the *shahristan* were walled suburbs (*rabot*) that encompassed gardens, agricultural lands, and, eventually, residential areas. Khiva, for instance, had distinct neighborhoods for weavers, potters, and the impoverished.

In summary, the historical cities of Uzbekistan typically exhibit a three-part structure:

Ark: synonymously termed diz, kohandiz, qal'a, or o'rda – denoted the citadel or nucleus of the city, representing its primary functional and administrative center.

Shahristan: also referred to as hisor or madina – constituted the inner city proper, serving as the secondary, yet essential, zone for residential and commercial activities.

Rabot: sometimes designated as surdiqat – encompassed the suburban periphery or outer districts of the city, characterized by a less dense concentration of structures and often including agricultural lands.

REFERENCES

1. E. Jelyabujskiy "Очерки и завоевание Хивы" [Essays on the Conquest of Khiva] Moscow, 1875.
2. Obsledovanie istoriko-arxitekturnoy zastroyki territorii «Dishan-Kala» v g. Xiva [Survey of the Historical and Architectural Development of the "Dishan-Kala" Territory in the City of Khiva]. Archive of GlavNPU, 1987, Vol. II.

3. “Ichan-Qal’a” muzey-qo'riqxonasi fondi [Collection of the “Ichan-Kala” Museum-Reserve], KP 1310.
4. Ahmedov Muhammad Qosimovich “O'rta Osiyo Me’morchiligi Tarixi” [History of Central Asian Architecture]. Tashkent, “Uzbekistan,” 1995.
5. SH.Motkurbonova “Dishan qal’a darvozalari va yodgorliklari” [The Gates and Monuments of Dishan-Kala]. Proceedings of the conference “Innovative Scientific and Practical Research of Scientists and Youth of Uzbekistan,” Tashkent, 2021.

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CAUSES AND SOLUTIONS OF THERMOSTAT CORROSION IN THE COOLING SYSTEM OF INTERNAL COMBUSTION ENGINES

Abstract. *The article analyzes the operating principles of thermostats used in internal combustion engines, their importance in temperature regulation, and their corrosion-resistant properties. Recommendations were also given for increasing the efficiency of thermostats and enhancing their corrosion resistance.*

Keywords: *thermostat, temperature, water pump, corrosion, fuel, cooling system.*

Introduction. The cooling system of an internal combustion engine plays a vital role in controlling the temperature of the engine and ensuring its optimal performance. The thermostat is one of the most important components of this system, which is used to deliver coolant to the engine at the required temperature. Corrosion of the thermostat reduces the efficiency of the system and can lead to overheating of the engine. This article will provide detailed information on the causes of corrosion of the thermostat in the cooling system of an internal combustion engine and how to solve this problem.

The thermostat is a mechanical device that controls the temperature of the coolant in the cooling system to deliver it to the engine. The thermostat usually opens when the temperature of the fluid reaches a certain level, and when the engine starts to heat up, it sends coolant to the system. If the thermostat becomes corroded, it may not function properly. As a result, the cooling system cannot transfer enough fluid to the engine. This causes the engine to overheat. High engine temperatures reduce its performance, and in more serious cases, can damage the engine's mechanical components.

Figure 1. Thermostat corrosion

A malfunctioning or corroded thermostat reduces the efficiency of the engine's thermal management system. If the engine continues to operate at high temperatures, this reduces its performance and increases fuel consumption. Also, when the temperature management system is malfunctioning, the engine cannot use energy efficiently, which reduces overall performance.

Rusting or corroding the thermostat can cause it to stop working or completely break down.

Causes of thermostat corrosion:

-Poor quality coolant or the use of the wrong antifreeze can cause thermostat corrosion. Chemicals in the antifreeze or the expiration date of the coolant accelerate the corrosion process.

- If the temperature in the cooling system is low or the thermostat is malfunctioning, this can change the composition of the coolant and cause it to corrode. The cooling system is constantly changing heat and cold, which makes the fluid in it susceptible to corrosion.

- Air can enter the cooling system, reducing its pressure and increasing the corrosion process. Air prevents the coolant from circulating and causes the thermostat to corrode.

- Over time, various parts of the cooling system, including the thermostat itself, wear out. Wear can cause the thermostat to corrode, which in turn causes it to rust.

Maintaining and preventing thermostat rust:

-regularly check the coolant and monitor its shelf life. It is necessary to constantly check the composition and quality of antifreeze, and if necessary, renew the fluid.

-it is necessary to ensure the normal operation of the thermostat and monitor the operation of the system at the correct temperature. The temperature of the coolant must be maintained at an optimal level.

-to ensure that there is no air in the cooling system, the system must be properly filled and bled. It is necessary to regularly check the system and eliminate any problems in a timely manner.

-it is necessary to regularly check the thermostat and other cooling system components and replace them when necessary. Regularly monitoring the operation of the system and replacing spare parts prevents the thermostat from rusting.

№	Problem/Cause	Solution
1	Poor coolant quality	Use high-quality fluid and before its expiration date; renew regularly.
2	Air in the cooling system	It is necessary to properly fill and bleed the system. Regularly check for air in the system.
3	Malfunction of the cooling system	Regularly check and adjust the pressure and other parameters of the system.
4	Wear and deterioration of the cooling system	Regularly check the thermostat and system components and replace them if necessary.
5	Low coolant temperature	Regularly monitor the temperature of the cooling system and maintain it at an optimal level.
6	Thermostat wear	Regularly check the thermostat and replace it if necessary.
7	Invalid antifreeze or coolant	Use good quality antifreeze and coolant.
8	Corrosion in the cooling system	Use anti-corrosion protection fluids and regularly clean the system.

This table lists important steps to avoid and prevent the main causes of thermostat corrosion. Ensuring that the thermostat and cooling system are working properly is essential to ensuring that the engine continues to run efficiently. The cooling system of an internal combustion engine plays a very important role in its efficient operation. The thermostat performs a key function in delivering coolant to the engine at the required temperature and maintaining the engine at an optimal temperature. However, over time, the thermostat is prone to corrosion, which can negatively affect the operation of the system.

Conclusion. Regular maintenance and keeping the system in good condition is essential to prevent thermostat corrosion. This not only ensures the long life of the engine, but also increases its efficiency and operational safety. Thus, by ensuring the proper functioning of the cooling system, it is possible to guarantee optimal engine performance and a long service life.

References:

1. Xakimjonovich, S. R., Qoviljanovich, I. S., & Samarbekovich, S. D. Study of chemical structure, composition, properties and mechanical activity of mineral raw

materials in purchase of sanitary building product. In Archive of Conferences (2022, May). (pp. 57-61).
2. Jahongir, M., Sarvar, I., Shoxrux, A., & Farhod N., Electronic engine management diagnostic system self-propelled narrow-gauge power stationand method of experimental researchintroduction. International Journal of Early Childhood Special Education, (2022). 14(6).
3. Маннонов, Ж. А., Имомназаров, С. К., & Абдурахимов, Р. Г. Внедрение интеллектуальных систем в современные автомобили. Gospodarka i Innowacje., 33, (2023) 185-192.
4. Imomnazarov, S., Axmadaliyev, X., & Teshaboyev, R. Electronic engine control systems and its classification. Главный редактор: Ахметов Сайранбек Махсутович, д-р техн. наук, (2023). 69.
5. Султанов, С., & Имомназаров, С. (2023). Антикоррозионные композиционные материалы на основе органоминеральных ингредиентов. Инновационные исследования в современном мире: теория и практика, 2(14), 51-56.
6. Farkhod, T., Jaxongir, N., Sarvar, I., Nodira, A., Kamila, N., Sayibzhon, N., & Otabek, A. Investigation of wear of steel surfaces during contact interaction with abrasive-filled polymer coatings. Universum: технические науки, (2023) (5-6 (110)), 69-73.

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THE IMPORTANCE OF SPIRITUAL-EDUCATIONAL ACTIVITIES IN DEVELOPING ECOPEDAGOGICAL COMPETENCE IN STUDENTS

Abstract. *This article presents the educational significance of spiritual activities in the development of eco-pedagogical competence in students, its possibilities. Also, the importance of integration of environmental education and its development, materials on eco-pedagogy, scientific conclusions are noted. The characteristics of students, the activities of the human personality, their awareness of their direct dependence on the current ecological situation, and the increase of ecological responsibility in their inner world are presented. The article discusses the need for systematic efforts to enrich the content of environmental education in higher pedagogical institutions, and to instill eco-pedagogy in the minds of social society and its members.*

Keywords. *students, environmental education, spiritual activities, development, eco-pedagogy, social society.*

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TALABALARDA EKOPEDAGOGIK KOMPETENTLIKNI RIVOJLANTIRISHDA MA’NAVIY-TARBIYAVIY TADBIRLARNING AHAMIYATI

Annotatsiya. *Ushbu maqolada talabalarda ekopedagogik kompetentlikni rivojlantirishda ma’naviy tadbirlarning tarbiyaviy ahamiyati, uning imkoniyatlari to‘g‘risidagi fikrlar bayon etilgan. Shuningdek, ekologik ta’limning integratsiyalashuvi va uni rivojlantirishning ahamiyati, ekopedagogikaga oid materiallar, ilmiy xulosalar qayd etilgan. Talaba-yoshlar, inson shaxsining faoliyati, hozirgi ekologik ahvolga bevosita bog‘liqligini anglashi va ularning ichki dunyosida ekologik mas’uliyatni oshirish to‘g‘risidagi tavsiflar keltirilgan. Oliy pedagogik o‘quv yurtida ekologik ta’lim mazmunining boyitilish, ijtimoiy jamiyat va uning a’zolari ongiga ekopedagogikani singdirishda muntazam harakatning zarurligi to‘g‘risida fikrlar yuritilgan.*

Kalit so‘zlar. *talaba-yoshlar, ekologik ta’lim, ma’naviy tadbirlar, rivojlantirish, ekopedagogika, ijtimoiy jamiyat.*

Yurtimizda AQSH, Buyuk Britaniya, Koreya Respublikasi, Rossiya, Hindiston, Singapur, Malayziya va boshqa davlatlar bilan hamkorlikda 22 ta xorijiy oliy ta’lim muassasasi va filiallari faoliyat ko‘rsatmoqda. O‘zbekistondagi xorijiy oliy ta’lim muassasalarida axborot-kommunikatsiya texnologiyalari, xalqaro huquq va munosabatlar, biznesni boshqarish, dasturlash va boshqa zamonaviy

yo‘nalishlari bo‘yicha kadrlar tayyorlanadi. Oliy ta’lim muassasalari huzurida tayyorlov kurslari faoliyati yo‘lga qo‘yilib, qulay shartlar va qator imtiyozlar asosida abituriyentlarni o‘qishga tayyorlash ishlari olib borilmoqda.

Oliy pedagogik ta’limda “Umumiy pedagogika”, “Umumiy pedagogika va psixologiya”, “Pedagogik aksiologiya”. “Ijtimoiy pedagogika”, ”Pedagogik va psixologik fanlarni o‘qitish metodikasi”, “Pedagogik texnologiya”, “Qiyosiy pedagogika” kabi fanlarning ahamiyati shundaki, ulardagi materiallar, ilmiy xulosalarni o‘rganish tufayli talaba-yoshlar, inson shaxsining, faoliyatining hozirgi ekologik ahvolga bevosita bog‘liqligini anglaydi.[14] Jamiyatda har bir insonning ichki dunyosi bilan ekologik mas’uliyatini oshirish uchun muntazam harakat lozim. Talaba-yoshlar jamiyatimiz ijtimoiy, iqtisodiy yuksalishida muhim vazifani bajaradilar, ular ekologik jihatdan yuksak bilimga ega bo‘lgan barkamol avlodning tarbiyasi uchun mas’uldirlar. Bunday talab ularning ekologik bilimlarni chuqur egallashlarini, oliy pedagogik ta’lim tizimidagi fanlarni, yangi innovatsion texnologiyalar asosida chuqur o‘rganish, ushbu fanlarning bevosita mavjud ekologik vaziyat bilan aloqadorligini tushunib olishlarini, ekologik ma’lumotlar, xulosalar, qarashlar, ilmiy yo‘nalishlar mazmunini bilishni talab qiladi. Talaba-yoshlarga o‘quv amaliyoti va pedagogik amaliyot olib borish, umumta’lim maktablarida o‘quvchilar bilan ishlash jarayonida ham atrof-muhit muhofazasiga doir materiallar bilan ishlash, undan tarbiyaviy ishlarda samarali foydalanilmoqda.

Oliy pedagogik ta’limda talabalarga ekologik vaziyatning mohiyatini tushuntirishda, O‘zbekiston Respublikasi ekologiya va atrof-muhitni muhofaza qilish davlat qo‘mitasi tomonidan har yili ekolog jurnalistlar bilan hamkorlikda festival o‘tkazilishi odat tusiga kirganligi va ushbu tadbir natijasida matbuotda e’lon qilingan ekologik mazmundagi materiallarni mustaqil o‘rganish taklif qilinadi. Ushbu tanlovning asosiy maqsadi ekolog jurnalistlar faoliyatini qo‘llab-quvvatlashdir. Jamoatchilikni jumladan, talaba-yoshlarga tabiatni himoya qilish, undan unumli foydalanish bo‘yicha olib borilayotgan samarali ishlar natijasini yaqindan tanishtirishga qaratilgandir. Talaba-yoshlar ekopedagogik kompetentligining rivojlanishiga nodavlat va notijorat tashkilotlari (NNT) ham o‘z hissasini qo‘shmoqda, ular davlat tashkilotlari bilan hamkorlikda talaba yoshlar orasida tarbiyaviy ahamiyatga molik ekologik tadbirlarni o‘tkazib kelishmoqda. Tarbiyaviy ekologik yo‘nalishdagi samarali faoliyati bilan “Logos”, “Ekosan”, “Amudaryo va Orol himoyachilari ittifoqi”, “Hayot”, “Buloqcha” kabi nodavlat va notijorat tashkilotlari talaba yoshlar e’tiborini qozonmoqda.[15]

Mustaqilligimiz davrida vujudga kelgan ekologik harakat va xalqaro ekologik tashkilotlar faoliyatining asosiy yo‘nalishlaridan biri talaba yoshlar orasida ekologik tarbiyaviy ishlarni yo‘lga qo‘yish, ekopedagogik kompetentligini rivojlantirish hisoblanadi. Bugungi kunda ekologik yo‘nalishdagi 100 dan ortiq nodavlat notijorat tashkilotlarni birlashtirgan O‘zbekiston Ekologik harakatidan O‘zbekiston Respublikasi Oliy Majlisi Qonunchilik palatasiga saylangan deputatlar

[14] Murtozaeva M.M. Ekopedagogika. Monografiya. – Toshkent: Fan va texnologiya, 2023. – 200 b.
[15] Murtozayeva M.M. Ta'limda ekopedagogik o‘quv-tarbiyaviy ishlarni tashkil etish va rivojlantirish. Namangan davlat universiteti ilmiy axborotnomasi. – Namangan, 2024. – 5-son. – B. 1123-1126.

oldida katta va mas'uliyatli vazifalar turibdi. Xalqaro ekologik tashkilotlar bilan hamkorlikda maktablar, oliy o'quv yurtlari, akademik litsey, kasb-hunar kollejlari va pedagog-xodimlar, talabalar hamda ularning muntazam ishtirokida "Ekologiya va salomatlik" kunlari o'tkazib kelinmoqda.[16] O'tkazilayotgan tadbirlar natijasida har yili kuz va bahor oylarida ariq zovurlar tozalanadi, shaharlar va qishloqlarda vujudga kelgan chiqindilar yo'q qilinadi yoki belgilangan xavfsiz joylarga to'planadi, zararsizlantiriladi. Ekologik harakatning barcha viloyatlardagi ushbu tadbirlarning tashkilotchisi va ishtirokchisi talaba-yoshlardir. Ekologik tarbiyaga oid faoliyatda erishilgan natijalar millionlab maktab o'quvchilari, kasb-hunar kollejlari o'quvchilari, oliy o'quv yurtlari talabalarining faol ishtiroki tufaylidir. Ekologik harakatning tashabbusi va bevosita ishtirokida talaba-yoshlar orasida "Ekofestival"lar o'tkazish an'anaga aylangan. "Ekofestival" doirasida xalqaro ekologiya Yer va Suv kunlari, Atrof-muhitni asrash tadbirlari o'tkaziladi. Shuningdek, "Mustaqillik kuni", "Navro'z" va boshqa milliy bayramlarimizga bag'ishlanib mahallalarda talabalar, tadbirkorlar, tadbirkor yoshlar ishtirokida ekologiya kunlari tashkil etiladi. Ekologik festivallar "O'zbekiston milliy parklari", "Ekoturizm va barqaror rivojlanish" hamda "Biz Orol bolalari" kabi mavzularda tashkil etilmoqda.[17]

Talabalarda ekopedagogik kompetentlikni rivojlantirishda Oliy o'quv yurtlari talabalari orasida ekologik muammolarga bag'ishlanib muntazam sur'atda tashkil etilayotgan va o'tkazilayotgan ko'rik tanlovlar, bolalar badiiy ijodiy namunalari, ko'rgazmalari, ekoturizm rivojlanishini targ'ib etuvchi tadbirlar muhim ahamiyat kasb etmoqda.[18] Ekologik harakatning mamlakatimiz yoshlarida ekopedagogik kompetentlikni rivojlantirish borasidagi amaliy va tarbiyaviy ishlardan yana biri aholi orasida "Eng yaxshi shahar", "Eng yaxshi tuman", "Eng yaxshi muassasa", "Eng yaxshi mahalla", "Toshkent ekologiyasi: yoshlar tashabbusi", "Mening shahrim – mening uyim" kabi ekologik, tarbiyaviy ahamiyatdagi tadbirlarni o'tkazayotganligi yoshlar orasida ekologik tushuncha, atrof-muhitni asrashga e'tibor, tabiat in'omlariga insoniy hurmat, ya'ni ekologik madaniyatning yangi jihatlarini vujudga keltirmoqda. Ekologik harakatlarning ta'siri bevosita mamlakatimiz yosh olimlari e'tiborini ushbu masalalar yechimiga ham qaratmoqda. O'zbekiston Respublikasi Fanlar Akademiyasining soha institutlari, universitetlarda faoliyat ko'rsatayotgan yosh tadqiqotchi-pedagoglari, doktorant va tayanch doktorantlar, mustaqil izlanuvchilarning ilmiy tadqiqotlarida ekologik muammolarning ma'lum qismlari bo'yicha yechim izlanmoqda. Yosh ilmiy tadqiqotchilarga xalqaro va Respublikamiz darajasidagi ilmiy-amaliy konferensiyalarda ishtirok etish, ilmiy maqolalarini to'plamlarda chop etishga amaliy yordam etmoqda. Eng muhim natijalardan biri yosh olimlar ilmiy xulosalari,

[16] Qosimova N. Global iqlim o'zgarishi va jurnalistika. O'quv-amaliy qo'llanma. –Toshkent: Jurnalistlarni qayta tayyorlash markazi, 2016. – 96 b.
[17] Murtozaeva M.M. Ekopedagogika. Monografiya. – Toshkent: Fan va texnologiya, 2023. – 200 b.
[18] O'zbekiston Respublikasi Vazirlar Mahkamasining 2019 yil 27 maydagi "O'zbekiston Respublikasida ekologik ta'limni rivojlantirish konsepsiyasini tasdiqlash to'g'risida"gi 434-son qarori. O'zbekiston Respublikasi qonunchilik ma'lumotlari milliy bazasi, 21.05.2021 y., 09/21/320/0482-son.

ilmiy ishlari va qo‘lga kiritgan natijalari asosida berilgan takliflar ekologik tizimda amaliyotga kiritilishiga ham yordam bermoqda.

O‘zbekistonning qishloqlarida yashayotgan, talaba-yoshlar orasida ekologik ma’rifat, tarbiyaviy ahamiyat kasb etuvchi amaliy ishlar o‘tkazilmoqda. Jumladan, Qoraqalpog‘iston Respublikasida va viloyatlardagi ekologik qiyinchiliklar vujudga kelgan tumanlarga toza ichimlik suv chiqaruvchi nasoslar yetkazib berildi.[19] Har yili “Ekosan” xalqaro ekologik tashkiloti tomonidan bolalar kasalxonalari, aholi yashash joylarida faoliyat yuritayotgan dehqon bozorlari hududlarida yuqumli kasalliklarning oldini olishga mo‘ljallangan medikamentlar bilan ta’minlash yo‘lga qo‘yilgan. Shu maqsadda qishloq turmush madaniyati, ijtimoiy salomatlik va ekologiyaga oid loyihalarning hayotga tatbiq etilganligi qishloqlarimizda istiqomat qilayotgan yoshlarning ekopedagogik kompetentligini rivojlantirish, ularning ekologik tarbiyalanishida muhim omillardan bo‘lmoqda.

Talaba-yoshlarning ekologik tarbiyasini rivojlantirish borasida olib borilayotgan bir qator ishlar ta’lim tizimidagi muhim vazifalardan biri sanaladi. Oliy ta’limning qator muassasalarida yuqori malakali oliy ma’lumotli ekolog mutaxassislar tayyorlanmoqda. O‘zbekiston Respublikasi ekologiya va atrof-muhitni muhofaza qilish davlat qo‘mitasi tomonidan ekologik mavzudagi maxsus adabiyotlar nashr qilinishi yo‘lga qo‘yilgan.

O‘zbekistonda uzluksiz ta’limning barcha jabhalaridagi islohotlar natijalari jahondagi yetakchi mamlakatlar tomonidan e’tirof etilishi munosabati bilan amalga oshirilayotgan ijtimoiy-iqtisodiy islohotlarda yoshlarning ekologik tarbiyasi muhim o‘rin egallaydi. Shu munosabat bilan uzluksiz ta’lim tizimi ekologik ta’limning takomillashuviga alohida e’tibor qaratib kelmoqda. Demokratik islohotlarning keng miqyosda olib borilishi va ijtimoiy fuqarolik jamiyatining rivojlantirilishi jarayonida talabalar ekologik tarbiyasi masalalari yechimi uzluksiz ta’limning barcha bo‘g‘inlarida faol ishtirok etishni taqozo etadi. Mamlakatimizda demokratik islohotlarni chuqurlashtirish davrida oliy ma’lumotli pedagog mutaxassislar tayyorlash va ular ekopedagogik kompetentligini, ekologik tarbiyalanganlik darajasini rivojlantirish bo‘yicha oliy ta’limdagi bir qator fanlar o‘quv dasturlari, ma’ruzalar matnlari tizimi takomillashtirildi. Qayd etish lozimki, oliy ma’lumotga ega bo‘lgan bakalavrlarning O‘zbekiston ekologik harakatiga a’zo bo‘lishlari, ular tomonidan ekologik masalalar yechimiga taklif va mulohazalar bildirishlari va ilmiy xulosalar taqdim etilayotganligi ta’lim tizimidagi samarali tarbiyaviy ishlar natijasidir.

Oliy pedagogik o‘quv yurtida ekologik ta’lim mazmunining boyitilishi, jamiyatni modernizatsiyalash davridagi maqsad va vazifalarni fuqarolar ongiga singdirishda, jumladan, yoshlarning O‘zbekiston Respublikasi Prezidenti asarlari, nutqlari, farmon va qarorlarida, ekologiya sohasiga tegishli nazariy fikrlar, xulosalar, aniq bayon qilingan vazifalarning mohiyatini o‘rganishlarida dastur va metodologik asos vazifasini o‘tayapti. Mamlakat rahbarining bevosita mintaqa

[19] Murtozayeva M.M. Ta'limda ekopedagogik o‘quv-tarbiyaviy ishlarni tashkil etish va rivojlantirish. Namangan davlat universiteti ilmiy axborotnomasi. – Namangan, 2024. – 5-son. – B. 1123-1126.

tabiiy resurslariga taalluqli xulosalari talabalarimizda mavjud suv resurslaridan tejamli, oqilona foydalanish mas'uliyatini rivojlantirishda muhim omilni bajaradi. Talaba-yoshlarga ekologiyaga doir mavzularni tushuntirishda, muammoning mazmunini va O'rta Osiyoda vujudga kelgan ekologik qiyinchiliklar, ularning asosiy sabablarini ochib berish ta'lim oldidagi muhim vazifalardan biridir. Umuman olganda, tabiiy resurslarning mintaqa ijtimoiy-iqtisodiy hayotidagi o'rni muttasil oshib borayotganligi, mavjud yer usti va yer osti tabiiy resurs manbalaridan xo'jalik tarmoqlarida unumli foydalanish barcha mutaxassislar va uzluksiz ta'limda faoliyat ko'rsatayotgan ekologlar oldida ham muhim vazifa bo'lib qolmoqda.

Ta'lim tizimidagi ekologik islohotlar xalqaro darajadagi talablarga mosdir. Ta'kidlash lozimki, Birlashgan millatlar tashkiloti, Yevropa iqtisodiy komissiyasi bilan hamkorlikda ekologik ta'limni, ekologik tarbiyani yanada takomillashtirish, yoshlar ekopedagogik kompetentligini rivojlantirish bo'yicha samarali ishlarni bajardi. Mamlakatimizda ekologiyaga oid muammolarning kun sayin global ahamiyat kasb etayotganligini inobatga olib, so'nggi yillar davomida muhim ustuvor vazifalar qatorida atrof-muhit muhofazasi hamda ekologik madaniyat, shuningdek, ekologik ta'lim va tarbiya, ekologik ma'rifat masalalariga e'tibor kuchayganligi bois talaba-yoshlar ekopedagogik kompetentligini rivojlantirishda muhim amaliy ahamiyat kasb etadi.

Adabiyotlar:

1. O'zbekiston Respublikasi Vazirlar Mahkamasining 2019 yil 27 maydagi "O'zbekiston Respublikasida ekologik ta'limni rivojlantirish konsepsiyasini tasdiqlash to'g'risida"gi 434-son qarori. O'zbekiston Respublikasi qonunchilik ma'lumotlari milliy bazasi, 21.05.2021 y., 09/21/320/0482-son.
2. Murtozayeva M.M. Ta'limda ekopedagogik o'quv-tarbiyaviy ishlarni tashkil etish va rivojlantirish. Namangan davlat universiteti ilmiy axborotnomasi. – Namangan, 2024. – 5-son. – B. 1123-1126.
3. Murtozaeva M.M. Ekopedagogika. Monografiya. – Toshkent: Fan va texnologiya, 2023. – 200 b.
4. Qosimova N. Global iqlim o'zgarishi va jurnalistika. O'quv-amaliy qo'llanma. – Toshkent: Jurnalistlarni qayta tayyorlash markazi, 2016. – 96 b.

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QISHLOQ XO‘JALIGI YERLARIDAN OQILONA FOYDALANISH VA ULARINING MELIORATIV HOLATINI YAXSHILASH

Annotatsiya: *Bugungi kunda mamlakatimizda yerlarning meliorativ holatini yaxshilash qishloq xo’jaligiga mo’ljallangan yerlardan oqilona foydalanishda muhim ahamiyatga ega. Ushbu maqolada O’zbekiston Respublikasida qishloq xo‘jaligiga mo‘ljallangan yerlardan oqilona foydalanish va ularining meliorativ holatini yaxshilash borasidagi ilmiy va amaliy ishlar tahlili keltirilgan.*

Kalit so‘zlar: *Melioratsiya, qishloq xo‘jaligi, iqlim, tuproq, sizot suvlar, degradatsiya, dala, tuproq unumdorligi.*

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RATIONAL USE OF AGRICULTURAL LANDS AND IMPROVEMENT OF THEIR MELIORATION STATUS

Abstract: *Today's improvement of the melioration situation in our country has great significance for the rational use of agricultural land. V state predstavlen analyz nauchno-prakticheskoi work po rationsionalnomu ospolzovaniyu zemel selskohozyaystvennogo naznacheniya i uluchsheniyu ix meliorativnogo stotoyaniya v Republike Uzbekistan.*

Keywords: *land reclamation, agriculture, climate, soil, soil, soil, degradation, soil, soil.*

Keyingi yillarda O‘zbekiston Respublikasida qishloq xo‘jaligida yer va suv resurslaridan samarali foydalanish, ularni asrash borasida keng ko‘lamli islohotlar olib borilmoqda. Jumladan;

O‘zbekiston Respublikasining Yer kodeksi va “Yaylovlar to‘g‘risida”gi Qonuni hamda O‘zbekiston Respublikasi Prezidentining “O‘zbekiston - 2030” strategiyasini “Yoshlar va biznesni qo‘llab-quvvatlash yili”da amalga oshirishga oid davlat dasturi to‘g‘risida” 2024-yil 21-fevraldagi PF-37-son Farmoniga muvofiq, shuningdek, qishloq xo‘jaligiga mo‘ljallangan yerlardan oqilona foydalanishning samarali tizimini joriy etish maqsadida Vazirlar Mahkamasi qarori

qiladi: Mazkur Nizom qishloq xo‘jaligiga mo‘ljallangan yerlardan (shu jumladan, yaylovlardan) oqilona foydalanish tartibini belgilaydi. Nizom O‘zbekiston Respublikasi Yer kodeksining 36-moddasiga muvofiq yerdan oqilona foydalanilmaganda, yer uchastkasiga bo‘lgan huquqni bekor qilishning aniq holatlarini belgilash maqsadida ishlab chiqilgan.

Ushbu Nizomda quyidagi asosiy tushunchalardan foydalaniladi:

almashlab ekish (sideratsiya) — ma’lum vaqt davomida yer uchastkalari bo‘yicha qishloq xo‘jaligi ekinlarini ilmiy asoslangan holda navbatlab ekish; Almashlab ekish qishloq xo’jaligi yerlarining unumdorligini oshirish va meliorativ holatini yaxshilashda o‘simlik qoldiqlari kasallik va zararkunandalarga qarshi tabiiy himoya hisoblanadi. Shuningdek, nafaqat dehoqonchilikda balki, chorvachilikda ham almashlab boqish yaylov unumdorligini oshirishda muhim o‘rin tutadi [2]. Chunki almashlab boqish orqali yaylovlarda navbatma navbat ma’lum vaqt ichida o‘simliklar qayta tiklanadi va tuproq unumdorligi oshishida asosiy o‘rin tutadi.

Dala — qishloq xo‘jaligi maqsadlarida foydalaniladigan hududlarda qishloq xo‘jaligi ekinlarini yetishtirish va yoki chorva mollarini boqish (o‘tlatish) uchun foydalaniladigan alohida kontur raqami bilan belgilangan va alohida chegara belgilariga ega bo‘lgan yer maydoni birligi hisoblanadi. Va’holnki dalalarning unumdorligini saqlash va barqaror rivojlanishini ta‘minlash qishloq xo’jaligining asosiy vazifasi sanaladi.

Yerlar degradatsiyasi — yerlarning tabiiy-xo‘jalik ahamiyatining pasayishiga olib keluvchi tabiiy va antropogen ta’sirlar natijasida qishloq xo‘jaligiga mo‘ljallangan yerlar holatining yomonlashishi. Ya’ni bir xil ekinlarning uzoq muddat ekilishi hamda tuproq qatlamini noto‘g‘ri sug‘orilishi natijasida tuproqning unumdorligi pasayishiga olib keladi. Bu esa butun dunyoda oziq-ovqat xavfsizligiga suv resurslariga va atrof muhitga ta’sir qilmoqda hamda dolzarb muommoga aylanmoqda.

Tuproq unumdorligining sezilarli pasayishi — tuproq sifatini baholash, agrokimyoviy va yoki agromeliorativ tadqiqotlar natijalari taqqoslanganda, tuproq unumdorligi ko‘rsatkichining pasayishi hisoblanadi. Tuproq unumdorligining pasayishiga bir qancha omillar ta’sir ko’rsatmoqda tabiiy omillardan eroziya (yomg’ir va shamol ishi), iqlim o’zgarishi va qurg’oqchilik, sho’rlanish va botqoqlashish noto’g’ri dehqonchilik amaliyotlari va agrotashkilotlarning mavjud emasligi bunga sabab bo‘lmoqda.

Qishloq xo‘jaligiga mo‘ljallangan yerlardan oqilona foydalanish — yer maydonlarida tuproq unumdorligining pasayishi va meliorativ holatining yomonlashishiga yo‘l qo‘ymaslik hamda mahsuldorlikning zarur ko‘rsatkichlariga erishish maqsadida yerdan foydalanuvchilar tomonidan qishloq xo‘jaligiga mo‘ljallangan yerlardan (shu jumladan, yaylovlardan) oqilona foydalanishni ta’minlanishi sanaladi. Qishloq xo’jaligi yerlaridan unumli foydalanishning bir qancha chora tadbirlari mavjud: jumladan, almashlab ekish, organik va mineral o‘g‘itlardan oqilona foydalanish, eroziyaga qarshi kurashish choralari, hosildor ekinlarni ekish, sho’rlanishga qarshi kurashish muhim ahamiyat kasb etmoqda.

“Melioratsiya” lotincha melioration –“yaxshilash” degan ma’noni anglatib, ma’lum maydonda qishloq xo’jaligi ekinlaridan doimiy yuqori hosil olish maqsadida shu maydonning noqulay tuproq, geologik, gidrogeologik va iqlim sharoitlarini yaxshilash tushuniladi. Qishloq xo’jaligi melioratsiyasi deganda ekinlardan yuqori, barqaror hosil olish maqsadida tuproqning hosildorligini oshirish va noqulay tabiiy sharoitlarni tubdan yaxshilashga yo’naltirilgan , texnik, tashkiliy xo’jalik va ijtimoiy-iqtisodiy tadbirlar majmuasi tushuniladi. Melioratsiya qishloq xo’jaligi rivojlanishiga faol ta’sir qiladi, inson hayoti va faoliyatini yaxshilashga yordam beradi.

Respublikamiz uchun o‘ta dolzarb ahamiyatga ega bo‘lgan sug‘oriladigan yerlar 4,3 million gektarni, yoki mamlakat umumiy maydonining 9,6 foizini tashkil etib, ularda barcha qishloq xo‘jaligi mahsulotlarining 95 foizdan ortig‘i yetishtiriladi. O‘zbekiston Respublikasi bo‘yicha jami yerlar 44892,4 ming gektarni tashkil etib, yerlardan foydalanish maqsadi va tartibiga ko‘ra 8 ta toifaga bo‘linadi, jumladan, qishloq xo‘jaligiga mo‘ljallangan yerlar; aholi punktlarining yerlari; sanoat, transport, aloqa, mudofaa va boshqa maqsadlarga mo‘ljallangan yerlar; tabiatni muhofaza qilish, sog‘lomlashtirish va rekreatsiya maqsadlariga mo‘ljallangan yerlar; tarixiy-madaniy ahamiyatga molik yerlar; o‘rmon fondi yerlari; suv fondi yerlari; zaxira yerlar. Qishloq xo‘jaligiga mo‘ljallangan yerlar unumdor yerlarga taalluqli bo‘lib, umummilliy boylik, qishloq xo‘jaligi mahsulotlarini ishlab chiqarish va mamlakat oziq-ovqat xavfsizligini ta’minlashning asosiy vositasi hisoblanadi. Qishloq xo‘jaligiga mo‘ljallangan yerlarning umumiy maydoni 20236,3 ming gektarni, shundan haydaladigan yerlar 3988,5 ming gektarni, ko‘p yillik daraxtzorlar 383,1 ming gektarni, bo‘z yerlar 76 ming gektarni, pichanzor va yaylovlar 11028,3 ming gektarni, boshqa yerlar 4 760,4 ming gektarni tashkil qiladi. So‘nggi yillarda O‘zbekistonda yer va suv resurslariga bo’lgan munosabatni maqbullashtirish, qishloq xo‘jaligi yerlarini takomillashtirish va ularni ajratishda soddalashtirilgan tartibini qo‘llash, yer-suv resurslaridan foydalanishda zamonaviy bozor mexanizmlari, innovatsion va resurs tejovchi texnologiyalardan foydalanishni joriy qilish, past hosil beradigan paxta va g‘alla maydonlarini qisqartirish hisobiga yuqori daromadli, eksportbop mahsulotlar yetishtirish bo‘yicha bir qator chora tadbirlar amalga oshirilmoqda. Shu bilan birga, respublika aholisi sonining yuqori sur’atlar bilan o‘sib borishi, qishloq xo‘jaligi yerlarining boshqa toifaga o‘tkazilishi va global iqlim o‘zgarishi ta’sirining keskinlashuvi oqibatida oxirgi 15 yilda aholi jon boshiga to‘g‘ri keladigan sug‘oriladigan yer maydonlari o‘lchami 24 foizga (0,23 gektardan 0,16 gektargacha), o‘rtacha yillik suv ta’minoti darajasi esa 3 048 metr kubdan 158,9 metr kubgacha qisqardi. Uzoq yillar davomida qishloq xo‘jaligi yerlaridan nooqilona foydalanish natijasida tuproqning tabiiy unumdorligi va ekinlar hosildorligi pasayib, yetishtirilgan mahsulot sifati yomonlashmoqda, atrof muhit ifloslanishi ortib bormoqda. Jumladan, sug‘oriladigan ekin yerlaridagi tuproqlarning 93 foizida harakatchan fosfor miqdori, 68,3 foizida almashuvchan kaliy miqdori, 79,3 foizida gumus (chirindi) miqdori o‘rtachadan past darajaga tushib qolgan. Milliy daromadi O‘zbekiston bilan deyarli bir xil bo‘lgan

mamlakatlarda qishloq xo‘jaligi ehtiyojlari uchun davlat budjetining 4-5 foizi yo‘naltiriladi yoki YAIMga nisbatan rivojlanayotgan mamlakatlarda 1 foizdan ortiqroqni, daromadi yuqori bo‘lgan davlatlarda esa 1 foizdan kamroqni tashkil etadi. Qishloq xo‘jaligida o‘rtacha yillik suv sarfi 45696 mln metr kub yoki iqtisodiyot tarmoqlarida iste’mol qilingan suv resurslarining 90 foizini tashkil etib, yuqoriligicha qolmoqda. Sug‘oriladigan yerlarning meliorativ holatini yaxshilash va barqaror saqlash maqsadida quyidagi ishlar amalga oshirilmoqda: irrigatsiya va melioratsiya ob’ektlarini qurish va rekonstruksiya qilish hamda ta’mirlash-tiklash ishlarini amalga oshirib borish; yer va suv resurslaridan samarali foydalanishda ilm-fan va amaliyot integratsiyasini jadallashtirish; yer va suv munosabatlari bo‘yicha tor ixtisoslikdagi mutaxassislar tayyorlash bo‘yicha yangi o‘quv yo‘nalishlari (geodeziya, kartografiya va h.k.) va fakultetlarini tashkil etish; shu jumladan yetakchi xorijiy oliy ta’lim muassasalari bilan qo‘shma fakultetlar ochish; ilmiy tadqiqot mavzularini hududlar va qishloq xo‘jaligining muammolari yechimlaridan kelib chiqqan holda shakllantirish va natijalarini tijoratlashtirish; tuproq unumdorligini oshirish, tuproq eroziyasi va degradatsiyasining oldini olishga qaratilgan ilmiy tadqiqotlarni olib borishni jadallashtirish; qishloq xo‘jaligi yo‘nalishidagi ilmiy tadqiqotlarni olib borish muhim ahamiyat kasb etadi. Shuningdek, innovatsion ishlanmalarni ishlab chiqish va joriy etishda davlat-xususiy sheriklik mexanizmini, xususiy sektorning ishtirokini rag‘batlantirishning samarali mexanizmlarini keng joriy qilish; xorijiy davlatlarning qishloq xo‘jaligi ekinlari serhosil navlari va chorva mollarining mahsuldor zotlari hamda turlarini mahalliylashtirish borasidagi ilmiy-amaliy faoliyat hamda hamkorlikni tizimli tashkil etish; soha bo‘yicha doktorantura va tayanch doktorantura orqali ilmiy darajali yuksak malakali ilmiy xodimlarni tayyorlashni kengaytirish, ularga muammoli va dolzarb mavzular bo‘yicha ilmiy tadqiqot ishlarini olib borishlari uchun barcha shart-sharoitlarni yaratish muhim ahamiyat kasb etadi.

Sug‘orish zonalarini, mintaqaning suv bilan ta’minlanganligini hisobga olgan holda qishloq xo‘jaligi ekinlarining sug‘orish texnika va texnologiyalarini takomillashtirish bo‘yicha tavsiyalar ishlab chiqish; jahon amaliyotini o‘rgangan holda noan’anaviy sug‘orish texnologiyalarini ishlab chiqish va tatbiq etish asosiy o‘rin tutmoqda.

Qishloq xo’jaligi uchun mo’ljallangan yerlardan oqilona foydalanish va meliorativ holatini yaxshilash uchun amalga oshirilishi zarur bo’lgan bir qator chora tadbirlar; suv isrofini kamaytirish va yerlarning sho‘rlanishini oldini olish maqsadida tomchilatib va yomg‘irlatib sug’orish texnologiyalarini joriy etish; ortiqcha suvni chiqarib, tuproq sho’rlanishi va botqoqlanishini oldini olish uchun drenaj tizimlarni modernizatsiya qilish qishloq xo‘jaligi sohasini rivojlanishida asosiy o‘rin tutadi.

Xulosa qilib aytganda yuqorida bayon etilgan taklif va tavsiyalardan tashqari qishloq xo’jalik mutaxassislari, irrigatorlar, melioratorlar, muxandislar va olimlar oldida ish samaradorligini yuqori takomillashgan yangi tipdagi zovurlar texnologiyasini yaratish, tuproq unumdorligini tiklash, oshirish va saqlash muhim o‘rin tutadi. Shuningdek, hamda sho’rlangan yerlardan yuqori hosil olishni

ta’minlovchi yanada samaraliroq meliorativ tadbirlarni joriy etish, tuproqda gumus balansi notanqisligini va tuproq suv-fizikaviy, fizik-kimyoviy, biokimyoviy, meliorativ xossalarini mo’tadilligini ta’minlovchi bir qator yangi tadbirlar yaratish va ularni ishlab chiqarishga tezda tadbiq etish muammolarini birinchi galdagi vazifalardan bo’lib turibdi. Bu muammolar yechimini hal etish orqali ko‘zda tutilgan maqsadlarga erishish mumkin.

Adabiyotlar ro‘yxati:

1.O‘zbekiston Respublikasi Vazirlar Mahkamasining2017-yil 5 dekabrdagi969sonli qarori(https://lex.uz/acts/)
2. O‘zbekiston Respublikasi Prezidenti Sh. MIRZIYOYEV Toshkent sh., 2017-yil 31-may, PF-5065-son
3. Latipov, N. (2022). НАВОИЙ ВИЛОЯТИДА АХ. ОЛИ САЛОМАТЛИГИГА ЭКОЛОГИЯНИНГ ТАЪСИРИ.
4. Latipov, N. F. (2024). THE PROCESS OF URBANIZATION AND ITS CORRELATION WITH THE ECOLOGICAL CIRCUMSTANCE. Science and innovation, 3(Special Issue 4), 343-352.
5. Латипов, Н. Ф. (2018). International migration tours and works. Наука и мир, (8), 108-110.
6. Komilova, N., Makhmudov, B., & Latipov, N. (2023). Study of crimes in the city of Kokand using GIS technologies and sociological questionnaires. Visnyk of VN Karazin Kharkiv National University, series" Geology. Geography. Ecology", (59), 125-139.
7. Latipov, N. F., & Komilova, N. K. (2022). INDICATORS OF URBAN ENVIRONMENT ASSESSMENT AND CRITERIA FOR THEIR SELECTION. Экономика и социум, (11-1 (102)), 129-134.
8. Mukhammedova, N. J., & Koziyeva, M. S. (2024). ECONOMIC-SOCIAL GEOGRAPHICAL DESCRIPTION OF NAVBAHAR DISTRICT. World of Scientific news in Science, 2(1), 619-623.
9. Khudoyberdieva, I. Analyzing of Influential Factors for the Development of Livestock and their Significance in Navoi Region.
10. Xudoyberdiyeva, I. (2024). Navoiy viloyati qishloq xo‘jalik tarmoqlarini joylashtirishda iqtisodiy va ijtimoiy geografik omillarning o‘rni. Tabiiy fanlar, 3(2), 315-318.
11. https://lex.uz/acts/-1411495
12.https://m.aniq.uz/uz/yangiliklar/ qishloq xujaligida yer va suv resurslaridan samarali foydalanish holati
13.https://st.simplehealth.ltd/uAJjyu

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CHRISTOPHER ANTONIOU PISSARIDES' RESEARCH ON POVERTY AND LABOR MARKETS AND PRACTICAL RECOMMENDATIONS FOR APPLICATION IN THE CONTEXT OF UZBEKISTAN

Annotation*: This article is dedicated to the scientific research of Christopher Antoniou Pissarides on poverty, the labor market, and economic inequality. In his studies, he has achieved remarkable practical scientific results by analyzing poverty and the labor market empirically and theoretically. The article also provides an in-depth analysis of his scientific achievements and innovative contributions to economic sciences, particularly focusing on equilibrium unemployment theory, the DMP model, the digital labor market, the matching function, dynamic modeling of unemployment, and wage-setting equations.*

Keywords*: equilibrium unemployment theory, DMP model, digital labor market, matching function, dynamic modeling of unemployment, wage-setting equation, Cobb-Douglas.*

Introduction: Christopher Antoniou Pissarides is a Nobel laureate in economics, known for his deep analysis of labor markets, unemployment, and economic growth issues. In his work "Equilibrium Unemployment Theory," he explained the dynamics of the labor market. This article analyzes Pissarides' scientific work on poverty and income inequality, as well as the theories he developed. It also discusses his scientific approaches and the new paradigms he introduced into economics.

Methodology: The article mainly uses methods such as analysis, synthesis, and empirical analysis. Pissarides developed a theoretical model called the Diamond-Mortensen-Pissarides (DMP) model to evaluate labor market equilibrium. The following approaches were also used in his work:

- Labor market segmentation: Identifying the long-term effects of unemployment and its impact on poverty levels.
- Search frictions: The problems in the job search process and their impact on economic growth.
- Analysis of government policies: Assessing the effectiveness of unemployment benefits and employment policies.
- Digital labor market: Studying the technological aspects of the transformation of the labor market.
- Impact of global economic crises on the labor market: Analyzing the problems arising in the labor market due to various economic crises and their long-term consequences.

Results and Discussion: Pissarides' job search and matching model (Search and Matching Model) is typically represented through key econometric equations and graphs. This model analyzes the relationships between the job search process, unemployment rates, job vacancies, and wages in the labor market.

1. Key Equations of the Model:

a) Labor market equilibrium equations

1. Job creation matching function: $M=m(U,V)$ $M = m(U, V)$

Where:

- MM = number of workers matching new job openings
- UU = number of unemployed
- VV = number of job vacancies
- $m(\cdot)$ = matching function linking job search and job offer

Typically in Cobb-Douglas form: $M=\eta U^{\alpha} V^{1-\alpha}$ $M = \eta U^\alpha V^{1-\alpha}$

Where:

- η = matching efficiency parameter
- α = elasticity coefficient determining the probability of the unemployed finding a job

2. Unemployment dynamic modeling $U_{t+1}=U_t+s(1-U_t)-M(U_t,V_t)$ $U_{t+1} = U_t + s(1 - U_t) - M(U_t, V_t)$

Where:

- ss = probability of existing workers leaving their jobs
- $M(U_t,V_t)$ = number of newly employed workers

3. Wage setting equation (Bargaining Equation)

Wages are determined through Nash bargaining: $w=(1-\beta)\cdot b+\beta\cdot(y+\theta c)$ $w = (1 - \beta) \cdot b + \beta \cdot (y + \theta c)$

Where:

- ww = equilibrium wage
- bb = income in unemployment
- yy = productivity of workers
- $\theta=\frac{V}{U}$ = vacancy-unemployment ratio
- cc = hiring costs for employers
- β = wage bargaining parameter

2. Graphical Analysis:

The Beveridge Curve and the Unemployment-Vacancy Dynamics Curve (UV Curve) are key graphs in the Pissarides model.

a) Beveridge Curve:
This curve shows the inverse relationship between unemployment and job vacancies:

- Low unemployment → More vacancies
- High unemployment → Fewer vacancies

b) UV Curve (Unemployment and Vacancy Dynamics):

This curve shows the dynamic changes over time between unemployment rates and job vacancies.

These graphs provide insight into labor market dynamics based on the Pissarides model, including the relationship between unemployment, vacancies, and wages.

Pissarides' Research Findings:

1. Labor market search process and unemployment:
   - The natural rate of unemployment is determined by structural changes in the labor market and search costs.
   - A prolonged job search process increases poverty.
   - Employment stability depends on the overall efficiency of the market economy.
   - Technological changes create new job opportunities, though some sectors see job losses.
2. Poverty and economic inequality:
   - Labor market imbalances can lead to increased poverty.
   - Government employment and wage policies play a key role in reducing poverty.
   - Social security systems help reduce unemployment and income inequality.
   - Labor market flexibility can be crucial in reducing income inequality.
3. Economic policy and reducing unemployment:
   - Policies aimed at speeding up job placements improve labor market efficiency.
   - Reducing unemployment benefits and tax burdens can increase labor market activity.
   - Technological progress and automation can create new job opportunities.
   - Cooperation between public policies and the private sector enhances outcomes.

Innovation in Scientific Contributions:

Pissarides' research made significant contributions to the development of economic theory, particularly through:

- In-depth analysis of unemployment using the DMP model
- Studying the economic impact of technological transformation in labor markets
- Exploring the dynamics of the labor market in the digital economy
- Promoting labor market flexibility and employment diversification
- Advocating for public-private partnerships in job creation
- Examining the long-term impact of economic crises on employment and providing strategic solutions

Pissarides' research has had a significant impact on the understanding of labor markets and poverty, contributing to effective strategies for addressing unemployment and economic inequality.

Application of Pissarides' Research in Uzbekistan:

1. Labor market flexibility:

Pissarides' employment model suggests improving labor market balance, such as supporting small and medium businesses in Uzbekistan to enhance employment opportunities. Key measures include:

- Digitizing job search systems
- Expanding job opportunities in the private sector

2. Skills development:

As noted in Pissarides' work, investing in skill enhancement programs improves labor market efficiency. Strengthening vocational education and retraining programs in Uzbekistan, especially in technology-related fields, can have a positive economic impact.

3. Unemployment reduction strategies:

To address unemployment, Uzbekistan could focus on:

- Attracting investments in new technologies and industries
- Improving job search mechanisms
- Expanding youth employment programs

4. Formal vs. informal employment:

According to Pissarides' analysis, informal employment reduces economic efficiency. By simplifying the tax system and promoting formal employment, Uzbekistan could increase labor market efficiency.

5. Increasing female employment:

Pissarides emphasizes labor force participation, and in Uzbekistan, increasing female employment could be achieved by:

- Expanding remote work opportunities
- Supporting programs that balance family responsibilities and work.

Conclusion:

Pissarides' research on poverty and labor markets provides valuable insights that can be applied to Uzbekistan. His theories suggest that:

- Developing skill enhancement programs
- Improving labor market flexibility
- Transitioning from informal to formal employment
- Expanding youth and female employment
- Supporting small and medium businesses

Furthermore, the introduction of new economic models by Pissarides lays the groundwork for addressing future labor market challenges. His scientific approaches contribute significantly to long-term economic stability, helping to address emerging issues in the labor market caused by technological advancements.

References List

1.Shahlo, M., & Aziza, T. (2023). External Labor Migration and Informal Employment: Situation, Problems and Their Causes. *European Journal Of Business Startups And Open Society*, *3*(12), 45-50.

2. Nasriddinovna, M. S. (2025). THE EXPERIENCE OF FOREIGN COUNTRIES IN INCREASING THE INCOME OF THE POPULATION AND ENSURING EMPLOYMENT. *Новости образования: исследование в XXI веке*, *3*(30), 63-70.

3. Musulmonova, S. (2024). Buxoro viloyatida kambag ‘allikni bartaraf etish va bandlikni oshirish yo ‘nalishida hududlar kesimida mavjud imkoniyatlar tahlili. *YASHIL IQTISODIYOT VA TARAQQIYOT*, *2*(3).

4.POVERTY, N. M. S. D. O. (2024). REDUCTION IN THE REGIONS. *International Journal of Education, Social Science & Humanities*, *12*(3), 847-852.

5. Shahlo, M., & Aziza, T. (2023). Poverty as a Socio-Economic Category. *European Journal Of Innovation In Nonformal Education*, *3*(12), 27-31.

6. Musulmonova, S. (2024). Mintaqalarda kamg ‘allik darajasini pasaytirish va xorij tajribasidan foydalanish yo ‘llari. *YASHIL IQTISODIYOT VA TARAQQIYOT*, *1*(3).

7. Nasriddinovna, M. S. (2024). O’ZBEKISTONDA KAMBAG’ALLIK DARAJASINI QISQARTIRISHGA DOIR “MILLIY MODEL” VA UNING SAMARADORLIGINI OSHIRISH YO’NALISHLARI. *Science and innovation*, *3*(Special Issue 42), 316-320

8. Pissarides, C. A. (1990). *Equilibrium Unemployment Theory*. MIT Press.

9. Pissarides, C. A. (2000). *Labour Economics*. MIT Press.

10. Mortensen, D. T., & Pissarides, C. A. (1994). Job Creation and Job Destruction in the Theory of Unemployment. *The Quarterly Journal of Economics*, 109(3), 317-348.

11. Pissarides, C. A. (1999). Unemployment and Vacancies in the UK. *The Economic Journal*, 109(453), 465-485.

12. Pissarides, C. A. (2001). *Unemployment and Labour Market Flexibility in Europe*. The Economic Policy, 16(32), 33-59.

13. Pissarides, C. A. (2003). Technological Change, Labour Market Inequality, and Unemployment. *Labour Economics*, 10(2), 229-254.
14. Pissarides, C. A. (2006). *Globalization and the Evolution of the Labour Market*. The Journal of International Economics, 68(2), 225-241.

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MUSHUKLARDA ICHAKLAR INTRAMURAL NERV CHIGALLARINING YOSHGA BOG'LIQ XUSUSIYATLARI

Annotatsiya: *Ushbu maqolada mushuklarda yo`g`on va ingichka ichaklarning devoridagi mushaklararo intramural nerv chigaallari va nerv tolalarining gistologik tuzilishi o`rganilgan. Nervlar Bilshovskiy – Gross usullarida buyalgan. Adrenergik nerv tolalari shvalyova va Juchkov usullaruda aniqlangan. Intramural nerv tugunlari va tolalari 5 xaftalikdan takomillashib boradi. Balogat Yoshida to`liq shakilanib, qarilik davrigacha davom etadi. So`ngra degenerative o`zgarishlar boshlanadi.*

***Kalit so`zlar:*** *mushuk, yo`g`on ichak, intramural tugunlar. ingichka ichak, Bil`shovskiy- Gross usuli, shvalyova usuli, Juchkov usuli.*

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AGE-RELATED FEATURES OF INTESTINAL INTRAMURAL NERVE GANGLES IN CATS

Annotation*: This article studies the histological structure of the intermuscular intramural nerve bundles and nerve fibers in the walls of the large and small intestines in cats. Nerves were stained by the Bilshovsky-Gross method. Adrenergic nerve fibers were identified by the Shvalyova and Zhuchkov methods. Intramural nerve nodes and fibers develop from 5 weeks of age. They are fully formed by puberty and continue until old age. Then degenerative changes begin.*

Keywords: *cat, large intestine, intramural nodes. small intestine, Bilshovsky-Gross method, Shvalyova method, Zhuchkov method.*

Kirish. Sutemizuvchilar va odamlarning ovqat hazm qilish traktining turli qismlarining intramural nerv tuzilmalarini o`rganishga bag`ishlangan bir qancha ilmiy ishlarni uchratamiz. Ayrim olimlar quyonlarda qizilo`ngach va me`daning intramutal nervlarini o`rgangan. Boshqa olimlar esa shi hayvonlarda jigar serrozi chaqirib tadqiqot o`tkazgan. Yana bir guruh olimlar quyon va kalamushlarda o`t yo`llari va o`nikki barmoqli ichak devoridagi nerv chigallarini o`rgangan. Biroq, umurtqali hayvonlardan bigi mushuklarda yo`g`on va ingichka ichak devoridagi

mushaklararo nerv chigallarinining gistologik tuzilishini yoshga qarab o`zgarishlarni o`rgangan ilmiy ma`lumotlar topmadik.

Tadqiqot maqsadi: Tajribada mushuklarning ovqat hazm qilish traktining turli qismlari devoridagi intramural nerv chigallarini yoshga bog`liq gistologik tuzilishni o`rganish.

Materiallar va tadqiqot usullari. Tadqiqod uchun materallar narkoz ta`sirida bo`lgan 23 ta 5 xaftalik va voyaga etgan mushuklarning ingichka va yo'g'on ichaklarining turli qismlaridan olindi. Olingan materallarda intramural nerv chigallarini o`rganish uchun Bilschowski-Gross usuli va Adrenergik nerv tolalari Shvalyova va Juchkov usullaruda bo`yalib o`rganildi

Tadqiqot natijalari. Mushuklardagi mushaklararo intramural nerv chigallari va nerv tolalarining taraqiyot jarayonlari yo`gon va ingichka ichaklarning turli qismlarida turlicha davom etadi. Biz 6 haftalik mushuk homilasi o'n ikki barmoqli ichakda intramural nerv chigallari rivojlanish farqlanishining birinchi belgilarini aniqlay oldik. Bu yoshdagi mushuklarning chigaldagi neyroblastlar orasida, qutblardan cho'zilgan nozik jarayonlarga ega bo'lgan yagona cho'zilgan bipolyar hujayralar paydo bo'ladi. Bu hujayralar katta, engil yadro va aniq belgilangan neyrofibriller apparatga ega. Ingichka va yo`g`on ichaklarning boshqa qismlarida intramural nerv chigallari yxshi takomillashmagan.Tug'ilgan vaqtga kelib, mushukning ichaklaridagi mushaklararo intramural nerv chigallari farqlash jarayonlari eng qizg'in pallada bo`ladi. Yangi tug'ilgan mushukchada o'n ikki barmoqli ichak intramural nerv chigallari ko'p sonli tabaqalashtirilgan shakllari paydo bo'ladi. Differentsial neyronlar ingichka va yo'g'on ichakning boshqa qismlarida ham paydo bo'ladi, ammo ularning soni o'n ikki barmoqli ichakka qaraganda sezilarli darajada kamroq. Bu erda neyroblastlar ustunlik qiladi. Mushaklararo intramural nerv chigallari hujayralarining farqlanishida keskin siljish ko'rish qobiliyatiga ega bo'lgan mushukchada sodir bo'ladi. Olti oylik mushukchada Auerbach intramural nerv chigallari tugunlarining gistologik tuzilishi voyaga etgan mushuklardagi nerv tuzilmalariga yaqinlashib qoladi. Voyaga etgan mushuklarning mushaklararo intramural nerv chigallari keng tarmoqli tuzilishga ega. Intramural nerv chigallari tugunlari unipolyar, bipolyar va ko'p o`simtali hujayralardan iborat. Intramural nerv chigallaridagi nerv xujayrala son jixatdan Dogel II tipidagi hujayralardir. Keksa yoshdagi mushuklarda nerv chigallaridagi to`qimalarda atrofik jarayonlar kuzatiladi, ular ham tananing, ham nerv hujayralari jarayonlarining dag`allashi va degeneratsiyasida namoyon bo'ladi.

Xulosa. Mushuklardagi hasim tizimida turli qisimlarida nerv chigallarining rivojlanishi vaqt davomida taraqiy etadi. Yo`g`on va ingichka ichaklarning turli joylarida mushaklararo nerv chigallari va nerv xujayralar differentsiatsiyasining birinchi belgilari besh haftalik mushuk embrionida kuzatiladi. Hayvon hayotining birinchi oylarida mushaklararo nerv chigallari va nerv xujayralar differentsiatsiyasi jarayoni tez sur'atlarda va bundan tashqari, ichakning turli qismlarida notekis ravishda sodir bo'ladi. Mushukning ichakchasidagi mushaklararo pleksusda, butun umri davomida, keksalikdan tashqari, differentsiatsiyaning dastlabki bosqichida bo'lgan hujayralar mavjud. Ulardan ba'zilari nerv hujayralarining bo'linishi

natijasida hosil bo'lishi mumkin, boshqalari esa embrion davridan saqlanib qoladi. Keksalikda asab hujayralarida ham, asab tolalarida ham chigallarda atrofik jarayonlar kuzatiladi.

REFERENCES:

1. Abdullaeva, D. R., Ismati, A. O., & Mamataliev, A. R. (2023). Features of the histological structure of extrahepatic bile ducts in rats. Golden brain, 1(10), 485-492 (in Russ).
2. Mamataliev, A., & Oripov, F. (2021). Histological structure of the intramural nervous apparatus of the common bile duct and gallbladder in a rabbit, in norm and after gallbladder removal. Journal of Biomedicine and Practice, 1(3/2), 117-125(in Russ).
3. Mamataliev, A. R., Tukhtanazarova, Sh. I., Zokhidova, S. Kh., Omonov, A. T., & Rakhmonov, Sh. Sh. Anatomical and topographic structure and active contraction of the walls of the portal vein of laboratory animals. Academic research in modern science, (2024). 3(30), 163-168(in Russ).
4. Satybaldiyeva, G., Minzhanova, G., Zubova, O., Toshbekov, B., Rasulovich, M. A., Sapaev, B., ... & Khudaynazarovna, T. I. Behavioral adaptations of Arctic fox, Vulpes lagopus in response to climate change. *Caspian Journal of Environmental Sciences*, (2024); *22*(5): 1011-1019.
5. Mamataliev, A. R. (2024). Nervous apparatus of extrahepatic bile ducts in rabbit after experimental cholecystectomy. International journal of recently scientific researcher's theory, 2(4), 161-165(in Russ).

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BIZNES JARAYONLARI VA ULARNI HISOBGA OLISH

Annotatsiya: *Maqolada biznes faoliyatini tahlil qilishning murakkab bo'lgan usullari orqali turli raqobat jarayonlarini, kon'yunkturaviy o'zgarishlarni yoritib berish, shu bilan bir qatorda biznes muhitini tashkil etish, iste'molchi xulq-atvorini modellashtirish, tovarning sifati, uning raqobatdoshligini ta'minlash, firmaning bozordagi strategiyalarini to'g'ri tanlash bo'yicha tegishli bilim, ko'nikma va malaka shakllantirishdan iboratdir.*

Kalit so'zlar: *Biznes, biznes jarayonlari hisobi, tahlil, korxona va tashkilotlar, ishlab chiqarish, raqobatbardoshlik va strategiya.*

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BUSINESS PROCESSES AND THEIR ACCOUNTING

Abstract: *The article aims to shed light on various competitive processes and conjuncture changes through complex methods of analyzing business activities, as well as to form the relevant knowledge, skills and qualifications in organizing the business environment, modeling consumer behavior, ensuring the quality of goods, their competitiveness, and the correct choice of the firm's market strategies.*

Keywords: *Business, business process accounting, analysis, enterprises and organizations, production, competitiveness and strategy.*

Mamlakat iqtisodiyotini yuksaltirish, zamonaviy texnika va texnologiyalar bilan jihozlangan yangi korxonalarni barpo etish va rekonstruktsiya qilish uchun investitsiyalarni jalb qilish va baholash nechog'lik katta hal qiluvchi ahamiyatga ega. Bu avvalombor, aholi bandligi, uning ish haqi va daromadlarini oshirish kabi eng muhim ijtimoiy muammolarni yechish imkoniyatini beradi. Iqtisodiyotda tarkibiy islohotlar va iqtisodiyotni modernizatsiyalashda investitsiyalarni jalb qilish va baholash, uning ko'lamini kengaytirish bilan bog'liq masalalarning nazariy va amaliy tomonlarini o'rganishda Biznes jarayonlari va ularni hisobga olish alohida o'rin tutadi.

Biznes jarayonlari ahamiyati turli mulkchilik shakllarida faoliyat yurituvchi korxonalarning vazifasi, o'z faoliyati jarayonida mahsulot ishlab chiqarishdan iborat. Bu vazifani bajarish uchun birinchi navbatda ta'minot jarayonini bosib o'tishi, ishlab chiqarish va undan keyin esa uni sotish jarayoniga kelishi kerak. Bu uchta bosqich har doim bir -birlarining o'rnini egallaydi va shu bilan korxonada mablag'larning uzluksiz aylanishini hosil qiladi. Barchamizga ma'lumki biznes

korxonalarining shakllari yakka tadbirkor, hamkor korxona va kompaniya. Korxona xususiy yoki mas`uliyati cheklangan jamiyat ko‘rinishida bo‘ladi.

Yakka tadbirkor. Yakka tadbirkor biznesi yagona jismoniy shaxs tomonidan yuritiladi. Biznesning bu turi oson tugatiladigan, bitta jismoniy shaxs tomonidan boshqariladiganligi bois va hukumat ko‘p qonun-qoidalari halaqit qilmaydi. Kapital kichik miqdorda bo‘lishi kerak va moliyaviy manbalar cheklangan. Biznes foyda keltira boshlaganda, boshliq foydani boshqalar bilan bo‘lishmaydi. Solig‘i maqsadlarida, faqat qat’iy belgilangan soliq to‘laydi va firma foyda solig‘i to‘lamaydi. Boshliq barcha amalga oshiriladian faoliyatdan xabardor bo‘ladi va buxgalteriya maqsadlarida ko‘p ma`lumotlar talab qilinmaydi. Buxgalteriya ma’lumotlarini Yangidan tayyorlangan mahsulot, sarflangan ishlab chiqarish vositalarining xodimlar mehnati bilan yaratilgan zaruriy va qo‘shimcha mahsulotdan tashkil topgan yangi qiymatlardan iborat bo‘ladi. Ishlab chiqarish jarayonini buxgalteriya hisobida aks ettirish, birinchidan, unga qilingan xarajatlar - sarflangan mablag‘lar, ishchi kuchi va ikkinchidan, ishlab chiqarilgan mahsulotlar - tayyor buyumlarda qayd etiladi. Ishlab chiqarish xarajatlari pul shaklida hisobga olinadi. Pul shakli bilan birgalikda, moddiy xarajat sarflari buxgalteriya hisobida tegishli tartibda natura va mehnat o‘lchovlarda ham ko‘rsatiladi. Bu o‘lchovlar pulda baholash uchun asos hisoblanib, ulardan xarajatlar hajmini boshqarish uchun foydalaniladi. Buxgalteriya hisobi mehnat vositalari va ishchi kuchi sarfini aks ettira turib, ishlab chiharish jarayonining boshqa tomonini anglatadigan ishlab chiqarish iste’molini ham o‘z ichiga oladi. Ta’minot doirasida korxona pul mablag‘lari hisobiga o‘ziga zarur bo‘lgan moddiy boyliklarni sotib oladi. Sotish bosqichida ishlab chiqarish jarayonida yaratilgan mahsulotning iste’molchilarga sotish sodir bo‘ladi. Bu bosqichning yakunida korxona zaxiralari yana pul shakliga kiradi. Korxonaning ta’minoti va sotish jarayonlarini aks ettirishda buxgalteriya hisobi quyidagilarni qayd qilishi zarur: jarayonlar bilan bog‘liq bo‘lgan xarajatlar, ya’ni ishlab chiqarish vositalarini xarid qilish va mahsulot sotishiga qilingan xarajatlar; ta’minot jarayonida xarid qilinadigan buyumlar; sotish uchun mo‘ljallangan va sotish jarayonida joylashgan ishlab chiqarish mahsulotlari hamda sotilgan buyumlar uchun korxonalar tomonidan olinadigan pul mablag‘lari va h.k. Sotilgan mahsulotning summasi ishlab chiqarishga qilingan xarajatlar summasidan korxona tomonidan belgilangan sof daromad miqdoriga ko‘p bo‘ladi. Shunday qilib, sotish jarayonining yakunlanishi moddiy ishlab chiqarish sohasida yaratilgan sof daromadni taqsimlash imkonini beradi. Bu yerda buxgalteriya hisobi davlat daromadiga o‘tkazilishi lozim bo‘lgan, korxona tomonidan olingan summasi, qo‘shilgan qiymat solig‘i, aksiz solig‘i, foyda solig‘i aniqlanadi va qayd qilinadi. Sotish jarayoni tugagandan so‘ng korxona tegishli organlarga berilishi kerak bo‘lgan summalarni o‘tkazish imkoniga ega bo‘ladi. Xom-ashyo va materiallar, boshqa tovarmoddiy zaxiralari haqiqiy tannarxi bilan bir qatorda ulgurji narxlari, normativ tannarxi bo‘yicha; tayyor mahsulotlar-ishlab chiqarish reja tannarxi va normativ tannarxi bo‘yicha baholanadi. Ish haqi hisoblash mohiyatiga ko‘ra mehnat o‘lchovini pul o‘lchoviga o‘tkazish usuli hisoblanadi. Bizga ma’lumki, korxona faoliyatida ishlatiladigan xo‘jalik mablag‘lari va ularninig tashkil topish manbalari

turli bo‘lib, ularni o‘lchov birliklari, shakl va tuzilishlari, tashkil topishlari har xil ko‘rinishga egadir. Korxona xo‘jalik faoliyatida ro‘y beradigan xo‘jalik jarayonlari natijasida mablag‘ va ular tashkil topish manbalari ham miqdor, ham xajm jixatdan o‘zgarishi ham tabiiy holdir. Demak, ular hisobini yuritish uchun yagona o‘lchov birligi – puldan foydalanmaslikni iloji yo‘q. Korxona mulki hisobi yuritilayotganda, ular baholanadi. Baholash – xo‘jalik mablag‘lari, majburiyatlar va xo‘jalik jarayonlarini pul o‘lchov birligida aks ettirish usulidir. Baholash va kalkulyatsiya xo‘jalik ko‘rsatkichlarini pulda ifodalash uchun foydalaniladigan buxgalteriya hisobi obyektlarini pulda o‘lchash usulidir. Bu usuldan foydalanish tovar - pul munosabatlarining mavjudligi bilan shartlangan. Bunday iqtisodiyotni rivojlantirish vositasi, qurollari hisoblangan pul, narx, tannarx, foyda, savdo, kredit, moliyalarni qo‘llash katta ahamiyatga egadir.

Ishlab chiqarish jarayonida xo‘jalik yurituvchi subyektlarda tayyor mahsulot yaratiladi. Tayyor mahsulot ishlab chiqarish uchun uning turiga qarab xarajatlar qilinadi. Mazkur xarajatlar tarkibi esa, “Mahsulot (ishlar, xizmatlar)ni ishlab chiqarish va sotish xarajatlarining tarkibi hamda moliyaviy natijalarni shakllantirish tartibi to‘g‘risidagi” Nizomda keltirilgan. Korxonalarda mahsulot ishlab chiqarishda sarflanadigan xarajatlar 2010– “Asosiy ishlab chiqarish” schyotida asta-sekinlik bilan yig‘ilib boradi.

Ishlab chiqarish jarayonida buxgalteriya hisobining oldiga quyidagi vazifalar belgilanadi:

-ishlab chiqarish haqiqiy xajmlarni aniqlash bunda jami ishlab chiqarilgan mahsulot, hamda mahsulot har bir turi bo‘yicha miqdor ko‘rsatkichlarga ega bo‘linadi. Olingan ma’lumotlar ham natura, ham pul o‘lchov birligida bo‘ladi;

-mahsulot haqiqiy tannarxini hisoblash.

Masalan, ishlab chiqarishdagi ishchilarning mehnat haqi, materiallar qiymati, mahsulot ishlab chiqarishda bevosita qatnashgan asosiy vositalarga hisoblangan eskirish summasi hamda ishlab chiqarishga xizmat qiluvchi yordamchi va umumishlab chiqarish xarajatlari. Ishlab chiqarish hisobini yuritish uchun bir qancha schyotlar qo‘llanilib, ulardan asosiysi 2010–“Asosiy ishlab chiqarish” aktiv schyotidir. Mazkur schyot yordamida ishlab chiqarish umumiy hajmi aniqlandi. Mahsulot tayyor bo‘lganidagi so‘ng esa, 2010 schyoti kretidan 2800–“Tayyor mahsulotlar” schyotining debetiga o‘tkaziladi. Mahsulot ishlab chiqarish texnologiyasi murakkab, hamda uzlukiz bo‘lsa, har oyning oxirida tugallanmagan ishlab chiqarish yuzasida qoldiqlar aniqlanadi. Tugallanmagan ishlab chiqarish 2010–“Asosiy ishlab chiqarish” schyoti debetida qoldiq siafatida hisobga olinib, inventarizatsiya usuli orqali aniqlanishi yoki normativ (reja)dagi ishlab chiqarish tannarxi bo‘yicha baholnishi mumkin.

Ishlab chiqarishning haqiqiy tannarxini aniqlashda quyidagi formula foydalaniladi. $T = X + B – O$ bu yerda

T – ishlab chiqarilgan mahsulotning tannarxi;

X – ishlab chiqarish xarajatlari;

B – oy boshiga tugallanmagan ishlab chiqarish qoldig‘i;

O – oy oxiriga tugallanmagan ishlab chiqarish qoldig‘i.

Biznes – bu iqtisodiyotning zamonaviy texnologiyasi hisoblanib, yangi ishlab chiarish, xizmat ko’rsatish, tovar belgilarini yaratish, bozorga joylashtirish, iste’molchilar bilan o’zaro munosabatlarni shakllantirish bilan bog’liq bo’lgan jarayonlarni o’z ichiga oladi. Biznesni tashkil etishda tomonlar faoliyatini oldindan baholash, tadqiq etish u yoki bu mahsulotga qanday munosabatda ekanini aniq baholash muhim hisoblanadi. Biznes tadqiq etish faqatgina g’oyalar tashuvchisi emas, balki raqobatdosh ustunliklarni ko’paytirish evaziga kompaniyani rivojlantirish vositasi hamdir.

Foydalanilgan adabiyotlar ro’yxati

1). O’zbekiston Respublikasi Prezidentining "2017-2021 yillarda O’zbekiston Respublikasini rivojlanishining beshta ustuvor yo’nalishlari bo’yicha Harakatlar strategiyasini kelgusida amalga oshirish chora-tadbirlari to’g’risida" gi 2017 yil 15 avgustdagi №3-5024 sonli Qarori.
2). Buxgalteriya hisobi. A.A. KARIMOV, J.E. KURBANBAYEV, S.A. JUMANAZAROV. Toshkent Moliya institute. Darslik. 2020 yil.
3). www.lex.uz

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O‘ZBEKISTONDA SUG‘ORILADIGAN YERLARNING MELIORATIV HOLATINI YAXSHILASH MASALALARI

Annotatsiya: *Sug‘oriladigan yerlarni meliorativ holatini yaxshilash ulardan yuqori hosil olish garovidir. Mustaqil O‘zbekiston Respublikasi intensiv rivojlanish pallasida dalalarning meliorativ holatini yaxshilash muammolari kundan kunga ortib bormoqda. Hozirda tuproqshunoslik, agrokimyo, geodeziya va kartografiya sohalarida malakali kadrlar tayyorlash borasidagi dolzarb vazifalardan ko‘zlangan asosiy maqsad suv resurslaridan oqilona va tejamkorlik bilan foydalanish, sug‘oriladigan yerlarning meliorativ holatini yaxshilash, unumdorligini oshirish, salbiy jarayonlarning oldini olish hamda oqibatlarini bartaraf etishning ilmiy asoslangan chora-tadbirlari va texnologiyalarini amaliyotga joriy etishdir.*

Kalit so‘zlar: *texnologiya, innovatsiya, irrigatsiya, melioratsiya, modernizatsiya, konsepsiya, kollektor, drenaj*

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ISSUES OF IMPROVING THE AMELIORIATIVE CONDITION OF IRRIGATED LANDS IN UZBEKISTAN

Abstract: *Improving the reclamation of irrigated lands is a guarantee of obtaining high yields from them. In the period of intensive development of the independent Republic of Uzbekistan, the problems of improving the reclamation of fields are increasing day by day. Currently, the main goal of the current tasks of training qualified personnel in the fields of soil science, agrochemistry, geodesy and cartography is the rational and economical use of water resources, the improvement of the reclamation of irrigated lands, increasing their productivity, the implementation of scientifically based measures and technologies for preventing and eliminating negative processes and consequences.*

Keywords: *technology, innovation, irrigation, reclamation, modernization, concept, collector, drainage*

Bugungi kunda respublikada mavjud sug‘oriladigan yerlarning deyarli 84%, 3,6 mln gektar sug‘oriladigan yer maydoni fermer xo‘jaliklari ixtiyoriga biriktirilgan. Fermer xo‘jaliklarning faoliyatini tahlil qilish orqali sug‘oriladigan yerlardan foydalanish samaradorligiga atroflicha baho berish imkoniyati mavjud.

Sug‘oriladigan yer maydonlaridan to‘g‘ri va samarali foydalanish tez suratlar bilan o‘sib borayotgan respublika aholisining oziq-ovqat mahsulotlariga va sanoatning xomashyoga bo‘lgan talabini qondirish imkonini beradi.

O‘zbekiston so‘nggi yillarda barcha sohalar kabi suv xo‘jaligi sohasini rivojlantirishga ham alohida e’tibor qaratilmoqda. Respublikamizda yer va suv resurslaridan samarali foydalanish, suv resurslarini boshqarish tizimini takomillashtirish, suv xo‘jaligi obyektlarini modernizatsiya qilish va rivojlantirish bo‘yicha izchil islohotlar amalga oshirilmoqda.

Respublikamiz qishloq xo‘jaligida olib borilayotgan keng ko‘lamli islohotlar tufayli qishloq mulkdorlarining manfaatlarini ta’minlash, ekin maydonlarining unumdorligini oshirish, yerdan to‘g‘ri va oqilona foydalanish, ishlab chiqarishga innovatsion texnologiyalarni joriy qilish kabi muhim yo‘nalishlarda salmoqli natijalarga erishilmoqda. Ayniqsa, soha taraqqiyotini kafolatlashga qaratilgan tashkiliy-huquqiy bazaning takomillashuvi qishloq xo‘jaligi faoliyatida yutuqlarning negizi hisoblanmoqda. Shuningdek agrar sektorni modernizatsiyalash, aholining qishloq xo‘jaligi mahsulotlariga bo‘lgan talabini qondirish borasidagi chora-tadbirlarni amalga oshirish, sug‘oriladigan yerlarning meliorativ holatini yaxshilash va buning uchun ayni yo‘nalishdagi qonun hujjatlari ijrosiga ustuvor ahamiyat kasb etmoqda. Ma’lumki mamlakatimizda qishloq xo‘jaligi sohasini yanada barqaror rivojlantirish, yerlarning meliorativ holatini yaxshilash, ularning unumdorligini oshirish va shu tariqa qishloq xo‘jaligi ekinlari hosildorligini ko‘paytirish uchun zarur shart-sharoitlarni yaratish maqsadida, "Yerlarning meliorativ holatini yaxshilash tizimini tubdan takomillashtirish chora-tadbirlari to‘g‘risida" gi farmon qabul qilingan edi. Unga ko‘ra, sug‘oriladigan yerlarning meliorativ holatini tubdan yaxshilash uchun quyidagi eng muhim vazifalar belgilangan:

✓ Sug‘oriladigan yerlarning meliorativ holatini yaxshilash dasturlarini shakllantirish va uni amalga oshirishga yondashuvlarni tubdan o‘zgartirish;

✓ Sug‘oriladigan yerlarning meliorativ holatini yaxshilash bo‘yicha ishlarni moliyalashtirishning ishonchlimexanizmini ta’minlash,

Ushbu tadbirlarni samarali va to‘laqonli amalga oshirishni ta’minlash uchun respublikada bir qator yangi tizimlar joriy etilgan.Suv xo‘jaligi sohasidagi mavjud muammolar (suv tanqisligi va suv resurslariga ta’sir ko‘rsatuvchi omillar, jumladan, iqlim o‘zgarishi, aholi sonining o‘sishi, suvga bo‘lgan talabning oshib borishi) ni aniqlash, ularni o‘z vaqtida bartaraf qilish va chora-tadbirlar ishlab chiqish anchagina mashaqqatni talab etadi. Hisob -kitoblarga ko‘ra, global iqlim o‘zgarishi natijasida so‘nggi 50-60 yil davomida Markaziy Osiyoda muzliklar maydoni taxminan 30 foizga qisqargan. 2050 yilgacha Sirdaryo havzasida suv resurslari 5 foizga, Amudaryo havzasida 15 foizgacha kamayishi kutilmoqda. Natijada O‘zbekistonda 2030 yilga borib suvga bo‘lgan talab 7 mlrd kub metrni, 2050 yilga borib esa, bu ko‘rsatkich ikki barobarga ortishi mumkin. Aholi sonining keskin oshib borishi, suvdan foydalanish samaradorligining pastligi hisobiga oxirgi 15 yil ichida aholi jon boshiga suv ta’minoti taxminan ikki barobarga (3048 m^3 dan 1589 m^3 ga) qisqargan. Natijada 2030 yilga borib keskin o‘sib borayotgan aholining

sifatli suvga bo‘lgan talabi 18-20 foiz (2.3 mlrd m3 dan 2.7-3.0 mlrd m3) ga ortishi kutilmoqda.

Bu holat suv resurslaridan oqilona foydalanish, suv tejaydigan zamonaviy texnologiyalarni qo‘llash va irrigatsiya obyektlarini qurish hamda rekonstruksiya qilish kabi bir qator chora tadbirlarni ishlab chiqishni zarurat qilib qo‘yadi. O‘zbekiston Respublikasi Prezidentining 2020-yil 10-iyuldagi "O‘zbekiston Respublikasi suv xo‘jaligini rivojlantirishning 2020-2030 yillarga mo‘ljallangan konsepsiyasini tasdiqlash to‘g‘risida"gi PF-6024-sonli farmoniga muvofiq tasdiqlangan Konsepsiya sohadagi mavjud muammolarni bartaraf etish va suv xo‘jaligini rivojlantirish bo‘yicha qator dolzarb vazifalar hamda ustuvor yo‘nalishlarni o‘z ichiga olgan.

Mazkur hujjatda 2030 yilga qadar quyidagi ko‘rsatkichlarga erishish ham nazarda tutilgan:

• Sug‘orish tizimlarining foydali ish koeffitsiyentini 0.63 dan0.73 gacha oshirish;

• suv ta’minoti past darajada bo‘lgan sug‘oriladigan yer maydonlarini 560 ming gektardan 190 ming gektargacha kamaytirish;

• sho‘rlangan sug‘oriladigan yer maydonlarini 226 ming gektargacha kamaytirish;

• suv xo‘jaligi vazirligi tizimidagi nasos stansiyalarining yillik elektr energiyasi iste’molini 25 foizga kamaytirish;

• barcha irrigatsiya tizimi obyektlariga “Aqlli suv” suv o‘lchash va nazorat qilish qurilmalari o‘rnatilib, suv hisobini yuritishda raqamli texnologiyalarni joriy etish;

• 100 ta yirik suv xo‘jaligi obyektida suvni boshqarish jarayonlarini avtomatlashtirish;

• qishloq xo‘jaligi ekinlarini sug‘orishda suvni tejaydigan texnologiyalar bilan qamrab olingan yerlarning umumiy maydonini 2 million gektargacha, shu jumladan, tomchilatib sug‘orish texnologiyasini 600 ming gektargacha yetkazish;

• suv xo‘jaligida davlat-xususiy sheriklik tamoyillari asosida 50 ta loyihani amalga oshirish;

Respublikamizda 2020 yilda 133.6 ming gektar maydonda suv tejovchi texnologiyalar joriy qilingan. Shu tariqa o‘tgan yillar davomida tejamkor sug‘orish texnologiyalari joriy qilingan maydonlar 291,2 ming gektarga yetkazilib, jami sug‘oriladigan yerlarning 7 foizga yaqinini tashkil etmoqda. Jumladan, 43,4 ming gektar, shundan 20,6 ming gektar paxta maydonlarida tomchilatib sug‘orish, 2,2 ming gektar maydonda yomg‘irlatib sug‘orish, 4,2 ming gektar maydonda diskret (pulsar) sug‘orish texnologiyasi qo‘llanilgan bo‘lsa, 84,1 ming gektar maydonda ko‘chma egiluvchan quvurlar orqali sug‘orish ishlari amalga oshirilgan. Respublikamizda o‘ziga xos suv xo‘jaligi tizimi barpo qilingan bo‘lib, uning maqsadi iqtisodiyot tarmoqlari, jumladan, qishloq xo‘jaligini suv bilan ishonchli ta’minlash, shuningdek, yerlarning meliorativ holatini yaxshilashga qaratilgan. Hisobotga ko‘ra, sug‘oriladigan yerlarning meliorativ holatini yaxshilash uchun umumiy uzunligi 142.9 ming km, shundan 106.2 ming km ochiq va 36.7 ming km

yopiq gorizontal kollektor-drenaj tarmog‘i, shuningdek, 172 ta meliorativ nasos stansiyasi, 3897 ta vertikal drenaj quduq ishlatilmoqda. Paxta va g‘alla yetishtirish xarajatlarining yana bir katta ulushi nasos stansiyalari faoliyatini ta’minlab beruvchi elektr energiya xarajatlari hisoblanadi. Hisobotga ko‘ra, suv resurslarining nomutanosib taqsimlanishi va relyefga ega ekanligi natijasida sug‘oriladigan yerlarning 60 foizga yaqin qismiga 1687 ta nasos stansiya yordamida suv yetkazib berilib, ularning yillik elektr energiyasi iste’moli 8 mlrd kvt.s ni tashkil etadi. 2.5 million gektar maydonni sug‘orish uchun 2.4 trln so‘m budjet mablag‘lari sarflanmoqda. Bir gektar maydonga suvni nasoslar orqali yetkazib berish uchun budjetdan o‘rtacha 800 ming so‘m xarajat qilinmoqda.Egatlab sug‘orish oqibatida yiliga qariyb 5-6 milliard m3 yoki 20 foiz suv dalada behuda sarflanmoqda.

Bu muammoni hal qilish maqsadida energiya samarador texnologiyalarni joriy qilish va tarmoqda energiya sarfini kamaytirish bo‘yicha bir qancha ishlar olib borilmoqda.

Xulosa qilib aytganda suvdan foydalanish koeffitsiyentini yanada oshirishda irrigatsiya tarmoqlaridagi yo‘qotiladigan suv miqdorini kamaytirish, buning uchun esa sug‘oriladigan yerlarning meliorativ holatini yaxshilash, irrigatsiya-melioratsiya obyektlarini rekonstruksiya qilish va ta’mirlash, tiklash hamda suv tejovchi texnologiyalarni keng qo‘llash dolzarb masala hisoblanadi.

Foydalanilgan adabiyotlar ro‘yxati:

1. Ўзбекистон Республикаси Президентининг 2017 йил 7 февралдаги ПФ-4947-сон “Ўзбекистон Республикасини янада ривожлантириш бўйича Ҳаракатлар стратегияси” тўғрисидаги фармони. https://lex.uz/docs/3107036
2. Ўзбекистон Республикаси Президентининг 2019 йил 17 июндаги “Қишлоқ хўжалигида ер ва сув ресурсларидан самарали фойдаланиш чора-тадбирлари тўғрисида”ги ПФ-5742-сон фармони.
3. Ўзбекистон Республикаси Президентининг 2019 йил 17 июндаги ПФ-5742-сон фармонига илова. “Қишлоқ хўжалигида ер ва сув ресурсларидан самарали фойдаланиш концепцияси”.
4. O‘zbekiston Respublikasi Yer resurslarining holati to‘g‘risida milliy hisobot. T.: “Yergeodezkadastr” davlat qo‘mitasi, 2020. – 87 b.
5. Навотова Д.И. Ер ресурсларидан қишлоқ хўжалигида фойдаланишни тадқиқ қилишнинг назарий-услубий жиҳатлари // Central Asian Research Journal For Interdisciplinary Studies (CARJIS). Volume 2 | issue 1 | Tashkent,Uzbekistan. 2022. – P. 321-327
6. Файзуллаев М.А. Жанубий Ўзбекистон чўл ҳудудларида қишлоқ хўжалиги ривожланишининг иқтисодий географик омиллари. Геог. фан. фалс. докт. ... дис. автореф. – Т., 2017. – 47 б.
7. Навотова Д. И., Хайдарова Ф. Географические особенности использования зарубежного опыта использования земельных ресурсов в хозяйственных хозяйствах //Экономика и социум. – 2022. – №. 4-3 (95). – С. 198-202.
8. Навотова Д. И. Қашқадарё вилояти қишлоқ хўжалиги географияси ва уни карталаштиришнинг баъзи масалалари //Экономика и социум. – 2022. – №. 3-2 (94). – С. 721-725.

9. Navotova D.I. Internal differences in the use of land resources in the agriculture of Kashkadarya region// Eurasian Journal of History, Geography and Economics. Volume 12. Belgiya. 2023. - P.100-104
10. Faizullaev M.A. Factors of intensive development of agriculture in ensuring food security // **Web of Scientist: International Scientific Research Journal.** Vol. 4 No. 1 (2023) – p. 715-719. ISNN 2776-0979 (Йирик нашриётлар ва маълумотлар базаси, Directory of Open Access Journal №25, Scientific Journal Impact Factor №23) SJIF=6.595
11. Navotova D. I. Theoretical and methodological aspects of resources of land resources in agriculture, Academicia: An International Multidisciplinary Research Journal. – 2022. P. 40-44.
12. Abdulloyev, A. M., Sattorov, S. Y., Sulaymonov, M. V., Abdualiyeva, S. H., Ochilov, A. B., & Ismatov, T. A. (2022). Foreign Experience in Land Use Management. Indonesian Journal of Innovation Studies, 18.
13. Muzaffarovich A.A., Yarashovich, S.S., Hamdamovna A.S. “Suvdan oqilona foydalanishdagi muammolar”. Barqarorlik va yetakchi tadqiqotlar onlayn ilmiy jurnali, (2022).911-915.
14. Bafoyevich A.S. (2022). Fermer xo'jaligi yer maydonlari o'lchamlarini maqbullashtirish uslubiyatini takomillashtirish.
15. Safarov I. B. Geographical features of pilgrimage tourism (in the case of Kashkadarya region) //Экономика и социум. – 2023. – №. 2 (105). – С. 321-324.
Qurbonov P. R. Iqlim o’zgarishi sharoitida tekislik mintaqasi shaharlarining rivojlanish xususiyatlari (Janubiy O’zbekiston misolida) //Экономика и социум. – 2023. – №. 10 (113)-1. – С. 210-214.

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MOUNTAIN LANDSCAPES STRUCTURE

Abstract. *Mountain landscapes are a complex natural-geographic system, which is characterized by stratification by altitudinal regions. This article analyzes the vertical zonality of mountain landscapes, climate, soil, flora and fauna, changes in altitude. This work may be useful for scientists and practitioners conducting research in the fields of natural geography and ecology.*

Keywords: *Mountain landscapes, vertical zonality, altitudinal regions, climatic zonality, soil types, vegetation cover, fauna, biogeographic regions, mountain ecosystems.*

Introduction. Mountain landscapes are one of the most complex and diverse natural and geographical systems of our planet, characterized by their altitudinal stratification, variable climate and biodiversity. Mountain ecosystems are not only a source of important natural resources, but also play a major role in maintaining the global ecological balance. Mountains are watersheds for rivers, regulate climate processes, ensure soil fertility and create habitats for unique plant and animal species.

Main part. The formation and development of mountain landscapes depends on various factors, among which geological processes, climatic zonation, hydrological conditions and anthropogenic impact play an important role. As a result of altitudinal stratification, different climatic regions are formed, which leads to the zonal distribution of soil, flora and fauna.

Modern research shows that mountain landscapes are undergoing serious changes as a result of anthropogenic impact, improper management of land resources and climate change. In particular, degradation of pastures, soil erosion and deforestation are intensifying environmental problems in mountain areas. Therefore, it is an important task to study the ecological state of mountain landscapes, assess their natural resource potential and develop scientifically based proposals for their protection using GIS technologies.

This article analyzes the vertical zonation of mountain landscapes, the main factors affecting the formation of natural complexes, and their ecological state. Also, scientific proposals are developed on strategies for the rational use of mountain landscapes and their protection. Mountainous regions differ from plains

in natural conditions and the diversity of landscapes. The diversity of the nature of mountains is also associated with neotectonic movements and exogenous processes. The uplift of mountain structures during the neotectonic stage occurred unevenly both in time and space. The highest mountain ranges, systems, and massifs correspond to the areas where neotectonic uplifts with the greatest amplitude occurred. The elevation of the mountains decreases with the transition of plain and mountain landscapes to medium-high, and later high-mountain landscapes. But the youth of high-mountain landscapes is due not only to the fact that the formation phase of high mountains is the initial stage of uplift, but also to the fact that the sculptural "alpine" relief of high mountains is very young in terms of geological age. Intensive weathering led to the "spreading" of the primitive surface, deformed by glacial-nival processes in the form of dome-shaped uplift (Gvozdetsky, 1965).

Mountains also affect atmospheric circulation, changing the direction of air currents. Mountains are areas that absorb kinetic energy due to an increase in friction force and a decrease in the speed of air flow when they collide with mountains.

In summer, mountains serve as a source of heat, since the air above them is warmer than above the plains. The humidity of the air also increases in most cases with increasing altitude. On a planetary scale, mountains (mountainous countries, regions) receive 8-10 times more precipitation than adjacent plains (Petrosyants, 1974).

The amount of atmospheric precipitation in the mountains increases up to certain heights (up to 2000-3000 m in temperate latitudes and humid tropics, up to 2000-3000 m in dry tropics, up to 400 m in dry soils and up to 1000 m in high polar latitudes). With increasing altitude, the surface runoff also increases 3-4 times. As a result, erosion also increases and solid runoff increases 5-10 times. Table 4 shows the soil erosion depending on the slope and exposure of the slopes.

The development of the biocomponents of mountain landscapes occurred simultaneously with the rise of the mountains, mountain species and subspecies of plain species were formed. At the same time, mountain species had the opposite effect. In general, the flora and fauna in the mountains are 2-5 times richer than in the plains. The mountains contain 30-50% of endemics, all these factors cause the altitudinal zonation to differ from the zonation in the plains. There are also zonations in the mountains that are not found in the plains (for example, high-altitude meadows). In mountainous regions, latitudinal zonation is complicated by altitudinal zonation, latitudinal geographic zones alternate with altitudinal zones, and in the foothills, landscapes are diversified (changed) within two adjacent zones. However, in any case, the altitudinal zonation begins with the zone corresponding to the zone in which this mountain region is located. The geography of mountainous regions differs sharply from the hydrography of the plains. Mountains are areas that accumulate and store moisture in the form of snow and ice, but all this water flows to the plains. The mountain landscape has its own influence on mountain rivers and their waters. Mountain waters, being low-temperature, differ in their chemical and biological composition from those at low temperatures. Mountain rivers perform a

huge erosional work in their upper reaches, and as the flow slows down further, mountain rivers form accumulative plains that are widespread throughout the globe.

Dependence of soil erosion on slope slope and exposure (g per 1 km2 of surface area)

Sloping exposure	Slopes	slope
North	1010	1958
South	1412	2339
East	1825	2906
West	695	1887

The soil cover of the mountains also has its own characteristics: mountain soils are not thick, but rather loose, rich in humus, which accumulates a certain amount of heat due to the high level of direct radiation.

The uniqueness of landscapes in the mountains is also reflected in their fauna and flora. One of the important features of mountain nature is its dynamism. The change in altitude itself, mainly due to tectonic processes, is one of the important factors in the reproduction of the entire natural situation in the mountains.

Tectonic processes and epeirogenic movements in the mountains are much more intensive than on the plains, and therefore, landscape complexes and their constituent components change faster in the mountains. The energy sources of mountain landscapes, which cause the dynamism of the natural environment, are also richer. For example, the radiation balance of the coniferous-deciduous forest zone in the Caucasus Mountains is 35 kcal per sq. km of surface, while in taiga forests this figure is 22 kcal (Chikalin 1972).

With increasing altitude, not only radiation, but also gravitational forces that replenish the energy base of mountain landscapes increase. With an increase in the level of landscape energy supply, all landscape-forming processes in the mountains also intensify, and the material cycle increases.

Usually, mountain landscapes are characterized by extreme dynamism (variability). Mountain landscapes are characterized by the intensity of the processes of erosion of the slopes - denudation and gravity, and there are two reasons for this intensity: First, in the process of tectonic uplifts (sometimes volcanic eruptions) in the mountains, a very large reserve of gravitational potential energy is accumulated, which is spent on the processes of denudation and development of mountain landscapes. All gravitational movements occur in connection with this. The effect of gravity is manifested in combination with the

power of flowing waters to transport rock fragments. In short, the potential energy of gravity is the most important source of energy in mountain landscapes.

The second reason for the dynamics of mountain landscapes is the continuous water cycle in the atmosphere. In the process of circulation, water evaporated from the oceans and plains falls as liquid and solid precipitation. Since water in the mountains falls to the Earth's surface at high absolute heights, a certain part of the potential energy accumulated due to solar energy is stored for a certain period in the snow, firn and glaciers of high mountains, and the rest is immediately spent in denudation processes following erosion, floods and rains. Due to these reasons, the intensity of denudation and gravity processes in the mountains also leads to an intensive natural dynamic development of landscapes. Human activity in mountainous areas, in turn, accelerates this dynamics. As noted above, the diversity of natural conditions in the mountains primarily depends on altitudinal zonality (vertical zoning). The landscape-forming factors of altitudinal zones differ from the landscape-forming factors of latitudinal zones. All the diversity expressed in the differences of geographical landscapes on the Earth's surface is the result of the combination and interaction of zonal and azonal factors. The basis of latitudinal and altitudinal zonality is the general law - in latitudinal zonality, the temperature gradually decreases from lower latitudes to higher latitudes, and in altitudinal zonality, the absolute height of the place increases. However, the climatic conditions of zonality (heat, the ratio of heat and moisture, etc.) vary differently in latitude and in the mountains with altitude. In both cases, the ratio of heat and moisture due to the decrease in temperature is the most important factor in landscape stratification.

S.V. Kalesnik (1970) considered altitudinal zonality to be azonal phenomena, along with the sectorality of geographical zones. Altitudinal zonality is an azonal phenomenon by its nature, since the tectonic movements that form mountains serve as a condition for altitudinal zonality. Geographical zones of mountains are the product of the formation and erosion of zones on the plains. However, most scientists include altitudinal zonality in zonal phenomena. According to A.G. Isachenko, there are three types of zonal patterns - latitudinal zonality, sectoral (meridional zonality) and altitudinal zonality (regionalization).

In mountainous regions, latitudinal zonality is complicated by altitudinal zonality, latitudinal geographic zones alternate with altitudinal zones, and in the foothills, landscapes are diversified (changed) within two adjacent zones. But in any case, the altitudinal zonality begins with the zone corresponding to the zone in which this mountainous region is located. The specific features of mountain landscapes are especially clearly manifested in high mountains. As the altitude increases, the similarities in the landscapes of different continents and even hemispheres increase. In low and medium-altitude mountains, the diversity of landscapes also increases. Here, one can note the names of dozens of plant-soil zones and representatives of the animal and plant world. With increasing altitude, the diversity of landscapes gradually decreases, and in high mountains, below the level zone, only alpine (high-mountain) meadows are located. Thus, altitudinal zonation in the mountains (if the height of the mountains allows it) ends with the

nival zone, depending on the geographical location and height of the mountains. This zone is almost the same everywhere according to the landscape features.

The absolute height of the altitudinal zones in the mountains depends on the nature of the zone in which this mountainous region is located. For example, in the north of the Scandinavian Peninsula (in the tundra zone) the highlands begin at 500 m, and on the slopes of Kilimanjaro (in the equatorial forest zone) at 4800 m.

In each geographical sector, altitudinal zonation has its own characteristics, which depend on the continentality of the climate, the intensity and regime of moisture. For example, the meadows of the alpine (high mountain) zone are more characteristic of the oceanic sectors, and the mountain-steppe zone is characteristic of the continental (inland) sector.

The structure of altitudinal zonality also depends on orography. Its large differences also depend on the position of the slopes in relation to the sun's rays and the prevailing winds. The zonal-sectoral patterns of the altitudinal zonality type are often complicated by orography.

The existence of altitudinal zonality due to relief is primarily due to the effect of the gradient and the change in the amount of atmospheric precipitation with height.

In the zonal structure of the geographical crust on the plains and in the mountains, there are both similarities and significant differences. Their similarity is manifested in the decrease in heat with increasing altitude in the mountains and from the equator to the poles on the plains, as well as in the totality and consistency of zones due to the generality of zonal evolution in the geographical crust. The thermal factor is of decisive importance in the formation of both latitudinal zonality and altitudinal zonality, but in both cases its essence is different: latitudinal zonality is based on the change in the angle of incidence of sunlight along the latitude, and altitudinal zonality is based on the increase in altitude above sea level. As you climb up in the mountains, the thickness and density of the atmosphere decrease, so the amount of water vapor and dust particles in it, and, consequently, the radiation consumption, decreases. The intensity of solar radiation in the mountains increases by about 10% for every 1000 m of altitude. At the same time, effective radiation, especially long-wave radiation, increases faster with height, and as a result, the radiation balance decreases, which causes a decrease in air temperature with height. As altitude increases, atmospheric pressure also decreases (1 mm per 11-15 m), and the conditions for the saturation of water vapor also change. On average, for every 100 m of altitude increase in the mountains, the temperature decreases by 0.5 in the lower 4 km of the troposphere, by 0.60 above 4 km, and by 0.7-0.80 near the tropopause. However, this indicator, called the temperature gradient, depends on the time of year and day, the nature of the air mass, the relief, and other factors.

In most mountain systems of the temperate zone, the total number of active temperatures (above +100) decreases by 1700 for every 100 m of height, and in dry tropical conditions by 2500 (in the Andes - 3000) (Ryabchikov, 1972).

The manifestation of altitudinal zonality in the mountains is due to a decrease in air temperature towards the top and an increase in the amount of precipitation and

atmospheric humidity. However, the change in humidity conditions does not correspond to latitudinal zonality in terms of direction and intensity. In general, vertical climate change is very close to zonal climate change, but not exactly the same. The intensity of solar radiation increases with altitude in the mountains, and decreases from the equator to the poles. If atmospheric pressure in the mountains decreases consistently and uniformly, then there are baric zones between the equator and the poles.

In the horizontal direction, humid and arid zones alternate. Precipitation in the mountains depends on the barrier effect of the relief. Under the influence of mountain barriers, air masses move upwards, moisture condensation increases, and the amount of precipitation increases up to certain heights. It should be noted that as moisture reserves decrease, the amount of precipitation also begins to decrease. The level at which the greatest amount of precipitation falls varies and is higher in dry regions than in humid regions. For example, in the Alps, the highest level at which precipitation falls is about 2,000 m, in the Caucasus at 2,400-3,000 m, and in the Tien Shan at 3,000-4,000 m. In the polar latitudes, the increase in precipitation is up to 1,000 m. Due to the fact that precipitation in the mountains is associated with the accumulation of air masses in front of the slopes of mountain ranges and the upward movement of air masses, the amount of precipitation on the slopes facing the wind can be several times greater than on the slopes facing the wind. The distribution of precipitation in the mountains is very diverse, depending on orographic features (the location of the ranges relative to each other, the exposure of the slopes, the fragmentation of the surface, etc.). Absolute altitude also plays an indirect role in the increase in precipitation.

There is only an external similarity between altitudinal and latitudinal zones. Some altitudinal zones (for example, the alpine meadows of Tibet and the Eastern Pamirs, the high-mountain cold deserts) have no analogues in latitudinal zonality. At the same time, the zonal deserts of the passat region on the plains have no analogues in the mountains. Altitudinal zones also differ from latitudinal zones in many structural and functional features. Altitudinal zones also differ from latitudinal zones in terms of air thinness, the peculiarities of atmospheric circulation, seasonal fluctuations in temperature and pressure, the characteristics of specific geomorphological processes (depressions, mudflows and avalanches, etc.), glaciers, and soil profiles. In the mountainous regions south of the taiga zone, there are mountain-taiga forests, and in most mountains there is no forest zone. In the mountains of temperate and subtropical latitudes, alpine meadows develop under conditions of low temperatures, good drainage, and high levels of ultraviolet radiation. In equatorial latitudes, they are replaced by the paramos mountain-meadow zone, consisting of complex woody plants. The flow of atmospheric precipitation increases with altitude in the mountains, but this is not observed from the equator to the poles. Due to the 3-4-fold increase in surface runoff and improved drainage with altitude, there are almost no swamps in the upper parts of the mountains, and the tundra is replaced by meadows. The spectrum of altitudinal zonation in the taiga zone consists of taiga, tundra, and permanent snow zones.

However, the mountain tundra develops under different conditions than the latitudinal tundra zone, which develops under conditions of polar night and day. In addition, the altitudinal zones of any mountainous region, each mountain range, and even some of its slopes have qualitatively individual characteristics.

The development of the biocomponents of mountain landscapes occurred simultaneously with the rise of these mountains. The flora and fauna of the mountains are 2-5 times richer in species than in the plains. Also, in the mountains, especially in the seasonally humid conditions of the subequatorial region, the number of endemic species is 30-50%.

The structure of altitudinal zonation depends primarily on their location in a particular geographical region, its sector and zone, and their height. The regular alternation of altitudinal zones from the foothills of the mountains to the highest peaks forms the structure (spectrum) of altitudinal zonation. A.M. Ryabchikov (1972) together with Y.N. Lukashova developed a profile of the zonal structure in the mountains. One of them represents altitudinal zonation in the humid oceanic sectors of the continents (-Fig.), and the other - altitudinal zonation in the continental sectors. A comparison of the profiles shows that they are more common in the mountains, mainly in the continental sectors, as a result of the influence of high-pressure anticyclone zones. This phenomenon also leads to the fact that the snow line is 700-1000 m higher than in the humid sectors. The highest snow line on Earth is observed at an altitude of 6500 m on the western slope of the Lluyalyako volcano (6723 m) in the Andean mountain system. A.M. Ryabchikov (1972) suggests that this is due to the proximity of the Andean mountain wall, which is about seventy thousand meters high, and also to the powerful permanent South Pacific maximum. The profiles show that in the continental sector, zones of semiarid and semihumid landscapes are more developed, and in the humid sectors, zones of semihumid and semiarid landscapes are more developed.

The structure of altitudinal zonality depends primarily on their location in a particular geographical region, its sector and zone, and their height. The regular alternation of altitudinal zones from the foothills of the mountains to the highest peaks forms the structure (spectrum) of altitudinal zonality. In different mountain systems, in some of their parts, different types and spectra of altitudinal zonality are observed. In the altitudinal zonality spectrum (lat. spectrum visible, appearance), altitudinal regions (subalpine meadow region, alpine meadow region, subnival region, etc.) are first distinguished, which are characterized by a complex of natural conditions. These regions, in turn, are grouped into zones (Gvozdetsky, 1979). Zones are divided according to the type of mountain landscape (mountain-forest, mountain-meadow, mountain-steppe, etc.), and regions according to the subtype of mountain landscapes.

The number of zones in the altitudinal zonality spectrum (more or less) depends on the geographical location and altitude of the mountain region at a given time: the higher the mountain region and the closer it is to the equator, the more complete it is; the closer it is to the poles and at a lower altitude, the fewer zones there are in the altitudinal zonality spectrum. The altitudinal zonality spectrum

becomes more complex as it approaches the equator, the number of zones increases, zones that are not typical for mountains of high latitudes appear, and the boundaries of similar zones (for example, mountain-meadow, glacier) move up. The structure of altitudinal zonality also depends on whether the mountains are closer or further from the ocean, that is, in which sector of the geographical region they are located. While the mountains of the temperate zone located along the ocean coast are dominated by mountain-forest and mountain-meadow zones, the mountains in the continental sector are characterized by mountain-steppe, mountain-taiga, and mountain-tundra zones.

In the continental sectors of the continents, deserts and semi-deserts have developed in the mountains due to the influence of the high-pressure anticyclone region (-line). In these mountains, the snow line passes 700-1000 m higher than in the humid sectors. Due to the proximity to the high mountain barrier and the South Pacific maximum, on the western slope of the Llullayaylaco volcano (6723 m) in the Andes, the snow line passes at an altitude of 6500 m. Because along the eastern edge of this maximum, the cold southern winds blowing parallel to the Andes reach warmer latitudes and do not bring precipitation. The vast plains of deserts near the tropics are surrounded by altitudinal zones of semiarid landscapes of different latitudes. The equatorial core of humid mountain landscapes is much narrower than in the humid sectors of the continents, but is much better expressed. Between the humid and desert zones lie the spectrum of intermediate zones. In the continental sector, there are no altitudinal zones of semiarid and semihumid landscapes, and in the humid sectors, there are no altitudinal zones of arid landscapes, but rather altitudinal zones of semihumid and humid landscapes.

In the continental sector, the equatorial core expands at altitudes of 1000-2000 m. Within these altitudes, more precipitation falls along the slopes of the mountains than above or below. At an altitude of 3000 m, the foggiest zone - “cloud forests” (nebelwaldes) - is located. Above them is the zone of montane forests (seca de la montagna), which can be considered the upper limit of mountain forests. In the equatorial latitudes, between the zone of the thorny forest and the rocky-sandy deserts, there are high mountain meadows (paramos) with shrubby and tree-like complex flowers (tree-like yellow-headed (krestovnik) 4-8 m high, spherical espeletsia, etc.), and in the southern and northern latitudes, there are shrubby high mountain sedge steppes (halka). Above the mountain deserts and steppe deserts of the Southern Hemisphere, there are high mountain tropical steppe deserts with evergreen shrubs, tree-like sedges (punas) and deserts with sparse thorny shrubs and cushion-shaped opuntias (tolas).

In various mountain systems, in some of their parts, different types and spectra of altitudinal zonality are observed. In the altitudinal zonality spectrum, first of all, altitudinal regions are distinguished, which are characterized by a complex of natural conditions (subalpine meadow region, alpine meadow region, subnival region, etc.). These regions, in turn, are grouped into zones (Gvozdetsky, 1979). Zones are divided according to the type of mountain landscape (mountain-forest, mountain-meadow, mountain-steppe, etc.), and regions are divided according to the

subtype of mountain landscapes. The spectra of altitudinal zonality vary depending on the latitude zone and sector within which mountain structures are located, as well as on the orographic features of the mountain system. Each latitude zone has its own spectrum of altitudinal zonality, characterized by the number of zones, their distribution, and altitude boundaries. In orographically very complex mountain systems located at the junction of different latitude zones, altitudinal zonality has a particularly complex character. However, even in such cases, several spectra of altitudinal zonality can be distinguished. For example, in the Caucasus mountain system, 6-7 main zonal rows can be distinguished. The number of zones in the altitudinal zonality spectrum (more or less) depends on the geographical location and altitude of the mountain region at a given time: the higher the mountain region and the closer it is to the equator, the more complete it is; the closer it is to the poles and the lower its altitude, the fewer the number of zones in the altitudinal zonality spectrum. The spectrum of altitudinal zones becomes more complex as we approach the equator, the number of zones increases, zones that are not typical for mountains of high latitudes appear, the boundaries of similar zones (for example, mountain-meadow, glacier) move upwards. The structure of altitudinal zonality also depends on whether the mountains are closer or further from the ocean, that is, in which sector of the geographical region they are located. In the mountains of the temperate zone located on the ocean coast, mountain-forest and mountain-meadow zones are more common, while in the mountains of the continental sector, mountain-steppe, mountain-taiga and mountain-tundra zones are developed.

In the continental sectors of the continents, deserts and semi-deserts have developed in the mountains due to the influence of the high-pressure anticyclone region (Figure 2). In these mountains, the snow line passes 700–1000 m higher than in the humid sectors. Due to the proximity to the high mountain barrier and the South Pacific maximum, on the western slope of the Llullayaylaco volcano (6723 m) in the Andes, the snow line passes at an altitude of 6500 m. Because along the eastern edge of this maximum, the cold southern winds blowing parallel to the Andes reach warmer latitudes and do not bring precipitation. The vast plains of the deserts near the tropics are surrounded by altitudinal zones of semiarid landscapes of different latitudes. The equatorial core of humid mountain landscapes is much narrower than in the humid sectors of the continents, but is much better expressed. Between the humid and desert zones lie the spectrum of intermediate zones. In the continental sector, there are no altitudinal zones of semiarid and semihumid landscapes, and in the humid sectors, there are no altitudinal zones of arid landscapes, but rather altitudinal zones of semihumid and humid landscapes.

At altitudes of 1000–2500 m, more precipitation falls on the mountain slopes than on the upper and lower parts, and therefore the equatorial core expands legally (-drawings). At an altitude of 3000 m, “cloud forests” (nebelwaldes) are located. Above them are the coniferous forests (seca de la montana), which form the upper border of the forests. In equatorial latitudes, between the coniferous forests and the rocky-sandy deserts, there are high mountain grasslands (paramos) with shrubby and complex flowering woody plants, and in the southern subequatorial latitudes,

there is a shrubby (halka) high mountain sedge steppe zone. Above the tropical deserts and sedge deserts of the Southern Hemisphere, there are high mountain sedge deserts (punas), where evergreen shrubs, tree-like sedges grow, and deserts (tolas), where sparse thorny shrubs and leafy opuntias grow.

The structure of altitudinal zonation also depends on orography. Its large variations also depend on the exposure of the slopes to sunlight and prevailing winds.

The spectra of altitudinal zonality vary depending on the latitude zone and sector within which the mountain structures are located, as well as on the orographic features of the mountain system. For each latitude zone, a separate spectrum of altitudinal zonality is characteristic, expressed in the number of zones, their distribution, and height boundaries. In orographically very complex mountain systems located at the junction of different latitude zones, altitudinal zonality has a particularly complex character. However, even in such cases, several spectra of altitudinal zonality can be distinguished. For example, in the Caucasus mountain system, 6-7 main zonal rows can be distinguished.

In each sector, depending on the degree of continentality of the climate, the intensity and regime of moisture, specific features of altitudinal zonality are manifested.

Along with absolute height, the exposure of the slopes, associated with the general extension and orientation of mountain structures, is an important factor in the stratification of mountain landscapes. The position of the slope exposure relative to the Sun and the prevailing winds leads to the position of the boundaries of the altitudinal zones by 300 - 800 m and more. Two types of exposures of mountain slopes can be distinguished: 1) solar or insolation exposures, facing the direction of the sun, and 2) wind or circulation exposures, facing air currents. The thermal and, as well as, water regime of the mountain slopes depends on the solar exposure. The southern slopes heat up more than the northern slopes, evaporation is greater. Therefore, the southern slopes are drier, other factors being equal. The boundaries of the altitudinal zones on them usually pass somewhat higher than on the northern slopes. Opposite solar exposures are especially pronounced at the junction of latitudinal geographic zones. In temperate latitudes, the effect of solar exposure is stronger than in polar and tropical latitudes. At high latitudes, during polar light days, all exposures of all slopes are illuminated almost equally, while at low latitudes, due to the Sun being high above the horizon, the differences in insolation of slopes with different exposures are smoothed out.

Wind exposures are of two types. Such exposures can create significant differences in the thermal regime of opposite slopes, enhancing the effect of solar exposure. This is typical for mountain ranges extending from west to east (Pyrenees, Alps, Crimea, Greater Caucasus, Himalayas, Central Asian mountains). The northern slopes of these ranges are influenced by cold air masses, while the southern slopes are more or less affected by cold air masses. Many of these mountain ranges are important watersheds, and sometimes their edges form the boundaries of geographical regions, sectors and zones (Urals, Himalayas, Cordillera, Andes, etc.).

The influence of wind exposures on the climate and landscapes of the slopes is manifested in the location of the slopes relative to the sources of moisture, that is, the slopes of moist air masses and the trajectories of cyclones. In the region of air masses moving from the west to the east, the main part of the precipitation falls on the western slopes of the mountain ranges, and in the monsoon sector - on the slopes facing the monsoons. For example, in the mountains of the Tien Shan-Aloy mountain system in Central Asia, the main part of the precipitation falls on the southern and southwestern slopes of the frontal ridges (mainly the Hissar ridge) in the spring due to the cyclones of the Iranian polar front, which move from north to south.

The leeward slopes of mountains, which are often affected by fyons, are much drier than the windward slopes. In dry climates, the effect of exposure is much greater. Especially at altitudes corresponding to the region of maximum precipitation, which is clearly visible only on one (windward) slope, the differences are large. In the Northern Tien Shan, the region of maximum precipitation is located between 1500 and 3000 m above sea level, and on the northern and western slopes within it, dark coniferous forests are widespread; on the opposite exposures, such forests are absent. The different location of the spectra of altitudinal zones and their sectoral variants correspond to the general scheme of the orographic structure of the land.

In mountain systems with a latitudinal and sublatitudinal orientation, the influence of remote landscape stratification and sectorality is clearly visible. In this case, both insolation and circulation (wind) exposure play a major role.

Conclusion. The structure of altitudinal zonality in mountains depends primarily on the geographical region and sector in which they are located, as well as on the height of these mountains.

References

1. Рябчиков А. М. Структура и динамика геосферы, ее естественное развитие и изменение человеком. – М.: Мысл, 1972. - 223 с.
2. Гвоздецкий Н. А. Основные проблемы физической географии. –М.: Высшая школа, 1979. –222 с.
3. Гвоздецкий Н. А. Самаркандская област. – В кн: «Природные условия и ресурсы юго-Западного Узбекистана». Т.: 1965. 337-370 с
4. Исаченко А.Г. Основы ландшафтовидения и физикогеографическое районирование. – М.: Высшая школа. 1965. – 346 с. 134. Исаченко А.Г. Теория и методология географической науки. – М.: Академия. 2004. – 400 с.
5. Исаченко А. Г. Теория и методология географической науки. – М.: Академия. 2004. – 400 с.
6. Абдуллаев С. И., Муртазаев Б. Ч., Назаров М. Г. The natural potehtial of the landscape //Life Sciences and Agriculture. – 2021. – №. 1. – С. 135-140.
7. Geldiyevich N. M. Facilities of plain landscapes of Uzbekistan and sustainable development //European science review. – 2018. – №. 9-10-1. – С. 88-90.
8. Абдулқосимов А. А., Назаров М. Г. Антропоген ландшафтларни тадқиқ этишнинг назарий асослари //40-жилд. – С. 15.

9. Навотова Д.И. Қашқадарё вилояти қишлоқ хўжалиги географияси ва уни карталаштиришнинг баъзи масалалари// Электронное научно-практическое периодическое издание. Экономика и социум. №3 (94), 2022. –721-725 с.
10. Qurbonov P. R. Iqlim o’zgarishi sharoitida tekislik mintaqasi shaharlarining rivojlanish xususiyatlari (Janubiy O’zbekiston misolida) //Экономика и социум. – 2023. – №. 10 (113)-1. – С. 210-214.
11. Qurbonov P. Kichik shaharlarda agrosanoat majmuini rivojlanish imkoniyatlari va istiqbollari (Qashqadaryo viloyati misolida). – 2023.
12. Ярашев Қ.С., Назаров М. Қашқадарё воҳа ландшафтларининг мелиоратив ҳолати // Водий ва воҳалар: табиати, аҳолиси, хўжалиги. –Андижон, 2012. -Б. 143-145.
13. Tojievich E. B., Geldiyarovich N. M. Explanation of oronyms and orographic terms of Kashkadarya region //The journal of contemporary issues in business and government. – 2021. – Т. 27. – №. 1. – С. 3199-3209
14. Safarov I. B. Geographical features of pilgrimage tourism (in the case of Kashkadarya region) //Экономика и социум. – 2023. – №. 2 (105). – С. 321-324.
15. Safarov I. B. Developing in Mubarak district pilgrimage tourism //Экономика и социум. – 2024. – №. 5-2 (120). – С. 590-593.
Бердикулова М. Т. Территориальные аспекты демографической ситуации в кашкадарьинской области //Экономика и социум. – 2021. – №. 4-1 (83). – С. 729-732.

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QASHQADARYO VILOYATIDA JOYLASHGAN BULOQLARNING SHAKLLANISHI HAMDA ULARNING MIHOFAZA QILISH MASALALARI

Annotatsiya: *Ushbu maqolada Qashqadaryo viloyatining tabiiy buloqlari, ularning shakllanish jarayonlari, gidrologik va ekologik xususiyatlari tahlil etiladi. Shuningdek, buloqlarning mahalliy aholi hayotidagi o‘rni, qishloq xo‘jaligida tutgan ahamiyati va turizm salohiyati ko‘rib chiqiladi. Tadqiqot natijasida buloqlarning bugungi ekologik holati va ularni muhofaza qilish muammolari yoritilib, samarali foydalanish bo‘yicha tavsiyalar beriladi.*

Kalit so‘zlar: *“Buloq”, Suv resurslari, ekotizim, antropogen bosim, gidrologik va ekologik xususiyatlar, iqlim omili, geologik omil, Qorabuloq, Tutlik bulog‘i*

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FORMATION OF SPRINGS LOCATED IN KASHKADARYO REGION AND ISSUES OF THEIR PROTECTION

Abstract: *This article analyzes the natural springs of the Kashkadarya region, their formation processes, hydrological and ecological characteristics. The role of springs in the life of the local population, their importance in agriculture and tourism potential are also considered. As a result of the study, the current ecological state of springs and the problems of their protection are highlighted, and recommendations are given for their effective use.*

Keywords: *"Spring", Water resources, ecosystem, anthropogenic pressure, hydrological and ecological characteristics, climatic factor, geological factor, Karabulak, Tutlik spring*

Kirish. Suv – hayot manbai bo‘lib, uning yetarli darajada mavjudligi nafaqat inson faoliyati, balki tabiiy ekotizimlarning barqarorligi uchun ham muhim omildir. “Buloq” so‘zi o‘zbek tilida “buloq” yoki “chashma” deb tarjima qilinadi. Bu yer osti suvlari yer yuzasiga chiqadigan joyni anglatadi. Buloqlar ko‘pincha toza va salqin suv manbalari bo‘lib, tabiatda muhim rol o‘ynaydi. Ular ichimlik suvi, qishloq xo‘jaligi va boshqa maqsadlar uchun ishlatiladi. O‘zbekistonda ham ko‘plab buloqlar mavjud bo‘lib, ular tabiiy go‘zallik va ahamiyatga ega. Suv resurslari orasida buloqlar alohida o‘rin tutadi. Ular tabiiy ravishda yer ostidan sizib chiqib, ko‘pincha ichimlik suvi, qishloq xo‘jaligi, chorvachilik va turizm uchun asosiy suv manbai vazifasini bajaradi. O‘zbekiston hududida ko‘plab buloqlar mavjud bo‘lib, ular orasida Qashqadaryo viloyatining buloqlari gidrologik va ekologik ahamiyatga ega muhim ob’ektlar hisoblanadi. Qashqadaryo viloyati o‘zining tog‘li va tog‘oldi hududlari bilan ajralib turadi. Ushbu geografik sharoit hududda tabiiy buloqlarning shakllanishiga qulay imkoniyat yaratadi. Bu buloqlar nafaqat suv ta’minoti uchun muhim, balki ular mahalliy ekotizimning tarkibiy qismi hisoblanadi. Ayniqsa, tog‘oldi hududlarida joylashgan buloqlar aholi tomonidan qadimdan muqaddas manbalar sifatida e’tirof etilib, diniy va marosimiy tadbirlarda ishlatilgan. Bugungi kunda Qashqadaryo viloyatidagi buloqlarning ekologik holati turli omillar ta’sirida o‘zgarib bormoqda. Iqlim o‘zgarishi, antropogen bosim va suv resurslaridan noto‘g‘ri foydalanish natijasida ba’zi buloqlarning suv hajmi kamayib, sifati yomonlashmoqda. Shu sababli, ushbu buloqlarni ilmiy jihatdan o‘rganish va ularni muhofaza qilish bo‘yicha samarali chora-tadbirlarni ishlab chiqish dolzarb masalalardan biridir. Mazkur maqolada Qashqadaryo viloyatining eng muhim buloqlari, ularning gidrologik va ekologik xususiyatlari, ijtimoiy-iqtisodiy ahamiyati va hozirgi ekologik holati tahlil etiladi. Shuningdek, buloqlarning saqlanishi va ulardan oqilona foydalanish bo‘yicha tavsiyalar beriladi.

Asosiy qism. Qashqadaryo viloyati O‘zbekistonning janubiy qismida joylashgan bo‘lib, uning relyefi asosan tog‘li va tog‘oldi hududlaridan iborat. Viloyatning shimoliy qismida Qarshi cho‘li, janubiy va sharqiy hududlarida esa Hisor tizmasining tarmoqlari joylashgan. Ushbu geografik sharoit buloqlarning hosil bo‘lishiga katta ta’sir ko‘rsatadi [2; 10-25 b.].

Qashqadaryo viloyatida buloqlarning shakllanishiga quyidagi tabiiy omillar ta’sir qiladi:

Iqlim omili: Viloyatning iqlimi kontinental bo‘lib, yozda issiq va quruq, qishda esa sovuq va nisbatan nam bo‘ladi. Tog‘li hududlarda yog‘ingarchilik miqdori nisbatan yuqori bo‘lib, bu yer osti suvlarining yig‘ilishiga va buloqlar shakllanishiga sabab bo‘ladi.

Geologik omil: Tog‘li hududlar asosan ohaktosh, konglomerat va qumtosh jinslaridan tashkil topgan bo‘lib, bu jinslarning yoriluvchanligi suvning yer ostiga singib, keyinchalik buloq sifatida yuzaga chiqishiga imkon yaratadi.

Yer osti suvlari harakati: Qashqadaryo viloyatida yer osti suvlari Hisor tizmasining baland hududlaridan pastga qarab harakatlanadi va tog‘oldi hududlarda buloqlar hosil qiladi [3; 10-12 b.].

Bu tabiiy omillar viloyatning buloqlarga boy bo‘lishiga sabab bo‘lib, ulardan

ichimlik suvi, qishloq xo‘jaligi va boshqa ehtiyojlar uchun keng foydalaniladi. Qashqadaryo viloyatida ko‘plab buloqlar mavjud bo‘lib, ularning ayrimlari hajmi, tarkibi va foydalanish xususiyatlariga ko‘ra alohida ahamiyatga ega [3.14-18].

Qashqadaryo viloyati uchraydigan ayrim buloqlar ularning geografik joylashuvi to`g`risida qisqacha ma`lumot beramiz..

Langar ota buloqlari: Qamashi tumanida joylashgan bu buloqlar, Langar ota qishlog‘ida joylashgan masjid bilan birga ziyoratgoh sifatida mashhur.

Oq suv buloqlari: Kitob tumanida joylashgan bu buloqlar, tabiiy go‘zalligi va toza suvi bilan mashhur. Oqsuv buloqlari va daryosi atrofidagi hududlar o‘zining go‘zal tabiati bilan ham ajralib turadi.

Kumushkon buloqlari: Qashqadaryo viloyatining Yakkabog‘ tumanida joylashgan bu buloqlar, toza suvi va ajoyib tabiiy manzaralari bilan mashhur. Bu yerda nafaqat ichimlik suvi, balki dam olish uchun ham ajoyib joylar mavjud.

Qirq qiz buloqlari: Dehqonobod tumanida joylashgan bu buloqlar, afsonaviy voqealar bilan bog‘liq bo‘lib, ularning atrofidagi tabiiy go‘zalliklar va toza suv har qanday sayyohni jalb qilishi mumkin.

Mingchinor buloqlari: Shahrisabz shahrida joylashgan bu buloqlar, Mingchinor bog‘ida joylashgan bo‘lib, tarixiy va madaniy ahamiyatga ega. Bu bog‘da ming yillik chinor daraxtlari va toza buloq suvi mavjud.

Qo‘rg‘ontepa buloqlari: Mirishkor tumanida joylashgan bu buloqlar, toza suvi va yaqin atrofdagi tabiiy go‘zalliklari bilan mashhur. Bu yerda dam olish va tabiiy manzaralardan zavqlanish mumkin.

Shahrisabz buloqlari: Shahrisabz tumanida joylashgan buloqlar, tarixiy va madaniy ahamiyatga ega bo‘lgan joylarda joylashgan. Bu buloqlar atrofida ko'plab ziyoratgohlar va tarixiy obidalar mavjud.

Nurota buloqlari: G‘uzor tumanida joylashgan bu buloqlar, tarixiy va tabiiy go‘zalliklari bilan mashhur. Bu yerda sayyohlar va ziyoratchilar uchun qiziqarli manzaralar mavjud.

Qorabuloq: Bu buloq Kitob tumanidagi Bashir qishlog‘ida Hazrati Bashir ziyoratgohi atrofida joylashgan. Qorabuloq mahalliy aholi va mehmonlar orasida muqaddas hisoblanadi. Buloqning suvi shifobaxsh xususiyatlarga ega deb ishoniladi.

Obizarang bulog‘i: Kitob tumani, Hissor tog‘ tizmasida joylashgan. Bu buloq suvi toza va salqin bo‘lib, tog‘li hududda joylashgan. U atrofidagi manzaralar ajoyib bo‘lib, sayyohlar uchun mashhur joydir.

Obulissuv bulog‘i: Qashqadaryo viloyatining Kitob tumanida joylashgan. Bu buloq juda toza va sovuq suvga ega bo‘lib, uning suvi ichimlik va sug‘orish maqsadlarida foydalaniladi. Afsonalarga ko‘ra, bu buloq qadim zamonlarda paydo bo‘lgan va uning suvi kasalliklarni davolaydi. Obulissuv atrofidagi tabiat juda go‘zal bo‘lib, sayyohlar uchun mashhur joy hisoblanadi.

Tutlik bulog‘i: Yakkabog‘ tumanida joylashgan. Tutlik bulog‘i suvi mineral moddalarga boy bo‘lib, sog‘liq uchun foydali hisoblanadi. Bu hududda dam olish maskanlari mavjud.

Chorvak bulog‘i: Chiroqchi tumanida joylashgan. Chorvak bulog‘i suvi toza va salqin bo‘lib, mahalliy aholi tomonidan keng foydalaniladi. Bu hududda tabiatning go‘zal manzaralari mavjud.

Karakul bulog‘i: Shahrisabz tumanida joylashgan. Karakul bulog‘i suvi toza va salqin bo‘lib, mahalliy aholi tomonidan kundalik hayotda keng foydalaniladi.

G‘alvaor bulog‘i: Kitob tumanida joylashgan. G‘alvaor bulog‘i suvi mineral moddalarga boy bo‘lib, sog‘liq uchun foydali hisoblanadi. Bu hududda dam olish maskanlari mavjud.

Oqsoy bulog‘i: Yakkabog‘ tumanida joylashgan. Oqsoy bulog‘i suvi toza va salqin bo‘lib, mahalliy aholi tomonidan keng foydalaniladi.

Buloqlar mahalliy aholi uchun ichimlik suvi manbai bo‘lib xizmat qiladi. Shuningdek, qishloq xo‘jaligida sug‘orish uchun ham foydalaniladi. Ba’zi buloqlar mineral tarkibi tufayli sog‘lomlashtirish maqsadlarida qo‘llaniladi. Misol uchun, shifobaxsh xususiyatlarga ega bo‘lgan buloqlar atrofida sanatoriyalar va dam olish maskanlari tashkil etilgan.

Buloqlar viloyatning ekologik tizimida muhim o‘rin tutadi. Ular nafaqat ichimlik suvi manbai, balki qishloq xo‘jaligi uchun ham zarurdir. Ammo sanoat korxonalari faoliyati tufayli ba’zi buloqlar ifloslanish xavfi ostida [6; 14-21 b.].

Buloqlarni muhofaza qilish tabiatni saqlash va ularning ekologik muvozanatini tiklash uchun juda muhimdir. Qashqadaryo viloyatidagi buloqlar ham o‘ziga xos ekotizimga ega bo‘lib, ularni muhofaza qilish uchun quyidagi choralar ko‘rilishi kerak:

Buloqlarning ekologik barqarorligini ta`minlash va muhofaza qilish. Buloqlar atrofida chiqindilar qoldirilmasligi kerak. Chiqindilar suvning ifloslanishiga olib keladi va ekotizimga zarar yetkazadi. Mahalliy aholi, ekologik tashkilotlar va hukumat organlari tomonidan muntazam ravishda tozalash ishlari o‘tkazilishi zarur.

Buloq suvlaridan oqilona foydalanish. Buloq suvlarini isrof qilmaslik va ularni faqat zaruriyat darajasida ishlatish lozim. Qishloq xo‘jaligida suvni tejovchi texnologiyalarni joriy etish orqali suv resurslarini tejash mumkin.

Buloqlarning tabiatini muhofaza qilish chora tadbirlari. Buloqlar atrofida himoya zonasi tashkil etib, bu hududlarda qurilish, konchilik yoki boshqa faoliyatni cheklash kerak. Buloqlar atrofidagi o‘rmonlarni kesishning oldini olish va yangi daraxtlar ekish orqali ekotizimni tiklash.[4]

Ekologik tarbiya: Mahalliy aholi va sayyohlarga tabiatni muhofaza qilishning ahamiyati haqida ma’lumot berish. Masalan, chiqindilarni qayta ishlash, suvni tejash kabi masalalar bo‘yicha o‘quv dasturlari tashkil etish. Buloqlar atrofida ogohlantirish belgilari o‘rnatib, ularni himoya qilish zarurligini eslatish.

Qonuniy choralar. Buloqlarni ifloslantirgan shaxslar yoki tashkilotlarga qattiq jarimalar qo‘llash. Buloqlarning suv sifatini muntazam ravishda tekshirib borish va ifloslanish holatlari aniqlanganda darhol choralar ko‘rish.

Turizmni tartibga solish. Buloqlarni muhofaza qilishni hisobga olgan holda ekoturizmni rivojlantirish. Bu orqali sayyohlar tabiatni muhofaza qilish zarurligini

tushunishadi. Buloqlar atrofida chiqindilar uchun maxsus idishlar, tozalangan suv manbalari va hojatxonalar qurish.

Ilmiy tadqiqotlar va monitoring. Buloqlarning suv sifatini muntazam ravishda tekshirib borish va zarur bo‘lganda choralar ko‘rish. Buloqlar atrofidagi o‘simliklar va hayvonot dunyosini o‘rganish, ularni muhofaza qilish uchun choralar ishlab chiqish.

Xalqaro hamkorlik. Buloqlarni muhofaza qilish bo‘yicha xalqaro tashkilotlar va loyihalar bilan hamkorlik qilish. Masalan, UNESCO yoki boshqa ekologik tashkilotlarning dasturlarida ishtirok etish.

Xulosa. Qashqadaryo viloyati, o‘zining boy tabiiy resurslari va mo‘jizaviy buloqlari bilan ajralib turadi. Ushbu buloqlar nafaqat hududning iqtisodiy rivojlanishiga, balki mahalliy aholining salomatligini yaxshilashga ham katta hissa qo‘shadi. Buloqlarning tarkibidagi minerallar va ularning terapevtik xususiyatlari, shu jumladan, turizmni rivojlantirish, viloyat iqtisodiyotini diversifikatsiya qilishda muhim rol o‘ynaydi. Bundan tashqari, buloqlarni asrab-avaylash va ularni zamonaviy ilm-fan yutuqlari bilan uyg‘unlashtirish, uzoq muddatli ekologik barqarorlikni ta'minlashda muhimdir. Umuman olganda, Qashqadaryo viloyatining buloqlari nafaqat tabiatning inoyatidir, balki uning ijtimoiy va iqtisodiy farovonligini oshirishga xizmat qiluvchi salohiyatdir. Buloqlarni o‘rganish va ularni to‘g‘ri boshqarish orqali viloyatning kelajakdagi rivojlanishiga yanada katta turtki berilishi mumkin.

Foydalanilgan adabiyotlar:

1. “O‘zbekiston tabiiy geografiyasi’’ P.G‘ulomov, I.Hasanov, A.Qayumov 2-qism Toshkent 2009 y.
2. Nizomov A. Hisor buloqlari. – T.: Mehnat, 1989.
3. Nizomov A., Alimqulov N., Tillaxodjayeva Z. Tabiiy geografik jarayonlar. O‘quv qo‘llanma. –T.: Fan va texnologiya, 2015.
4. Nazarov M.G. Qashqadaryo havzasining antropogen landshaftlari va ularning geoekologik holati. G.f.f.d. (PhD) ilm. dar. olish uchun taqdim et. diss. avt. – Samarqand, 2020.
5. Baratov P. O‘zbekiston tabiiy geografiyasi. – T.: O‘qituvchi, 1996.
6. Baratov P., Mamatqulov M., Rafiqov A. O‘rta Osiyo tabiiy geografiyasi. – T.: O‘qituvchi, 2002.
7. Абдуллаев С. И., Муртазаев Б. Ч., Назаров М. Г. The natural potehtial of the landscape //Life Sciences and Agriculture. – 2021. – №. 1. – С. 135-140.
8. Geldiyevich N. M. Facilities of plain landscapes of Uzbekistan and sustainable development //European science review. – 2018. – №. 9-10-1. – С. 88-90.
9. Абдулқосимов А. А., Назаров М. Г. Антропоген ландшафтларни тадқиқ этишнинг назарий асослари //40-жилд. – С. 15.
10. Навотова Д.И. Қашқадарё вилояти қишлоқ хўжалиги географияси ва уни карталаштиришнинг баъзи масалалари// Электронное научно-практическое периодическое издание. Экономика и социум. №3 (94), 2022. –721-725 с.

11. Qurbonov P. R. Iqlim o’zgarishi sharoitida tekislik mintaqasi shaharlarining rivojlanish xususiyatlari (Janubiy O’zbekiston misolida) //Экономика и социум. – 2023. – №. 10 (113)-1. – С. 210-214.
12. Qurbonov P. Kichik shaharlarda agrosanoat majmuini rivojlanish imkoniyatlari va istiqbollari (Qashqadaryo viloyati misolida). – 2023.
13. Ярашев Қ.С., Назаров М. Қашқадарё воҳа ландшафтларининг мелиоратив ҳолати // Водий ва воҳалар: табиати, аҳолиси, хўжалиги. –Андижон, 2012. -Б. 143-145.
14. Tojievich E. B., Geldiyarovich N. M. Explanation of oronyms and orographic terms of Kashkadarya region //The journal of contemporary issues in business and government. – 2021. – Т. 27. – №. 1. – С. 3199-3209
15. Safarov I. B. Geographical features of pilgrimage tourism (in the case of Kashkadarya region) //Экономика и социум. – 2023. – №. 2 (105). – С. 321-324.

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RANGLI ASFALT BETONNING FIZIK-MEXANIK XOSSALARINING O‘ZGARISH QONUNIYATLARINI MATEMATIK MODELLASHTIRISH ORQALI TADQIQ QILISH

Annotatsiya. *Ushbu maqolada rangli-asfalt beton hossalarini regressiyalar tenglamalari yordamida modellashtirilgan va taxlil qilingan*

Kalit soz’lar: *rangli yo’l qoplamalari, qurilish va buzish chiqindilari, shaffof bog'lovchi, sintetik smola, Kompleks polimer bog’lovchi.*

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RESEARCH OF THE LAWS OF CHANGE OF PHYSICAL AND MECHANICAL PROPERTIES OF COLORED ASPHALT CONCRETE USING MATHEMATICAL MODELING

Abstract. *In this article, the properties of colored asphalt concrete are modeled and analyzed using regression equations.*

Key words*: colored pavements, construction and demolition waste, transparent binder, synthetic resin, complex polymer binder.*

Ushbu maqolada rangli asfalt-beton uchun bog‘lovchining komponentlarini uning xossalariga ta’siri bunda plastifikatorni hisobga olmagan holda uni regressiya tenglamalar yordamida modellashtirilgan[1]. Bunda tadqiqotlarni rejalashtirishda 3 faktor o‘zgaruvchili eksperimental rejalashtirish olib borilgan. Quyida kompleks polimer bog’lovchi uchun ushbu o‘zgaruvchilar va ularning kod belgilari keltirib o‘tilgan:

X_1-ikkilamchi polietilen PE,%

X_2-SBS kauchuk miqdori K, %

X_3-neft polimer smola NPS, %

Bog‘lovchining tarkibidagi plastifikatorning miqdori o‘zgarmas deb qaraladi shuning uchun ulardan faqat 3 o‘zgaruvchilar belgilangan.

Eksperiment rejasi va faktorlarning o‘zgarish darajasi dastlabki tajribalar natijalari asosida aniqlandi. Tadqiq qilingan faktorlar va ularning variatsiya intervallari 1-jadvalda keltirilgan.

1-jadval

Kompleks polimer bog’lovchi uchun o‘zgaruvchilar va ularning variatsiya intervallari

Variatsiya shartlari	Belgisi	Tadqiq qilinayotgan faktorlar		
		X_1	X_2	X_3
Asosiy daraja X_0	0	0.42	0.24	3.3
Variatsiya intervali X_Δ	X	0.2	0.1	0.3
Yuqori daraja (X^{max})	+1	0.62	0.34	3.6
Quyi daraja (X^{min})	-1	0.22	0.14	3

Tajribalar davomida rejaning har bir nuqtasi uchun balandligi va diametri 7.14 sm bo‘lgan to‘qqizta silindr namunalar tayyorlandi. Namunalar GOST 12801-84 ning 3.2 punktda tasvirlangan metodlarga muvofiq tayyorlangan va sinovdan o‘tkazilgan.

Tadqiqot ishida namunalarning ***Y1*** **-**0 °C dagi (R_0, MPa) siqilishga mustahkamligi, ***Y2-*** 20 °C da siqilishga mustahkamlik (R20, Mpa), Y_3- 50 °C da siqilishga mustahkamligi (R50, MPa), ***Y4***- Suvga chidamlilik koeffitsiyenti (Ks)

Tadqiqotni loyihalash uchun miqdoriy qiymatlar modelini har bir xususiyatlari kub shaklida ifodalanadi [4]. Tajribalarning soni o‘zgaruvchilarning miqdoriga bog‘liq holda 2^n bunda n- o‘zgaruvchilarning soni bo‘lib 2^3=8 ta tadqiqotlar sonini tashkil qiladi[2,3].

O‘rganilayotgan o‘zgaruvchilar va fizik-mexanik xossalari o‘rtasidagi bog‘liqlik regressiya tenglamasi yordamida aniqlandi:

$$y = b0 + b1X1 + b2X2 + b3X3 + b12X1X2 + b13X1X3 + b23X2X3 + b123X1X2X3; \quad (1)$$

Umumiy tenglamadan rangli asfalt-betonning 0°C dagi mustahkamligi uchun regressiya koeffitsiyentlarini aniqlab tenglama tuzamiz.

Yuqoridagi qiymatlardan regressiya koeffitsiyentlarini hisoblaymiz.

$$b_0=\frac{12.71+11.63+11.76+11.86+12.75+11.19+12.86+10.66}{8}=11,9275$$

$$b_1=\frac{12,71+11,63-11,76-11,86+12,75+11,19-12,86-10,66}{8}=0,1425$$

$$b_2=\frac{12,71+11,63+11,76+11,86-12,75-11,19-12,86-10,66}{8}=0,0625$$

$$b_3=\frac{12,71-11,63+11,76-11,86+12,75-11,19+12,86-10,66}{8}=0,5925$$

$$b_{1,2}=\frac{12,71+11,63-11,76-11,86-12,75-11,19+12,86+10,66}{8}=0,0375$$

$$b_{1,3}=\frac{12,71-11,63-11,76+11,86+12,75-11,19-12,86+10,66}{8}=0,0675$$

$$b_{2,3}=\frac{12,71-11,63+11,76-11,86-12,75+11,19-12,86+10,66}{8}=-0,3475$$

$$b_{1,2,3}=\frac{12,71-11,63-11,76+11,86-12,75+11,19+12,86-10,66}{8}=0,2275$$

Olingan regressiya koeffitsiyentlaridan rangli asfalt-beton namunalari uchun 0°C dagi mustahkamligi uchun regressiya tenglamasini tuzamiz:

$$y_1(R_0) = 11,9275 + 0,1425x_1 + 0,0625x_2 + 0,5925x_3 + 0,0375x_1x_2 + 0,0675x_1x_3 - 0,3475x_2x_3 + 0,2275x_1x_2x_3; \quad (2)$$

Regressiya koeffitsiyentlarini og‘ishini hisoblash uchun o‘rta kvadrat og‘ish formulasidan foydalanildi:

$$\sigma \approx S = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(x_i - \bar{x})^2}. \quad (3)$$

$$S^2(y_1)=\frac{(12.71-11.18)^2+(12.71-12.9)^2+(12.71-13.98)^2}{2}=2.01$$

$$S^2(y_2)=\frac{(11.63-13.37)^2+(11.63-11.63)^2+(11.63-9.89)^2}{2}=3.04$$

$$S^2(y_3)=\frac{(11.76-9.41)^2+(11.76-15.29)^2+(11.76-10.58)^2}{2}=9.68$$

$$S^2(y_4)=\frac{(11.86-10.44)^2+(11.86-12.1)^2+(11.86-13.05)^2}{2}=1.74$$

$$S^2(y_5)=\frac{(12.75-11.22)^2+(12.75-13.01)^2+(12.75-14.03)^2}{2}=2.02$$

$$S^2(y_6)=\frac{(11.19-9.85)^2+(11.19-11.41)^2+(11.19-12.31)^2}{2}=1.55$$

$$S^2(y_7)=\frac{(12.86-11.32)^2+(12.86-13.12)^2+(12.86-14.15)^2}{2}=2.05$$

$$S^2(y_7)=\frac{(10.66-7.38)^2+(10.66-10.87)^2+(10.66-13.73)^2}{2}=10.10$$

O‘rtacha qiymatning dispersligini hisoblaymiz.

$$S^2(\bar{y})=\frac{2.01+3.04+9.68+1.74+2.02+1.55+2.05+10.10}{8*3}=1.34$$

Regressiya koeffitsiyentining dispersligi:

$$S^2(b_i)=\frac{1.34}{8}=0.16765 \quad (4)$$

Regressiyaning xatolik koeffitsiyentini hisoblaymiz.

S (b_i)=$\sqrt{0.167}$=0.41

f_1=N(n-1)=8*(3-1)=16 (4')

Student koeffitsiyenti t_N=t_N=8 kuzatishlar soni f_1 = 16 jadval bo'yicha 0,95% ishonchliligi bo'yicha 2,1 ga teng bo'ladi. Bundan ishonchlilik intervali quyidagicha aniqlanadi.

tN (f_1)s(b_i) = t8(16) bunda α=0,95 s(bi) = 2.1·0.41 ≈ 0.86 (5)

bundan, ushbu tekshirish ishonchliligi bo'yicha tanlangan qiymat bo'yicha va har bir koeffitsiyent*l*arni tekshiriladi. Bu tekshirish adekvatlikka tekshirishni analogi bo'ladi.

Yuqoridagi (1) ga asoslanib va amallarni takrorlagan holda rangli asfalt-beton uchun 20°C dagi mustahkamligi uchun regressiya tenglamalarini hisoblaymiz.

b_0=5,48	$b_{1,2}$=-0,11
b_1=1,1075	$b_{1,3}$=0,0775
b_2=0,1375	$b_{2,3}$=-0,1025
b_3=-0,02	$b_{1,2,3}$=0,02

Bundan namunalarning 20°C dagi mustahkamligi uchun regressiya tenglamasi quyidagicha:

$$Y_2(R_{20}) = 5,48+1,1075x_1 + 0,1375x_2 -0,02x_3 -0,11x_1x_2+0,0775x_1x_3- 0,1025x_2x_3 +0,02x_1x_2x_3 ;$$ (5')

50°C dagi mustahkamlik uchun regressiya koeffitsiyentlari.

b_0=3,43625	$b_{1,2}$=0,14125
b_1= -0,10125	$b_{1,3}$=-0,03875
b_2=0,00375	$b_{2,3}$=-0,06375
b_3=0,01875	$b_{1,2,3}$=0,12375

Namunalarning 50°C dagi mustahkamligi uchun regressiya tenglamasi quyidagicha:

$$Y_3(R_{50})=3,43625-0,10125x_1+0,00375x_2-0,01875x_3+0,14125x_1x_2- 0,03875x_1x_3 -0,06375x_2x_3 +0,12375\ x_1x_2x_3;$$ (6)

Namunalarning suvga chidamlilik koeffitsiyenti bo'yicha

b_0=0,95375	$b_{1,2}$=0,00125
b_1= -0,00625	$b_{1,3}$=-0,00125
b_2=-0,00375	$b_{2,3}$=-0,00125
b_3=-0,01375	$b_{1,2,3}$=-0,00125

Suvga chidamlilik bo'yicha regressiya tenglamasi:

$$Y_4(Ks)=0,95375-0,00625x_1-0,00375x_2-0,01375x_3+0,00125x_1x_2+$$

$$0,00125x_1x_3-0,00125x_2x_3-0,00125x_1x_2x_3; \quad (7)$$

Tadqiqotlarda tanlangan nuqtalardagi olingan o‘rtacha qiymatlari, qolaversa ularni regressiya tenglamasi asosida hisoblangan qiymatlari olinganva quyidagi 2-jadvalda chiziqdan oldingi raqam –tadqiqot natijasi, chiziqdan keyingi nazariy natijalardir.

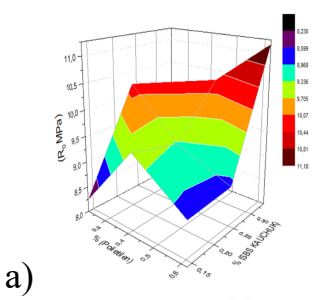
2-jadval

Namunalarning sinov tajriba natijalari va xossalarining hisobiy qiymatlari

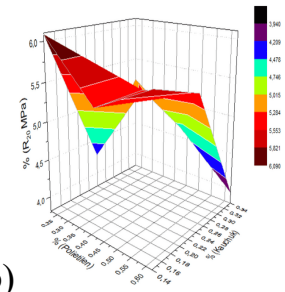
Tajriba raqam-lari	Siqilishga mustahkamligi 0°C da, MPa		Siqilishga mustahkamligi 20°Cda, MPa		Siqilishga mustahkamligi 50°Cda, MPa		Suvga chidamlilik	
1	12,71	13,73	6,59	6,08	3,52	3,34	0,93	0,90
2	11,63	13,45	6,64	6,10	3,44	3,35	0,96	0,91
3	11,76	13,96	4,40	5,68	3,27	3,45	0,94	0,90
4	11,86	13,63	4,84	5,69	3,53	3,44	0,97	0,91
5	12,75	13,61	6,70	6,05	3,11	3,26	0,94	0,90
6	11,19	13,35	6,42	6,08	3,27	3,28	0,96	0,91
7	12,86	13,91	4,15	5,65	3,92	3,42	0,95	0,90
8	10,66	13,58	4,10	5,66	3,43	3,42	0,98	0,91
9	10,58	11,93	3,42	5,48	3,42	3,44	0,97	0,95

Olingan modellar tizimning jarayonlarini yetarli darajada tavsiflaydi, chunki zaruriy shartni qanoatlantiradi.

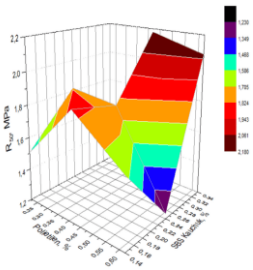
Turli xil tarkibdagi neftpolimer smola, kauchuk va polietilen asosida tayyorlangan A tipdagi rangli polimer asfalt-betonlarning eksperimental va statistik modellarini tahlil qilish ushbu komponentlarning tarkibiga qarab, olingan namunalarning xususiyatlarini sezilarli farqlarini ko‘rsatdi.



a)

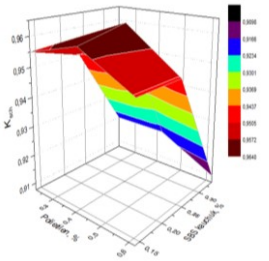


b)



c)

d)



1-rasm. Kompleks polimer bog'lovchi tarkibidagi neft polimer smola, ikkilamchi polietilen va kauchuk miqdori o'zgarishining rangli asfalt-beton a) 0 ℃ dagi mustahkamligiga, b)20 °C dagi mustahkamligiga, c) 50 ℃ dagi mustahkamligiga, d) suvga chidamlilik xossalariga ta'siri

Yuqoridagi 1-rasmda tadqiq qilinayotgan eksperimental-statistik modellarning izo-yuzalari ko'rsatilgan, ulardan quyidagi o'zgaruvchan omillarning ta'sirini ko'rish mumkin:

KPB-1 ning ortishi bilan asfalt-betonning mustahkamligini oshganligini ko'rishimiz mumkin. X_1 o'zgaruvchining variatsiyalarini ortishi natijasida suvga chidamliligini pasayishini ko'rishmiz mumkin bu esa polimer bog'lovchi, pigment va mineral kukun karkasining yopishqoqligi va qattiqligining oshishi va natijada polimer bog'lovchi bilan mineral qismning to'liq yuzasini qoplash mumkin emasligini ko'rish mumkin;

Foydalanilgan adabiyotlar

1. Nuriddinov A.O. Investigation of the properties of marble sand used for colored asphalt. ISSN 2541-8084 научный электронный журнал «Матрица научного познания» # 3-1/2022. 18-21 ст.
2. Kasimov I. K., Hodzhanov N. A., Kasimov I. Energy -Saving technology of producing viscous bitumen. Architecture and construction of Uzbekitan. 1989. No.7 5-6 p.
3. Nuriddinov A.O., Kasimov I.I. Investigation of properties of complex polymer binder for colored asphalt concrete "Young Researcher" collection of articles of the 1st international scientific - practical conference. Tashkent, Uzbekistan 2022y. p110-113
2. E-Bond 526 Epoxy Resin Binder High Friction Surface Treatment https://www.transpo.com/roads-highways/materials/

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QASHQADARYO VILOYATIDA CHORVACHILIK MAHSULOTLARINI XO‘JALIK TOIFALARI BO‘YICHA YETISHTIRISHNING IQTISODIY GEOGRAFIK JIHATLARI

Annotatsiya. *Mazkur maqolada Qashqadaryo viloyatida chorvachilik mahsulotlarining turli xo‘jalik toifalari bo‘yicha yetishtirilishi iqtisodiy-geografik jihatdan tahlil qilinadi. Hududning tabiiy-iqlim sharoiti, iqtisodiy imkoniyatlari va chorvachilik tarmoqlarining rivojlanish omillari o‘rganilgan. Tadqiqotda fermer, dehqon va tomorqa xo‘jaliklari hamda qishloq xo‘jaligi faoliyatini amalga oshiruvchi tashkilotlarning chorvachilik mahsulotlari ishlab chiqarishdagi ulushi, ularning hududiy taqsimoti hamda viloyat iqtisodiyotiga ta’siri o‘rganilgan. Shuningdek, chorvachilik mahsulotlarining yetishtirish hajmiga ta’sir etuvchi ekologik va demografik omillar ham tahlil qilingan.*

Kalit so‘zlar: *Qashqadaryo viloyati, chorvachilik, xo‘jalik toifalari, iqtisodiy geografiya, mahsulot yetishtirish, hududiy taqsimot, ekologik omillar, demografik omillar.*

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ECONOMIC GEOGRAPHICAL ASPECTS OF LIVESTOCK PRODUCTION BY ECONOMIC CATEGORIES IN KASHKADARYO REGION

Annotation. *This article analyzes the economic and geographical aspects of the production of livestock products by various economic categories in the Kashkadarya region. The natural and climatic conditions of the region, economic potential and development factors of the livestock sector are studied. The study examines the share of farmers, dehkans and household farms and organizations engaged in agricultural activities in the production of livestock products, their territorial distribution and impact on the regional economy. Also, environmental and demographic factors affecting the volume of livestock production are analyzed.*

Keywords: *Kashkadarya region, livestock farming, economic categories, economic geography, production, territorial distribution, ecological factors, demographic factors.*

Kirish. Chorvachilik mahsulotlarini ishlab chiqarish va ta’minot jahon miqyosida iqtisodiy taraqqiyotning muhim tarmoqlaridan biri hisoblanadi. Aholi

sonining ortib borishi, oziq-ovqat xavfsizligi masalalari va ekologik omillar chorvachilik tarmog‘ini rivojlantirish zaruratini oshirmoqda. Dunyoning yetakchi davlatlari ushbu sohada innovatsion texnologiyalarni joriy etib, mahsulot sifatini oshirish va eksport hajmini kengaytirishga harakat qilmoqda [11]. Ayniqsa, barqaror chorvachilik tizimlarini yaratish, tabiiy resurslardan samarali foydalanish hamda ekologik toza mahsulotlar yetishtirish masalalari dolzarb ahamiyat kasb etmoqda.

O‘zbekistonda agrar soha rivojlangan bo‘lib, chorvachilik tarmog‘i iqtisodiyotning yetakchi yo‘nalishlaridan biri hisoblanadi. Mamlakatda chorvachilik mahsulotlarini ishlab chiqarish hajmi doimiy ravishda oshib borayotgani, hududiy maxsuslashuv va davlat tomonidan qo‘llab-quvvatlash tizimining takomillashib borayotgani kuzatilmoqda. Xususiy va yirik agroklasterlar faoliyati natijasida go‘sht, sut, jun va boshqa chorvachilik mahsulotlari ishlab chiqarish hajmi ortib, ichki talabni qondirish bilan birga, eksport salohiyati ham kengaymoqda. Shu bilan birga, chorvachilik mahsulotlarining sifatini oshirish, yem-xashak resurslarini samarali taqsimlash va ekologik barqarorlikni ta’minlash bo‘yicha hali amalga oshirilishi lozim bo‘lgan muhim vazifalar mavjud.

Qashqadaryo viloyati chorvachilikning rivojlanishi uchun qulay tabiiy-iqlim sharoitlariga ega bo‘lib, mazkur soha viloyat iqtisodiyotida muhim o‘rin tutadi. Viloyatda yirik va xususiy xo‘jaliklar tomonidan go‘sht, sut, jun va boshqa chorvachilik mahsulotlarini ishlab chiqarish hajmi oshib bormoqda. Biroq, chorvachilik mahsulotlarini yetishtirishda mintaqaviy tafovutlar, yaylovlardan samarali foydalanish masalalari hamda ekologik muammolar mavjud. Shu sababli, Qashqadaryo viloyatida chorvachilik mahsulotlari yetishtirishni iqtisodiy geografik jihatdan o‘rganish, muammolarni aniqlash va istiqbolli yo‘nalishlarni belgilash dolzarb ahamiyat kasb etadi.

Asosiy qism. O‘zbekiston qishloq xo‘jaligi iqtisodiyoti turli xo‘jalik toifalariga asoslangan bo‘lib, har birining o‘ziga xos funksiyasi va ahamiyati mavjud. *Fermer xo‘jaliklari* qishloq xo‘jaligi mahsulotlarini yirik miqyosda yetishtiruvchi tadbirkorlik subyektlari bo‘lib, ularga yer ijara asosida ajratiladi. Bu xo‘jaliklar asosan paxta, g‘alla, bog‘dorchilik va chorvachilik yo‘nalishlarida faoliyat yuritadi. Fermer xo‘jaliklari qishloq xo‘jaligi mahsulotlarining yirik ulushini yetishtirib, ichki bozorni ta’minlash va eksport hajmini oshirishda muhim rol o‘ynaydi [1, 2, 7].

Dehqon xo‘jaliklari esa oilaviy mehnatga asoslangan bo‘lib, dehqonlarga umrbod egalik qilish yoki ijara huquqi asosida yer beriladi. Ushbu xo‘jaliklar asosan kichik yer maydonlarida faoliyat yuritadi va aholining oziq-ovqat xavfsizligini ta’minlashda katta ahamiyatga ega. *Tomorqa xo‘jaliklari* dehqon xo‘jaliklariga o‘xshash bo‘lib, ular shaxsiy yer maydonlarida mahsulot yetishtirish bilan shug‘ullanadi. Tomorqa xo‘jaliklari ko‘pincha oilaviy ehtiyojlar uchun ishlab chiqarish olib boradi, ammo ortiqcha mahsulot bo‘lsa, uni bozorga chiqarish ham mumkin.

Qishloq xo‘jaligi faoliyatini amalga oshiruvchi tashkilotlar esa yirik korxonalar bo‘lib, ular yer va ishlab chiqarish mulklariga egalik qiladi. Ushbu

tashkilotlar qishloq xo‘jaligi mahsulotlarini sanoat asosida yetishtirish va qayta ishlash bilan shug‘ullanadi. Ularning roli hozircha nisbatan kichik bo‘lsa-da, qishloq xo‘jaligi texnologiyalarini modernizatsiya qilish va samaradorlikni oshirishda muhim o‘rin tutadi.

Umuman olganda, har bir xo‘jalik toifasining o‘z o‘rni va ahamiyati bor. Fermer xo‘jaliklari yirik ishlab chiqarish bilan shug‘ullansa, dehqon va tomorqa xo‘jaliklari aholining oziq-ovqat xavfsizligini ta’minlashda muhim rol o‘ynaydi. Yirik qishloq xo‘jaligi tashkilotlarining rivojlanishi esa sektorning sanoatlashuviga va samaradorlikning oshishiga xizmat qiladi. Shu sababli, har bir xo‘jalik toifasini qo‘llab-quvvatlash va ularning samaradorligini oshirish bo‘yicha kompleks strategiyalar ishlab chiqish zarur [8, 10].

Qashqadaryo viloyatida 2024-yilda chorvachilik mahsulotlarini yetishtirish hajmi 26 525,0 mlrd. so‘mni tashkil etib, 2023-yilga nisbatan 105,1% o‘sish kuzatildi. Bu natija viloyatda chorvachilik tarmog‘ining barqaror rivojlanib borayotganini ko‘rsatadi. Qishloq xo‘jaligi mahsulotlarining umumiy hajmida chorvachilik mahsulotlarining ulushi 62,1% ni tashkil qilgani bu tarmoqning agrar sektordagi ustuvor yo‘nalishlardan biri ekanligini anglatadi.

So‘nggi yillarda chorvachilikni rivojlantirish maqsadida davlat tomonidan tizimli yordamlar ko‘rsatilmoqda, jumladan, chorvadorlarga subsidiya va kredit ajratish, yirik chorvachilik komplekslarini tashkil etish va yaylovlardan samarali foydalanish bo‘yicha chora-tadbirlar amalga oshirilmoqda. Natijada, chorva mollari bosh sonining oshishi kuzatilmoqda, bu esa ichki iste’mol bozorini chorvachilik mahsulotlari bilan barqaror ta’minlashga xizmat qilmoqda. Ushbu holat mahalliy go‘sht, sut, tuxum va boshqa mahsulotlarning ishlab chiqarish hajmini oshirishga hamda narx barqarorligini saqlashga imkon yaratmoqda [3, 5, 9].

Qashqadaryo viloyatida 2024-yilda yetishtirilgan chorvachilik mahsulotlarining umumiy hajmi sezilarli darajada oshgan bo‘lib, mahsulotlarning asosiy qismini dehqon va tomorqa xo‘jaliklari yetishtirgan. Jumladan, go‘sht ishlab chiqarishda bu toifa xo‘jaliklarning ulushi 93,9 % ni tashkil qilgan bo‘lsa, fermer xo‘jaliklari 3,8 %, qishloq xo‘jaligi tashkilotlari esa 2,3 % ulushga ega (jadval). Bu ko‘rsatkichlar dehqon xo‘jaliklarining go‘sht yetishtirishdagi ustun mavqeini hamda ularning asosiy ta’minotchi ekanligini tasdiqlaydi.

Sut ishlab chiqarishda ham dehqon va tomorqa xo‘jaliklari yetakchilik qilmoqda. 2024-yilda viloyatda umumiy 1 380,1 ming tonna sut yetishtirilgan bo‘lib, uning 95,4 % i aynan ushbu xo‘jaliklarga to‘g‘ri keladi. Fermer xo‘jaliklari ulushi bor-yo‘g‘i 3,7 % ni tashkil qilsa, qishloq xo‘jaligi tashkilotlari faqatgina 0,9 % ulushga ega (jadvalga qarang). Bu esa shaxsiy tomorqalarning sut mahsulotlari yetishtirishdagi ahamiyatini yana bir bor tasdiqlaydi.

Tuxum ishlab chiqarish bo‘yicha ham dehqon va tomorqa xo‘jaliklari yetakchi bo‘lib, 2024-yilda 360,5 mln dona tuxum yetishtirgan. Bu umumiy ishlab chiqarishning 63,9 % ini tashkil qiladi. Shu bilan birga, fermer xo‘jaliklari 5,9 %, qishloq xo‘jaligi tashkilotlari esa 30,2 % ulushga ega (jadvalga qarang). Ushbu ko‘rsatkichlar tuxum ishlab chiqarishda yirik qishloq xo‘jaligi tashkilotlari ham muhim rol o‘ynayotganini ko‘rsatmoqda.

Qashqadaryo viloyatida xo‘jaliklar toifasida yetishtirilgan chorvachilik mahsulotlari (2024-yil)

Mahsulot turi	Miqdori	ulushi
Go‘sht (tirik vaznda), ming tonna	**345,9**	**100**
shu jumladan:		
Fermer xo‘jaliklari	13,0	3,8
Dehqon va tomorqa xo‘jaliklari	325,0	93,9
Qishloq xo‘jaligi faoliyatini amalga oshiruvchi tashkilotlar	7,9	2,3
Sut, ming tonna	**1380,1**	**100**
shu jumladan:		
Fermer xo‘jaliklari	51,1	3,7
Dehqon va tomorqa xo‘jaliklari	1316,1	95,4
Qishloq xo‘jaligi faoliyatini amalga oshiruvchi tashkilotlar	12,9	0,9
Tuxum, mln dona	**564,3**	**100**
shu jumladan:		
Fermer xo‘jaliklari	33,3	5,9
Dehqon va tomorqa xo‘jaliklari	360,5	63,9
Qishloq xo‘jaligi faoliyatini amalga oshiruvchi tashkilotlar	170,5	30,2
Baliq, tonna	**4356,9**	**100**
shu jumladan:		
Fermer xo‘jaliklari	1838,7	42,2
Dehqon va tomorqa xo‘jaliklari	230,9	5,3
Qishloq xo‘jaligi faoliyatini amalga oshiruvchi tashkilotlar	2287,3	52,5

Jadval Qashqadaryo viloyati Statistika boshqarmasi ma'lumotlari asosida muallif tomonidan tayyorlangan.

Baliq yetishtirish tahlil qilinganda, qishloq xo‘jaligi tashkilotlarining yetakchiligi seziladi. 2024-yilda viloyatda 4 356,9 tonna baliq yetishtirilgan bo‘lib, uning 52,5 % i aynan qishloq xo‘jaligi tashkilotlari hissasiga to‘g‘ri keladi. Fermer xo‘jaliklari 42,2 % ulush bilan ikkinchi o‘rinda turadi, dehqon va tomorqa xo‘jaliklarining hissasi esa atigi 5,3 % ni tashkil qilgan (jadvalga qarang). Ushbu tahlil baliqchilik sohasida sanoat usulida ishlab chiqarish yetakchilik qilayotganini ko‘rsatadi.

Qashqadaryo viloyatida 2024-yilda yetishtirilgan chorvachilik mahsulotlari tarkibida dehqon va tomorqa xo‘jaliklari yetakchilik qilmoqda. Go‘sht ishlab chiqarishning 93,9 %, sut ishlab chiqarishning 95,4 %, tuxum ishlab chiqarishning esa 63,9 % i ushbu xo‘jaliklarga to‘g‘ri kelmoqda. Bu esa aholining xonadonlarida chorvachilik va parrandachilik keng rivojlanganini, dehqon va tomorqa xo‘jaliklarining ichki bozorni ta'minlashda asosiy manba ekanini ko‘rsatadi.

Fermer xo‘jaliklari, asosan, baliqchilik (42,2 %), tuxum (5,9 %) va go‘sht (3,8 %) ishlab chiqarishda o‘z hissasiga ega. Bu ko‘rsatkichlar fermer xo‘jaliklarining chorvachilik mahsulotlarini yetishtirishdagi ulushini oshirish uchun tizimli chora-tadbirlar zarurligini anglatadi. Fermer xo‘jaliklarining baliqchilikdagi nisbatan yuqori ulushi esa bu sohaning yirik fermer xo‘jaliklari tomonidan rivojlantirilayotganidan dalolat beradi.

Qishloq xo‘jaligi faoliyatini amalga oshiruvchi tashkilotlar esa baliq yetishtirishda yetakchilik qilmoqda (52,5 %). Bu sohaga yirik agroklasterlar va davlat tomonidan qo‘llab-quvvatlanayotgan baliqchilik xo‘jaliklari jalb qilingan bo‘lishi mumkin. Shu bilan birga, ushbu tashkilotlarning go‘sht va sut ishlab chiqarishdagi ulushi nisbatan kam (mos ravishda 2,3 % va 0,9 %), bu esa ularning ushbu sohalarda hali yetarlicha rivojlanmaganini ko‘rsatadi.

Umuman olganda, viloyatda chorvachilik mahsulotlari ishlab chiqarishda dehqon va tomorqa xo‘jaliklari asosiy rolni o‘ynaydi. Fermer xo‘jaliklari va qishloq xo‘jaligi tashkilotlarining ulushi ayrim tarmoqlarda oshib borayotgan bo‘lsa-da, hali to‘liq shakllangan yirik ishlab chiqarish tizimi mavjud emas. Kelajakda chorvachilikni kengaytirish, ishlab chiqarish samaradorligini oshirish va bozor talabiga mos ravishda yetishtirish tizimini takomillashtirish muhim ahamiyat kasb etadi.

Qashqadaryo viloyatida chorvachilik mahsulotlarini yetishtirish bo‘yicha iqtisodiy geografik jihatdan tahlil qilinganda, hududning tabiiy resurslari, aholining mehnat resurslari va transport-logistika infratuzilmasi yetakchi omillar sifatida ko‘rinadi. Viloyatning tog‘oldi va tekislik hududlarida yaylovlardan samarali foydalanish va chorvachilik fermalarini diversifikatsiya qilish lozim. Xususan, yirik agroklasterlar va qishloq xo‘jaligi kooperativlarini shakllantirish orqali sut va go‘sht mahsulotlarini qayta ishlashni kengaytirish, ishlab chiqarish zanjirini uzluksiz rivojlantirish hamda eksport salohiyatini oshirish muhim [4, 6]. Bundan tashqari, viloyatda chorvachilik uchun zarur bo‘lgan yem-xashak bazasini kengaytirish,

yangi agrotexnologiyalarni joriy etish va ilmiy tadqiqotlar asosida mahsuldorlikni oshirish masalalariga e’tibor qaratish lozim.

Bundan tashqari, dehqon va tomorqa xo‘jaliklarining yuqori ulushini inobatga olgan holda, ularga innovatsion chorvachilik texnologiyalarini joriy etish, veterinariya xizmati va yem ta’minotini yaxshilash orqali mahsuldorlikni oshirish tavsiya etiladi. Ayniqsa, baliqchilik sohasida suv resurslaridan samarali foydalanish va sun’iy havzalarni ko‘paytirish orqali ishlab chiqarishni kengaytirish muhim ahamiyat kasb etadi. Viloyatda ichki transport infratuzilmasini modernizatsiya qilish, sovutkichli logistika tarmoqlarini rivojlantirish hamda chorvachilik mahsulotlarini sanoat miqyosida qayta ishlash klasterlarini tashkil etish hududiy iqtisodiyotning diversifikatsiyalashuviga va aholi bandligining oshishiga xizmat qiladi.

Xulosa. Qashqadaryo viloyatida chorvachilik mahsulotlarini yetishtirishning iqtisodiy geografik jihatlari tahlil qilinishi shuni ko‘rsatmoqdaki, hududning tabiiy-iqlim sharoiti, yer va suv resurslari, aholi zichligi hamda xo‘jalik yuritish shakllari chorvachilik sohasining rivojlanishida muhim rol o‘ynamoqda. Viloyatda chorvachilik mahsulotlari ishlab chiqarishning asosiy og‘irligi dehqon va tomorqa xo‘jaliklariga to‘g‘ri kelib, go‘sht, sut va tuxum ishlab chiqarishda ularning ulushi mutlaq ustunlikka ega. Ushbu holat aholining chorvachilik bilan shug‘ullanishga qiziqishi yuqori ekanligini ko‘rsatadi, biroq ishlab chiqarishning parchalanganligi, mahsulot yetishtirishning sanoat miqyosida rivojlanmaganligi va qayta ishlash tizimining yetarlicha yo‘lga qo‘yilmagani bu sohaga jiddiy to‘siq bo‘lib qolmoqda. Ayniqsa, fermer xo‘jaliklari va qishloq xo‘jaligi tashkilotlarining chorvachilik mahsulotlarini ishlab chiqarishdagi ulushi past ekani, ularning resurs bazasini kengaytirish, texnologik modernizatsiya va kooperatsiya jarayonlarini jadallashtirish zarurligini anglatadi.

Chorvachilikning viloyat iqtisodiyotidagi ahamiyatini oshirish uchun zamonaviy texnologiyalarni joriy etish, mahsulot ishlab chiqarishni yirik agroklasterlar asosida tashkil etish va logistika tizimini takomillashtirish muhim strategik yo‘nalishlardan biri hisoblanadi. Fermer xo‘jaliklari va qishloq xo‘jaligi tashkilotlarining ulushini oshirish uchun davlat tomonidan subsidiya va imtiyozli kreditlarni ko‘paytirish, yem bazasini mustahkamlash, naslchilik va veterinariya xizmatlarini yaxshilash lozim. Bundan tashqari, viloyatning transport-logistika infratuzilmasini rivojlantirish, chorvachilik mahsulotlarini saqlash va qayta ishlash zavodlarini qurish orqali sohaning eksport salohiyatini oshirish mumkin. Baliqchilik sohasida esa fermer xo‘jaliklari va qishloq xo‘jaligi tashkilotlarining ulushi yuqori bo‘lib, bu tarmoqni yanada rivojlantirish uchun sun’iy havzalarni ko‘paytirish, suv resurslaridan samarali foydalanish va mahalliy baliqchilik klasterlarini shakllantirish dolzarb ahamiyatga ega. Umuman olganda, viloyatda chorvachilik mahsulotlarini sanoat miqyosida ishlab chiqarish va sohani innovatsion yo‘nalishda rivojlantirish Qashqadaryo viloyati iqtisodiyoti va qishloq xo‘jaligining raqobatbardoshligini oshirishga xizmat qiladi.

Foydalanilgan adabiyotlar:

1. Солиев А. Иқтисодий география: назария, методика ваамалиёт. – Т: Камалак, 2013. – 184 б.
2. Файзуллаев М.А. Жанубий Ўзбекистон қишлоқ хўжалиги географияси (монография). – Қарши: Университет, 2019. -245 б.
3. Nurmatov Nurbek. Economic and geographical factors of regional organization of agriculture and innovative development // International multidisciplinary journal for Research & development. - India, eISSN 2394-6334 Volume 10, issue 12 (2023) P.439-442
4. Nurmatov N.E. Qishloq xo'jaligida amalga oshirilgan asosiy islohotlarning chorvachilik tarmog'i rivojlanishiga ta'sirining asosiy xususiyatlari // "Экономика и социум" - Россия, № 2(117) 1 (февраль, 2024). С. 510- 517
5. Nurmatov Nurbek Ermat o`g`li. Chorvachilikni rivojlanishiga ta’sir ko‘rsatuvchi tabiiy sharoit va resurs omillarining asosiy xususiyatlari // “O`zbekiston zamini” 2024 yil 4 – son. B. 69-71.
6. Nurmatov N.E. Economic and geographical factors affecting livestock development in ensuring food security // Eurasian Journal of History, Geography and Economics. Belgiya. December 2024. P. 43-46
7. Faizullaev M.A. Theoretical and methodological aspects of the economic geographical study of agriculture and the use of land and water resources // Eurasian Journal of History, Geography and Economics. Volume 16, Belgium, 2023. – P. 39-42.
8. Faizullaev M.A. Main characteristics of the formation of a geographic conveyor in agricultural development // Web of Scientist: International Scientific Research Journal. Vol. 4 No. 2 (2023) – P. 89-92.
9. Faizullaev Maksud Abdullaevich. Characteristics of agriculture in Uzbekistan in the years of independence // European science review. 2015. – P. 67-69.
10. Fayzullayev M.A. O‘zbekiston qishloq xo‘jaligi geografiyasi. Monografiya. T.: Kitob bilim yog‘dusi. 2024. – 258 bet.
11. https://www.fao.org/agrifood-economics/publications/detail/en/c/1132943/

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COMPETENCE-BASED APPROACH AS A BASIS FOR THE FORMATION OF RESEARCH COMPETENCE AMONG FUTURE PHYSICS TEACHERS

Abstract:*In this article, the main attention in the preparation of future physics teachers for research activities based on a competence-based approach is paid to subject, necessary or core competencies. The content of subject and professional competencies, in particular, the professional training of a future physics teacher, is disclosed. In addition, the composition of professional competencies has been determined.*

Keywords: *Competence, competencies, scientific research, activity, profession, approach, formation, physics, stages*

Introduction. This article serves as a certain contribution to the implementation of tasks outlined in the "Action Strategy for Further Development of the Republic of Uzbekistan," the Presidential Decree No. PF-5349 dated February 19, 2018, on "Information Technologies and Communications," the Resolution No. PQ-2909 dated April 20, 2017, on "Measures for Further Development of Higher Education," as well as other normative-legal documents related to this field, which aim to improve the quality of education in higher education institutions and ensure their active participation in the broad reforms being carried out in the country[1]. The strategic and national goal of higher education systems today is being shaped through modernization and innovative development. To solve these strategic tasks, the most important qualities of a person are initiative, creative thinking, the ability to find non-standard solutions, the ability to choose a professional path, and readiness to learn throughout life.

In our country, the active implementation of a competency-based approach has been carried out over the past decade. Interpreting the competency-based approach allows for preserving the rich work experience in training local scholars and practitioners, elevating it to a new stage of development, and enabling the preservation of traditions, practical and theoretical developments in this field. "As you can see, the understanding of skills is slightly broader than 'competencies.' However, the theory of skill development is not required. In English, there is no exact equivalent of the concept of 'skill' that we use. The term 'competence' began to be used when the educational practice in the Anglo-American education system encountered the issue of activity-oriented education [2]. Traditionally, the four elements included in the content of national public school education, as noted by A.I. Savenkov, are not only a guarantee of growth but also a key factor in the further

development of students' culture. The presented elements describe in a relatively complete and precise way the various levels of competence that need to be considered in the development of educational content [3]. Combining the approaches of I.Y. Lerner and foreign authors, A.I. Savenkov presents four meaningful levels for the development of competence, which, according to him, form the "integrative model of competence" for the education system:

1. Knowledge and its organization;
2. The application of knowledge in science is presented as skills and competencies.
3. Intellectual and creative potential of an individual – competence is seen as a variant of "practical intelligence", the ability to creatively apply knowledge, skills, and competencies.
4. It is not enough just to have knowledge, skills, abilities, and intellectual and creative potential; a positive, emotional, and ethical attitude toward them is also necessary. Recent research in the field of emotional intelligence has given special importance to this component [6, 7].

Research methodology. The concept of "methodology" has two main meanings: 1) a specific system of methods used in a particular field of activity (science, politics, art, etc.); 2) a theory about this system, the general theory of the method, the active theory [3]. The methodology of science, as an independent research field, aims to clarify the content, possibilities, limits, and interrelations of scientific methods. E.V. Ushakova develops a system of methodological concepts reflecting the conditions, tools, and principles of scientific knowledge in a general sense. Her task is to clarify and study the already existing research tools, find ways to improve them, i.e., to involve a scientific, active, and critical approach in the development of scientific methods [3]. L.A. Mikeshin defines the methodology of scientific knowledge as a philosophical doctrine about the established principles, norms, and methods of scientific-cognitive activity, as well as the forms, structure, and functions of scientific knowledge, emphasizing the growing role of methodology in modern knowledge [3]. L.A. Mikeshina identified three levels of methodological analysis:

Specific scientific methodology deals with methods, techniques, and standards, forming and describing the principles, methods, and justifications of specific scientific activities.

General scientific methodology is a teaching about the principles, methods, and forms of cognition that apply to many scientific fields, corresponding to their subject and object of study.

Philosophical analysis of knowledge, followed by philosophical ideas, approaches, and reasoning methods, which can be used in scientific-cognitive activities under certain conditions.

G.Yudin identifies four levels of methodology:

Philosophical methodology as the theory of knowledge, which includes the general principles of epistemology, the dialectical method of cognition, and the general structure of science.

General scientific methodology involves the general concepts and theories that influence all or most scientific fields when solving large-scale methodological problems.

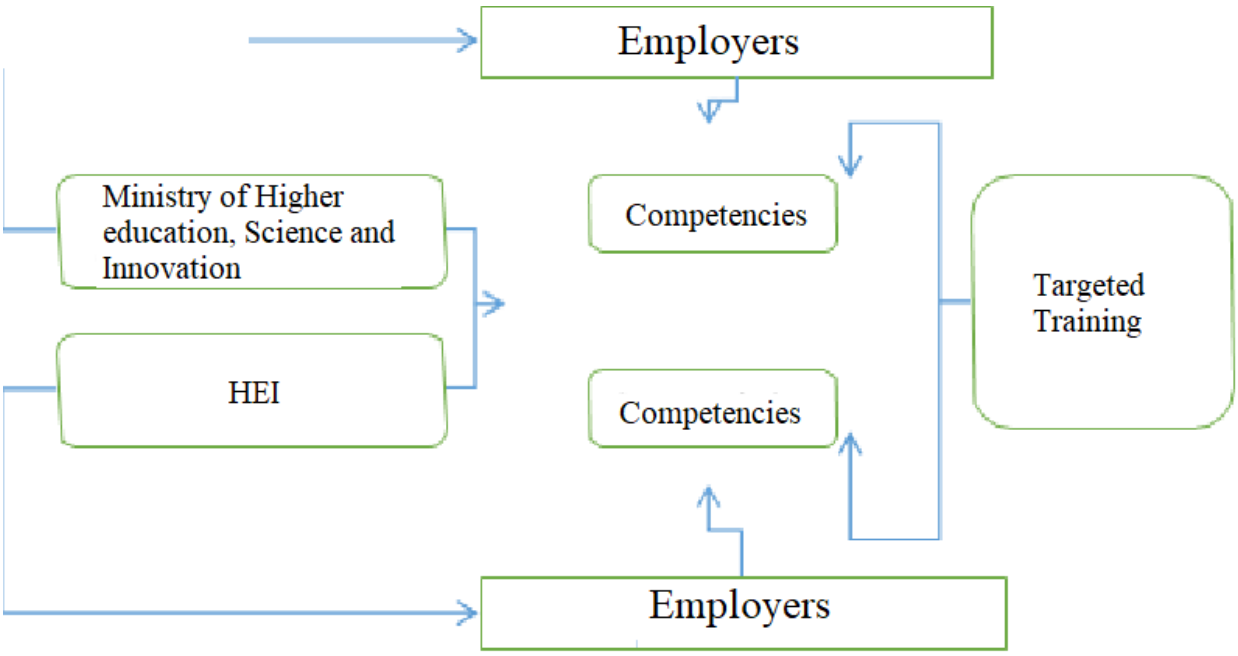
Specific scientific methodology refers to a set of methods, approaches, and special scientific research methods.

Scientific research methods represent a set of procedures that ensure the collection of empirical material and its primary processing.

Thus, today there is no single, universally accepted, established, and complete system of views on the understanding of methodology. Methodology is still in its initial stage. Thus, the general concept of methodology as a level of philosophical knowledge is a doctrine about methods, which is aimed at shaping the system of necessary conditions for human cognitive activity. At the philosophical level, the essence of methodology is considered by various researchers as a doctrine about the structure, logical organization, methods, and tools of human activity in the fields of theory and practice. Scientific research methodology (scientific knowledge) represents the general scientific level of methodological analysis and is a doctrine about the principles, methods, and forms of cognition that correspond to the subject and object of research in various fields of science. The methodology of science describes the components of scientific research, as well as gives an idea about the sequence of actions of the researcher in the process of solving a scientific problem, the separation of the problem statement, defining the research object, and constructing the research topic. The training of future specialists, including future physics teachers, for scientific research activities is defined by the State Educational Standard (SES) of Higher Education, which is based on competence. The introduction of the third-generation SES into higher education is still an untested experience, which highlights the relevance of theoretical and practical work in this area, including the development of the scientific research readiness of future physics teachers. The analysis and organization of the educational process through hierarchical approaches to the competence-based approach are detailed by I.A. Zimnyaya [5]. She also studied the theoretical and methodological aspects of the competence-based approach in higher education, examined the essence of this approach in the logic of a systems approach, and revealed its connection with other approaches in higher education, including traditional knowledge, skills, and qualifications. The initial concept of the "approach," according to I.A. Zimnyaya, is defined as a perspective that designates the study, design, and organization of a certain phenomenon or process (e.g., education). In an approach, an idea, concept, or principle is presented, meaning that an approach is based on several central categories. For the competence-based approach, these categories are "competence" and "competency" [4]. According to I.A. Zimnyaya, the concept of a four-level methodological analysis leads to the conclusion that there is a unity of philosophy, general scientific, specific scientific, and methodological education and upbringing. This means that various approaches to education coexist simultaneously. These approaches view education from different angles, but they do not exclude each other. Specifically, when new approaches are implemented, previous ones can be

developed and improved. The competence-based approach (not competence itself) is characterized by strengthening the true pragmatic and humanistic direction of the educational process [5]. The competency-based approach today opens up entirely new possibilities for local didactics, but the idea that it is the only way to develop higher education is not supported by all scholars. “The competency-based approach is very promising – it can provide an activity-oriented, practice-oriented direction for the content of education. The only caution to be made is not to absolutize this approach, as it can only effectively cover the subjective side of the content of education" [6]. Thus, in the simplest version that is understandable for all participants of the educational process, competence can be understood as the requirements for a student’s preparedness for education in terms of their future professional activity. This holds true for a future physics teacher. Competence is the ability of a person to implement competence (these requirements) in specific situations. Necessary and general professional competencies are less tied to the labor market. Regional and higher education institution components are more "sensitive" to the labor market, allowing for a quick response to employers' demands with rapid updates, i.e., the competencies of higher education institutions are specialized competencies.

The sequence of stages for determining the composition of professional competencies that must be formed for training specialists in the field of OTM physics can be as follows (Figure 1).



1st Image: Procedure for Identifying the Composition of Professional Competencies

1. Create a list of key employers for university graduates.

2. Form a list of competencies for specialists in this field based on the previous generation standards set by the university; competencies developed by professors and teachers; recommendations from industry specialists; feedback from graduates.

3. Fill out a survey with proposals to complete the list of competencies and employers.

4. Distribute the surveys and collect them.

5. Analyze the survey results, identifying the most important competencies for specialists as noted by the majority of employers.

Analysis and Results. The final list of competencies for a specific educational program is compiled based on the analysis of the following: the initial list of competencies; the list of additional competencies suggested by employers and graduates; the list of competencies selected for development within this

related to physics. As can be seen, it includes certain elements of scientific-research competence, but it is limited to the student's readiness and ability to conduct scientific and educational research in physics, relative to the main competence. The research competence formed in the process of studying physics will be directed towards scientific research in the field of physics and must be related to a specific scientific research methodology, as well as to the topic that requires knowledge of theories.

References:

1. O‘zbekiston Respublikasi Prezidentining «O‘zbekiston Respublikasini yanada rivojlantirish bo‘yicha Harakatlar strategiyasi to‘g‘risida»gi Farmoni.// O‘zbekiston Respublikasi Qonun hujjatlari to‘plami. – T., 2017. B.39.
2. Turayev S.J. Povisheniye kachestva professionalnoy deyatelnosti studentov s privlecheniyem k nauchnomu proyektu. //XII Mejdunarodnoy nauchnoprakticheskoy konferensii «Innovatsiya v texnologiyax i obrazovaniye», 21-22 matr 2019 g.: //Filial KuzGTU v g. Belovo. – Belovo: Izd-vo filiala KuzGTU v g. Belovo, Rossiya; 2019. – Ch. 4. S. 240-242.
3. Ibragimov S.L. Talabalarda matematik modellashtirish usuli yordamida kasbiy ko‘nikmalarni shakllantirishning psixologik pedagogik asoslari Ta’lim, fan va innovatsiya (ma’naviy-marifiy,ilmiy-uslubiy jurnal) –Toshkent, 2019. № 4, -B. 112-115
4. Ismoilov D.M. Methods of scientific knowledge and research in the content of secondary educations on physics - European Journal of Research and Reflection, 2020.
5. Зимняя И.А. Ключевые компетентности как результативно-целевая основа компетентностного подхода в образовании. Авторская версия. М.: Исслед. центр проблем качества подготовки специалистов, 2004. 40 с.
6. Лернер И.Я. Проблемное обучение. -М.: Знание, 1974. 64 с.
7. Савенков А.И. Психологические основы исследовательского подхода к обучению: учеб, пособие. М.: Ось-89, 2006. 480 с.
8. Maxmadiyev B.S. MathCAD tizimida ishlash asoslari. O‘quv qo‘llanma. – Qarshi. 2012. – 144 b.

9. Turayev S.J., Xo‘jayev L.X., Pardayev B.A. Matlab/Simulink muhitida dinamik sistemalarni modellashtirish va Borland Delphi7 dasturlash tilida grafigini o‘rganish.
10. Aladyev V.Z., Xaritonov V.N. Programmirovaniye: Maple ili Mathematica. – Tallinn , 2011. -415 s.

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IMMUNE RESPONSE IN DIABETES

Abstract:*Diabetes mellitus (DM) is not only a metabolic disorder but also involves significant alterations in the immune system. Chronic inflammation, oxidative stress, and immune dysfunction contribute to increased susceptibility to infections and the development of diabetes-related complications. This paper explores the key immune responses in diabetes, including innate and adaptive immunity dysfunctions, chronic low-grade inflammation, and oxidative stress.*

Keywords: *diabetes, immune response, inflammation, oxidative stress, immune dysfunction.*

Introduction:

Diabetes mellitus (DM) is a chronic metabolic disorder characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. Beyond its metabolic effects, DM significantly affects the immune system, leading to increased susceptibility to infections and chronic complications. Understanding the immune response in diabetes is crucial for developing effective therapeutic strategies and improving patient outcomes.

Innate Immunity and Diabetes: Innate immunity serves as the first line of defense against pathogens. In diabetes, innate immune functions are often impaired. Studies show reduced phagocytic activity, dysfunctional neutrophils, and altered cytokine production. These changes lead to an increased risk of infections and delayed wound healing [1]. As a chronic condition, diabetes tends to increase the risk of several other diseases caused by macrovascular and microvascular damage, and it has negative impacts on several organs, such as the brain, kidney, heart, and eyes [2]. In addition, diabetic patients are more susceptible to infection. Several studies have reported the increased risk of lower respiratory tract infections such as pulmonary tuberculosis and pneumonia [3], urinary tract infections, and skin and soft tissue infections in people with diabetes. The outcome of infection treatment in patients who suffer from diabetes tends to be poor [4]. Infection in patients with diabetes increases the economic burden on the patient due to the high cost of care, the length of treatment, and related complications [4].

Adaptive Immunity and Diabetes: Adaptive immunity, involving T and B lymphocytes, is also disrupted in diabetes. Research indicates altered T-cell responses and impaired antibody production, which contribute to chronic inflammation and autoimmune processes, particularly in type 1 diabetes. In type 1 diabetes, the immune system mistakenly attacks pancreatic beta cells, leading to insulin deficiency. This autoimmune response is driven by the activation of autoreactive CD4+ and CD8+ T cells, along with dysregulated regulatory T cells (Tregs) that fail to suppress autoimmunity. B cells contribute to this process by producing autoantibodies against pancreatic islet cells, further amplifying the immune attack. In type 2 diabetes, while autoimmunity is less prominent, there is still evidence of disrupted adaptive immunity. Studies show increased activation of pro-inflammatory T cells and reduced numbers of anti-inflammatory Tregs, promoting a state of chronic low-grade inflammation. This imbalance in adaptive immune responses contributes to insulin resistance and metabolic dysfunction. Targeting adaptive immune pathways through immunomodulatory therapies offers potential for improving outcomes in both forms of diabetes [5].

Chronic Inflammation: A hallmark of diabetes is chronic low-grade inflammation, characterized by elevated levels of pro-inflammatory cytokines like TNF-α, IL-6, and CRP. This persistent inflammation exacerbates insulin resistance and accelerates the development of vascular complications. Chronic inflammation also plays a critical role in the pathogenesis of both type 1 and type 2 diabetes. In type 1 diabetes, autoimmune destruction of pancreatic beta cells leads to sustained inflammation and loss of insulin production. In type 2 diabetes, obesity-induced inflammation contributes to insulin resistance and metabolic dysfunction. The involvement of inflammatory markers and pathways such as the NF-κB and JNK signaling pathways further emphasizes the importance of inflammation in the progression of diabetes. Targeting these inflammatory processes through pharmacological interventions or lifestyle modifications has shown promise in mitigating diabetes complications. This proinflammatory phenotype has been associated with accelerated vascular inflammation, leading to car diovascular morbidity and mortality, and may also play a role in the development of microvascular complications [6].

Oxidative Stress: Hyperglycemia in diabetes induces oxidative stress, leading to the excessive production of reactive oxygen species (ROS). This results in cellular and tissue damage, endothelial dysfunction, and the progression of diabetes-related complications. Oxidative stress not only damages pancreatic beta cells but also impairs insulin signaling pathways, contributing to insulin resistance. The imbalance between ROS production and antioxidant defenses results in oxidative damage to lipids, proteins, and DNA, further exacerbating inflammation and metabolic dysfunction. Hyperglycemia promotes mitochondrial dysfunction and induces the formation of reactive oxygen species (ROS) that cause oxidative stress in several tissues such as blood vessels and pancreatic beta cells. Accumulating damage to the mitochondria, as well as several macromolecules, including proteins, lipids, and nucleic acids by ROS promotes the process of aging.

As a result, pancreatic β cells that require functional mitochondria to maintain insulin synthesis fail to generate high enough levels of insulin. In the absence of compensatory mechanisms, stress-responsive intracellular signaling molecules are activated and cellular damage occurs. Elevated intracellular levels of ROS and subsequent oxidative stress play an important role in the pro-atherosclerotic consequences of diabetes and the development vascular complications [7]. Antioxidant therapies, such as the use of vitamin E, vitamin C, and polyphenols, have been explored for their potential to reduce oxidative stress and improve metabolic outcomes in diabetic patients. Furthermore, lifestyle interventions like regular physical activity and a balanced diet rich in antioxidants play a significant role in managing oxidative stress and improving overall health [8].

Conclusion

Diabetes leads to immune system dysregulation, making individuals more vulnerable to infections and chronic inflammation. Both innate and adaptive immunity are affected, contributing to diabetes complications. Effective management of blood glucose, oxidative stress, and inflammation is essential to support immune function and prevent complications.

References

1. Berbudi A, Rahmadika N, Tjahjadi AI, Ruslami R. Type 2 Diabetes and its Impact on the Immune System. Curr Diabetes Rev. 2020;16(5):442-449. doi: 10.2174/1573399815666191024085838. PMID: 31657690; PMCID: PMC7475801.

2. Kornum J.B., Thomsen R.W., Riis A., Lervang H-H., Schønheyder H.C., Sørensen H.T. Type 2 diabetes and pneumonia outcomes: a population-based cohort study. Diabetes Care. 2007;30(9):2251–2257. doi: 10.2337/dc06-2417. [DOI] [PubMed] [Google Scholar]

3. Martins M., Boavida J.M., Raposo J.F., Froes F., Nunes B., Ribeiro R.T., Macedo M.P., Penha-Gonçalves C. Diabetes hinders community-acquired pneumonia outcomes in hospitalized patients. BMJ Open Diabetes Res. Care. 2016;4(1): e000181. doi: 10.1136/bmjdrc-2015-000181. [DOI] [PMC free article] [PubMed] [Google Scholar]

4. Jenkins T.C., Knepper B.C., Jason Moore S., Saveli C.C., Pawlowski S.W., Perlman D.M., McCollister B.D., Burman W.J. Comparison of the microbiology and antibiotic treatment among diabetic and nondiabetic patients hospitalized for cellulitis or cutaneous abscess. J. Hosp. Med. 2014;9(12):788–794. doi: 10.1002/jhm.2267. [DOI] [PMC free article] [PubMed] [Google Scholar]

5. Alexander M, Cho E, Gliozheni E, Salem Y, Cheung J, Ichii H. Pathology of Diabetes-Induced Immune Dysfunction. *International Journal of Molecular Sciences*. 2024; 25(13):7105. https://doi.org/10.3390/ijms25137105

6. Nwadiugwu MC. Inflammatory activities in type 2 diabetes pa tients with co-morbid angiopathies and exploring beneficial inter ventions: a systematic review. Front Public Heal. 2021;8:600427.

7. Hasanboyev Khajiakbar, Olimova Sh. V. Fear and stress can cause diabetes / International journal of medical sciences. Volume 5, January , 2025, http://www.academicpublishers.org/
8. Lowell BB, Shulman GI. Mitochondrial dysfunction and type 2 diabetes. Science. (2005) 307:384–7. doi: 10.1126/science.1104343

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THE ANTIOXIDANT ACTIVITY OF DIHYDROQUERCETIN (DHQ): MECHANISMS AND THERAPEUTIC POTENTIAL

Abstract:*Dihydroquercetin (DHQ), a potent flavonoid derived from natural sources such as Larix sibirica, has garnered attention due to its strong antioxidant properties. This article explores the antioxidant mechanisms of DHQ, including its ability to scavenge reactive oxygen species (ROS) and modulate antioxidant enzyme systems. Through an in-depth review of studies, this work assesses the biological activities of DHQ, such as anti-inflammatory, neuroprotective, and anticancer effects, while discussing its bioavailability and potential as a therapeutic agent for oxidative stress-related diseases. The findings highlight DHQ's potential as a functional food ingredient or pharmaceutical agent for oxidative damage prevention and management.*

Key words: *Oxidative stress, Reactive oxygen species (ROS), free radical scavenging, flavonoids, catalase, glutathione peroxidase*

Introduction

Oxidative stress refers to the imbalance between reactive oxygen species (ROS) and the body's antioxidant defenses. Chronic oxidative stress is linked to a variety of diseases, including cardiovascular disease, cancer, and neurodegenerative disorders such as Alzheimer's and Parkinson's disease [1].

Dihydroquercetin is a flavonoid compound, often derived from the Siberian larch tree, *Larix sibirica*. It possesses significant antioxidant potential, making it a valuable candidate in combating oxidative stress-related conditions [2].

DHQ has been shown to effectively neutralize free radicals, such as superoxide anions, hydrogen peroxide, and hydroxyl radicals. This action prevents cellular damage caused by oxidative stress [3].

DHQ also exhibits a strong ability to chelate metal ions like Fe^{2+} and Cu^{2+}, which play a central role in ROS production through Fenton reactions. By binding these metal ions, DHQ mitigates the generation of harmful radicals [4].

Studies have demonstrated that DHQ modulates enzymes such as superoxide dismutase (SOD), catalase, and glutathione peroxidase, enhancing the body's natural defense against oxidative damage [5].

Inflammation is a key process in many chronic diseases, and DHQ has shown strong anti-inflammatory effects by inhibiting the production of inflammatory mediators like TNF-α and IL-6. It works by modulating inflammatory pathways, including NF-κB and MAPK signaling [6].

DHQ has been shown to offer cardiovascular protection by improving endothelial function, reducing oxidative stress, and decreasing the risk of atherosclerosis. It has also demonstrated potential in lowering blood pressure and improving lipid profiles [7].

The neuroprotective potential of DHQ has been explored in models of neurodegenerative diseases. DHQ mitigates oxidative damage in the brain, offering protection against Alzheimer's and Parkinson's diseases. Its ability to cross the blood-brain barrier and exert antioxidant effects in the central nervous system is a significant factor in its neuroprotective role [8].

DHQ has shown promising anticancer properties by inducing apoptosis in cancer cells and inhibiting tumor growth. The compound's ability to modulate pathways involved in cell cycle regulation and apoptosis has made it a candidate for potential cancer therapies [9].

The bioavailability of DHQ is influenced by factors such as its solubility and stability in the gastrointestinal tract. Research indicates that DHQ is absorbed efficiently and undergoes biotransformation into various metabolites, which contribute to its biological activity [10].

The presence of certain food components or delivery systems, such as liposomal formulations, can enhance the absorption of DHQ, improving its therapeutic efficacy. Bioavailability studies suggest that DHQ's antioxidant activity can be influenced by the presence of fats or other compounds that aid in its absorption [11].

Due to its potent antioxidant properties, DHQ has been incorporated into functional foods and dietary supplements. It is commonly used as an ingredient in health products aimed at reducing oxidative stress and preventing related diseases [12].

Several clinical trials have assessed the effectiveness of DHQ in improving oxidative stress markers and protecting against chronic diseases. While these trials are promising, more large-scale human studies are required to fully establish DHQ's clinical efficacy [13].

DHQ has shown a favorable safety profile in animal models, with no significant toxic effects observed at therapeutic doses. However, further long-term studies are necessary to confirm its safety for human consumption [10].

Conclusion

Dihydroquercetin's strong antioxidant properties, coupled with its anti-inflammatory, neuroprotective, and anticancer effects, make it a promising candidate for managing diseases associated with oxidative stress. The compound's

bioavailability, safety profile, and therapeutic potential in both dietary and pharmaceutical applications suggest it may play an important role in modern healthcare.

References

1. Amol Bhalchandra Deore, Vinayak Dnyandev Sapakal, Silofar S. Saikwade Role of oxidative stress pathogesesis of diabetes a d its complications Pharmacologyonline 2: 603621 (2011) Newsletter Deore et al.
2. Jenny Tunga, Luis B. Barreiroa, Zachary P. Johnsonb, Kasper D. Hansenc, Vasiliki Michopoulosb, Donna Toufexisb,d, Katelyn Michelinia, Mark E. Wilsonb, and Yoav Gilada, Social environment is associated with gene regulatory variation in the rhesus macaque immune system. 6490–6495 | PNAS | April 24, 2012 | vol. 109 | no. 17 https://doi.org/10.1073/pnas.1202734109
3. John Gutteridge and Barry Halliwell Free Radicals in Biology and Medicine by (2007, Perfect) https://www.ebay.com/usr/worldofbooksinc?_trksid=p2349526.m3561.l2563
4. Pietta PG. Flavonoids as antioxidants. J Nat Prod. 2000 Jul;63(7):1035-42. doi: 10.1021/np9904509. PMID: 10924197.
5. Bors, W., Saran, M., & Heller, W. (1990). Antioxidant properties of flavonoids and related compounds. *Flavonoids: Chemistry, Biochemistry and Applications*. Springer.
6. Zhao, L., Li, C., & Zhang, L. (2016). Anti-inflammatory effects of Dihydroquercetin. *Biochemistry & Pharmacology*, 86(7), 890–895.
7. Halliwell, B., & Gutteridge, J. M. C. (2007). *Free radicals in biology and medicine* (4th ed.). Oxford University Press.
8. Mitchell TM. Correspondence re: Somasundaram et al., Dietary curcumin inhibits chemotherapy-induced apoptosis in models of human breast cancer. Cancer Res., 62: 3868-3875, 2002. Cancer Res. 2003 Aug 15;63(16):5165-6; author reply 5166-7. PMID: 12941849.
9. Dawes C. Wang et al. Arch. Oral. Biol. (2015) 60: 385-392. Arch Oral Biol. 2016 Jan;61:83. doi: 10.1016/j.archoralbio.2015.09.016. Epub 2015 Oct 24. PMID: 26547019.
10. Cheng H, Wang W, Wang X, Sheu SS, Dirksen RT, Dong MQ. Cheng et al. reply. Nature. 2014 Oct 23;514(7523):E14-5. doi: 10.1038/nature13859. PMID: 25341791.
11. Li, Q., et al. (2014). Enhancement of the bioavailability of dihydroquercetin through lipid-based delivery systems. *Journal of Agricultural and Food Chemistry*, 62(35), 8460-8467.
12. Yang L, et al. (2016) Characterize the relationship between essential and TATA-containing genes for S. cerevisiae by network topologies in the perturbation sensitivity network. *Genomics* 108(3-4):177-183
13. Tung, Y. T., et al. (2012). Dihydroquercetin as a potent antioxidant and its applications in food and health. *Journal of Nutritional Science*, 38(4), 523-530.

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OG‘ZAKI MATN TARJIMASINING FONETIK VA LEKSIK QIYINCHILIKLARI VA UNI YENGIB O‘TISH IMKONIYATLARI

Annotatsiya: *Maqolada og‘zaki matn tarjimasining fonetik va leksik qiyinchiliklari va uni yengib o‘tish imkoniyatlari xaqida fikr yuritiladi. Yani yozma matn tarjimasi bilan shug‘ullanayotgan tarjimonda o‘ylab olish uchun vaqt, lug‘atdan foydalanish, bir necha tarjima variantlari ichidan eng maqulini tanlab olish imkoniyati mavjud. Og‘zaki matn tarjimonida esa o‘ylab olish uchun vaqt, lug‘atdan foydalanish, bir necha tarjima variantlari ichidan birini tanlab olish imkoniyati mavjud emas.Og‘zaki matn tarjimonidan xar bir terminga, xar bir frazelogik brikmaga ,yashirin ma’noga ega so‘zlar tarjimasiga tayyor turishni talab etiladi. Shu bilan bir qatorda tarjimon matndagi ba’zi so‘zlar tarjimasini bilolmay qolgan xolatda xam matnning umumiy ma’nosini to‘g‘ri bera olishi va og‘zaki matn tarjimasining o‘ziga xos xususiyatlari xaqida so‘z yuritiladi.*

Kalit so‘zlar: *mehnat, tarjimon, og‘zaki tarjima, termin, bilim, noyob, so‘z, fonetik va leksik qiyinchilik.*

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PHONETIC AND LEXICAL DIFFICULTIES OF ORAL TEXT TRANSLATION AND POSSIBILITIES OF OVERCOMING THEM

Abstract:*The article deals with the phonetic and lexical difficulties of translating an oral text and the possibilities of overcoming them. In other words, a translator working on a written text has time to think, use a dictionary, and have the opportunity to choose the most suitable one from several translation options. This means that she interpreter needs she know of lexis, and to translate soon and without thinking. Each term, each phrase, each stamp necessary to know how to translate. In a place so she translator must know all she words and how to translate*

Key words*: work, translator, interpreting, term, skill, sparse, work, phonetic and lexical difficulty.*

Ushbu maqola misolida og‘zaki matn tarjimasining fonetik va leksik qiyinchiliklari va uni yengib o‘tish imkoniyatlari xaqida fikr yuritiladi. Yani yozma matn tarjimasi bilan shug‘ullanayotgan tarjimonda o‘ylab olish uchun vaqt, lug‘atdan foydalanish, bir necha tarjima variantlari ichidan eng maqulini tanlab olish imkoniyati mavjud. Og‘zaki matn tarjimonida esa o‘ylab olish uchun vaqt, lug‘atdan foydalanish, bir necha tarjima variantlari ichidan birini tanlab olish

imkoniyati mavjud emas.Og‘zaki matn tarjimonidan xar bir terminga, xar bir frazelogik brikmaga, yashirin ma’noga ega so‘zlar tarjimasiga tayyor turishni talab etiladi. Shu bilan bir qatorda tarjimon matndagi ba’zi so‘zlar tarjimasini bilolmay qolgan xolatda xam matnning umumiy ma’nosini to‘g‘ri bera olishi kerakligi va og‘zaki matn tarjimasining o‘ziga xos xususiyatlari xaqida so‘z yuritiladi.

Tarjima haqida ilk nazariy fikrlar dastlab qadim Rimda yuzaga kelgan edi. Yunon va lotin tillarini mukammal bilgan Aristotel, Sitseron va Goratsiy tarjima jarayonida so‘z ketidan quvish yaramaydi, ularning ma’no ifodalarini avval tarozida o‘lchab, keyin tarjima qilish ma’qul, degan fikrni bildirganlar. Keyinchalik Italiyada Bartolomeo va Manetti, Fransiyada dyu Belle va Malerb, Angliyada Bekon va Drayden, Germaniyada Gyote va Gumboldt, Rossiyada Lomonosov va Sumarokov tarjima xususida o‘z nazariy tushunchalarini bildirib o‘tganlar.

Xullas, to XX asrga qadar “tarjima” so‘zi muayyan ma’no kasb etib, faqat tarixiy, falsafiy va adabiy asarlar o‘girmasiga nisbatan qo‘llanilib kelingan, og‘zaki tarjimonga nisbatan esa turkiyda “tilmoch”, slavyanlarda “tolmach”, nemis tilida “dolmetschen”, ingliz va fransuz tillarida “interpret” atamalari ishlatilgan. Tarjima nazariyasi xususida aytilgan fikrlar ham shu yo‘sinda umumiy ma’noga ega bo‘lgan.

TARJIMA — bir tildagi matnni boshqa tilda qayta yaratishdan iborat adabiy ijod turi. Tarjima millatlararo muloqotning eng muhim ko‘rinishi. Asliyat va qayta tiklangan matn xususiyatiga qarab badiiy Tarjima, ilmiy Tarjima va boshqa turlarga ajratiladi. Asl nusxani aks ettirish tarziga ko‘ra tafsir, tabdil, sharh kabi ko‘rinishlarga ham ega bo‘lishi mumkin. Tarjima qadimgi davrlarda, turli qabilaga mansub kishilar orasidagi o‘zaro aloqa, muloqot ehtiyoji tufayli yuzaga kelgan. Tilmochlik deb ataladigan bu og‘zaki turi hozirda ham sakdangan.

Zamonlar osha tarjimaga bo‘lgan talablar yangilana boradi. Ammo uning ijodiy xarakteri, qayta yaratish san’ati ekanligi o‘zgarmaydi. Tarjimaning asosiy maqsadi bir tildan boshqa tilga tarjima qilish va boshqa tilda ma’no va uslub jihatidan asl matnga teng bo‘lgan matn yaratishdir. Lekin xar doim xam tarjimon tomonidan berilgan ma’lumotlar asl matindagi ma’lumotlar bilan to‘g‘ri kelavermaydi.

Misol tariqasida Moskvadagi xalqaro kinofestivallardan birida o‘rgimchaklar haqidagi nemis ilmiy-fantastik filmi namoyish etilganini eslashimiz mumkin. Film sinxron ravishda nemis tilidan festivalning ishchi tillariga (ispan, ingliz, fransuz va xitoy) tarjima qilingan. Ba’zi tarjimonlar shu jumladan nemis tilidan ispan tiliga tarjima qilish jarayonida tarjimon o‘rgimchaklarga oid ensiklopediya maqolalari bilan oldindan tanish bo‘lgan va tegishli terminologiyani o‘rgangan shu jixatdan tarjima jarayonida qiyinchilikga uchramagan. Ba’zi tarjimonlar (xususan, ingliz tiliga juda mohir tarjimon) buni qilmagan va filmning ingliz tiliga tarjimasi natijasida u qiyinchilikga uchragan, hatto beixtiyor filmdagi ba’zi joylarda jimlik saqlagan.

Shu o‘rinda og‘zaki matn tarjimasining fonetik va leksik qiyinchiliklari va uni yengib o‘tish imkoniyatlari xaqida bir necha ma’lumotlar va fikr –muloxazalar bilan o‘rtoqlashishga xarakat qilamiz.

Fonetik qiyinchiliklar

Ba’zi xollatlarda tarjimon matnning so‘zlarini chiqara olmaydigan holatlarga duch keladi. Bu uchta sababga ko‘ra sodir bo‘lishi mumkin: a) uskunalar yaxshi ishlamaydi (naushniklar va boshqalar.), b) tarjimon ispan tilining tegishli milliy versiyasining fonetikasi bilan tanish yemas (Argentina, Kuba va boshqalar.), C) tarjimon fonetik jihatdan noma’lum yoki kam ma’lum bo‘lgan so‘zni aniqlay olmaydi.

Texnik muammolarni bartaraf etish, albatta, tarjimonning mahoratiga bog‘liq emas, garchi bu holda tarjimonning pozitsiyasi doimo umidsiz bo‘lmaydi (kontekstli taxminlarning roli uchun pastga qarang.)

Ispan tilining tegishli milliy versiyasining fonetik xususiyatlarini bilmaslik tufayli matnni yomon tushunishning oldini olish mumkin. Tarjimon ispancha nutqni barcha variantlarida tinglab tajriba orttirishi kerak. Bu maqsadda, radio, yozuvlar va ispan tilida barcha milliy variantlarining ona tili bilan, ayniqsa, og‘zaki nutqda ishlatiladigan so‘zlar va so‘z birikmalari bilan yaqindan tanishib borishi lozim bo‘ladi. Shu bilan birga talaffuzda yo‘qoladigan fonema variantlariga ham alohida e’tibor qaratish lozim. Kuba talaffuzida, masalan, intervokallik tufayli so‘z oxirida “d” tovushi yo‘qoladi, “s” tovushi esa deyarli ko‘p undoshlardan oldin yo‘qoladi va hokazo. Natijada, tajribasiz quloq uchun, masalan, bunday iboralar ma’noga ziddir, "nos paragon" va "no pagaron" xech qanday farq qilmaydi. Tilning mos variantidagi qaysi affikslar odatda yo‘qolib ketishini bilgan holda, ularga e’tibor qaratib, so‘zni aniqlashimiz mumkin (masalan, [u´te] usted shaklida). Ispan tilining barcha milliy fonetik variantlarini ongli ravishda o‘rganish bu tartibdagi qiyinchiliklarning oldini olishga qaratilgan usullardan biridir. Yaxshi tarjimon asosan ikki holatda yetarli tanish bo‘lmagan so‘zlarni fonetik aniqlashda qiyinchiliklarga duch keladi: a) maxsus atamalarni tarjima qilganda, b) Isimlarni tarjima qilganda.

Agar nomlar bizga begona bo‘lsa, ba’zan uni eshitish xam juda qiyin: bunday hollarda kontekst yordam bermaydi va bir tovushni boshqasi bilan almashtirish bitta to‘g‘ri nomni boshqasiga aylantirib yuborishi xam mumkin, shuningdek, ushbu so‘z tilda mavjud yoki mavjud bo‘lmasligi xam mumkin. Bu qiyinchilikni bartaraf etish uchun, yoki hech bo‘lmaganda, uni kamaytirish uchun, tarjimon: 1) shaxslar ismlari va bu mavzu bilan bog‘liq zikr qilinishi mumkin bo‘lgan geografik obyektlar nomlari, shuningdek, muhokama qilinayotgan mavzu bilan juda yaxshi tanish bo‘lishlari lozim. Xamda ilmiy Kongressda muhokama qilinadigan mavzu bilan bog‘liq olimlar ismlarini bilishi zarur (buning uchun, agar diqqat bilan tegishli sohaga oid malumotlarning adabiyotlar ro‘yxatidan kerakli ma’lumotni izlab topib, bir ikki ma’lumotlarni o‘rganib chiqish kifoya; albatta, bu familiyalarni eslab qolishingizga hech qanday ehtiyoj yo‘q, ularning asosiy mavzuga oid fikirlarini yoki ularning familiyasini bilish kifoya - lekin quloq eshitganda ularni tanish imkoniyatiga ega bo‘lishi lozim); agar uchrashuv siyosiy mavzuga oid bo‘lsa, siyosiy arboblar ismlarini bilish kerak va kongress oldi beriladigan ma’lumotlar matniga oid adabiyotlar ro‘yxatidan topishga etiborni qaratgan ma’qul; 2) Shu bilan bir qatorda Ispaniya mamlakatlariga oid umumiy familiyalarni bilish yaxshi natijalarga olib keladi, buning uchun quyida keltirilgan malumotga etiborni

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Isimlari o‘zbek tiliga tarjima qilganimizda isimlar ispan tili talaffuziga asoslangan bo‘lishi kerak (Lotin Amerika davlatlari talaffuziga emas): "ll" [y] tovushi orqali talaffuz qilish kerak, (Argentina va Urugvayda "ll" [y] tovushini [j] ga yaqin talaffuz qilishadi); har so‘zda "ll" tovushini [y] orqali talaffuz qilish kerak [j], [z] va boshqa tovushlar orqali emas. Tarjimon faqat tovushlarni qayta eshitish bilan cheklanmasligi kerak, o‘sha tovushni og‘zaki talaffuz qilib, ularni transkrip harflar bilan to‘g‘ri talaffuz qilishlari kerak bo‘ladi: Lavalle [Lavaye] so‘zi Argentinada [Lavaje] talaffuz qilinadi, Muñoz familiyasi "Munyos", ispancha talaffuzga nima yaqin bo‘lardi, [munoz] yoki [mun’jos].

ADABIYOTLAR

1. Аскольдов С.А. Русская словесость. От теории словесности к структуре текста: Антология. – М.: Academia, 1997.-279
2. Achilova Z. P. Sinxron tarjima jarayonida murakkab morfologik hodisalar va sintaktik konstruksiyalarning o‘ziga xos xususiyatlari //образование наука и инновационные идеи в мире. – 2023. – т. 31. – №. 2. – с. 23-28.
3. Achilova Z. P. Tarjima qilish qiyin bo‘lgan murakkab morfologik hodisalar va sintaktik konstruksiyalarning o‘ziga xos xususiyatlari //journal of innovations in scientific and educational research. – 2023. – Т. 6. – №. 2. – С. 310-315.
4 . Achilova Z. P. Tarjimashunoslik nazariyasi mutaxassisligi fanlariga bag‘ishlangan zamonaviy darsliklar yaratishning axamiyati //journal of innovations in scientific and educational research. – 2023. – Т. 6. – №. 2. – С. 316-318.
5. Achilova Z. P. Og‘zaki matn tarjimasining fonetik va leksik qiyinchiliklari va uni yengib o‘tish imkoniyatlari //pedagogs jurnali. – 2022. – Т. 3. – №. 1. – С. 170-178.
6. Ачилова З. П. Применения метода корректирующей компенсации при переводе политических выступлений //journal of innovations in scientific and educational research. – 2023. – Т. 6. – №. 2. – С. 319-322.
7. Achilov S. Leksik kompetensiyani takomillashtirishda ispan tili affikslarining transpozitsion va fuksional xususiyatlari (ispan tili misolida) //Science and innovation. – 2022. – Т. 1. – №. B6. – С. 682-688.

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ODAM O'T PUFAGIDAN LIMFA OQISH YO'LLARINI MORFOLOGIK XUSUSIYATLARI

Annotatsiya: *Maqolada inson o't pufagidan limfa drenaj yo'llarining morfologik xususiyatlari haqida ilmiy ma'lumotlar keltirilgan. O't pufagini va uning atrofidagi organlarni drenajlaydigan limfa tomirlariga turli xil rangli massalar yuborildi.*

Kalit so'zlar: *Morfologiya, odam, o't pufagi, limfa drenaji, limfa tomirlari.*

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MORPHOLOGICAL FEATURES OF LYMPH OUTFLOW ROUTES FROM THE HUMAN GALLBLADDER

Resume: *The article presents scientific data on the morphological features of the lymphatic drainage pathways from the human gallbladder. The lymphatic vessels draining the gallbladder and the surrounding organs were injected with various colored masses.*

Keywords:*Morphology, human. Gallbladder, lymph drainage, lymphatic vessels.*

Kirish. Har qanday yallig'lanish jarayonida limfa qon tomir tizimi o`zining javob reaksiyasini beradi. Shu jumladan o't pufagi limfa tizimida shunday reaksiyalar sodir bo`ladi. Shu nuqtai nazardan ushbu organning limfa qon tomir tizimini o`rganishgaga qiziqish ancha yuqori. O't pufagining limfa tizimini o`rganishga katta miqdordagi ilmiy tadqiqotlar bag'ishlangan [ ]. Biroq, hozirgi kunga qadar, etarlicha katta miqdordagi materiallarga asoslanib, kattalardagi o't pufagidan limfa oqimining barcha yo'llari va ularning variantlari aniqlanmagan [ ]. O't pufagining mintaqaviy limfa tugunlarining topografik anatomiyasiga ham kam e'tibor berilgan [ ].

Tadqiqot maqsadi: Odamlarda o't pufagidan limfa oqish yo'llarining anatomo-topografik xususiyatlarini o'rganish.

Materiallar va tadqiqot usullari. O`t pufagi kasaligiga bog`liq bo`lmagam kasalikdan o`lgan 18 yoshdan 84 yoshgacha bo'lgan erkaklar va ayollarning

jasadlaridan olingan 15 ta jigar, o`t pufagi va jigardan tashqi o`t yo`llaridan iborat organokompleksda tadqiqod amalga oshirildi. O't pufagini va uning atrofidagi organlarni drenajlaydigan limfa tomirlariga turli xil rangli massalar yuborildi. In'ektsiyadan keyin preparatlar 12% li formalin eritmasida qotirildi. Anatomik preparovka usulini qo`lagan holda limfa yo`llari ajratildi. Limfa tugunlarining o'lchamlari shtangsirkul yordamida o`lchandi.

Tadqiqot natijalari va muhokama. O't pufagining yuzaki jojlashgan limfa tomirlari tubidan bo`yniga yo`nalgan soni 3 dan 10 gacha (diametri 0,1-0,3 mm), bir-biri bilan anastomozlangan holda jolashadi. Ikkinchisining hududida ular bir, ko'pincha ikkita kollektorga to'planadi, ular o`t pufagi bo'yinining chap tomonidagi limfa tuguniga quyuladi. Limfa tugunlarining shakli oval, uzunasiga yoki yumaloq shaklga ega. Kattalarda limfa tuguni kattaligi 0,6x0,5 dan 1,2-0,7 mm gacha. Bizning materialimizda 5 ta holatda (15 ta holatdan) o`t pufagi bo'ynining chap tomonida joylashgan Reverhorst tuguniga duch keldik; ulardan; 2 ta holatda bitta tugun, 3 tasida qo‘sh tugun aniqlangan. 15 ta holatdan tugun o`t pufagi bo‘ynida 9 ta holatda o‘ng tomonda, 6 ta holatda esa o`t pufagi bo‘ynining chap tomonida joylashgan. Ta'riflangan limfa tugunlari o't pufagining asosiy mintaqaviy tugunidir, ammo bu organning barcha tomirlari uchun emas.

Shuni ta'kidlash kerakki, bu tugunga o`t pufagining old yuzasini oqadigan barcha limfa tomirlari quyulmaidi. O'ng lateral yuzaning va qisman fundusning limfa tomirlari odatda uni chetlab o'tadi. 1-3 tugunli limfa tugunlarining efferent limfa tomirlari tuguning chap tomoniga, so'ngra umumiy o't yo'lidan boradi va jigar limfa tugunlarida uziladi.Bu 8 holatda (15 holatdan) kuzatilgan. Odatda 2 dan 4 gacha jigar limfa tugunlari mavjud bo'lib, ular darvoza venasi va jigar arteriyasi o'rtasida yoki ostida joylashgan. Biz bu tugunlarni birinchi va ikkinchi bosqich tugunlari deb hisoblaymiz. Ikkinchisining efferent limfa tomirlari turli shakl va o'lchamlarga ega bo'lgan ichak-oshqozon osti bezi limfa tugunlariga etib boradi.Ularning soni ko'pincha 2 dan 5 gacha (15 holatdan). O`t pufagi oldingi yuzasi sathida diametri 0,1-0,2 mm, 3 dan 5 gacha drenajlovchi limfa tomirlari mavjud (15 ta holatdan); Ular jigar limfa tugunlarida tugaydi. Oxirgi tugunlar o't pufagining barcha efferent limfa tomirlari yoki ikkinchi, uchinchi bosqich tugunlari yoki birlamchi mintaqaviy limfa tugunlari bilan bog'liq bo'lib, 4 ta holatda kuzatilgan kistali limfa tugunlari yo'q.

Shuningdek, ichak-oshqozon osti bezi tugunlari interaportokaval va preaortik tugunlarga etib borishini ta'kidladik. o't pufagining ikkinchisi drenajlovchi limfa tomirlari uchun uchinchi va to'rtinchi bosqich tugunlaridir. Biz ularning efferent limfa tomirlarini o'rganmadik.

Xulosa. Shunday qilib, biz o'rgangan o't pufagidan limfa drenaji yo'llari juda uzun, burilishli va alohida tugunlardagi almashinish joyiga qarab, ko'p bosqichli. Limfa tomirlarining bunday tuzulish jigar va o`t pufagi yiringli kasaliklarida va o`sma kasaliklarida sh limfa yo`llari orqali infeksiya yoki metastazlar tarqalishi mumkin.

REFERENCES|IQTIBOSLAR:

1. Abdullaeva, D. R., Ismati, A. O., & Mamataliev, A. R. (2023). Features of the histological structure of extrahepatic bile ducts in rats. Golden brain, 1(10), 485-492 (in Russ).
2. Mamataliev, A., & Oripov, F. (2021). Histological structure of the intramural nervous apparatus of the common bile duct and gallbladder in a rabbit, in norm and after gallbladder removal. Journal of Biomedicine and Practice, 1(3/2), 117-125(in Russ).
3. Mamataliev, A. R., Tukhtanazarova, Sh. I., Zokhidova, S. Kh., Omonov, A. T., & Rakhmonov, Sh. Sh. Anatomical and topographic structure and active contraction of the walls of the portal vein of laboratory animals. Academic research in modern science, (2024). 3(30), 163-168(in Russ).
4. Satybaldiyeva, G., Minzhanova, G., Zubova, O., Toshbekov, B., Rasulovich, M. A., Sapaev, B., ... & Khudaynazarovna, T. I. Behavioral adaptations of Arctic fox, Vulpes lagopus in response to climate change. *Caspian Journal of Environmental Sciences*, (2024); *22*(5): 1011-1019.
5. Mamataliev, A. R. (2024). Nervous apparatus of extrahepatic bile ducts in rabbit after experimental cholecystectomy. International journal of recently scientific researcher's theory, 2(4), 161-165(in Russ).

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NURLANTIRILGAN QUYONLARDA ICHAK REZEKSIYASIDAN KEYIN VEGETATIV GANGLIYALARDA GISTOLOGIK O'ZGARISHI

Annotatsiya: *Ushbu maqolada tajribada quyonlar rentgen nurida nurlantirilgandan so`ng yonbosh ichagda rezeksiy o`tkazilib, ichaklar vegetative nerv gangliyalarining gistologik o`zgarish o`rganildi. Quyosh chigali va intramural ichak nerv tolalarida dastlab, reaktiv o`zgarish bo`lsa keyinchalik degenerative o`zgarishlar sodir bo`ladi.*

***Kalit so`zlar:*** *quyon, rentgen nuri, vegetative ganglion, quyosh chigali, ingichka ichak,Bil`shovskiy usuli, Nissly usuli.*

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HISTOLOGICAL CHANGES IN VEGETATIVE GANGLIA AFTER INTESTINAL RESECTION IN IRRADIATED RABBITS

Abstract: *In this article, rabbits were experimentally exposed to X-rays and then ileum resection, and histological changes in the intestinal autonomic ganglia were studied. Initially, reactive changes occur in the solar plexus and intramural intestinal nerve fibers, followed by degenerative changes.*

Key words: *rabbit, radiography, autonomic ganglion, solar plexus, small intestine, Bielshovsky method, Nissli method.*

Kirish. Adabiyotda nurlanish kasalligi paytida vegetativ ganglionlarning o'zgarishi masalasi yoritilgan. Sog`lom quyon va kalamushlarda jigar va o`t yo`llarining intramural nerv tizimini o`rganishga bag`shlangan bir qancha ilmiy ishlarni toppish mumkin[ ]. Me`da va qizilo`ngach devoridagi vena qon tomorlarning vegetative nerv tolalarini normada va jigar sirrozida o`rgangan[ ]. Oshqozon va ichakning shikastlanishiga gangliyaning javobi haqida dalillar ham mavjud[ ]. Biroq, adabiyotda radiatsiya kasalligida vegetativ ganglionlarning ichak shikastlanishi bilan birgalikda o'zgarishi haqida ma'lumot topilmadi.

Tadqiqot maqsadi. Tajribada rentgen nurlanishi ta`sirida yonvosh ichakda rezeksiya o`tkazilganda, quyosh chigali va ichaklar intramural nerv chigallaridagi gistologik o`zgarishlarni o`rganish.

Materiallar va tadqiqot usullari. Tajribada 8 ta quyonda birmartalik umumiy rentgen nurlanishining 400 R dozasida berildi. 4 ta quyon nazorat sifatida tekshirildi. Nurlanishdan so'ng turli vaqtlarda quyonlarning yonbosh ichagida 15 sm uzunlikda rezeksiyasi o'tkazildi. Nerv tugunlarini gistologik tuzilishni o`rganish uchun anastomozdan 20 sm proksimalda quyosh chigali va ingichka ichakning bir qismi olingan. Materialni Bilshovskiy usuli va Nissl usullari bo'yicha qayta bo`yaldi.

Tadqiqot natijalari. Bizning ilmiy tadqiqod natijalarimiz shuni ko'rsatadiki, rentgen nurlanish ta'siri ostida quyonlarning quyosh chigalida va yonbosh ichakning intramural nerv chigallarid morfologik o'zgarishlar sodir bo'ladi. Nurlanishdan keyingi dastlabki bosqichlarda o'zgarishlar reaktiv xarakterga ega bo'lib, keyinchalik o'zgarishlar degenerativ xarakterga ega bo'ladi. Nurlanishdan 1-6 oy o'tgach, ichak rezektsiyasi amalga oshirilgan hollarda ichak anastamozlar sohasida yaralarning bitishi sezilarli sekinlashgani kuzatilgan.Xuddi shu quyonlarning quyosh chigalidan va ingichka ichak intramural nerv chigallari o`rganilganda nerv tolalari va nerv xujayralarida morfologik o'zgarishlar degenerativ xarakterga ega. Nurlanishdan so'ng keyingi bosqichlarda (2-6 oy) yonbosh ichaklari o`rtasidagi anastamozlarning regeniratsiya jarayoni ancha sekinlashgan. Ammo nurlanishdan keyin 1 oy o'tgan quyonlarda yonbosh ichaklar anastomozida buning aksi kuzatiladi. Shu bilan birga quyosh chigalida va ichaklarning intramural nerv chigallarida degenerative o`zgarishlar kam kuzatiladi. Nazorat guruhidagi o`uyonlarda o`tkazilgan ichak rezeksiyasidan keying anastamozlarning regeniratsiyasi odatdagidek davom etadi. Quyosh chigalida va ichaklarning intramural nerv chigallaridagi degenerative o`zgarishlar kuzatilmaydi. Ayniqsa ichaklardagi shiliq osti vegetative nerv tolalari va nerv xujayralarida degenerative o`zgarishlar uchramaydi.

olingan ilmiy tahlillardagi ma'lumotlarga asoslanib aytish mumkin sog`lom quyonlarda o`tgazilgan icak rezeksiyasidan keyin anastzmoz sohasidagi to`qimalarning regeniratsiya jarayoni odatdagidek kechsa, nurlantirilgan quyonlarda aksinch rezeksiyadan keying to`qimalarning tiklanishi ancha sekinlashadi. Shu bilan birga quyosh chigalida va intramural nerv chigallarida degenerative o`zgarishlar sezilarli kuzatiladi.

Xulosa. Tajribada nurlantirilgan quyonlarning quyosh chigalida va yonbosh ichak intramural nerv chigallarida degenerative o`zgarishlar sodir bo`ladi. Buning oqibatida rezeksiya sohasidagi to`qimalar regeneratsiyasi juda sekinlashadi. Tadqiqotimiz shuni ko'rsatadiki, quyosh chigali va intramural ichak apparatiga ta'siri nurlanish kasalligida ichak yaralarini davolash jarayonini normallashtirish uchun vositalarni topishda istiqbolli bo'lishi mumkin.

REFERENCES| IQTIBOSLAR:

1. Abdullaeva, D. R., Ismati, A. O., & Mamataliev, A. R. (2023). Features of the histological structure of extrahepatic bile ducts in rats. Golden brain, 1(10), 485-492 (in Russ).

2. Mamataliev, A., & Oripov, F. (2021). Histological structure of the intramural nervous apparatus of the common bile duct and gallbladder in a rabbit, in norm and

after gallbladder removal. Journal of Biomedicine and Practice, 1(3/2), 117-125(in Russ).
3. Mamataliev, A. R., Tukhtanazarova, Sh. I., Zokhidova, S. Kh., Omonov, A. T., & Rakhmonov, Sh. Sh. Anatomical and topographic structure and active contraction of the walls of the portal vein of laboratory animals. Academic research in modern science, (2024). 3(30), 163-168(in Russ).
4. Satybaldiyeva, G., Minzhanova, G., Zubova, O., Toshbekov, B., Rasulovich, M. A., Sapaev, B., ... & Khudaynazarovna, T. I. Behavioral adaptations of Arctic fox, Vulpes lagopus in response to climate change. *Caspian Journal of Environmental Sciences*, (2024); *22*(5): 1011-1019.
5. Mamataliev, A. R. (2024). Nervous apparatus of extrahepatic bile ducts in rabbit after experimental cholecystectomy. International journal of recently scientific researcher's theory, 2(4), 161-165(in Russ).

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TAJRIBA HAYVONIDA PROSTAT BEZINING GISTOLOGIK TUZILISHI

Annotatsiya: *Maqolada tajriba hayvonlardan biri itlarda prostata bezining anatomik va gistologik tuzilishi xususiyatlari o`rganilgan. Bezning parenhimasi yaxshi rivojlangan bo'lib, tashgi tomondan biriktiruvchi va mushak to'qimalaridan iborat bo'lib, bu to`qimalar bezning ichiga kirib bo`laklararo to`siqlarni hosil qiladi. Stromasi oval va yumaloq shakldagi bo`shliqlardan tashkil topgan. Bo`shliqlarning ichki tomani epiteliysi bir xil va silindrsimon, kanalchalrda esa kubsimon epiteliy xujayralar ko`proq qoplagan.*

Kalit so'zlar: *it, prostata bezi, gematoksilin va eozin, Van Gison, elastik tolalar, stroma, argirofil tolalar, nerv tolalari.*

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HISTOLOGICAL STRUCTURE OF THE PROSTATE GLAND IN EXPERIMENTAL ANIMALS

Abstract: *The article studies the anatomical and histological features of the prostate gland in one of the experimental animals - a dog. The parenchyma of the gland is well developed and consists of connective and muscle tissue on the outside, which penetrates into the gland and forms intercellular barriers. The stroma consists of oval and round cavities. The epithelium of the inner lining of the cavities is homogeneous and cylindrical, while the tubules are covered to a greater extent with cubic epithelial cells.*

Keywords: *dog, prostate gland, hematoxylin-eosin, Van-Gieson, elastic fibers, stroma, argyrophilic fibers, nerve fibers.*

Kirish. Oxirgi yillardagi ilmiy adabiyotlar va himoy qilingan ilmiy ishlarda itlarning prostata bezini gistologik tuzilish morfologiyasi to`g`irisida ma`lumotlar uchramaydi. Bezning intramural nerv tizimini o`rgangan birorta ilmiy ishlar topilmadi. Lekin hazim azolarida intramural nerv tuzilmalari ayrim olimlar tomonidan o`rganilgan[ ]. Me`da va qizilo`ngach devoridagi vena qon tomorlarning vegetative nerv tolalarini normada va jigar sirrozida o`rgangan[ ]. Biroq, adabiyotda tajriba hayvonlaridan biri-itlarda prostate bezining anatomo-gistalogik

tuzilishi va intramural vegetativ ganglionlarning morfologiyasi haqida ma'lumot topilmadi.

Tadqiqot maqsadi: Tajribada voyaga etgan sog`lom itlarni prostata bezining anatomo-gistologik tuzilishni o`rganish.

Tadqiqot materiallari va usullari: Tajriba hayvonlaridan biri bo`lgan voyaga etgan sog`lom 8 ta itlardan olingan prostata bezlarida tadqiqot olib borildi. Materiallar 12% neytral formalinda fiksatsiya qilindi. To`qimalarni umumgistalogok tuzilishni o`rganish uchun Gematoksilin-Eozin bilan bo'yaldi. Van Gison usulida elastik tolalar aniqlandi. Donskoy usulida argirofil tolalarni bo`yadik. Nervlarni o`rganish uchun gistologik kesmalar muzlatadigan mikrotomida tayyorlanib, Bilshovskiy-Gross usuli, Rasskazova va Campos usuli yordamida singdirildi.

Tadqiqot natijalari. Itlarda prostata bezi ancha rivojlangan va yaxshi shakillangan bo`lakchalarga ega,bo`lakchala nisbatan katta, alveolyar tuzilishga ega. Secretor bo1imining ohirgi qismi va chiqaruv naylari keng, lekin teks tuzilmagan. Ichki tomondan silindirik epiteliy bilan qoplangan bo`lib, joylarda o'simtalar hosil qiladi. Ba'zi sekretorning bo'shlig'ida ko'rinadigan granularlik bilan amorf sekretsiya topiladi. Stroma biriktiruvchi va silliq mushak to'qimalaridan iborat bo'lib, elastik tolalar soni kam, ingichka, kapsulada va bez elementlari va tomirlari atrofida joylashgan. Interlobulyar biriktiruvchi to'qima yaxshi rivojlangan bo'lib, undan yupqa qatlamlar bo'lakchalarga tarqalib, terminal sekretsiya bo'limlari va kanallarini o'rab oladi. Kapsula atrofida ko'plab tomirlar va katta nerv tugunlari mavjud. Argirofil tolalar yaxshi rivojlangan. Ichki va tashqi argirofil membranalar yupqa va qalin argirofil tolalardan iborat. Stromada argirofil tolalarning katta va kichik to'rli tarmog'i ko'rinadi. Intramural nerv tolalari sezilarli miqdorda, ayniqsa organning periferiyasida kuzatiladi. Ular to'plamlar, tugunlar bilan ifodalanadi va turli qalinlikdagi individual nerv tolalari mavjud, ba'zida varikoz, burmali va tekis. Joylarda bo'linib, ular stroma hujayralarida yoki epiteliya hujayralarida tugaydigan buta shaklidagi retseptorlarni hosil qiladi. Bezning lobulalari har xil o'lchamda bo'lib, ularning har birida ko'plab aniq aniqlangan so'nggi bo'limlar va silliq yoki burilishli limenli kanallar mavjud. Terminal qismlarini qoplaydigan epiteliy odatda ko'p qatorli silindrsimon bo'ladi. Hujayra yadrolari yaxshi bo'yalgan, asosda joylashgan bo'lib, yumaloq va oval cho'zilgan shaklga ega. Ba'zi kanallarning devorlari va terminal sekretor bo'limlari past kubsimon epiteliy bilan qoplangan. Silliq muskullar soni bezning chetiga qarab ko'payadi va u erda chiziqli mushaklar ham rivojlangan. Stromada va ayniqsa organning tashqi qismlarida turli kalibrli tomirlar ko'p. Tashqi va ichki argirofil membranalar yaxshi rivojlangan bo'lib, ingichka va qalin, biroz burishgan tolalardan iborat.Ko'p sonli nerv elementlari asosan nerv tolalari va asab tugunlari bilan ifodalanadi. Gangliyalarning hujayralari har xil o'lchamda bo'lib, aniq dumaloq va oval yadrolarga ega.Bezning markaziy qismlarida mayda ko'p qutbli nerv hujayralaridan tashkil topgan mayda tugunlar kuzatiladi. Ba'zi nerv to'plamlari va alohida tolalar bez elementlari bilan chegaradosh. Ko'p sonli nerv tolalari stromaga kirib, joylarda keng retseptor maydonlarini hosil qiladi, shuningdek, terminal bo'limlari va kanallari epiteliysiga

etib boradi. Polivalent retseptorlari, dendritik retseptorlari va qon tomir retseptorlari kabi ko'plab nerv uchlari mavjud. Genital tanacha va kolba tipidagi kapsulalangan retseptorlari stromada va ko'proq periferiya bo'ylab keng tarqalgan.

Xulosa. Bizning tadqiqotimiz quyidagi xulosalar chiqarishga imkon beradi. Itlarda, aniq ifodalangan lobulyar tuzilishdan tashqari, yaxshi rivojlangan stroma va parenxima mavjud. Parenximada terminal sekretor bo'limlari va kanallari juda kichikdir. Itlarda, aniq lobulyar tuzilish bilan bir qatorda, papiller o'simtalarini hosil qiluvchi yuqori silindrsimon epiteliya bilan qoplangan katta terminal sekretor bo'limlari va kanallar topilgan. Itlardagi prostata bezi juda ko'p nerv elementlarini o'z ichiga oladi. Ular ko'p va xilma-xil bo'lib, nerv magistrallari, shoxlari va turli xil erkin va kapsulalangan retseptorlari bilan ifodalanadi.

Использованная литература:

1. Маматалиев А. Р. Нервный аппарат внепеченочных желчных протоков у кролика после экспериментальной холецистэктомии //international journal of recently scientific researcher's theory. – 2024. – т. 2. – №. 4. – с. 161-165. Academic research in modern science.International scientific-online conference
2.Маматалиев А. Р., Орипов Ф. С. Қуёнларда жигардан ташки ўт йулларининг одатда ва ўт халтасини олиб ташлагандан сўнги гистологик ўзгариш //journal of biomedicine and practice. – 2021. т. 6. – №. 3. – с.117- 125.
3.Абдуллаева Д. Р., Исмати А. О., Маматалиев А. Р. Анатомическое строения внепеченочных желчных протоков у крыс //golden brain. – 2023. – т. 1. – №. 10. – с. 493-499.
4. Зохидова С., Маматалиев А. Морфофункциональная и гистологическом строении эпителия языка крупного рогатого скота //евразийский журнал медицинских и естественных наук. – 2023. – т. 3. – №. 2. – с. 133-139.
5.Зохидова, С. Х., Маматалиев, А. Р., Тухтаназарова, Ш. И., Мусурмонов, А. М., Омонов А. Т., & Мусурмонов, Ф. И. (2023).Возрастной особенности гистологического строения различных отделов аорты у плодов и новорожденных. Central asian journal of innovations on tourism management and finance, 4(5), 115-121.
6.Маматалиев А.Р.Особенности нейрогистологическое строение интразонального нервного аппарата вне печеночных желчных протоков у крыс //экономика и социум. – 2024. – №. 3-2 (118). – с. 692-695.
7.Абдуллаева Д. Р., Исмати А. О., Маматалиев А. Р. Особенности гистологического строения внепеченочных желчных протоков у крыс //golden brain. – 2023. – т. 1. – №. 10. – с. 485-492.
8.Маматалиев А. Р.Нервный аппарат внепеченочных желчных протоков у кролика после экспериментальной холецистэктомии // international journal of recently scientific researcher's theory. – 2024. – т. 2. – №. 4. – с. 161-165.

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ELEKTRON O‘QITISH PLATFORMALARINI OPTIMALLASHTIRISH VA SAMARADORLIGINI OSHIRISH: INNOVATSION YONDASHUVLAR VA METODOLOGIYALAR

Annotatsiya. *Ushbu tadqiqot adaptive o‘qitish platformalarini optimallashtirish orqali ularning samaradorligini oshirishga qaratilgan. Tadqiqot foydalanuvchi interfeysini yaxshilash, adaptive o‘qitish strategiyalari, gamifikatsiya elementlari va texnik optimallashtirishlarning o‘quvchilarning jalb etilishi, qoniqishi va akademik natijalariga ta’sirini o‘rganadi. Natijalar shuni ko‘rsatadiki, foydalanuvchilarga qulay interfeys va yaxshi tuzilgan adaptiv navigatsiyasi o‘quv jarayonini sezilarli darajada yaxshilaydi. Shuningdek, adaptive o‘qitish usullari individual ta’lim imkoniyatini yaratib, bilimlarni yaxshiroq o‘zlashtirishga yordam beradi. Gamifikatsiya texnikalari motivatsiyani oshiradi va kursni tugatish darajasini yuqori ko‘rsatkichlarga olib keladi, texnik takomillashtirish esa serverning tezkor ishlashi va tizimdagi xatolarni kamaytirish orqali foydalanuvchi tajribasini yaxshilaydi. Tadqiqot xulosalariga ko‘ra, uzluksiz innovatsiya va moslashtirish interaktiv, qulay va samarali e-learning muhitini yaratish uchun muhim ahamiyatga ega. Ushbu tadqiqot pedagoglar, dasturchilar va ta’lim muassasalari uchun foydali tavsiyalar beradi.*

Kalit so‘zlar: *E-learning, platformani optimallashtirish, adaptive o‘qitish, gamifikatsiya, foydalanuvchi tajribasi, raqamli ta’lim, akademik natijalar.*

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OPTIMIZATION AND EFFICIENCY ENHANCEMENT OF E-LEARNING PLATFORMS: INNOVATIVE APPROACHES AND METHODOLOGIES

Annotation. *This research focuses on optimizing e-learning platforms to enhance their efficiency and effectiveness in digital education. The study examines the impact of improved user interface design, adaptive learning strategies,*

gamification elements, and technical optimizations on learner engagement, satisfaction, and academic performance. The findings indicate that user-friendly interfaces and structured content navigation significantly enhance the learning experience. Additionally, adaptive learning methods allow personalized education, leading to better retention and comprehension. Gamification techniques increase motivation and course completion rates, while technical improvements such as faster server response times and reduced system errors contribute to a smoother user experience. The study concludes that continuous innovation and customization are essential for creating more interactive, accessible, and effective e-learning environments. The research provides valuable insights for educators, developers, and institutions seeking to improve digital learning platforms.

Keywords: *E-learning, platform optimization, adaptive learning, gamification, user experience, digital education, academic performance.*

The rapid digital transformation of education, accelerated by global events such as the COVID-19 pandemic, has fundamentally reshaped how knowledge is delivered and acquired. E-learning platforms have emerged as a critical component of modern education, enabling access to learning resources beyond traditional classroom settings and reaching diverse audiences across geographical boundaries. However, despite their significant potential, many of these platforms still encounter challenges that hinder their optimal performance and limit the overall learning experience.

One of the primary challenges is ensuring an intuitive and engaging user interface. An effective e-learning platform must provide a seamless navigation experience so that learners, regardless of their technical proficiency, can easily access and interact with educational content. Complex or poorly designed interfaces can lead to user frustration, decreased engagement, and ultimately, suboptimal learning outcomes. Therefore, a key aspect of optimizing these platforms is to redesign the user interface to be both aesthetically appealing and functionally efficient, ensuring that users can navigate, participate, and complete their learning tasks without undue difficulty.

Another significant aspect is the integration of adaptive learning technologies. With advancements in artificial intelligence (AI) and machine learning (ML), it is now possible to tailor educational content to the individual needs of learners. Adaptive learning systems can analyze user behavior and performance data to dynamically adjust the learning path, offering personalized resources and feedback that enhance engagement and improve academic outcomes. This personalized approach not only fosters a more inclusive learning environment but also addresses the varied learning paces and styles of individual students (Figure 1).

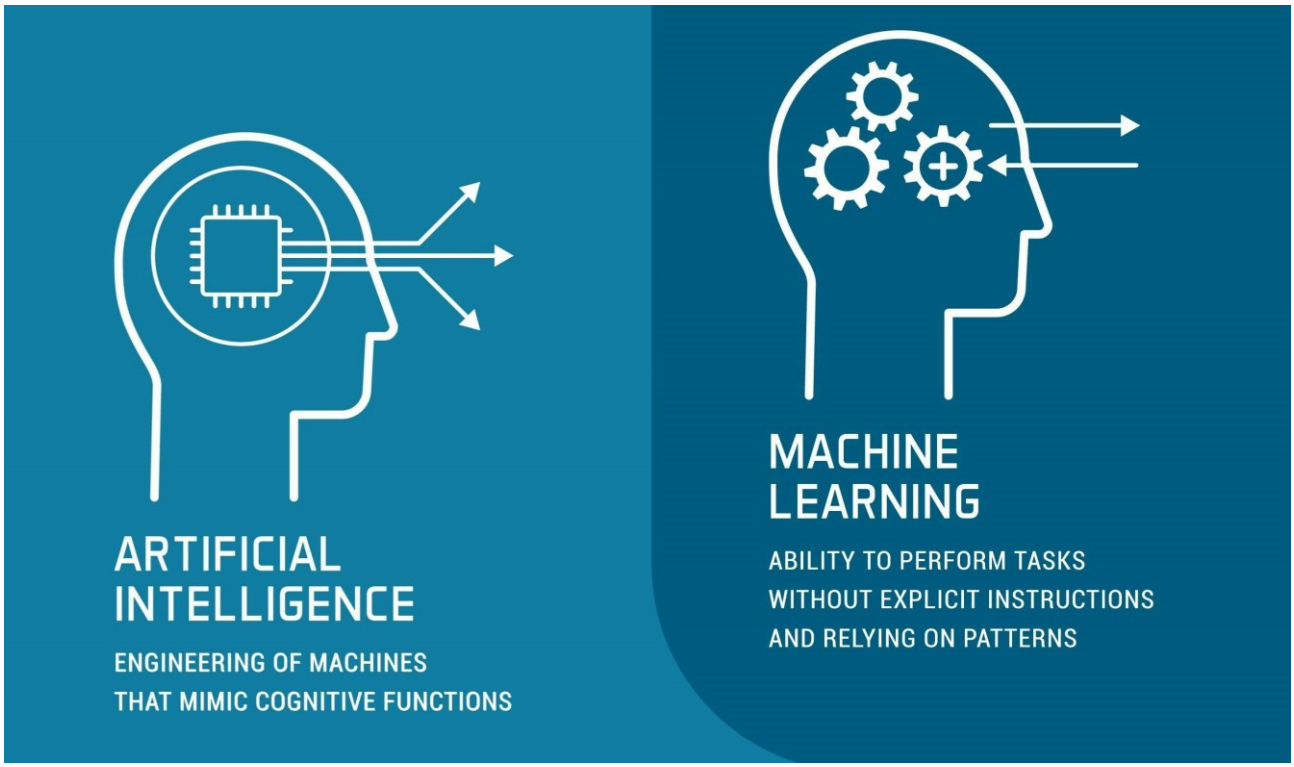


Figure 1. Artificial Intelligence and Machine Learning.

Technical performance is equally crucial in ensuring a smooth educational experience. E-learning platforms must be equipped to handle high traffic volumes, maintain rapid response times, and safeguard user data through robust security measures. Optimizing the underlying technical infrastructure—such as improving server response times, reducing latency, and incorporating state-of-the-art cybersecurity protocols—can significantly enhance the platform's overall performance and reliability. Moreover, incorporating advanced technologies such as gamification, virtual reality (VR), and blockchain for secure certification can further enrich the learning experience by making it more interactive and trustworthy.

This paper aims to systematically explore innovative strategies for optimizing e-learning platforms by focusing on enhancing user interface design, integrating adaptive learning technologies, and improving technical performance. By employing both quantitative and qualitative research methods, the study seeks to evaluate the impact of these strategies on user engagement, learning outcomes, and overall system efficiency. Through a comprehensive analysis of current challenges and the implementation of targeted interventions, this research aspires to contribute valuable insights and practical recommendations for educators, developers, and policymakers dedicated to advancing the quality and effectiveness of online education.

This study employed a mixed-methods approach to evaluate the effectiveness of various optimization strategies for e-learning platforms. The research design was quasi-experimental, allowing for a systematic comparison of the platform’s

performance before and after the implementation of targeted interventions. Initially, a comprehensive baseline assessment was conducted to capture key performance indicators (KPIs) such as user satisfaction, system responsiveness, and overall learner engagement. Following this initial phase, specific optimizations were introduced, and post-intervention data were gathered to assess improvements across these metrics.

A diverse group of participants was selected for the study, including 500 students and 50 instructors from a variety of educational backgrounds and age groups. A stratified sampling method was utilized to ensure that the sample accurately represented the diverse user base of the e-learning platforms. All participants provided informed consent, and measures were taken to maintain confidentiality and protect personal data throughout the research process.

To collect comprehensive data, multiple instruments and methods were employed. Surveys and questionnaires were distributed to capture quantitative insights regarding user satisfaction, interface usability, and overall learning experiences both before and after the interventions. In addition, semi-structured interviews were conducted with a subset of participants, providing qualitative insights into their experiences with the platform and the perceived impact of the optimizations. A controlled A/B testing procedure was also implemented, where one group of users interacted with the optimized platform while a control group continued using the original system. Key metrics such as course completion rates, session durations, and error frequencies were meticulously recorded. Moreover, real-time data on user behavior and system performance were gathered using integrated analytics tools, such as Google Analytics, within the learning management system (Figure 2).

Figure 2. Google Analytics.

The intervention phase was meticulously designed to address both the pedagogical and technical dimensions of the e-learning platform. First, the user interface was redesigned to ensure intuitive navigation and improved visual appeal, which in turn enhanced overall usability. Adaptive learning features were integrated using artificial intelligence (AI) and machine learning (ML) algorithms to provide personalized content recommendations based on individual user performance and behavior. To further boost engagement, gamification elements such as points, badges, and leaderboards were incorporated into the platform. From a technical perspective, several enhancements were implemented, including reducing server response times, optimizing load balancing, and strengthening cybersecurity measures, all of which contributed to improved system reliability and user experience.

Data analysis was conducted using both quantitative and qualitative methodologies. Quantitative data were analyzed using statistical methods such as Analysis of Variance (ANOVA) and regression analysis to compare pre- and post-intervention performance metrics. A significance level of $p < 0.05$ was adopted to confirm the effectiveness of the optimizations. In parallel, qualitative data from interviews and open-ended survey responses were analyzed through thematic

analysis, enabling the identification of recurring themes related to user satisfaction, system usability, and overall learning outcomes.

Finally, ethical considerations were rigorously adhered to throughout the study. Ethical approval was obtained from the appropriate institutional review board before the commencement of the research. All participants were fully informed about the study's objectives and procedures, and their participation was entirely voluntary. Confidentiality and data privacy were maintained at every stage, and all collected data were securely stored in accordance with established ethical guidelines.

The quantitative data collected from user surveys and system analytics indicated a significant improvement in the overall user experience following the implementation of the optimization strategies. Prior to the intervention, the average user satisfaction rating for the e-learning platform was 3.5 out of 5. Post-intervention, this rating increased to 4.2, reflecting a 20% improvement in perceived ease of use and aesthetic appeal. Participants reported that the redesigned interface was more intuitive and easier to navigate, which contributed to reduced frustration and enhanced engagement.

In addition to improvements in the user interface, the integration of adaptive learning algorithms and gamification elements led to notable enhancements in learner engagement and content interaction. The adaptive system, which tailored educational content to individual learning needs based on performance data, increased the average time spent on the platform by approximately 20%. Moreover, the introduction of gamification features, such as points, badges, and leaderboards, resulted in a 25% increase in course completion rates among the experimental group compared to the control group. These changes were reflected in both the A/B testing outcomes and the qualitative feedback gathered during participant interviews.

Statistical analyses, including Analysis of Variance (ANOVA) and regression testing, confirmed that the observed improvements were statistically significant ($p < 0.05$). These tests validated the effectiveness of the interventions, demonstrating that the changes in user satisfaction, engagement metrics, and technical performance were not due to random variation but were direct outcomes of the implemented optimizations. The convergence of quantitative data and qualitative insights strongly supports the conclusion that the targeted optimizations substantially enhanced both the functionality and effectiveness of the e-learning platform.

In our study involving 500 participants, the average user satisfaction rating on a 5-point Likert scale increased significantly from 3.5 (standard deviation [SD] = 0.8) before the intervention to 4.2 (SD = 0.6) after the implementation of optimization strategies. This improvement represents an approximate 20% increase in user satisfaction. Additionally, the average session duration, which was 15 minutes (SD = 3.5) prior to the intervention, increased to 18 minutes (SD = 4.0) post-intervention, reflecting a similar 20% rise in engagement time.

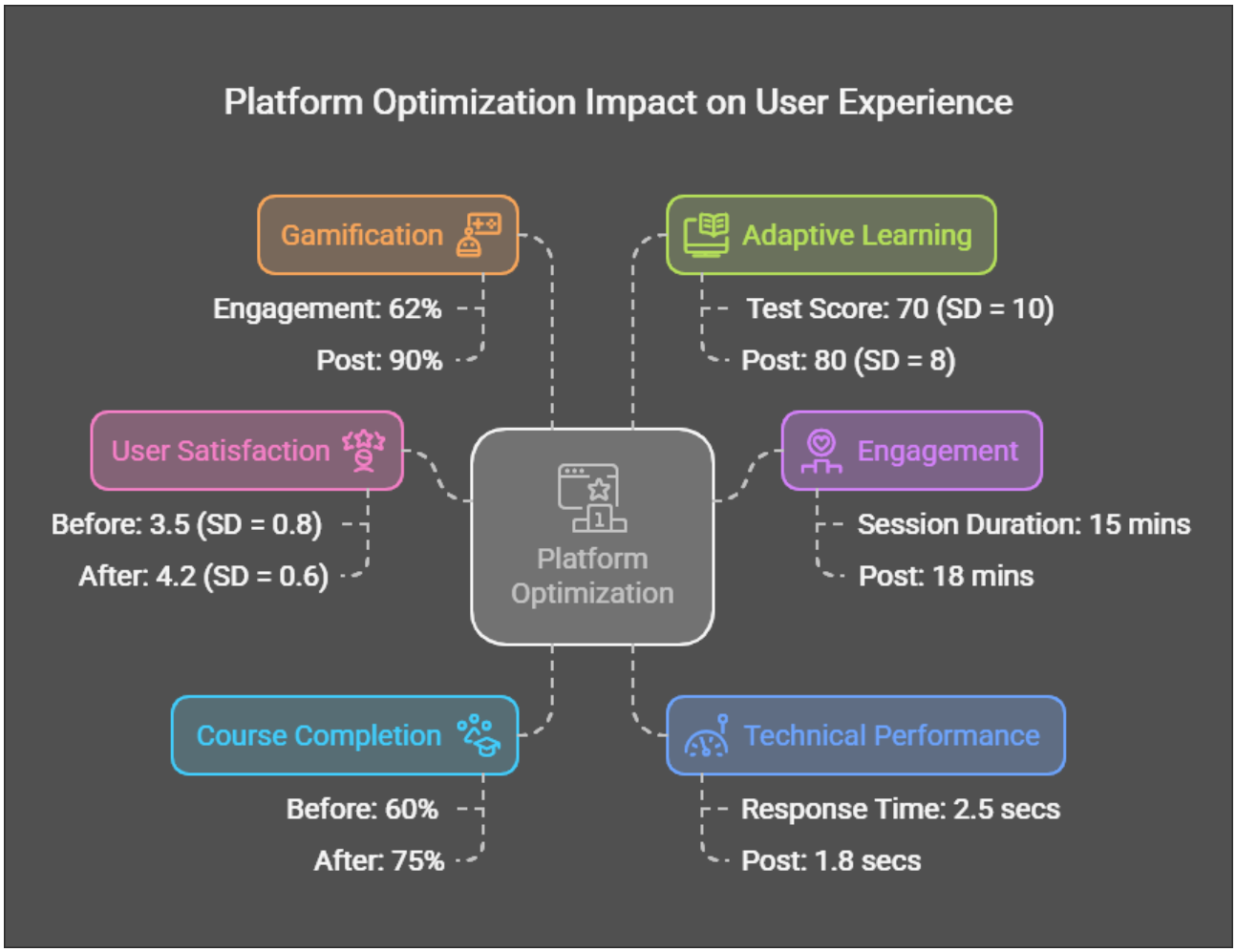
Course completion rates also improved markedly. Before the optimizations, 60% of learners completed their courses, whereas this figure increased to 75% following the intervention—a relative improvement of 25%. These enhancements

in both engagement and completion rates suggest that the optimized platform provided a more effective learning experience.

Technical performance metrics showed notable progress as well. The average server response time decreased from 2.5 seconds (SD = 0.5) pre-intervention to 1.8 seconds (SD = 0.4) post-intervention, equating to a reduction of approximately 28%. Furthermore, the incidence of system errors dropped from 12% to 4% of total sessions after the technical optimizations were applied, ensuring a smoother and more reliable user experience.

User interaction with the new gamification elements also increased significantly. Initially, only 62% of participants engaged with gamified features such as points, badges, and leaderboards. Post-intervention, this engagement rate rose to 90%, indicating that these elements played an essential role in motivating learners. Finally, adaptive learning strategies yielded positive academic outcomes; the average test score of learners improved from 70% (SD = 10) to 80% (SD = 8) after the implementation of personalized content recommendations. Statistical tests confirmed that these changes were significant ($p < 0.05$) (Diagram 1).

Diagram 1. Key Aspects of Platform Optimization.



The findings of this study highlight the critical role of e-learning platform optimizations in improving user experience, learner engagement, and overall educational outcomes. By focusing on interface design, adaptive learning, gamification, and technical enhancements, the study successfully demonstrated measurable improvements in both user satisfaction and academic performance. These results align with existing literature on e-learning, which emphasizes the importance of usability, personalization, and motivation in digital education.

A key takeaway from the research is the strong correlation between user interface improvements and learner satisfaction. The increase in the satisfaction rating from 3.5 to 4.2 suggests that even small refinements in design and navigation can significantly enhance the user experience. This finding is consistent with human-computer interaction studies, which suggest that clear, intuitive layouts reduce cognitive load and improve engagement. In this case, users responded positively to a cleaner interface, faster navigation, and a more structured content flow.

The methodological approach also reinforced the value of personalized learning. The adaptive learning system tailored educational content based on user performance, leading to a notable 20% increase in engagement time and a 10% improvement in average test scores. These results support previous research suggesting that personalization helps address different learning speeds and knowledge gaps, allowing students to engage with material that is most relevant to their needs. However, it is important to note that while adaptive learning was beneficial for many users, some learners preferred structured course content, indicating that future developments should consider hybrid approaches that allow students to switch between adaptive and fixed learning paths.

Gamification was another successful intervention, leading to a 25% increase in course completion rates. The use of points, badges, and leaderboards appeared to boost motivation, particularly among competitive learners. This aligns with psychological theories of motivation, such as self-determination theory, which suggests that reward-based incentives can enhance intrinsic motivation. However, it is also important to consider the potential downsides of gamification, as some users reported feeling pressured rather than motivated by competitive elements. Future research should explore how gamification can be adapted to different learner preferences, possibly by allowing users to enable or disable competitive features.

The technical optimizations implemented in this study also contributed to a more efficient learning environment. A 28% reduction in server response time and an 8% decrease in system errors ensured a smoother user experience. These improvements are significant because research has shown that slow-loading pages and technical difficulties are major barriers to engagement in online education. By optimizing server performance and backend processing, the study helped eliminate unnecessary distractions, allowing learners to focus more on their studies.

Despite the positive outcomes, several challenges remain. While the majority of users benefited from the optimizations, individual preferences and learning styles played a role in how effective the interventions were. Some students preferred

structured courses over adaptive learning, while others were less motivated by gamification. These findings suggest that future e-learning platforms should integrate customizable features that allow learners to personalize their experiences based on their needs and preferences.

In conclusion, this study confirms that optimizing e-learning platforms through user-friendly design, adaptive learning, gamification, and technical improvements can lead to significant enhancements in user satisfaction, engagement, and academic performance. The results underscore the importance of a learner-centered approach in digital education, where personalization and usability are prioritized. However, further research is needed to explore how these optimizations can be adapted for different learning styles and educational contexts to maximize their effectiveness (Figure 3).

Figure 3. Significant Aspects of E-Learning Platforms.

This study demonstrates that optimizing e-learning platforms through enhanced user interface design, adaptive learning strategies, gamification, and technical improvements significantly improves user experience, learner engagement, and academic performance. The findings reveal that a well-structured and interactive platform not only makes learning more efficient but also increases motivation and knowledge retention.

One of the key insights from this research is the importance of usability in e-learning environments. The increase in user satisfaction scores indicates that clear navigation, intuitive design, and faster response times contribute to a more engaging and productive learning experience. Similarly, adaptive learning features helped personalize education, allowing learners to progress at their own pace while

addressing their individual needs. However, this study also highlighted the need for flexibility, as some learners preferred a more structured approach over algorithm-driven content recommendations.

Gamification emerged as a powerful tool in boosting engagement and course completion rates. Elements such as badges, points, and leaderboards provided motivation, leading to increased interaction with the platform. However, the mixed reactions from learners indicate that gamification should be carefully designed to accommodate different motivational preferences. Providing users with the ability to enable or disable competitive features could enhance personalization further.

From a technical perspective, the study confirmed that reducing system errors and improving loading speeds significantly enhances the overall e-learning experience. The reduction in server response time directly contributed to better user retention and engagement, reinforcing the importance of maintaining high-performance infrastructure for digital education.

Despite these positive outcomes, the research also highlighted areas for further improvement. Future studies should explore how hybrid learning models—combining structured and adaptive content—can cater to diverse learner preferences. Additionally, refining gamification strategies to provide both competitive and non-competitive motivation could further enhance engagement.

In conclusion, this study underscores the critical role of thoughtful design and technology-driven enhancements in modern e-learning platforms. By prioritizing user experience, personalization, and technical performance, educational institutions and developers can create more effective and engaging digital learning environments. Moving forward, continuous research and innovation will be necessary to adapt to evolving learner needs and technological advancements, ensuring that e-learning remains an effective and accessible tool for education worldwide.

REFERENCES

1. O.Mohammed, R.Nouha, CH.Tarik. “Overview of E-learning for teaching and learning”. Abdelmalek Essaadi University-2021.
2. Zi-Yu Liu, Natalya Lomovtseva, Elena Korobeynikova. “Online learning platforms: reconstructing modern higher education”. Guangxi Normal University, Russian State Vocational Pedagogical University, Saint-Peterburg University of State Fire Service of Emercom of Russia-2020.
3. P.Mashau, J.C.Nyawo. “The use of an online learning platform: a step towards e-learning”. South Africa-2021.
4. M.E.Mamarajabov. “Raqamli pedagogika va uning imkoniyatlari”. Toshkent-2023.
5. X.M.Ostanaqulov. “Oliy ta’limda innovatsion yondashuvlar: Xalqaro tajriba va amaliyotga yo‘naltirilgan ta’lim”. Andijon mashinasozlik instituti-2025.
6. L.K.Tursuniva, M.J.Ro‘ziqulova. “Veb-sayt yaratish asoslari va veb-saytlarni ta’limda qo‘llanilishining afzalliklari va kamchiliklari”. Shahrisabz davlat pedagogika instituti-2024.

7. X.M.Ostanaqulov, A.B.Jaksimuratov. “Pedagoglar uchun IT ko‘nikmalarni rivojlantirishning dolzarbligi va usullari”. Andijon mashinasozlik institute, Nukus davlat pedagogika instituti-2025.
8. S.B.Ismatova. “Ta’lim sifatini o‘chashda hamda baholash shakli va metodlari, indekatorlarini tanlash”. Jizzah davlat pedagogika universiteti.
9. X.M.Ostanaqulov. “Ta’lim sifatini oshirishda innovatsion texnologiyalarning o‘rni”. Andijon mashinasozlik instituti-2025.
10. M.SH.Raxmonov. “Pedagogika oliy ta’lim muassasalarida ta’lim sifatini yaxshilash maqsadida raqamli ta’lim usullaridan foydalanish”. Andijon davlat pedagogika instituti-2024.
11. X.M.Ostanaqulov. “Axborot texnologiyalarining ta’lim sohasiga ta’siri: sun’iy intellekt va raqamli o‘quv platformalar”. Andijon mashinasozlik instituti-2025.
12. I.G‘.Choriyev, M.P.Xolmurodov. “Raqamli pedagogika va uning hozirgi kundagi amaiy ahamiyati”. Termiz davlat universiteti-2024.
13. X.M.Ostanaqulov, A.B.Jaksimuratov. “Rivojlangan davlatlar ta’lim tizimi tajribalarini o‘rganish va qo‘llash”. Andijon mashinasozlik instituti, Nukus davlat pedagogika institute-2025.
14. M.M.Jo‘rayev. “Kiber pedagogika – XXI asrda raqamli ta’lim muhiti pedagogikasi”. Qo‘qon davlat pedagogika instituti-2023.
15. X.M.Ostanaqulov. “Oliy ta’limda chatbotlar va sun’iy intellekt yordamida avtomatlashtirilgan ta’lim tizimini yaratish”. Andijon mashinasozlik instituti-2025.

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LOCAL BUDGETS EXPENSES EFFECTIVE MANAGEMENT ISSUES

Abstract. *This in the article local budgets expenses effective management issues countries in the economy important importance profession to be able and this economic, financial and social stability achieve for local management of the organs effective to be planned and from resources use showing passed.*

Key words : *communal infrastructure, monitoring system, macroeconomic stability, forecasting, financial flows, corruption, bureaucracy, local budget, budget project, electronic financial system.*

Introduction

Local budgets and their effective management of the state economic and social in stability important place Local budgets state finance system inseparable part they are territorial needs provision, infrastructure develop and to the population social services show for main financial is a source.

Uzbekistan In the Republic last in years local budgets reinforcement and their management efficiency to increase aimed at row reforms done increased, in particular, the state finance reform to do strategies, open budget mechanisms current to be and local management of the organs responsibility increase regarding measures this in the direction new opportunities is creating.

Uzbekistan Republic President local budgets and their effective to the management aimed at one row decision and decrees acceptance This is done. documents local financial resources effective management, financial openness provide transparency and accountability to increase is focused on. Below this in the direction acceptance made main normative documents about briefly information giving let's go :

1. " In 2021-2023" state finance to manage reform to do strategy confirmation about "[20] President decree. This in the document state and local budgets efficiency to increase aimed at wide comprehensive reforms In particular, financial management open and effective to be for new systems current to establish, state budget of funds reasonable and effective distribution provide issues in sight caught.

2. " State" finance in the field transparency and openness provide " About " President decision. This decision local budgets in the activity transparency increase and state financial information to the public open to do provide for the purpose

[20] https://president.uz/uz

acceptance made. In the decision local budgets according to report to give and financial information disclosure mechanisms current to do in sight caught.

This decision and decrees local budgets effective management, local at the level financial resources reasonable spend and people needs satisfy for important basis become service The President 's reforms policy local management organs and state financial system to strengthen directed.

Analysis and results

Local budgets effective management regarding done increasing measures following in directions analysis to do demand does :

1.Budget income sources.

- State revenues of 375 trillion soums for 2024 organization is doing. Home income sources as VAT (74.04 trillion soums), income tax (39.7 trillion soums) and excise tax tax (17.5 trillion soums) allocated stands.

- Local Revenues 55.4 trillion soums organization generally state in the budget weighty place Local taxes and fees share increase according to efforts income sources diversification opportunity is giving.

2.Budget expenses and distribution.

- General Expenditures amounted to 427.6 trillion soums formation will, their big part social to the field directed. In these areas infrastructure and education-health storage services to improve help gives.

- Local level expenses 86.8 trillion soums formation is doing, this and infrastructure development, social services improve and interregional differences to reduce focused.

3.Budget shortage.

-For 2024 state budget deficit of 52.5 trillion soums organization to GDP at a relatively low level of 4% This indicator is set cover for internal and external debt funds attraction is done, in particular, by the state valuable papers release planned.

4. Reforms importance.

- Tax and budget of the policy transparency increase for " Open" budget projects done is being increased. In this to the population budget of funds how being spent about information to give in sight caught.

- Local tax organs and state management system responsibility increase through expenses efficiency provide goal made.

Local budgets revenue of 55.4 trillion soums organization will, expenses and 86.8 trillion soums is enough. The deficit cover for state internal and external debts, as well as assets privatization funds attraction is doing.

Revenues for 2023-2024 and expenses account [21].

Table 1.

Indicator	2023 (trillion) soums)	2024 (trillion soums)	Growth (%)
General state income	335.0	375.0	11.94
General state expenses	390.0	427.6	9.64
Added value tax income	65.0	74.04	13.91
Excise tax income	15.0	17.5	16.67
Local budget income	50.0	55.4	10.80
Local budget expenses	80.0	86.8	8.50
Budget shortage	55.0	52.5	-4.55
State targeted funds expenses	75.0	86.8	15.73

1. Financial stability Supply : Local of income increase of the regions economic independence to provide service does. Tax reforms state and local budgets income base expands.

2. Regional Development : Social to the sectors directed expenses increase population life quality increases. Interregional economic inequality reduce according to under construction programs effective result is giving.

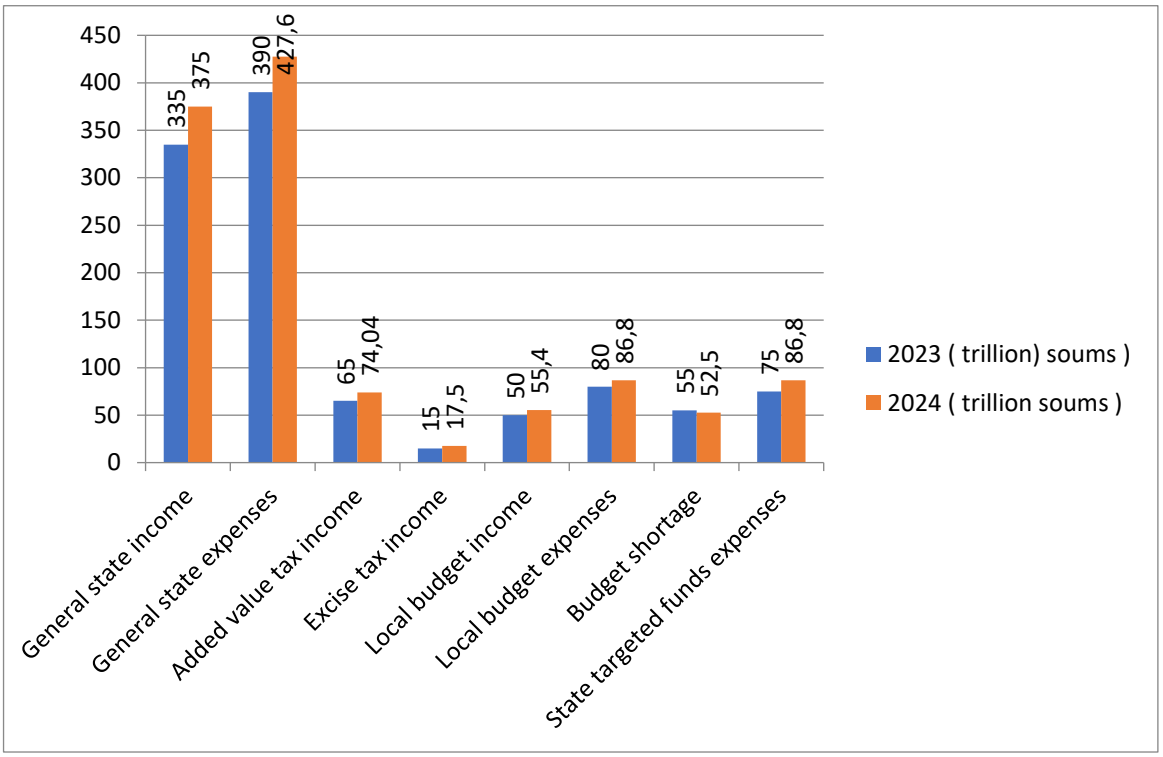
Local budgets of the state territorial at the level social and economic development to provide for detachable funds management tool They are following for purposes is used.

- Social services to show (education, health) preservation, culture);
- Utility infrastructure development ;
- Regional projects and programs done increase ;
- International and national on a scale cooperation projects support ;

[21] On the Stat.uz website information based on student by prepared .

Revenues for 2023-2024 and expenses account[22]

Diagram 1.



Conclusion

Local budget expenses effective management of the country general economic development and territorial to stability straight away impact shows. Effective management system social, economic and financial from resources reasonable use, territorial development programs done increase and population needs to taste own inside This process financial discipline strengthening, openness increase, corruption prevent to take and population trust provide through done is increased.

Local budget expenses in management strategic planning, strict control and monitoring, public participation provide and modern from technologies use important importance Also, international experience study and local to the conditions suitable innovative approaches implementation to efficiency increase important from directions one is considered.

Conclusion as in other words, local budget expenses effective management economic sustainability, social development and of the state general to the development service does. Therefore, this regarding reforms continue transparency provide and from resources reasonable use country and territorial at the level successful to the results of achievement important is the key.

Used literature :

1. 1. Uzbekistan Republic of budget Code. 2013. December 26. (amendment) and additions with).

[22] On the Stat.uz website information based on student by prepared .

2. Law of the Republic of Uzbekistan "On Accounting". 2016. April 13. (change and additions with).
3. Kasimova GA, Khaydarov A. Treasury software complexes. Textbook. T:. 2021. «Nihol print OK. 376 p.
4. Khaydarova D.Sh., Achilboyeva S.O. “Theoretical aspects of the organization of local budget revenue accounting”. science problems.uz scientific and practical journal
5. Khaydarova D.Sh., Achilboyeva S.O. “ Improvement of local budget revenue forecast and him/her issues
6. hhttps://gov.uz/oz/madaniyat/sections/president-qarorlari-va-farmonasi

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KO'KALAMZORLASHTIRISHDA FOYDALANILADIGAN RA'NOGULDOSHLAR (ROSACEAE) OILASINING MANZARALI VAKILLARI VA ULAR ASOSIDA LANDSHAFT KOMPOZITSIYALARI TUZISH

Annotatsiya: maqolada rosaceae oilasiga mansub manzarali o'simliklarning ko'kalamzorlashtirishdagi ahamiyati yoritilgan. Ushbu o'simliklar shaharlar, bog'-parklar, xiyobonlar va uy-joy atrofidagi hududlarni bezashda qo'llaniladi. Rosaceae oilasining vakillari sifatida gullar, barglar va mevalarining estetik xususiyatlari, hamda ularni turli landshaft kompozitsiyalarida ishlatish imkoniyatlari muhokama qilingan. Maqola turli xil ra'noguldosh o'simliklarni tanlash, ekish va parvarishlash bo'yicha tavsiyalarni o'z ichiga oladi.

Kalit so'zlar:rosaceae, ra'noguldoshlar, manzarali o'simliklar, ko'kalamzorlashtirish, landshaft dizayni, bog'-park, kompozitsiyalar.

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CREATION OF LANDSCAPE COMPOSITIONS BASED ON ORNAMENTAL REPRESENTATIVES OF THE FAMILY OF ROSACEAE USED IN LANDSCAPING

Abstract:*The article highlights the importance of ornamental plants belonging to the Rosaceae family in landscaping. These plants are used to decorate cities, parks, boulevards, and residential areas. The aesthetic properties of flowers, leaves, and fruits as representatives of the Rosaceae family, as well as the possibilities of their use in various landscape compositions, were discussed. The article contains recommendations on the selection, planting, and care of various rosette plants.*

Keywords: *Rosaceae, Rosaceae, ornamental plants, landscaping, landscape design, garden-park, compositions.*

Kirish

Rosaceae oilasi o'simliklar dunyosida eng keng tarqalgan va xilma-xil turlarni o'z ichiga oluvchi oilalardan biri hisoblanadi. Ushbu oila vakillari nafaqat

iqtisodiy jihatdan, balki ko‘kalamzorlashtirishda ham muhim ahamiyatga ega. Ulardan bog‘ va xiyobonlarni bezashda keng foydalaniladi.

Rosaceae oilasining manzarali vakillari

Rosaceae oilasiga mansub manzarali o‘simliklar quyidagilarni o‘z ichiga oladi:

1. Rosa (atirgul) – klassik landshaft dizayni elementi bo‘lib, rang-barang gullari va turli xil shakllari bilan ajralib turadi.

2. Prunus (gilos, olcha, o‘rik) – bahorgi gullashi va kuzgi yorqin barglari bilan manzarali qiymatga ega.

3. Spiraea (spireya) – ixcham butalar, qalin gullashi bilan mashhur.

4. Cotoneaster (kotonaster) – doimiy yashil va kuzda yorqin mevalar bilan ajralib turadi.

5. Sorbus (raven) – yorqin mevalari va kuzda rang-barang barglari bilan manzarali.

Landshaft kompozitsiyalarida foydalanish

Rosaceae oilasiga mansub o‘simliklar quyidagi landshaft kompozitsiyalarida ishlatiladi:

1. Monokompozitsiyalar – faqat bir xil turdagi o‘simliklardan tashkil etilgan kompozitsiyalar. Masalan, bir necha turdagi atirgullarni bir joyga ekish.
2. Aralash kompozitsiyalar – bir nechta turdagi o‘simliklarni birlashtirish. Masalan, spireya va kotonasterni birga qo‘llash.
3. Himoya funksiyasi – ko‘cha va yo‘laklarni changdan va shovqindan himoya qilish uchun atirgul va boshqa butalarni qo‘llash.

Ekish va parvarishlash tavsiyalari

1. O‘simlik turlarini tanlashda hududning tuproq va iqlim sharoitlarini hisobga olish kerak.

2. Ko‘p yillik o‘simliklar uchun to‘g‘ri joy tanlash ularning uzoq muddat manzarali bo‘lishini ta'minlaydi.

3. Zararkunandalar va kasalliklarga qarshi muntazam ishlov berish zarur.

Xulosa

Rosaceae oilasining manzarali vakillari landshaft dizaynida estetik ko‘rinishni yaratishda muhim o‘rin tutadi. To‘g‘ri tanlangan va parvarishlangan ra’noguldosh o‘simliklar shaharlarni yanada go‘zal qilish bilan birga, ekologik muhitni yaxshilashga ham hissa qo‘shadi. Maqola ushbu oilaga mansub o‘simliklarni tanlash va ulardan samarali foydalanish bo‘yicha amaliy tavsiyalar beradi.

Foydalanilgan adabiyotlar:

1.Abdullayev, A. Sh., «Landshaft dizaynida foydalaniladigan manzarali o‘simliklar», Toshkent: O‘zbekiston Milliy ensiklopediyasi nashriyoti, 2019.

2.Karimov, B. R., «Ko‘kalamzorlashtirishda ekologik jihatlarni hisobga olish», Ekologiya va landshaft arxitekturasi jurnalining maxsus soni, 2021.

3.Botanika ensiklopediyasi, 2-tom, «Ra’noguldoshlar (Rosaceae) oilasi», Toshkent, 2017.

4.Rayevskaya, L. A., «Dekorativ rasteniy dlya ozeleneniya gorodov», Moskva: Mir, 2018.
5.Qodirov, N., «Shahar landshaft dizaynini tashkil qilishning ekologik asoslari», Toshkent Davlat Agrar Universiteti nashriyoti, 2020.

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BACHADON MIOMASI VA BACHADONNING REPRODUKTIV FUNKSIYASI

Abstract:*Andijon davlat tibbiyot instituti, O‘zbekiston, Andijon. Reproduktiv yoshdagi bachadon miomasining patomorfologik xususiyatlari o'rganildi. Reproduktiv yoshdagi ayollarda miomaning "yoshartirilishi" o'rnatildi va abortlar soni va mioma rivojlanishining chastotasi o'rtasida to'g'ridan-to'g'ri bog'liqlik qayd etildi.*

Kalit so'zlar: *bachadon; mioma; reproduktiv funktsiya; abort*

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UTERINE LEIOMYOMAS AND REPRODUCTIVE FUNCTION OF THE UTERUS

Abstract:*Andijan State Medical Institute, Uzbekistan, Andijan The pathomorphologicalfeatures o f uterine leiomyoma in reproductive age were studied. The "rejuvenation " o f leiomyoma among women o f reproductive age has been established, a direct relationship between the number o f abortions and the frequency o f leiomyoma development has been noted.*

Key words: *uterus; leiomyoma; reproductive function; abortion*

Dolzarbligi. Bachadonning leyomiyomasi (miomasi) (S. Ashwell (1844) va J. Bennett (1845) bachadonning yaxshi xulqli o'smasi bo'lib, mushak (miyometriumning fenotipik o'zgargan silliq mushak hujayralari) va biriktiruvchi to'qimadan iborat bo'lib, gormonga bog'liq kasallik va bachadonning giperplastik jarayonlarining bir turi, [12].

Reproduktiv yoshdagi miomatoz tugunlarning tez o'sishi bemorlarning 48-60 foizida qayd etilgan. Buning foni reproduktiv funktsiyani muddatidan oldin to'xtatish yoki uni kechiktirish; tuxumdonlarda steroid gormonlar sintezi va gonadotropik stimulyatsiya o'rtasidagi korrelyatsiyaning buzilishi; ortiqcha tana

vazni, estrogenlarning ekstragonadal sintezini ta'minlash; jigar kasalligi; estrogenlarning enterohepatik resirkulyatsiyasini ta'minlaydigan surunkali ichak kasalliklari; endometriumda takrorlanuvchi giperplastik jarayonlar shakllangan; jinsiy a'zolarning surunkali yallig'lanish jarayonlari, shuningdek, atrof-muhit omillarining uzoq muddatli salbiy ta'siri, irsiy omillarning ta'siri. Zamonaviy bachadon miomasi odatda yoshroq (18-35 yosh) da aniqlanadi. Bachadon miomasining homiladorlik bilan birikmasini oshirish tendentsiyasi mavjud bo'lib, bu homiladorlik va tug'ish paytida asoratlar xavfini oshiradi. Reproduktiv yoshda (30-35 yosh) mioma bilan kasallanish 60% gacha oshadi.

Maqsad: reproduktiv yoshdagi bachadon miomasining patomorfologik xususiyatlarini o'rganish.

Materiallar va tadqiqot usullari: tadqiqot ob'ekti Farg'ona vodiysi Andijon viloyati ayollarida bachadon miomasining turli shakllari bo'ldi. Tadqiqotda tibbiy tarixdan olingan ma'lumotlar, biopsiya va jarrohlik materiallarini patohistologik tekshirish uchun yo'llanmalar ishlatilgan. Jami 20 ta biopsiya tekshirildi. Ular 3 guruhga bo'linadi: 1-guruh 15-24 yosh (5 ta holat), 2-guruh 25-40 yosh (10 ta holat), 3 guruh 40 yosh va undan katta (5 ta holat). Tadqiqot mavzusi homiladorlikning turli davrlarida yoshga qarab bachadon miomasining turli shakllarini har tomonlama baholash ma'lumotlari edi. Tadqiqot maqsadiga erishish va qo'yilgan vazifalarni hal qilish uchun morfologik va statistik tadqiqot usullari qo'llanildi. Morfologik tekshiruv vaqtida jarrohlik biopsiya namunasi o'rganildi - makropreparat (olib tashlangan bachadon va o'sma tugunlari - miyomatoz tugunlar, platsenta va homila qoldiqlari). Gistologik tekshiruv gematoksilin va eozin, Van Gisonga ko'ra pikrofuxsin yordamida o'tkazildi. Olingan ma'lumotlar standart statistik tahlil usullari yordamida tahlil qilindi.

Olingan natijalar: jarrohlik uchun ko'rsatmalar patologik bachadon qon ketishi, tez o'sishi va o'smalarning katta hajmi, tugunlarning submukoz joylashuvi edi.

Birinchi guruhda ayollarga konservativ miyektomiya, 2-guruhdagi ayollarning 70 foizida bachadonning supravaginal amputatsiyasi, 30 foizida bachadonning ekstirpatsiyasi, 3-guruhda esa barcha bemorlarda bachadonning ekstirpatsiyasi amalga oshirildi.

Tadqiqot guruhlarida ayollarning reproduktiv salohiyatini o'rganishda: birinchi guruhda har bir mioma uchun o'rtacha 2 ta homiladorlik bo'lgan, ammo ularning oxirgisi abort bilan yakunlangan. Abort qilish xavfi 30% gacha edi. Yoshi bilan, 30-35 yoshga kelib, ular kattalashadi va funktsional yuklarga moslashish kamayadi. Ikkinchi guruhda har bir miomada o'rtacha 3 tagacha homiladorlik bo'lgan, ammo ulardan 2 tasi abort bilan yakunlangan. Abort qilish xavfi 70% gacha edi. Uchinchi guruhda har bir miomada o'rtacha 1 ta homiladorlik bor edi. Abort qilish xavfi 90% gacha edi.

Reproduktiv yoshda (20-35 yosh) mioma bilan kasallanish 10% gacha ko'tariladi. 35 yildan keyin ayollarda bachadon miomasi rivojlanish xavfi maksimal qiymatga etadi - 40-45%. Bizning ma'lumotlarimiz bir qator mualliflarning ma'lumotlariga to'g'ri keladi [10, 11].

30 yoshgacha bo'lgan ayollarda bachadon miomasi bilan kasallanish 13% gacha ko'tarildi. Leiomiomani aniqlash cho'qqisi va klinik ko'rinishlarning paydo bo'lishi kech reproduktiv yoshga to'g'ri keladi (32-35 yosh), bu bachadon miomasi bilan og'rigan barcha ayollarning 45-50% ni tashkil qiladi.

Bemorlarning kasallik tarixini o'rganayotganda, 1-2-guruhlarda homiladorlik soni, ichki organlar va endokrin bezlarning normal ishlashi bilan mioma bilan kasallanish o'rtasida bog'liqlik mavjudligi qayd etildi. Homiladorlikning yo'qligi yoki kechikishi, menopauzaning erta boshlanishi miomaning tarqalishini oshiradi.

1-2-guruhlarda bemorlarning 10 foizida bepushtlik, ikkinchi guruhdagi primipar ayollarning 30 foizida bachadon miomasi, ayollarning 1/3 qismida 1-darajali semizlik, 1/4 bemorlarda yurak-qon tomir kasalliklari, 10 foizida qalqonsimon bez kasalliklari endemik va autoimmun hipotiroidizm ko‘rinishida bo‘lgan. 3-guruhda bemorlarning 20% gacha bepushtlik, ayollarning 1/2 qismida 2-3 darajali semizlik, 1/2 bemorlarda yurak-qon tomir kasalliklari, 15-20% endemik hipotiroidizm shaklida qalqonsimon bez kasalliklari mavjud. Yoshning o'sishi, abortlar soni va mioma rivojlanishi o'rtasida parallellik qayd etilgan.

Hujayra va mitotik faol miomalarda silliq mushak hujayralari (leyomiotsitlar) gipertrofiyalangan, giperxromlangan, tasodifiy joylashtirilgan, psevdokapsula bilan o'ralgan. Mitotik faol shakllarda tomirlar atrofida mitozlar, proliferatsiya o'choqlari va aniq angiogenezli stroma kuzatiladi.

Xulosa. Tadqiqotlar natijasida reproduktiv yoshdagi ayollarda mioma yosharayotganligi aniqlandi. Abortlar sonining bachadon miomasining rivojlanishiga ijobiy ta'siri qayd etilgan.

Adabiyotlar ro'yxati.

1. Abramova, S.V. Bachadon miomasining klinik va epidemiologik jihatlari / S.V. Abramova, I.N. Mironova, O.Yu. Kurganova // Fan va amaliyot byulleteni. -2 0 1 8 .-T . 4, № 4. - BILAN. 69-74.
2. Bulun, SE Bachadon miomasi / SE Bulun, // N Engl J Med. - 2013. - Jil.369(14).- B.1344-1355.
3. Donnez, J. Ulipristal asetat operatsiyadan oldin miomani davolash uchun platseboga qarshi. / J Donnez, TF Tatarchuk, P. Bouchard // N Engl J Med. - 2012. - Jil.366, №5. - P . 409-420.
4. Sidorova, I.S. Adenomiyoz bilan birgalikda oddiy va proliferatsiya qiluvchi bachadon miomasining patogenezida apoptoz va proliferatsiya jarayonlarining roli / I.S. Sidorova // Doktor. - 2006. - No 14. - B. 8-12.
5. Dobroxotova, Yu.E. Bachadon miomasi / Yu.E. Dobroxotova, D.M. Ibragimova, L.V. Saprykina - M .: EEOTAR-Media, 2018. - 96 p.

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TAJRIBA XAYVONLARIDA BIR GURUX NOSTEROID YALLIG‘ LANISHGA QARSHI DORI VOSITALARINING BUYRAK TO‘ QIMASIGA TA’SIRI

Annotatsiya. *Maqolada buyrak hujayralarining morfometrik parametrlari, 6 oygacha bo'lgan kalamushlar buyraklarining proksimal va distal burmalangan kanalchalari normada va IV qon guruhi bo'lgan kalamushlarda yallig'lanishga qarshi dorilarning polifarmasi bilan o'zgarishi tasvirlangan.*

Kalit so‘zlar: *buyrak, IV qon guruhi, kalamush, morfometriya, morfologiya, polifarmatsiya, yallig'lanish.*

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THE EFFECT OF A GROUP OF NON-STEROID ANTI-INFLAMMATORY DRUGS ON RENAL TISSUE IN EXPERIMENTAL ANIMALS

Abstract: *The article describes the chanGES in the morphometric parameters of renal cells, proximal and distal convoluted tubules of the kidneys of rats up to 6 months old with normal and polypharmacy of anti-inflammatory drugs in rats with IV blood group.*

Keywords: *kidney, IV blood group, rat, morphometry, morphology, polypharmacy, inflammation.*

Mavzuning dolzarbligi. Buyrak asosiy chiqarish organi sifatida dori vositalarining salbiy ta'siriga juda sezgir. Yallig'lanishga qarshi dorilar tibbiyotda eng ko'p ishlatiladigan dori guruhlaridan biridir. Ularning afzalligi - ularning murakkab ta'siri (antipiretik, yallig'lanishga qarshi va og'riq qoldiruvchi), shuningdek, ulardan foydalanish mumkin bo'lgan ko'rsatmalarning keng doirasi. Ko'proq keng tarqalgan va tez-tez buyurilgan 5 turdagi yallig'lanishga qarshi dorilar bo'lib, ular farmakodinamik ta'siriga ko'ra bir guruhga kiradi. Biroq, bugungi kunda ushbu dorilar bilan terapiya natijalari to'g'risida mavjud bo'lgan ma'lumotlar

ularning samaradorligi yoki samarasizligi, shuningdek, bunday kombinatsiyalarda nojo'ya ta'sirlarning rivojlanishi haqida aniq xulosa chiqarishga imkon bermaydi. Polifarmatiyaning uzoq oqibatlarini o'rganayotganda, buyrak nefronlarining parametrlari sezgir populyatsiyada pasayadi va parallel ravishda polifarmatiyaga eng chidamli elementlarning soni ortadi. Ushbu ma'lumotlar polifarmatiya ta'siridan keyin jigar hujayralarining funktsional faolligining pasayishini ko'rsatadi. Dori vositalarining nojo'ya ta'sirlari, shu jumladan buyrak va yurak-qon tomir ta'siri butun dunyo bo'ylab dolzarb tibbiy muammodir. Ularning rivojlanishida etakchi o'rinni eng ko'p ishlatiladigan dorilar sinflaridan biri bo'lgan steroid bo'lmagan yallig'lanishga qarshi dorilar (NSAID) egallaydi.

Tadqiqotning maqsadi va vazifalari. 6 oygacha bo'lgan kalamushlar buyrak hujayralarining morfometrik ko'rsatkichlari, proksimal va distal burma kanalchalarining o'zgarishi dinamikasini yallig'lanishga qarshi dorilarning polifarmasi bilan aniqlash.

Tadqiqot usullari. Tadqiqot IV qon guruhiga ega, vazni 210 dan 320 g gacha bo'lgan, standart parhez, suvdan erkin foydalanish va normal yorug'lik sharoitlari bilan vivarium sharoitida saqlanadigan 20 ta oq erkak kalamushlarda o'tkazildi. Hayvonlar 3 guruhga bo'lingan (n=60): I-buzilma nazorat (n=20); II guruh - 2 turdagi yallig'lanishga qarshi dori, paratsetamol 15 mg/kg, aspirin 5 mg/kg (n=25) olgan kalamushlar; III guruh - 3 turdagi yallig'lanishga qarshi dori, paratsetamol 15 mg/kg, aspirin 5 mg/kg, ibuprofen 6 mg/kg (n=25) olgan kalamushlar.

Ushbu dori dozalari empirik tarzda hisoblab chiqilgan va 10 kun davomida har kuni intragastral eritma sifatida kiritilgan. Nazorat guruhidagi kalamushlarga rivojlanishning 141-kunidan 150-kunigacha 10 kun davomida metall naycha orqali intragastrik 0,5 ml distillangan suv berildi. Hayvonlar eksperiment boshlanganidan 3 oy o'tgach (180 kunlik yoshida), efir behushligi ostida hayvonlarning boshini zudlik bilan kesish yo'li bilan tajribadan olib tashlandi. Tadqiqot o‘tkazish uchun Samarqand davlat tibbiyot universiteti Etika qo‘mitasidan ruxsat olindi. Mikroskopik tekshirish uchun material 10% formalinda mahkamlangan, spirtlar akkumulatoridan o'tgan va umumiy qabul qilingan usullarga muvofiq kerosin bloklariga quyilgan. Qalinligi 5-7 mkm bo'lgan qismlar gematoksilin-eozin bilan bo'yalgan. Matematik ishlov berish to'g'ridan-to'g'ri generaldan amalga oshirildi Pentium-IV shaxsiy kompyuteridagi "Excel 7.0" ma'lumotlar matritsalari, standart og'ish va reprezentativlik xatolari aniqlandi.

Tadqiqot natijalari. 1-guruhdagi kalamushlarda buyrak tanachalari maydoni parametrlarini, proksimal va distal burmalangan kanalchalarning tashqi diametrini, buyrak kanalchalarining lümen diametrini morfologik o‘rganish jarayonida barcha ko‘rsatkichlar bo‘yicha o‘zgarishlarning ijobiy dinamikasi kuzatildi. Kuzatish davrida jigar hujayralarining maydoni 3263 ± 34 mkm2 gacha ko'tarildi, markaziy tomirlarning o'rtacha tashqi diametri 22,08 ± 0,12 mkm, o't yo'llari lümeninin o'rtacha diametri 13,12 ± 0,09 mkm, o'rtacha tashqi diametri ± 1 mkm, venalarning o'rtacha diametri ±1,0 m ni tashkil etdi interlobulyar arteriyalarning 12,04±0,1 mkm.

2-guruhdagi kalamushlarda 1-guruhdagi hayvonlarga nisbatan morfometrik

ko‘rsatkichlarning pasayishi kuzatildi. 2-guruh sharoitlariga ta'sir qilish tugagandan so'ng, buyrak korpuskulasi maydoni 3018±4 mkm2, 3056±7 mkm2, 3126±6 mkm2, 3131±5 mkm2 gacha kamaydi (foiz nisbati -7,21%, -6,318 mkm, diametrdan -4,32%, diametrdan -4,32% ga kamaydi 20,04±0,1 mkm2, 20,49±0,13 mkm2 gacha, 21,16±0,3 mkm,21,39±0,2 mkm (foiz nisbati -9,26%, -7,21%, -4,15%, -3,11%) markaziy venalar lümenining diametri 12,16±0,12 mkm, 12,29±0,22 mkm, nisbati 12,45% ±1mkm3.0m -7,25%, -6,31%, -5,12%, -3,21%) interlobulyar venalarning tashqi diametri 18,59±0,1 mkm, 18,68±0,23 mkm, 18,86±0,12 mkm, 19,24±0,12 mkm, nisbati 19,24±0,3 mkm, 19,24±0,3 mkm (yoshga nisbatan 19,24±0,3 mkm) ga kamaygan. -7,09%, -6,22%, - 4,34%) o't yo'llarining diametri 11,42±0,11 mkm, 11,43±0,14 mkm, 11,60±0,23 mkm, 11,67±0,12 mkm (foiz nisbati -50,2%), -50,3%, -5,3%.

3-guruhdagi kalamushlarning morfometrik ko‘rsatkichlarini 2-guruhdagilar bilan solishtirganda sezilarli pasayish aniqlandi. Jigar hujayralarining maydoni 3430±71 mkm2, 3427±8 mkm2, 3367±0,8 mkm2, 3361±5 mkm2 ga kamaydi (foiz nisbati -5,14%, -5,05%, -3,19%. -3,02%) markaziy venalar diametri ±64,0 mkm 9±0,32 mkm2, 23,73±0,25 mkm2, 23,58±24 mkm2 (foiz koeffitsienti -8,13%, -6,11%, -4,08%, -3,42%) o't yo'llari lümeninin diametri 13,95±0,28 mk3,m21m2.0.1 ga. 13,53±0,16 mkm/m, 13,12±0,2 mkm/m (foiz nisbati +6,33%, +5,09%, +3,12%, +3,08%) o‘t yo‘llarining tashqi diametri 22,61±0,21 mkm/m, ±8,12 mkm3, ±2,01m3 ga kamaydi. mkm/m, 22,05±0,18 mkm/m (foiz nisbati -7,12%, -5,07%, -5,03%, -4,48%) interlobulyar tomirlar lümeninin diametri 12,58±0,13 mkm/m, 12,58±0,12 mkm/m, 12,512mkm, 12,41±0,17 mkm, 12,32±0,31 mkm (foiz nisbati -4,47%, -4,04%, -3,07%, -2,31%).

Shunday qilib, olingan natijalar dori vositalarining har xil miqdordagi ta'sirida turli darajadagi morfologik va morfometrik o'zgarishlar kuzatilishini ko'rsatdi. Yallig'lanishga qarshi dorilarning oq naslli bo'lmagan kalamushlarning buyraklariga ta'siri eksperimental tarzda o'rganildi. Yallig'lanishga qarshi dorilarning uchdan ortiq turiga ta'sir qilgandan so'ng, tananing ovqat hazm qilish tizimi sezilarli darajada kamayishi aniqlandi. Buyrakka polifarmatsiyaning ta'siri mavjudligini aniqlash polifarmatsiyaning organizm uchun etarlicha xavf darajasiga ega ekanligini ko'rsatadi.

Xulosa. Dori-darmonlar qanchalik ko'p qo'llanilsa, jigarda patologik ta'sir shunchalik aniq bo'lishi isbotlangan. Yallig'lanishga qarshi dorilar bilan polifarmatsiyaning buyraklarga ta'siri mavjudligi polifarmatsiyaning o't yo'llarining funktsiyasiga zararli ta'sir ko'rsatishi, safro sekretsiyasini kamaytirishi va organizm uchun etarlicha xavf darajasiga ega ekanligini ko'rsatadi. Bu faktlar bilvosita buyrakda xujayralar darajasining pasayishini ko'rsatadi.

Adabiyotlar ro'yxati.

1. Sanjar Usanov, Ziyadulla Xidirov, Jasmina Olimova (2023),KELIShDIKMI ZOTSIZ KALAMUShLAR JIGARINING ME'ERDAGI MORFOLOGIK VA MORFOMETRIK PARAMETRLAR, Eurasian Journal of Academic Research , 3(11), (101-107)

2. S.S.Usanov (2022),Jigarning anatomik va gistologik parametrlari Oddiy holatda oq zerikmagan kalamushlar, BARQARORLIK VA YeTAKChI TADQIQOTLAR ONLINE ILMIY JURNALI, 2(1), (123-128)
3.USANOV Sanjar Sadinovich, ISMOILOV Ortiq Ismoilovich (2022) ,OQ ZOTSIZ KALAMUShLAR JIGARINING MORFOMETRIK QARShIDA SIYoSAT DASTURI MASLAHATLARI 4 HIL VOSITALAR TA'SIRI HOLATIDA O'RGANISh, BIOMEDICINA VA AMALIYoT JURNALI , 7(5)
4. Usanov Sanat Sadinovich (2021 y.),Morfometrik xususiyatlar Polipragmaziyadagi jigar parametrlari, Amerika tibbiyot fanlari va farmatsevtika tadqiqotlari jurnali, 3(10), (28-32)
5. Usanov Sanjar Sadinovich, Xidirov Ziyadulla Erkinovich, Djumaev Husen Abdurafikovich (2023) ,Jigarning morfometrik ko'rsatkichlarini o'rganish Albom kalamushlarining 3 xil yallig'lanishga qarshi dori ta'siridaPoliprogrammalar, Central Asian Journal of Medical and Natural Science , 4(6) , (450- 455)
6. Payazov Sh. N. NORMALAGM DAGI PARATSETAOL VA ASPIRIN TA'SIRI OShIDAGI OQ SOZLI KALAMOQLAR JIGARINING MORFOMETRIK PARAMETRLARINI TAQOSISh – 2024. – Yo‘q. 11-1 (126). – B. 1280-1285.
7. Payazov Sh. N. REVMATOID ARTRITDA JIGAR FOYDALANISh XUSUSIYaTLARI // Iqtisodiyot va jamiyat. – 2024. – Yo‘q. 11-1 (126). – B. 1045-1049.
8. Payazov Sh. N. OQ UZTLI KAMUShLAR JIGARINING GISTOLOGIK TUZILIShI // Iqtisodiyot va jamiyat. – 2024. – Yo‘q. 11-1 (126). – B. 1286-1290.
9. Payazov Sh. N. OQ NOZLI KALAMOQLAR JIGARINING MORFOMETRIK KO'RSATMALARINI O'DGAN YaNGILIShGA QARShI PARATSETAOL, ASPIRIN VA EBUPROFENROFENROSİM TA'SIRIDA. – 2024. – Yo‘q. 11-1 (126). – B. 1275-1279.

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YASHIL IQTISODIYOT VA BARQAROR RIVOJLANTIRISH

Annotatsiya. *Hozirgi glaballashuv jarayonida rivojlangan mamlakatlarning texnologik bazasini sifat jihatdan yangilanishi, ishlab chiqarish samaradorligi va raqobatbardoshlik darajasini oshirish bolan birga hayot sifatini va yashash muhitini yaxshilovchi yangi texnologik tuzilmaga modernizatsiya qilingan iqtisodiyotga o`tishni talab qilmoqda. Xorijiy mamlakatlarda bunga o`tishni amalga oshiruvchi "Yashil o`sish" iqtisodiy siyosati Iqtisodiy Hamkorlik va Taraqqiyot Tashkiloti (OECD) tomonidan barcha va hakozo.*

Kalit so'zlar. *Yashil iqtisodiyot, ekologik barqarorlik, iqtisodiyot, iqtisodiyotni o'sishi, taraqqiyot strategiyasi, Yangi O'zbekiston.*

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GREEN ECONOMY AND SUSTAINABLE DEVELOPMENT

Abstract. *In the current process of globalization, the qualitative renewal of the technological base of developed countries, increasing the level of production efficiency and competitiveness require a transition to a modernized economy with a new technological structure that improves the quality of life and the living environment of the child. The "Green Growth" economic policy, which implements the transition to this in foreign countries, is implemented by the Organization for Economic Cooperation and Development (OECD), and so on.*

Keywords. *Green economy, environmental sustainability, economy, economic growth, development strategy, New Uzbekistan.*

Ma'lumki, "Yashil iqtisodiyot" iqtisodiy fan sifatida XX asr oxirlarida shakllangan bo`lib, iqtisodiyotning tabiiy muhitga bog`liqligi, uning tarkibiy qismi ekanligi va tabiiy muhit doirasida amal qilishini o`rganuvchi fan hisoblanadi. Yashil iqtisodiyot konsepsiyasi resurslarni tejashga yo`naltirilgan iqtisodiyot, ekologik iqtisodiyot, atrof-muhit iqtisodiyoti, yashil siyosat, xalqaro iqtisodiy munosabatlar

nazariyasi, iqtisodiyotni modernizatsiyalash, innovatsion iqtisodiyot kabi iqtisodiy fanlardagi ilmiy g`oyalarni qamrab oladi.

Yashil iqtisodiyot – bu ekologik barqarorlikni ta'minlash bilan birga iqtisodiy o'sishni qo'llab - quvvatlashga qaratilgan iqtisodiy model hisoblanadi. Barqaror iqtisodiy o`sishni ta`minlash va iqtisodiyotning rivojlanish darajasi ko`p jihatdan energiya resurslari zahiralariga bog`liq. Dunyoda aniqlangan tabiiy energiya manbalari zahirasi energiya iste`molining hozirgi darajasni saqlab qolsagina, keyingi 54 yil davomida energiyaga bo`lgan ehtiyojni qondirish imkonini beradi. Iqtisodiy rivojlanish esa energiyaga bo`lgan ehtiyojning ortishi va energiya tanqisligi muammosi xavfini yanada kuchaytiradi. AQSH Energiya department mutaxassislari hisob-kitoblariga ko`ra, dunyo energiya iste`moli 2012 yilda 13,8 mlrd. t.n.e. teng bo`lgan ushbu ko`rsatkich 2040 yilga qadar yiliga o`rtacha 1.4 % ga o`sib, 20,5 mlrd. t.n.e. ga tenglashadi. Birlashgan Millatlar Tashkilotining atrof muhit bo'yicha dasturi yashil iqtisdiyotni inson farovonligini yaxshilashi bilan birga ekologik xavfsizlikni va ekologik resuslarni tanqisligini sezilarli darajada kamaytiradigan mexanizni ta'riflash mumkin. Yashil moliyani tuzishimizdan maqsad kuchli ifloslanishni oldini olish va korxonalar nafaqat ishlab chiqarish rivojlantirish usullarini ishlab chiqish va yangi talablarni qo'yish va sanoatda transformatsiya qilish modernizatsiyalashni rag'batlantirish balki yashil loyihalarni va yashil texnalogiyalarni rivojlantirishni rag'batlantirish iqtisodiyotni va atrof-muhitni birgalikda yaxshilash imkonini berish ham mumkin. Global iqlim o'zgarishi o'rtacha harorat ko'rsatkichining g'ayritabiiy o'sishga olib kelishi.boshqa tomondan esa dunyo aholisining ko'payishi va shu bilan birga ehtiyojlarning ham ko'payishini ko'rishimiz mumkin va ehtiyojlarning xilma xilligi iste'mol jarayonini o'zgarishi va isrofgarchilikni ko'payishiga olib keladi. O'zbekiston Respublikasi Prezidentining 2019 -2030 yillarda O'zbekiston Resoublikasining ''Yashil iqtisodoyotga o'tish strategyasini tasdiqlash to'g'ridagi''gi qarori qabul qilindi. Mazkur qarorga ko'ra iqtisodiyotning energiya samaradorligini oshirish, qayta tiklanuvchi energiya manbalaridan foydalanishni rivojlantirish, iqlim o`zgarishi oqibatlariga moslashish va tabiiy resurslarini oqilona iste`mol qilish ustuvor yo`nalishlari etib belgilanadi. Ushbu beldilangan maqsadli indikatorlarga texnologiyalarni modernizatsiya qilish va moliyaviy mexanizmlarni rivojlantirish orqali erishiladi. Shuningdek, 2022-2026 yillarga mo`ljallangan Yangi o`zbekistonning taraqqiyot strategiyasida "yashil" iqtisodiyotga o`tish islohoti doirasida "yashil" va inklyuziv iqtisodiy o`sishni ta`minlash borasida amalga oshirilayotgan chora-tadbirlar samaradorligini oshirish, qayta tiklanuvchi energiya manbalaridan foydalanish hamda iqtisodiyotning barcha tarmoqlarida resurslarni tejashni yanada kengaytirish masalalari belgilab olingan.

Yashil moliyaning asosiy maqsadi moliyaviy siyosatni qo`llab-quvvatlagan holda iqtisodiy islohotlarni ekologik barqarorlik sari yo`naltirishdan iborat. Bu yondashuv moliyaviy resurslar atrof-muhitni yaxshilashga yordam beradigan faoliyatga yo`naltirishni, iqlim o`zgarishiga qarshi kurashishni, resurslarni tejash hamda ularning samaradorligini oshirishni o`z ichiga oladi. Yashil iqtisodiyot har qanday iqtisod nazariyasi sifatida aniq ta'riflanadi, unga ko'ra

iqtisodiyot o‘zi yashaydigan ekotizimning tarkibiy qismi hisoblanadi (Lin Margulisdan keyin). Mavzuga yaxlit yondashuv tipik bo‘lib, iqtisodiy g‘oyalar ma’lum bir nazariyotchiga qarab har qanday boshqa mavzular bilan aralashib ketadi. Femenizim, postmadernizim, atrof-muhit harakati, tinchlik harakati, Yashil siyosat, yashil anarxizm va globallashuvga qarshi harakat tarafdorlari bu atamani asosiy iqtisodiyotdan tashqarida bo‘lgan juda boshqacha g‘oyalarni tasvirlash uchun ishlatishgan.

“Yashil iqtisodiyot” fan sifatida o`z shakllanish tarixi va rivojlanish bosqichlariga ega. Tabiiy resurslarning cheklanganligi, takror ishlab chiqarmasligi bilan bog`liq muammolar insoniyatning barcha faoliyat yo`nalishlari, jumladan, iqtisodiy faoliyatiga jiddiy ta`sir ko`rsatadi. Ushbu muammoni ilmiy jihatdan o`rganish XX asrning 60-70-yillarida ammalasha boshladi. Bu davra iqtisodiy adabiyotda an`anviy iqtisodiyot tamoyillariga asoslangan “atrof-muhit iqtisodiyoti”, deb nomlangan yangi yo`nalish paydo bo`ldi. Ushbu yo`nalish doirasida iqtisodiy faoliyatning atrof-muhitga ta`siri natijasida yuzaga kelayotgan ijtimoiy-iqtisodiy oqibatlarni eksternali, ya`ni tashqi samaralari sifatida talqin etib boshlanadi.

Parij bitimining ratifikatsiya qilinishi mamlakatning issiqxona gazlari chiqindalarni kamaytirish bo`yicha majburiyatlaridagi muhim qadamdir. Kam uglerodli rivojlanish, samarali texnologiyalar, barqaror iste`mol va ishlab chiqarish tamoyillarini joriy etish orqali O`zbekiston ekologik toza iqtisodiy rivojlanish bo`yicha yetakchiga aylanish yo`lidan bormoqda. Milliy maqsadlar va innovatsiyalarni doimiy ravishda qo`llab-quvvatlash mamlakatning ekologik barqarorligini ta`minlashning yakuniy maqsadiga erishishda yanada muhim yutuqlarni ta`minlaydi. yotni rivojlantirish sohasi bo‘yicha amalga oshirilgan ishlar I. Yashil iqtisodiyotni rivojlantirish sohasida 2022-yil davomida amalga oshirilgan ishlar. 1. O‘zbekiston Respublikasi Prezidentining 2022-yil 2-dekbrdagi “2030-yilgacha O‘zbekiston Respublikasining “yashil” iqtisodiyotga o‘tishiga qaratilgan islohotlar samaradorligini oshirish bo‘yicha chora-tadbirlar to‘g‘risida”gi PQ-436-son Qarori qabul qilindi. Qaror bilan quyidagi strategik hujjatlar va tizimlar tasdiqlandi: - strategik maqsadlarga erishishga mo‘ljallangan 2030-yilgacha O‘zbekiston Respublikasida “yashil” iqtisodiyotga o‘tish va “yashil” o‘sishni ta’minlash Dasturi; - sanoat tarmoqlarida “yashil” iqtisodiyotga o‘tish va energiya tejamkorligini ta’minlash bo‘yicha Konsepsiya; - 2030-yilgacha O‘zbekiston Respublikasida “yashil” iqtisodiyotga o‘tish va “yashil” o‘sishni ta’minlash bo‘yicha Harakatlar rejasi; - ishlab chiqarilgan mahsulotning energiya sig‘imi ko‘rsatkichini 2026-yilga kelib 2022-yilga nisbatan 20 foizga kamaytirishga qaratilgan 2022–2026-yillarda iqtisodiyot tarmoqlarida yoqilg‘i-energetika resurslarini tejashning Maqsadli parametrlari; - O‘zbekiston Respublikasida “yashil” iqtisodiyotga o‘tish choralarini muvofiqlashtirish bo‘yicha Idoralararo kengash tarkibi yangilandi; - “Yashil” iqtisodiyotga o‘tish va «yashil» o‘sish bo‘yicha Donorlarning muvofiqlashtirish guruhi tasdiqlandi. - Iqtisodiy taraqqiyot va kambag‘allikni qisqartirish vazirligida qo‘shimcha 4 ta shtat birligidan iborat Donorlarning muvofiqlashtirish guruhi faoliyatini tashkil qiluvchi, “Yashil”

iqtisodiyot Strategiyasi, Dasturi va Harakatlar rejasida belgilangan vazifalarni amalga oshirishda uni Idoralararo kengash bilan o‘zaro muvofiqlashtirishga ko‘maklash ishchi organi vazifasini bajaruvchi loyiha ofisi Texnik kotibiyati tashkil etildi. 2. Fransiya taraqqiyot agentligi (AFD) bilan hamkorlikda “Yashil” iqtisodiyot bo‘yicha davlat siyosati sohasida qarz dasturi amalga oshirildi. Mazkur dastur doirasida AFD tomonidan O‘zbekiston Respublikasini “yashil” iqtisodiyotga o‘tishiga ko‘maklashish ko‘zda tutilgan bo‘lib, 2022-yil davomida AFD budjet ko‘magi mablag‘lari hisobidan O‘zbekiston Respublikasi budjetiga 150,0 mln yevro miqdorida kredit mablag‘lari o‘tkazildi. Mazkur loyiha doirasida qazilma yoqilg‘ilari subsidiyalarini xatlovdan o‘tkazish va qisqartirish, iqtisodiyotni dekarbonizatsiyalash bo‘yicha uzoq muddatli strategiyani ishlab chiqish, milliy miqyosda issiqxona gazlari tashlanmalarining monitoringi, hisoboti va tekshiruvi (MRV) tizimi joriy etish, “yashil” budjetlashtirish va soliq. Ba’zi iqtisodchilar yashil iqtisodiyotni ko‘proq tashkil etilgan maktablarning filiali yoki kichik sohasi sifatida ko‘rishadi. Masalan, an’anaviy er tabiiy kapitalga umumlashtirilgan va mehnat va jismoniy kapital bilan ba’zi umumiy xususiyatlarga ega bo‘lgan klassik iqtisod sifatida qaraladi (chunki daryolar kabi tabiiy kapital aktivlari to‘g‘ridan-to‘g‘ri inson tomonidan yaratilgan aktivlar o‘rnini bosadi). Yoki u marksistik iqtisod sifatida qaraladi, tabiat Lumpenproletariatning bir shakli, insoniyat iqtisodiyotiga ortiqcha qiymat beradigan noinsoniy ishchilarning ekspluatatsiya qilinadigan bazasi yoki neoklassik iqtisodning bir tarmog‘i bo‘lib, unda rivojlanish uchun hayot narxi va boshqalar. Rivojlangan davlatlar kuchlar muvozanatini aks ettiruvchi nisbatda barqaror saqlanadi va insoniy bo‘lmagan hayot juda past.

Xulosa qilib aytganda, O`zbekiston so`nggi yillarda yashil iqtisodiyot va ekologiya sohasida ajoyib yutuqlarni ko`rsatdi. Prezidentimiz Shavkat Mirziyoyev rahnamoligida mamlakatimizda barqaror iqtisodiy rivojlanishga erishish, atrof-muhitni muhofaza qilishga qaratilgan tashabbuslar, strategiyalar, siyosatlar qabul qilindi.

Foydalanilgan adabiyotlar ro‘yxati

1. Kahn, M. E., Mohaddes, K., Ng, R. N. C., Pesaran, M. H., Raissi, M., & Yang, J.-C. (2021). Long-term macroeconomic effects of climate change: A croos-country analysis. Energy Economics, 104, article 105624.
2. Wei Hua, Yine Li, Research on the Relationship between Economic Growth and Environmental Quality from the Oerspective of Green Finance (In Chinese) [J], Shandong Social Sciences, 2023, pp. 131-140, 3.
3. Порфирьв Б.П. Зеленая экономики: реалии перспективы и переделы роста. -М.; Карнеги, 2013
4. Yuldosheva S. UY-JOY KOMMUNAL XO ‘JALIKLARIDA SERVIS XIZMATLARINING O ‘RNI VA ULARNING SAMARADORLIGINI OSHIRISH IMKONIYATLARI //THE INNOVATION ECONOMY. – 2023. – T. 1. – №. 02. – C. 108-118.
5. Qizi Y. S. A. The role of services in housing and utilities and their opportunities to increase efficiency //ACADEMICIA: AN INTERNATIONAL

MULTIDISCIPLINARY RESEARCH JOURNAL. – 2021. – Т. 11. – №. 2. – С. 1313-1319.
6. Гофуров У. А., Юлдашева Ш. А. ОСОБЕННОСТИ ФОРМИРОВАНИЯ И РЕАЛИЗАЦИИ КОНКУРЕНТНЫХ СТРАТЕГИЙ БИЗНЕСА. – 2016.
7. Anvarqizi Y. S. The Importance of Housing Policy in Uzbekistan in Connection with Innovative Economy //International Journal on Economics, Finance and Sustainable Development. – Т. 4. – №. 3. – С. 127-132.
8. Эргашев Р. Х., Курбонов А. Б., Файзиева Ш. Ш. Совершенствование государственной поддержки малого бизнеса и частного предпринимательства в Узбекистане //Феномен рыночного хозяйства: от истоков до наших дней. Бизнес, инновации, информационные технологии, моделирование. – 2019. – С. 544-554.
9. Fayziyeva S., Samiyiva G., Yuldosheve S. Ensuring food safety in Uzbekistan and its forecasting //BIO Web of Conferences. – EDP Sciences, 2023. – Т. 71. – С. 01072.
10. Fayziyeva S. S., Yakhshiyeva N. A. Q. THE ROLE OF INNOVATION IN GLOBALIZATION AND THE DIGITAL ECONOMY //Central Asian Academic Journal of Scientific Research. – 2022. – Т. 2. – №. 4. – С. 51-55.
11. Fayziyeva S. Tadbirkorlikni rag ‘batlantirishning mintaqaviy xususiyatlari //THE INNOVATION ECONOMY. – 2024. – Т. 2. – №. 02.
12. Shodmonovna S. F., Khaitovna M. S. Milliy “yashil iqtisodiyot” taksonomiyasi //THE INNOVATION ECONOMY. – 2024. – Т. 2. – №. 1.

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ROSSIYA IMPERIYASINING O'RTA OSIYOGA BOSQINCHILIK YURISHLARI VA UNING IQTISODIY SIYOSIY SABABLARI

Annotatsiya: *Ushbu maqolada Rossiya imperiyasining O'rta Osiyoga qarshi olib borgan bosqinchilik yurishlari va ularning iqtisodiy-siyosiy sabablari tahlil qilinadi. XIX asrda Rossiya imperiyasining ekspansiyasi natijasida O'rta Osiyo mintaqasining zabt etilishi va shu orqali Rossiyaning yangi resurslarga va savdo yo'llariga kirish imkoniyati yaratildi. Maqolada, O'rta Osiyo mintaqasining strategik ahamiyati, Rossiyaning iqtisodiy manfaatlari, harbiy harakatlar, siyosiy sabablari va qarshiliklar haqida batafsil ma'lumot berilgan. Shuningdek, Rossiya imperiyasining bu hududdagi ta'siri, iqtisodiy va siyosiy natijalari, shuningdek, mahalliy xalqlarning qarshiliklari ham yoritilgan. Maqola, Rossiya imperiyasining O'rta Osiyo mintaqasidagi mustamlakachilik davrini va uning uzoq muddatli ta'sirini tahlil etishga qaratilgan.*

Kalit so'zlar: *Rossiya imperiyasi, O'rta Osiyo, Bosqinchilik yurishlari, Iqtisodiy sabablari, Siyosiy sabablari, Savdo yo'llari, Paxta sanoati, Buxoro amirligi, Xiva xonligi, Farg'ona vodiysi, Qarshiliklar, Mustamlakachilik, O'zgarishlar, Turkiston, Harbiy harakatlar, Markazlashgan boshqaruv, Iqtisodiy resurslar.*

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THE MILITARY CAMPAIGNS OF THE RUSSIAN EMPIRE IN CENTRAL ASIA AND THEIR ECONOMIC-POLITICAL CAUSES

Annotation: *This article analyzes the military campaigns of the Russian Empire in Central Asia and their economic and political causes. In the 19th century, as a result of the Russian Empire's expansion, Central Asia was conquered, which provided Russia with access to new resources and trade routes. The article provides detailed information about the strategic importance of the Central Asian region, Russia's economic interests, military actions, political causes, and resistance movements. It also discusses the impact of the Russian Empire in the region, its economic and political consequences, as well as the local populations' resistance. The article is focused on analyzing the colonial period of the Russian Empire in Central Asia and its long-term influence.*

Keywords: *Russian Empire, Central Asia, Military campaigns, Economic causes, Political causes, Trade routes, Cotton industry, Bukhara Emirate, Khiva Khanate, Fergana Valley, Resistance, Colonialism, Changes, Turkestan, Military actions, Centralized governance, Economic resources.*

XIX asrning o'rtalarida Rossiya imperiyasi dunyoda eng kuchli va eng keng ko'lamli davlatlardan biriga aylangan edi. Imperiya o'z hududini kengaytirish, yangi resurslar olish va iqtisodiy manfaatlar uchun yangi bozorlar izlash maqsadida bir qator hududlarni bosib oldi. Ushbu ekspansiya yo'nalishlaridan biri O'rta Osiyo bo'ldi. O'rta Osiyo o'sha davrda rivojlanayotgan Yevropa imperiyalarining markazida joylashgan strategik mintaqa edi va Rossiya uchun bu yerga qiziqishning bir nechta sabablari mavjud edi. Bularning eng muhimlari geosiyosiy xavfsizlik, iqtisodiy manfaatlar va millatlararo boshqaruvni kuchaytirish edi.

Rossiyaning O'rta Osiyoga qarshi ekspansiyasi bir qator murakkab siyosiy, iqtisodiy va madaniy omillar tomonidan boshqarilgan edi. O'rta Osiyo, asosan, Turkiston, Farg'ona vodiysi, Buxoro, Xiva va boshqa hududlarni o'z ichiga olgan mintaqadan iborat bo'lib, Rossiya imperiyasining janubiy chegaralarini xavfsizlantirish uchun zarur hudud sifatida ko'rilgan. Shuningdek, O'rta Osiyoning tabiiy resurslari, xususan, paxta, oltin va boshqa xom ashyolar Rossiyaning sanoati uchun muhim bozorlarni tashkil etgan.

Rossiya Imperiyasining Ekspansiyasi: Bosqinchilik Siyosati va Tashqi Xavf

Rossiyaning O'rta Osiyo bilan aloqalari XVII asrning oxirlaridan boshlab boshlangan bo'lsa-da, uning haqiqiy ekspansiyasi XIX asrning o'rtalarida, asosan, Rossiyaning kuchayishi va zamonaviy qurollarni qo'llashga asoslangan edi. Rossiya imperiyasining janubdagi chegaralari, xususan, O'rta Osiyo va uning atrofidagi hududlar bilan to'qnashuvi katta xavf tug'dirdi. Bu xavfga javoban, Rossiya imperiyasi ushbu hududlarga bostirib kirish orqali o'z xavfsizligini ta'minlashni maqsad qilgan edi.

Rossiyaning o'zining janubiy chegaralarini himoya qilish va strategik manfaatlarini ta'minlash uchun O'rta Osiyoga qarshi olib borgan harbiy yurishlari avval ambitsiyali va darhol amalga oshirildi. Bu yurishlar asosan Rossiya imperiyasining harbiy kuchi, texnologik ustunligi va ularning oldingi tajribalariga asoslangan edi.

Iqtisodiy sabablari: savdo, resurslar va yerlarni egallash

Rossiya imperiyasining O'rta Osiyoga qarshi ekspansiyasining asosiy sababi iqtisodiy manfaatlar edi. XIX asrda Rossiya sanoatlashuvni rivojlantirib, yangi resurslar va xom ashyo izlashga muhtoj edi. O'rta Osiyo mintaqasi o'zining boy tabiiy resurslari bilan Rossiya uchun qiziqarli bo'ldi. Paxta, oltin, tuz, yirik fermer xo'jaliklari va boshqalar Rossiyaning sanoati va iqtisodiy tizimiga muhim qo'shimcha bo'ldi.

Bundan tashqari, O'rta Osiyo orqali o‘tgan savdo yo‘llari Rossiya uchun iqtisodiy jihatdan strategik ahamiyatga ega edi. Ushbu savdo yo‘llari orqali Rossiya savdo tarmog‘ini kengaytirish, yangi bozorlarga kirish va o‘z iqtisodiyotini rivojlantirishni rejalashtirgan edi.

Siyosiy Sabablari: Mustahkamlash va Imperiyaning Ichki Siyosati Rossiya imperiyasining O'rta Osiyoga qarshi harbiy harakatlarining yana bir muhim sababi siyosiy edi. Rossiya hukumatining O'rta Osiyoni zabt etishdagi asosiy maqsadi imperiyaning ichki siyosatini mustahkamlash va yangi hududlarni o'z nazorati ostiga olish edi. Bu hududlarni zabt etish orqali Rossiya imperiyasi o'zining siyosiy ta'sirini va bosqinchilik jarayonida yangi xalqlarni qo'lga kiritishni maqsad qilgan.

Shuningdek, Rossiyaning ichki siyosati, xususan, imperiya boshqaruvini mustahkamlash va muayyan hududlarda markazlashtirilgan boshqaruvni amalga oshirishga qaratilgan edi. Rossiya imperiyasi uchun bu hududlarga kirish, o'zining markazlashgan boshqaruv tizimini joriy etish va yangi tahliliy imkoniyatlar yaratish uchun zarur bo'ldi.

O'rta Osiyoga Bosqinchilik Yurishlari: Asosiy Bosqichlar va Harbiy Harakatlar

Rossiya imperiyasining O'rta Osiyoga qaratilgan harbiy yurishlari bir nechta bosqichlarda amalga oshirildi. Birinchi bosqichda Rossiya Turkistonning shimoliy qismlarini, xususan, Chimkent, O‘rta Osiyo viloyatlarini zabt etishga muvaffaq bo'ldi. Keyin, 1864 yilda, Toshkentni zabt etish orqali Rossiya imperiyasi O'rta Osiyo markaziga qadam qo'ydi. Toshkentni bosib olish, Rossiya imperiyasining bu hududdagi siyosiy va harbiy ta'sirini yanada kuchaytirdi.

Keyingi bosqichda, 1868 yilda Buxoro amirligi boshqaruviga qarshi yurish boshlandi. Rossiya Buxoro amirligining suverenitetini inkor etib, mintaqadagi eng muhim siyosiy markazlardan birini o‘z nazorati ostiga olishni maqsad qilgan edi. Rossiya tomonidan Buxoro amirligi bo'yicha amaldagi boshqaruvni o'zgartirish va amirni taxtdan tushirishning o'zi ham Rossiya imperiyasining siyosiy strategiyasini ko'rsatadi.

Xiva va boshqa hududlarga qarshi olib borilgan harbiy harakatlar, 1873 yilda Xiva xonligi zabt etilishi bilan yakunlandi. Shuningdek, Farg'ona vodiysi va boshqa hududlar ham bosqichma-bosqich Rossiya nazoratiga o‘tgan.

Rossiya Imperiyasining Iqtisodiy va Siyosiy Natijalari

Rossiya imperiyasining O'rta Osiyoga qarshi olib borgan harbiy yurishlari va bosqinchiliklari imperiya uchun iqtisodiy va siyosiy natijalar berdi. Birinchi navbatda, Rossiya O'rta Osiyo hududlarini o'zining iqtisodiy tizimiga integratsiya qildi. Paxta ishlab chiqarish, savdo yo'llari va boshqa iqtisodiy resurslar Rossiya imperiyasining ehtiyojlarini qondirdi.

Bundan tashqari, Rossiya O'rta Osiyo mintaqasida o'zining markazlashgan boshqaruvini o'rnatdi. Mintaqadagi shaharlar, o'zgarishlar va iqtisodiy tarmoqlar Rossiyaning siyosiy tuzilmasiga qo'shilgan. Shuningdek, Rossiya, mintaqadagi iqtisodiy va siyosiy tizimlarni o'zgartirish orqali, mahalliy xalqlarni boshqarishda o'z nazoratini yanada kuchaytirdi.

O'rta Osiyo Xalqlari va Qarshiliklar

Rossiya imperiyasining bosqinchiligiga qarshi turli xalq qarshiliklari bo'ldi. Buxoro amirligi, Xiva xonligi va boshqa hududlarda xalqning qo'zg'olonlari va qarshiliklari kuzatildi. Mintaqadagi xalqaro bosqinchiliklarga qarshi kurashlar va

qarshiliklar uzoq davom etdi. Masalan, 1916 yilgi qo'zg'olon Rossiya imperiyasiga qarshi turli xalqlar tomonidan katta qarshilikni namoyish etdi.

Xulosa: Rossiya Imperiyasining O'rta Osiyoga Ta'siri va Merosi

Rossiya imperiyasining O'rta Osiyoga qarshi bosqinchilik yurishlari mintaqada uzoq muddatli siyosiy, iqtisodiy va ijtimoiy o'zgarishlarga olib keldi. Bu hududlarda Rossiyaning ta'siri kuchayib, mustamlakachilik davri boshlanganidan keyin, mahalliy aholi va madaniyatga katta ta'sir ko'rsatdi. Rossiya imperiyasining bu yerga qiziqishi mintaqadagi o'zgarishlarni keltirib chiqardi va natijada O'rta Osiyo Rossiyaning iqtisodiy va siyosiy tizimiga mustahkam bog'landi.

REFERENCES

1. Akhmedov, M. (2000). O'rta Osiyo tarixi. Tashkent: Akademnashr.
2. Bisharatov, Z. (2005). Rossiya imperiyasining O'rta Osiyoga ekspansiyasi. Moskva: Rossiya Yozuvchilar Uyushmasi.
3. Kuzovkin, A. (2010). Rossiya imperiyasining janubiy chegaralaridagi bosqinchilik va mustamlakachilik siyosati. Moskva: Yevropa.
4. Shirinkin, A. (2013). XIX asrda Rossiya va O'rta Osiyo: Siyasi va iqtisodiy aloqalar. Sankt-Peterburg: Nauka.
5. Turaev, M. (1991). Turkiston: Rossiya imperiyasi va mahalliy xalqlar. Toshkent: O‘zbekiston Fanlar Akademiyasi.
6. Jaimukhanov, S. (2015). Xiva xonligi va Rossiya imperiyasi: O'zaro aloqalar va qarshiliklar. Toshkent: Sharq.

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ZIYORAT TURIZMINING IQTISODIY GEOGRAFIK JIHATLARI

Annotatsiya: *Maqola ziyorat turizmining iqtisodiy va geografik jihatlarini o'rganishga bag'ishlangan. Maqolada, ziyorat turizmining tarixiy rivojlanishi, geografik joylashuvi va iqtisodiy ta'siri tahlil qilinadi hamda ziyorat turizmining turli mintaqalarda qanday shakllanganligi, uning milliy iqtisodiyotga qo'shgan hissasi va rivojlanish istiqbollari haqida takliflar va tavsiyalarni taqdim etadi. Bunday turizmning barqaror rivojlanishi uchun ekologik, madaniy va iqtisodiy omillarni hisobga olish zarur.*

Kalit so'zlar: *Ziyorat, ziyoratgoh, muqaddas, diniy turizm, sakral geografik joylar.*

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ECONOMIC GEOGRAPHICAL ASPECTS OF PILGRIMAGE TOURISM

Abstract: *The article is devoted to the study of the economic and geographical aspects of pilgrimage tourism. The article analyzes the historical development, geographical location and economic impact of pilgrimage tourism, and presents proposals and recommendations on how pilgrimage tourism has formed in different regions, its contribution to the national economy and development prospects. For the sustainable development of such tourism, it is necessary to take into account ecological, cultural and economic factors.*

Keywords: *Pilgrimage, pilgrimage site, sacred, religious tourism, sacred geographical places.*

Turizmning an'anaviy yo'nalishlardan bo'lgan ziyorat turizmi hozirda davlatlar iqtisodiyoti uchun katta ahamiyat kasb etmoqda. Ayniqsa, islom diniga e'tiqod qiluvchilarning ko'payib borishi hamda daromadlarining doimiy o'sib borayotganligi ziyorat turizmining jadal rivojlanishiga olib kelmoqda. Shuning uchun ushbu sayohat yo'nalishlarini tashkil etishga nafaqat musulmon davlatlarida balki dunyoning turizm rivojlangan qator davlatlarida ham alohida e'tibor qaratilmoqda. Jumladan, Saudiya Arabistoni, Turkiya, Misr, Malayziya, Indoneziya

kabi mamlakatlarda ziyorat turizmini ommalashtirish va hududiy rivojlantirish uchun keng islohotlar amalga oshirilmoqda. Shuningdek, AQSH, Germaniya, Buyuk Britaniya, Fransiya va Ispaniya kabi davlatlarda ham ziyorat turizmi standartlariga mos turlar jadal rivojlanib bormoqda. O‘zbekistonda ham ziyorat turizmini rivojlantirishga alohida e’tibor qaratilib kelinmoqda. Jumladan, mamlakatdagi restoran va kafelarda halol standartlarni joriy etish amaliyoti boshlandi. Xalqaro aeroportlarda va temir yo‘l stansiyalarida turistlar uchun ibodat xonalari ajratildi. O‘zbekiston boy madaniy va tarixiy merosi bilan ziyorat turizmini rivojlantirish va islom sayyohlik bozoriga kirish uchun ulkan imkoniyatlarga ega bo‘lib, Imom Al-Buxoriy, Bahouddin Naqshbandiy, At-Termiziy, Abu Muin an-Nasafiy va islom olamida mashhur boshqa ko‘plab ulamolar yurti hisoblanadi. Hozirda mamlakatda qadimiy me’morchilikning ulug‘vor yodgorliklari va qo‘lyozmalar saqlanib kelinishi mamlakatning sayyohlik imkoniyatlarini oshirib, musulmon mamlakatlaridan ko‘plab sayyohlarni jalb qilish imkoniyatini beradi.

Ziyorat turizmi — bu asosan diniy yoki ma'naviy maqsadlarda amalga oshiriladigan sayohat turidir. U odatda muayyan diniy joylarga, maqbaralarga, ibodat joylariga, yoki diniy marosimlarga qatnashish uchun amalga oshiriladi. Ziyorat turizmi, dunyo bo'ylab ko'plab mamlakatlarda o'ziga xos iqtisodiy va madaniy ahamiyatga ega bo'lib, muayyan diniy oqimlarning e'tiqodlari va an'analari bilan chambarchas bog'liq.

Ziyorat turizmi asosan diniy sabablar bilan amalga oshiriladi. Masalan, musulmonlar uchun Makka va Madina, xristianlar uchun Vatikanda joylashgan diniy markazlar ziyorat qilinadi. Har bir din o'zining ziyorat joylari va maxsus marosimlarini taqdim etadi.

Diniy va madaniy markazlar dunyo bo'ylab tarqalgan. Masalan: Musulmonlar uchun Makka (Saudiya Arabistoni), Madina (Saudiya Arabistoni) va Quddus (Falastin) ziyorat joylari. Xristianlar uchun Vatikanda joylashgan San Pietro Bazilikasi va boshqa muqaddas joylar. Yahudilar uchun Quddusdagi Yevreysko Sinagogalari. Bu joylar asrlar davomida muqaddas va diniy maqsadlar uchun muhim ahamiyatga ega bo'lib kelgan.

Ziyorat turizmi ko'plab mamlakatlar uchun iqtisodiy manba bo'lib xizmat qiladi. Diniy sayohatlar ko'plab turizm xizmatlarini o'z ichiga oladi, shu jumladan transport, mehmonxona xizmatlari, restoranlar va boshqa turistik inshootlar. Bu sayohatlar davlat byudjetiga soliq to'lovlari, valyuta kirimlari va boshqa iqtisodiy foyda keltiradi. Ziyorat turizmi nafaqat diniy, balki madaniy turizmni ham rivojlantiradi. Ziyorat joylari o'zlarining tarixiy, arxitektura va madaniy jihatlari bilan ham muhim ahamiyatga ega. Bu joylar turizmni rivojlantirish uchun zarur infratuzilma, restoranlar, muzeylar va boshqa madaniy ob'ektlar bilan ta'minlanadi. Ziyorat turizmi ko'pincha katta hajmdagi odamlarni jalb qiladi, bu esa hududning ekologik holatiga ta'sir ko'rsatishi mumkin. Shu sababli, ziyorat turizmining barqaror rivojlanishi uchun ekologik muhofaza choralarini ko'rish zarur. Shuningdek, ziyorat turizmi mahalliy jamiyatlar va madaniyatlar bilan ham uyg'un bo'lishi kerak.

Musulmonlarning yillik haj ziyorati, dunyoning har bir burchagidan millionlab odamlarni Makka va Madinaga olib keladi. Bu diniy vazifani bajarish, har bir musulmon uchun hayotidagi bir marta bajariladigan majburiyatlardan biridir. Haj ziyorati sayohatchilar uchun muqaddaslik va ma'naviy poklikni his qilish imkoniyatini taqdim etadi. Xristianlar uchun Vatikanda joylashgan San Pietro Bazilikasi va boshqa diniy joylar muqaddas ziyorat joylaridir. Xristianlar Rimda, ayniqsa Vatikanda o'z diniy an'analarini davom ettiradilar va ibodat qilish uchun ziyorat qiladilar. Ziyorat turizmi dunyo bo'ylab juda katta iqtisodiy ta'sirga ega. Bu turizm turi ayniqsa, diniy markazlar joylashgan hududlarda iqtisodiy o'sishning muhim omiliga aylanadi. Diniy sayohatlar, shu jumladan turistik xizmatlar, mehmonxonalar, restoranlar, transport va boshqa xizmatlar bilan bog'liq bo'lgan sohalarda ko'plab ish o'rinlarini yaratadi.

Ziyorat turizmi chet eldan kelgan sayohatchilarni jalb qilganligi sababli mamlakatning valyuta zaxiralarini ko'paytiradi. Bu o'z navbatida davlat iqtisodiyotiga ijobiy ta'sir qiladi. Ziyorat joylari atrofidagi hududlarda iqtisodiy rivojlanish bo'yicha keng imkoniyatlar mavjud. Bu hududlar ko'pincha turistlarga xizmat ko'rsatish, ularni qabul qilish va turizmni rivojlantirishga bog'liq infratuzilmani rivojlantirishga majbur bo'ladi.

Ziyorat turizmi sohasida eng katta ulush Osiyo mamlakatlariga to`g`ri keladi. 2020 yilda ularning jami xarajatlari 29 milliard yevroni tashkil etgan. Bunda eng faol sayyohlar Indoneziya, Xitoy va Malayziya sayohlari sanaladi. Ularning xarajatlari musulmon mamlakatlari orasida turizm sohasidagi xarajatlarning umumiy hajmining 17 foizini tashkil etadi. Jahon bozorida ziyorat turizmining 80 foizi 19 ta mamlakatga to‘g‘ri keladi. Bu faqat musulmon mintaqalarinigina emas, balki qator turizm rivojlangan mamlakatlarni qamrab oladi. 2019 yilda ziyorat turizmi tufayli ushbu mamlakatlarning YAIM dagi turizmning ulushi 148 milliard dollarni, bu sohadagi aholining bandligi esa 5 million kishini tashkil etdi. Prognozlarga ko‘ra, 2023 yilda mazkur ko‘rsatkich 190 milliardgacha o‘sadi va 6 million kishi ziyorat turizmi sanoatiga jalb etilishi mumkin. Shuningdek, AQShda ziyorat turizmi sohasida 300 ming kishi band bo’lib, ziyorat uchun qulay sharoitlarga ega bo‘lgan turistik manzillar bo‘yicha har yili Mastercard & Crescentrating “Global Muslim Travel Index (GMTI)” bo‘yicha hisobotlar e’lon qilib boradi. 2019 yilgi natijalarga ko‘ra to‘qqizinchi marta Malayziya turistlar uchun eng yaxshi turistik yo‘nalish deb topilgan edi. Indoneziya so‘ngi yillarda bu indeks bo‘yicha Malayziyaga tenglashdi. Keyingi o‘rinlarni Turkiya, Saudiya Arabistoni, BAA egalladi.[23] Ziyorat turizmini O`zbekistonda ham rivojlantirilsa, mamlakat iqtisodiyotiga foyda keltiradi. O’zbekistonda ziyorat turizmini rivojlantirish uchun yetarlicha ziyorat obyektlari mavjud. Musulmonlar uchun ziyoratga borish – islomiy yodgorliklarni ziyorat qilish, muqaddas qadamjolarni borib ko’rish va rivojlantirish uchun xayr-ehson qilish maqsadida diniy hududlarni ziyorat qiladilar. Mamlakatimizda bu ziyorat deb nomlandi va bular dunyo musulmonlarining yurtimizga intilishini kuchaytirishi

[23] 2019 by Islamic Tourism Centre, Malaysia//http://wwwsesric.org/imgs/nevs/2228_MR_DAUD.pdf.

shubhasiz. Ziyorat faqat tomosha emas: u eng avvalo buyuklar ruhini his etish, ma’naviy-ruhiy muhitdan quvvat olish, ulug’lar maqomi, tiriklik va hayot haqida eng azaliy haqiqatni anglash, qalbni shu haqiqat bilan boyitishdir.

Diniy ziyoratgohlar kam mablag‘ hisobiga katta daromad manbaiga aylanishi shubhasiz. Mamlakatimizning barcha viloyatlaridan o'nlab, yuzlab diniy qadamjolar mavjud. Ammo ularni ziyorat etish marshrutlari aniq tuzilmagan. Islom dunyosida katta xizmat qilagan, avliyo darajasiga ko'tarilgan siymolarimiz abadiy qo‘nim topgan maskanlarini faqatgina mahalliy darajada, ya'ni tuman yoki viloyat miqyosida bilishadi, xolos. Binobarin, bunday muqaddas ziyoratgohlarni respublika va xalqaro darajadagi diniy ziyoratgoh obyektlariga aylantirish mumkin.

Ziyorat turizmi hamma vaqt sayohatning eng aktiv turi bo'lib kelgan. Insoniyat borki, u e'tiqod qiladi, sig‘inadi, ruhan va ma'naviy jihatdan poklanishga harakat qiladi. Shuning uchun u diniy ziyoratni hoxlaydi. Buning uchun muqaddas ziyoratgoh bo'lishi shart. Vaholanki, mamlakatimiz diniy ziyoratgohlarga boy mintaqa hisoblanib, bugungi kunda ziyorat turizmini rivojlantirishga yanada e'tiborni yanada kuchaytirish ham moddiy, ham ma'naviy yuksalishda muhim ahamiyat kasb etadi.

Ziyorat turizmi — bu diniy va madaniy qadriyatlarni o'rganish, diniy obidalarni ziyorat qilish, ma'naviy o'sish va tinchlikni topish maqsadida amalga oshiriladigan sayohat turidir. U dunyo miqyosida iqtisodiy jihatdan muhim sohalardan biriga aylanib, ko'plab mamlakatlar uchun iqtisodiy o'sish va turizm sohasining rivojlanishiga hissa qo'shmoqda. Ziyorat turizmi nafaqat milliy iqtisodiyotga foyda keltiradi, balki global miqyosda iqtisodiy barqarorlikni ta'minlashda ham muhim ahamiyatga ega.

Ziyorat turizmining geografik jihatlari, uning tarixi va rivojlanish xususiyatlari dunyoning turli burchaklarida turli shakllarda namoyon bo'ladi. Bunga musulmonlar uchun Makka va Madina, xristianlar uchun Vatikanda joylashgan diniy markazlar va boshqa diniy va madaniy yodgorliklar misol bo'lishi mumkin. Ziyorat turizmining rivojlanishi, shuningdek, uning turli mamlakatlardagi ta'siri, infratuzilma va xizmat ko'rsatish sohalariga bo'lgan ehtiyojni kuchaytiradi.

Takliflar va tavsiyalar:

✓ Ziyorat turizmining samarali rivojlanishi uchun zamonaviy infratuzilmani yaratish zarur. Bu yo'llar, transport tizimi, mehmonxonalar, sog'liqni saqlash va xavfsizlik xizmatlarini o'z ichiga oladi. Mamlakatlar va hududlar ziyorat turizmini rivojlantirish uchun zarur infratuzilmani ta'minlashlari kerak.

✓ Ziyorat turizmini rivojlantirishda samarali marketing va reklama strategiyalarini ishlab chiqish zarur. Diniy sayohatlarni targ'ib qilishda global va mahalliy reklama platformalarini ishlatish orqali sayohatchilarni jalb qilish mumkin.

✓ Ziyorat joylarini ekologik va madaniy jihatdan himoya qilish zarur. Bu joylar nafaqat diniy va madaniy qadriyatlarni saqlash, balki atrof-muhitni ham muhofaza qilishni talab qiladi. Ekologik toza sayohatlarni rivojlantirish muhim bo'lib, bu orqali ziyorat joylarini kelajak avlodlar uchun saqlab qolish mumkin.

✓ Ziyorat turizmi mahalliy aholi uchun iqtisodiy foyda keltirishi mumkin. Shuning uchun, mahalliy aholini turizm sohasida ish bilan ta'minlash, ularni maxsus treninglar orqali tayyorlash, ular uchun yangi ish o'rinlarini yaratish muhimdir.

✓ Ziyorat turizmi sohasida xizmatlar sifatini oshirishga e'tibor qaratish lozim. Sayohatchilar uchun yuqori sifatli xizmatlar va qulayliklarni yaratish, ularning sayohatdan mamnun bo'lishini ta'minlaydi.

✓ Ziyorat turizmi rivojlanishiga oid doimiy tadqiqotlar olib borish, mavjud muammolarni aniqlash va yangi tendensiyalarni kuzatish zarur. Bu orqali turizm sohasida yuzaga keladigan o'zgarishlarga moslashish va samarali strategiyalar ishlab chiqish mumkin.

Ziyorat turizmi faqat diniy vazifalarni bajarish emas, balki iqtisodiy va madaniy rivojlanishni qo'llab-quvvatlovchi muhim bir soha sifatida qaralishi kerak. Turizm sohasida ilg'or tajribalarni joriy etish, infratuzilma va xizmatlar sifatini yaxshilash, ekologik muhofazani ta'minlash va mahalliy aholini jalb qilish ziyorat turizmining yanada samarali rivojlanishiga yordam beradi.

Foydalanilgan adabiyotlar ro’yxati

1. Qurbonov P.R., Safarov I.B., “Qashqadaryo viloyatida ziyorat turizmi” monografiya // Qarshi.: ― 2022
2. Tuxliyev I.S., Qudratov G‘.H., Pardayev M.K. Turizmni rejalashtirish.T.:― Iqtisod moliya 2010 y.
3. Safarov I.B. Geographical features of pilgrimage tourism (in the case of Kashkadarya region) //Экономика и социум. – 2023. – №. 2 (105). – С. 321-324.
4. Usmanova R., Safarov I. O‘zbekistonda turizmni shakllantirishning geografik jihatlari //Yangi O‘zbekistonda milliy turizm istiqbollari. – 2024. – Т. 1. – №. 01.
5. Safarov I. B. Developing in Mubarak district pilgrimage tourism //Экономика и социум. – 2024. – №. 5-2 (120). – С. 590-593.
6. Safarov I. B., Poyanov J. P. Forms and content of tourism //Экономика и социум. – 2024. – №. 4-1 (119). – С. 491-494.
7. Safarov I.B., Chorshamiyev R.R. G’uzor tumani ziyoratgohlar maskani //Экономика и социум. – 2024. – №. 2 (117)-1. – С. 609-616.
8. Safarov I. B., Rasulov F. I. Prospects for the development of pilgrimage tourism (on the example of Koson district) //Educational Research in Universal Sciences. – 2023. – Т. 2. – №. 4. – С. 189-191.
9. Safarov I. B., Loqayeva Z. P. Unique features and potential of pilgrimage tourism //Экономика и социум. – 2024. – №. 4-2 (119). – С. 453-458.
10. Safarov I.B., Murodova Sh.Kh. Geoecological problems in the Nishan district //Экономика и социум. – 2025. – №. 3(130)
11. Safarov I.B., Chorshanbiyeva R.A. Qashqadaryo viloyatidagi ekologik-geografik muammolar //Экономика и социум. – 2025. – №.02(129)
12. Qurbonov P. R. Iqlim o’zgarishi sharoitida tekislik mintaqasi shaharlarining rivojlanish xususiyatlari (Janubiy O’zbekiston misolida) //Экономика и социум. – 2023. – №. 10 (113)-1. – С. 210-214.
13. Toshtemirovna B. M. Geographical aspects of the demographic situation in Kashkadarya region //ACADEMICIA: AN INTERNATIONAL

MULTIDISCIPLINARY RESEARCH JOURNAL. – 2021. – Т. 11. – №. 1. – С. 188-190.
14. Safarov I. B., Toshquvvatov I. T. Recreational and touristic opportunities of Uzbekistan’s mountains //Экономика и социум. – 2023. – №. 11 (114)-1. – С. 303-312.
15. Сафаров И. Б., Халилов Н. Х. Экономико-географические проблемы градостроительства верхне-Кашкадарьинской области //Educational Research in Universal Sciences. – 2024. – Т. 3. – №. 2. – С. 707-713.

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MILLATLARARO MULOQOT TILI SIFATIDA RUS TILINING O‘TMISHI, BUGUNI VA KELAJAGI

Annotatsiya. *Mazkur maqolada rus tilining Yevropa va Osiyo mamlakatlarida tarqalishi, uning millatlararo muloqot tili sifatidagi o‘rni va ahamiyati tahlil qilinadi. Maqolada rus tilining savdo, diplomatiya va ta’lim sohalaridagi roli, shuningdek, uning tarixiy taraqqiyoti yoritilgan. Rus tilining MDH davlatlari o‘rtasida millatlararo aloqa vositasi sifatidagi maqomi, O‘zbekiston jamiyatidagi bugungi o‘rni va kelajakdagi istiqbollari haqida batafsil ma’lumot berilgan. Maqola rus tilining xalqaro miqyosdagi dolzarbligini saqlab qolish omillari va uning boy til boyligining ahamiyatini ko‘rsatadi.*

Kalit so‘zlar*: rus tili, millatlararo muloqot, tarixiy rivojlanish, iqtisodiy hamkorlik, ta’lim, madaniy almashinuv, MDH.*

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THE PAST, PRESENT, AND FUTURE OF THE RUSSIAN LANGUAGE AS A MEANS OF INTERETHNIC COMMUNICATION

Annotation. *This article analyzes the spread of the Russian language in European and Asian countries, its role, and significance as a language of interethnic communication. The article highlights the role of the Russian language in trade, diplomacy, and education, as well as its historical development. It provides detailed information on the status of the Russian language as a medium of interethnic communication among CIS countries, its current position in Uzbek society, and its future prospects. The article emphasizes the factors contributing to the preservation of the Russian language's relevance on the international stage and the importance of its rich linguistic heritage.*

Key words*: Russian language, interethnic communication, historical development, economic cooperation, education, cultural exchange, CIS.*

Til insoniyat jamiyatida asosiy ijtimoiy vosita bo‘lib, odamlarning o‘zaro muloqoti, fikr almashishi va hissiyotlarini ifoda etishida muhim ahamiyat kasb etadi. Tarix davomida hech bir xalq tildan foydalanmasdan yashamagan, chunki til ijtimoiy hayotning ajralmas qismidir. Shu bilan birga, turli xalqlar o‘rtasidagi muloqotni ta’minlash uchun millatlararo muloqot tillari shakllangan.

Millatlararo muloqot tili xalqaro miqyosda millatlararo aloqa va hamkorlikni rivojlantirishda muhim rol o‘ynaydi. Bu tillar iqtisodiy, siyosiy va madaniy

aloqalarni mustahkamlash, ilmiy yutuqlarni birgalikda o‘zlashtirish uchun xizmat qiladi. Globallashuv jarayonida bunday tillarning ahamiyati yanada ortib bormoqda.

Rus tili Yevropa va Osiyo mamlakatlarida uzoq yillar davomida millatlararo muloqot vositasi sifatida qo‘llanilib kelmoqda. Uning rivojlanishi savdo va diplomatiya ehtiyojlaridan boshlangan bo‘lib, bugungi kunda xalqaro hamkorlikning muhim omillaridan biriga aylangan. Rossiyaning geografik joylashuvi va tarixi sababli rus tili Sharq va G‘arb o‘rtasidagi madaniy va iqtisodiy aloqalarni rivojlantirishda muhim vosita bo‘lib kelgan.

Hozirgi tezkor ijtimoiy-iqtisodiy o‘zgarishlar sharoitida shaxsdan moslashuvchanlik va ijodkorlik talab qilinadi. Til bu jarayonlarda asosiy vosita bo‘lib, rus tili boy lug‘at tarkibi, lingvistik imkoniyatlari va tarixiy nufuzi sababli bu talablarga javob beradi. Rus tili sobiq Sovet Ittifoqi davlatlarida, jumladan, O‘zbekistonda ham muhim o‘rin egallab kelmoqda. Mustaqillik yillarida o‘zbek tilining rivojlanishiga katta e’tibor qaratilgan bo‘lsa-da, rus tili iqtisodiy, madaniy va ta’lim sohalarida o‘z ahamiyatini saqlab qolmoqda.

Rus tilining millatlararo muloqot tili sifatidagi tarixiy rivojlanishi, bugungi o‘rni va istiqbollari bo‘yicha ko‘plab tadqiqotlar olib borilgan. Sh.M.Kariyeva, A.N.Baske, E.D.Polivanov rus tilining tarixiy taraqqiyoti va xalqaro savdodagi o‘rnini o‘rgangan. D.E.Rozental, V.A.Vinogradov, M.V.Panov va A.Yu.Shaytanov kabi olimlar esa rus tilining lingvistik xususiyatlari va siyosiy maqomini tahlil qilgan. O‘zbekistonda Sh.M.Kariyeva, T.X.Norqobilov va O.M. Musayeva rus tilining ta’lim tizimidagi o‘rnini o‘rganib, uning lingvistik ta’sirini yoritgan.

Rus tilining millatlararo muloqot tili sifatidagi o‘rni tarixiy, ijtimoiy va iqtisodiy jihatdan chuqur ildizlarga ega bo‘lib, uning bugungi kundagi mavqei quyidagi asosiy natijalar bilan ifodalanadi:

- Tarixiy rivojlanish natijasida rus tili savdo va diplomatiya vositasi sifatida muhim rol o‘ynagan.
- O‘zbekistonda rus tili ta’limning ajralmas qismi bo‘lib, texnologiya, tibbiyot va muhandislik sohalarida asosiy manba tili hisoblanadi.
- Rossiya bilan iqtisodiy va savdo aloqalar rus tilini bilish zaruratini oshirgan.
- Rus tili madaniyat, adabiyot va ommaviy axborot vositalari orqali keng qo‘llanilmoqda.
- MDH mamlakatlarida rus tili millatlararo muloqot vositasi sifatida rasmiy maqomga ega bo‘lib, xalqaro hamkorlikni mustahkamlashga xizmat qilmoqda.

O‘zbekistonda ko‘p millatli jamiyat mavjudligi sababli rus tili turli sohalarda keng qo‘llaniladi. Ta’lim tizimida rus tili asosiy tillardan biri bo‘lib, ko‘plab maktablar va oliy ta’lim muassasalarida qo‘llaniladi. Ayrim fanlar, masalan, matematika, fizika va kimyo rus tilida o‘qitiladigan maxsus sinflar va dasturlarda o‘qitiladi.

Shuningdek, rus tili savdo va ishbilarmonlik aloqalarida ham muhim ahamiyatga ega. Rossiya va O‘zbekiston o‘rtasidagi iqtisodiy hamkorlik kuchaygani sari rus tiliga bo‘lgan ehtiyoj oshmoqda. Madaniy hayotda rus tili

o‘zining adabiyoti, filmlari va ommaviy axborot vositalari orqali muhim rol o‘ynaydi.

MDH mamlakatlarida rus tili millatlararo muloqot vositasi sifatida qabul qilingan. 2022-yilda Bishkekda o‘tkazilgan sammitda MDH davlatlari rahbarlari rus tilini qo‘llab-quvvatlash va targ‘ib qilish bo‘yicha bayonot imzoladilar. Ushbu tashabbus xalqaro hamkorlikni mustahkamlash va madaniy almashinuvlarni kengaytirishga xizmat qiladi.

O‘zbekiston yoshlari orasida rus tilini o‘rganishga bo‘lgan qiziqish ortib bormoqda. Rossiyada ta’lim olish, xalqaro tashkilotlarda ishlash yoki savdo sohasida muvaffaqiyat qozonishni istagan yoshlar uchun rus tilini bilish zarurati oshmoqda. Bunga Rossiyaning dunyo siyosiy xaritasidagi mavqeining ortib borishi ham sabab bo‘lmoqda.

Shuningdek, rus tilining xalqaro tashkilotlardagi (BMT, YUNESKO) rasmiy maqomi uning global ahamiyatini saqlab qolganligini ko‘rsatadi.

Xulosa qilib aytganda, rus tili tarixiy ildizlari va hozirgi amaliy ahamiyati tufayli nafaqat Rossiyada, balki O‘zbekiston va boshqa MDH mamlakatlarida ham muhim millatlararo muloqot vositasi sifatida o‘z mavqeini saqlab qolmoqda. U ta’lim, iqtisodiyot, savdo va madaniyat sohalarida muhim rol o‘ynab kelmoqda va kelajakda ham ushbu mavqeini saqlab qolishi kutilmoqda.

ADABIYOTLAR RO‘YHATI

1. Kariyeva, Sh.M. (2005). Rus tilining xalqaro savdo va diplomatiya sohasidagi roli va uning tarixiy taraqqiyoti. Toshkent: Fan nashriyoti.
2. Kariyeva, Sh.M. (2010). O‘zbekistonda rus tilining o‘qitilishi va amaliy qo‘llanilishi. Toshkent: Universitet nashriyoti.
3. Baske, A.N. (2003). Rus tilining Yevropa va Osiyodagi tarqalishi va tillararo ta’sir. Moskva: Nauka.
4. Polivanov, E.D. (1985). Rus tilining madaniyatlararo ta’siri va millatlararo muloqotdagi roli. Leningrad: Prosveshchenie.
5. Rozental, D.E. (1982). Rus tilining adabiy me’yorlari va grammatikasi. Moskva: Vysshaya shkola.

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THE INFLUENCE OF TOKTOGUL RESERVOIR ON THE VARIABILITY OF NARYN RIVER FLOW

Abstract: *The article is devoted to the assessment of the impact of the Toktogul reservoir on the basis of variability of the annual flow of the Naryn River. Toktogul Reservoir is the largest reservoir in Central Asia; its construction began in 1962 and was completed in 1975. The total (designed) water capacity of the reservoir is 19.5 km^3, and the useful volume is 14.0 km^3. In the study, special attention is paid to the study of influence of the conditions of the reservoir use in the irrigation and energy regimes on the river flow. Statistical indicator of the river flow variability - coefficient of variation (C_v) was determined for three calculation periods.*

Keywords: *river, river flow, natural regime, reservoir, irrigation regime, energy regime, variability, variation coefficient.*

Introduction. The annual flow rates of rivers vary from year to year, that is, if the amount of water in the river is high in one year, it may be less or, on the contrary, even more, in the next year. These quantitative changes depend on climatic factors such as atmospheric precipitation falling on river basins with a natural hydrological regime, changes in air temperature, and they are not subject to a specific law. However, any annual variation in the river flow fluctuates in a range of a certain average value. So, under natural conditions, annual changes in the river flow occur as a result of the influence of meteorological variables - atmospheric precipitation, air temperature and other natural factors.

Besides these, there are also anthropogenic factors affecting the interannual variation of river flows. One of them is reservoirs which were built in the river bed. According to historical data, small reservoirs - ponds were built in the territory of the Central Asian countries at the end of the old era and the beginning of the new era. The main purpose of their construction was to collect water from small streams and then to use it for irrigation and other purposes.

The main purpose of this work is to evaluate the impact of the Toktogul reservoir on the annual variability of the annual flow of the Naryn River and its distribution throughout the year. To achieve this goal, the following tasks were determined and solved in the research:

1) Collecting the data of water consumption measured on the Uchkurgon hydrological station in the Naryn River, their primary processing;

2) Dividing the total observation years into different accounting periods, taking into account the operating conditions of the reservoir;

3) Calculation of variation coefficients for each accounting period, making relevant scientific and practical conclusions by analyzing the obtained results.

Materials and methods. In the research work, the data of water consumption recorded in the hydrological posts belonging to the Hydrometeorological Service Center under the Ministry of Natural Resources of the Republic of Uzbekistan - Uzgidromet were used. These hydrometeorological data are the results of standard measurements and observations and are therefore considered reliable.

The method of mathematical statistics was widely used to calculate the variability of the river flow, that is, the variation coefficient (C_v) [Rozhdestvensky, Chebotarev 1990]. The values of the variation coefficients were calculated on a computer using standard programs based on the following expressions:

1) in the case when the condition of the number of years of observation n ≤ 25 is satisfied:

$$C_v = \sqrt{\frac{\sum_{i=1}^{n}(K_i - 1)^2}{n-1}}; \qquad (1)$$

2) and when the condition of the number of observation years n > 25 is satisfied:

$$C_v = \sqrt{\frac{\sum_{i=1}^{n}(K_i - 1)^2}{n}}. \qquad (2)$$

In the above expressions: n – is the number of observation years; K_i – is the rate of discharge of the river flow, its values were calculated by the following expression:

$$K_i = \frac{Q_i}{Q_0}, \qquad (3)$$

where: Q_i – is the average water consumption of the relevant year; Q_0 – is the average multi-year water consumption during the accounting period [Chebotarev 1964].

Results and discussion. The construction of the Toktogul reservoir, located in the upper reaches of the Naryn River, at the confluence of the Big Naryn and the Small Naryn rivers, began in 1962 and was completed in 1975. This reservoir, considered as the largest one in the Central Asia, was put into operation this year. Its total (designed) water capacity is 19.5 km^3, and its useful volume is 14.0 km^3 [Avakyan et al. 1979]. It is planned to use the reservoir for complex purposes, i.e. for irrigation and hydropower purposes. However, we remind you that during the

former Soviet Union, exploitation of the reservoir for irrigation purposes was considered to be the first priority goal.

The following variability of the annual flow of the Naryn River from the Toktogul Reservoir was estimated based on the data of the Uchkurgan hydrological station, as mentioned above. Statistical indicator of river flow variation coefficients were estimated for three calculation periods distinguished above.

The value of coefficient of variation of the annual flow of the Naryn River for the natural water regime, i.e., the calculation period of 1930-1974, was equal to 0.22. This result was compared with the data of V. L. Shults and "Resursy..."

As it was mentioned above, until the beginning of the 90s of the last 20th century, the irrigation regime was the priority goal in the Toktogul reservoir. In the study, taking this situation into account, the variation coefficient was estimated for accounting period II (1975-1994). The variation coefficient of the annual flow of the Naryn River during the second accounting period, when the reservoir was operating in the irrigation mode, was slightly higher than the value estimated in the natural water mode period, and equaled to 0.24. This value showed that during the operation of the Toktogul Reservoir in the irrigation mode, the annual variation of the annual flow values was close to the natural mode.

However, it is worth noting that during accounting period II, a large part of the flow of the Naryn River was used to fill the Toktogul reservoir. In the result of this it occurred that the annual flow of the Naryn River was significantly lower than the norm for several years during this accounting period.

As soon as the Toktogul reservoir began to transit to the energy mode, the annual changes in the flow of the Naryn River and the distribution of the river flow by months during the year began to undergo drastic changes. That is, in the process of the water reservoir transition to the energetic regime, the amplitude of the interannual variability of the river flow was also much lower. The effect of this situation is also reflected in the fact that the value of variation coefficient calculated for accounting period III when the Toktogul reservoir worked in the energy mode is equal to C_v=0.10 (Tab. 1).

Table 1

Variation coefficients determined for different calculation periods of the Naryn River flow

№	Accounting periods (years)	Number of years of observation, n	Variation coefficient, C_v
1	I (1930-1974)	45	0,22
2	II (1975-1994)	20	0,24
3	III (1995-2020)	26	0,10

The exploitation of the reservoir for energy purposes, in turn, had a drastic effect on the distribution of the river flow by months throughout the year. At the

next stage of the research, the distribution of the river flow by months during the year was carried out for the calculation periods specified above.

Conclusions.

1. The value of coefficient of variability of the annual flow of the Naryn River in the first accounting period, which belongs to the natural water regime, i.e. 1930-1974, was equal to 0.22. So, during the first accounting period, the annual flow of the river was highly variable from year to year. This result was compared with the data of V.L. Shults and "Resursy...", and their closeness was shown;

2. When the Toktogul Reservoir was put into operation and it worked primarily in the irrigation mode, the variation coefficient representing the interannual variability of the flow of the Naryn River slightly increased as compared with the natural mode, that is, during that period it was equal to C_v=0.24. The reasons for this are related to the fact that a large part of the flow of the Naryn River is used to fill the reservoir;

REFERENCES

1. AVAKYAN A.B., SALTANKIN V.P., SHARAPOV V.A. 1987. Vodohranilischa [Reservoirs]. Moskva. Myisl pp. 326.
2. AVAKYAN A.B., SHARAPOV V.A. etc. 1979. Vodohranilischa mira [Reservoirs of the world]. Moskva. Nauka pp. 289.
3. BLAGOOBRAZOV V.A., BONDAREV L.G. etc. 1960. Basseyn reki Narin [Naryn river basin]. Frunze. Akademiya nauk pp. 228.
4. CHEBOTAREV A.I. 1964. Gidrologicheskiy slovar [Hydrological dictionary]. Leningrad. Hydrometeoizdat. pp. 223.
5. CHONTOEV D.T., MAMATKANOV D.M. etc. 2022. Vodnie i gidroenergeticheskie resursi Kirgizstana v usloviyax izmeneniya klimata [Water and hydropower resources of Kyrgyzstan in the context of climate change]. Bishkek. Print ekspress. ISBN 978-9967-12-932-0 pp. 400.
6. EDELSHTEYN K.K. 2014. Gidrologiya ozer i vodohranilisch [Hydrology of lakes and reservoirs]. Moskva. Pero pp. 399.
7. KHIKMATOV F., RAPIKOV B.R. 2021. Transfer of the Toktogul reservoir to the energy regime and the problems associated with this process. Scientific and technical journal of Uzbek hydropower. Vol. (2) p. 36-40.
8. KHIKMATOV F., RAPIKOV B.R. 2022. Influence of hydrotechnical facilities on internal runoff distribution of the Naryn river. Ekonomika i sotsium. No 10 (101) p. 75-80.
9. MATARZIN YU.M. 2003. Gidrologiya vodohranilisch [Hydrology of reservoirs]. Perm. PGU pp. 296.
10. NIKITIN A.M. 1991. Vodohranilischa Sredney Azii [Reservoirs of Central Asia]. Leningrad. Hydrometeoizdat pp. 163.

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YOSHLAR KAMOLOTI, MANFAATI, BAXTU SAODATI – YANGI O‘ZBEKISTON KELAJAGINING ULUG‘VOR MAQSADI

Annotatsiya: *Ushbu maqolada yoshlar kamoloti, manfaati, baxtu saodati – Yangi O‘zbekiston kelajagining ulug‘vor maqsadi ekanligi, bu borada yurtimizda amalga oshirilayotgan ishlar, islohotlar va ularning amaliy natijalari haqida so‘z yuritiladi. Yosh avlodni har jihatdan komil qilib tarbiyalash, ularning zamonaviy ilm sirlarini o‘rganishlari uchun barcha sharoitlarni yaratib berish davlat siyosatining ustuvor sohasiga aylandi.*

Kalit so‘zlar*: yoshlar, yoshlar tarbiyasi, globallashuv, tahdid, malakali kadr, ta’lim, tarbiya,oltin fond, ilm, kreativ iqtisodiyot, islohot, jamg‘arma.*

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DEVELOPMENT, BENEFIT, HAPPINESS OF THE YOUTH IS THE GLORIOUS GOAL OF THE FUTURE OF THE NEW UZBEKISTAN

Annotation: *This article talks about the development, benefit, happiness and happiness of young people - the grand goal of the future of New Uzbekistan, about the works, reforms and their practical results implemented in our country in this regard. Educating the young generation to be perfect in all aspects, creating all the conditions for them to learn the secrets of modern science has become a priority area of state policy.*

Key words: *youth, youth education, globalization, threat, qualified staff, education, training, gold fund, science, creative economy, reform, fund.*

Yoshlar kamoloti, manfaati, yorug‘ iqboli, baxtu saodati – Yangi O‘zbekiston kelajagini barpo etishdek ulug‘vor maqsadimizning mazmun-mohiyatini tashkil etadi. Chunki davlatimiz rahbari ta’kidlaganidek, yoshlar O‘zbekistonning eng katta boyligi, bebaho xazinasidir. Har bir davrning o‘ta dolzarb masalalari qatorida yoshlar tarbiyasi ham diqqat markazida turgan. Davlat taraqqiyotida malakali kadr, yuksak zakovatli mutaxassislarning o‘rni beqiyos hisoblanadi. Shu boisdan ham, istiqlolimizning dastlabki kunlaridanoq, ta’lim tizimini tubdan isloh qilish, barkamol avlodni munosib tarbiyalash ustuvor vazifalardan biri etib belgilandi. Ma’lumki, joriy yilning 14 fevral kuni Prezidentimiz SHavkat Mirziyoev yoshlar bilan muloqot o‘tkazdilar. Uchrashuvda yoshlar uchun imkoniyatlarni yanada kengaytirish chora-tadbirlari muhokama etildi. Davlatimiz rahbari so‘zining

boshida bu uchrashuvdan mamnun ekanini ta’kidlab, yoshlarni xalqimizning oltin fondi[24]- deb atadi.

Barchamizga ma’lumki, O‘zbekiston aholisining 60 foizini yoshlar tashkil etadi. Har yili mehnat bozoriga 600 mingdan ortiq yigit-qizlar kirib kelmoqda. 2030 yilga borib, bu ko‘rsatkich 1 million nafarga etadi.

Yosh avlodni har jihatdan komil qilib tarbiyalash, ularning zamonaviy ilm sirlarini o‘rganishlari uchun barcha sharoitlarni yaratib berish davlat siyosatining ustuvor sohasiga aylandi. Ilgari oliy ta’limda bitta o‘rin uchun kamida 10 nafar bola kurash olib borar edi. Qisqa davrda oliygohlar soni 3 barobar oshirilgani natijasida endi 42 foiz yoshlar qamrab olinmoqda. Xotin-qizlarga shartnoma to‘lovi davlat tomonidan qoplab berilayotgani hisobiga, ularning soni 11 karra ko‘paydi. Kambag‘allikdan chiqishning eng samarali echimi ham – bu ta’lim. Shu bois bunday oilalar farzandi foizsiz ta’lim krediti, qo‘shimcha grant, shartnoma to‘loviga yordam orqali o‘qishga rag‘batlantiriladi. Bilimga chanqoq, lekin oilaviy sharoiti og‘ir bo‘lgan yoshlarni xorijda o‘qitish bo‘yicha yangi tizim – “Yorqin kelajak” loyihasi joriy etiladi[25].

Mamlakatimizda barkamol avlodni tarbiyalash masalalari keng jamoatchilik va butun xalqning ishtirokini hamda qo‘llab-quvvatlashini talab qiladigan umummilliy vazifa ekanligi qayd etilmoqda. Darhaqiqat, ta’lim muassasalarida farzandlarimizning o‘qishi va o‘z iqtidorlarini har tomonlama rivojlantirishi uchun barcha shart-sharoitlar yaratilgan. Yosh avlodda milliy ruhiyatni shakllantirish, g‘oyaviy xurujlar va zararli axborotlardan asrash masalalari, tarbiyasi og‘ir bolalarga alohida mehr-e’tibor ko‘rsatish, hayotda o‘rnini topishiga ko‘maklashish kabi masalalar kun tartibidagi masalalar sifatida hal qilinmoqda.

Vatanparvarlik hissini kuchaytirish maqsadida 10-11-sinf o‘quvchilari o‘rtasida “Vatan tayanchi” harakati boshlandi. Unga 300 mingdan ziyod yoshlar qamrab olindi. Zero, mustaqillik aynan fidoyi, o‘z Vatani manfaatlariga g‘oyat sadoqatli, yukori malakali kadrlarning jamiyatni boshkarishini takozo etadi.

Prezidentimizning BMT Bosh Assambleyasining 72-sessiyasidagi nutqida alohida ta’kidlangani kabi, “Bugungi kunda O‘zbekiston jadal rivojlanmoqda. Biz ajdodlarimizning donishmandlik an’analariga amal qilib, teran anglagan holda, qat’iy islohotlarni amalga oshirmoqdamiz, mamlakatimizning yangi qiyofasini shakllantirish yo‘lidan bormoqdamiz. Jamiyatimizda siyosiy faollik ortib bormoqda, barcha sohalarda chuqur islohotlar amalga oshirilmoqda. Ulardan ko‘zlangan maqsad - “Inson manfaatlari hamma narsadan ustun” degan oddiy va aniq-ravshan tamoyilni amalga oshirish ustuvor ahamiyatga ega bo‘lgan demokratik davlat va adolatli jamiyat barpo etishdan iborat”.

[24] https://president.uz/uz/lists/view/7872

[25] https://president.uz/uz/lists/view/7872

Prezidentimizning yoshlar tadbirkorligini qo‘llab-quvvatlashga qaratilgan 3 ta muhim hujjat imzolagani yuqoridagi fikrlarning mantiqiy davomi desak mubolag‘a bo‘lmasa kerak.

Birinchi hujjatga ko‘ra, Yoshlar agentligi huzurida jamg‘arma tuzilib, unga 100 million dollar mablag‘ ajratildi. Endi tadbirkor yoshlarga 2,5 milliard so‘mgacha imtiyozli kreditlar beriladi, startap loyihalariga 2 milliard so‘mgacha investitsiya kiritiladi.

Ikkinchi qaror bilan, oliy o‘quv yurti bitiruvchilarining bandligini ta’minlash bo‘yicha yangi tizim yo‘lga qo‘yiladi. Buning uchun Milliy bankka 100 million dollar yo‘naltirilib, ularning tashabbus va g‘oyalarini loyihaga aylantirish bo‘yicha bank xizmatlari joriy etiladi.

SHuningdek, bitiruvchilarni ish bilan ta’minlash bo‘yicha hokimlar, bank va korxona rahbarlaridan iborat komissiya tuziladi.

Uchinchi hujjatga ko‘ra, Aloqabank yoshlarning biznes loyihalarini qo‘llab-quvvatlovchi tayanch bankka aylantirilib, unga 200 million dollar beriladi. Aloqabank o‘zini o‘zi band qilgan yoshlarning loyihalari uchun 100 million so‘mgacha 7 yil muddatga imtiyozli mikroqarz ajratadi.

SHuningdek, yakka tartibdagi tadbirkor bo‘lgan, kamida 20 nafar yoshni ishga olib, kichik korxona ochgan va o‘quv markazi tashkil qilgan yosh tadbirkorlarga 7 yil muddatga 5 milliard so‘mgacha imtiyozli kredit beriladi. Bank kreditlarining kamida 30 foizi xotin-qizlar tadbirkorligi uchun yo‘naltiriladi.

Ma’lumki, kreativ iqtisodiyot sohalarida faoliyat ko‘rsatayotganlarning 98 foizi yoshlar bo‘lib, o‘tgan yili bu bo‘yicha qonun qabul qilinib, huquqiy asoslari belgilangan edi.Endi esa hududlarda ham kreativ industriya parklari barpo etiladi. Ularning rezidentlariga 2030 yil yakunigacha imtiyozli soliq rejimi qo‘llanadi. Bu borada biznes maktablari tashkil qilinib, biznes yuritish hamda elektron tijorat kabi xizmat ko‘rsatishning innovatsion usullari o‘rgatiladi.

Energetika, transport, urbanizatsiya, zamonaviy arxitektura, tibbiyot yo‘nalishlarida “El-yurt umidi” jamg‘armasi kvotalari ko‘paytiriladi. Harbiy bilim yurtlarining namunali tinglovchilari uchun “Oliy bosh qo‘mondon” davlat stipendiyasi joriy etiladi.

Kelgusi o‘quv yilidan boshlab o‘quvchilar o‘rtasida muhandislik olimpiadalari va tanlovlar o‘tkazish yo‘lga qo‘yiladi. G‘olib bo‘lgan bitiruvchi yoshlar texnika oliygohlariga grant asosida o‘qishga kiradi.

Endi bu harakat kasb-hunar maktabi, texnikum va xususiy ta’lim tashkilotlarida ham yo‘lga qo‘yilib, 1 million o‘quvchi qamrab olinadi. Ular o‘rtasida turli tanlov va musobaqalar tashkil etiladi. SHuningdek, mahallalarda “SHijoat va g‘ayrat” sport o‘yinlari o‘tkaziladi. G‘olib mahallalarga sport inshooti qurilib, anjomlar bilan ta’minlanadi. “Vatan tayanchi” hamda “Shijoat va g‘ayrat” musobaqalari g‘oliblariga harbiy bilim yurtlariga kirish uchun tavsiya beriladi.

Xulosa qilib aytish mumkin-ki, yoshlarning ta’lim olishi, kasb-hunar egallashi, etuk insonlar bo‘lib ulg‘ayishi yo‘lida zamonaviy, ilg‘or-innovatsion shart-sharoitlarni yaratib berish uchun O‘zbekiston bor kuch va imkoniyatlarini ishga solmoqda. CHunki yosh avlodni har tomonlama qo‘llab-quvvatlash, ma’naviy

etuk, jismonan sog‘lom, vatanparvar va fidoyi etib tarbiyalash, huquq hamda manfaatlarini himoya qilishga e’tibor qancha kuchaytirilsa, uning samarasi ham shuncha yuqori bo‘ladi.

Foydalanilgan adabiyotlar:

1. Mirziyoyev Sh.M. Xalqchil islohotlar xalqimiz manfaatlariga xizmat qiladi. 7-jild. – Toshkent: “O‘zbekiston” NMIU, 2023.
2. Mirziyoyev Sh.M. Milliy taraqqiyot yo’limizni qat’iyat bilan davom ettirib, yangi bosqichga ko’taramiz. 1-jild. -Toshkent: "O’zbekiston" NMIU, 2017. .
3. Рашидова, Б. Я. (2024). ТАЪЛИМ-ТАРБИЯ ҚАНЧА МУКАММАЛ БЎЛСА, ХАЛҚ ШУНЧА БАХТЛИ ЯШАЙДИ. Educational Research in Universal Sciences, 3(1), 464-469.
4. Рашидова, Б. (2022). ЮКСАК МАЪНАВИЯТ АВВАЛО ИНСОН ОДОБИДА НАМОЁН БЎЛАДИ. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 2(12), 351-355.
5. Yaxyaevna, R. B., & Nurbek, A. (2023). MA’NAVIYAT JAMIYAT HAYOTINING JONI VA RUHI. In " ONLINE-CONFERENCES" PLATFORM (Vol. 1, pp. 503-506).
6. Rashidova, B. Y. (2023). YOSHLARNI OILAVIY HAYOTGA TAYYORLASHDA MAHALLANING TUTGAN O ‘RNI.

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MUSOBAQALARGA TAYYORLASH JARAYONIDA MALAKALI KURASHCHILARNI TEZKOR-KUCH JISMONIY SIFATLARINI SAMARADORLIGINI OSHIRISH USLUBIYATINI TAKOMILLASHTIRISH

Annotatsiya:*Ushbu maqolada musobaqalarga tayyorgarlik jarayonida malakali jurashchilarning tezkor-kuch jismoniy sifatlarini oshirishning uslubiy asoslari va samarali mashg‘ulot usullari tahlil qilinadi. Tezkor-kuch sifatlarini rivojlantirishga yo‘naltirilgan maxsus mashqlar, mashg‘ulot dasturlari, shuningdek, zamonaviy texnologiyalar asosida qo‘llaniladigan metodlar yoritiladi. Maqolada jismoniy mashqlarning turlari, ularning tizimli ravishda qo‘llanishi va natijalar monitoringini amalga oshirish bo‘yicha tavsiyalar berilgan. Shu bilan birga, jurashchilarning individual xususiyatlarini hisobga olish zarurligi ta’kidlanadi. Ushbu maqola trenerlar, sport mutaxassislari va sportchilar uchun muhim ma’lumot manbai bo‘lib xizmat qiladi.*

Kalit so‘zlar: *jurash, tezkor-kuch, jismoniy sifatlar, mashg‘ulot usullari, musobaqaga tayyorgarlik, individual yondashuv, monitoring.*

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IMPROVING THE METHODOLOGY FOR IMPROVING THE EFFECTIVENESS OF SPEED AND STRENGTH PHYSICAL QUALITIES OF QUALIFIED WRESTLERS IN THE PROCESS OF PREPARING FOR COMPETITIONS

Abstract:*This article analyzes the methodological foundations and effective training methods for improving the speed-strength physical qualities of qualified wrestlers in the process of preparing for competitions. Special exercises, training programs aimed at developing speed-strength qualities, as well as methods used based on modern technologies are highlighted. The article provides recommendations on the types of physical exercises, their systematic use and monitoring of results. At the same time, the need to take into account the individual characteristics of wrestlers is emphasized. This article serves as an important source of information for trainers, sports specialists and athletes.*

Key words: *wrestling, speed-strength, physical qualities, training methods, preparation for competitions, individual approach, monitoring.*

Kirish

Jurash sport turi jismoniy va psixologik tayyorgarlikning yuqori darajasini talab qiladi. Ayniqsa, musobaqalarda muvaffaqiyatga erishish uchun sportchilarning tezkor-kuch jismoniy sifatlarini rivojlantirish alohida ahamiyatga ega. Ushbu sifatlar nafaqat raqibga qarshi muvaffaqiyatli harakat qilish, balki musobaqa davomida yuqori chidamlilikni saqlash uchun ham muhimdir.

Tezkor-kuch sifatlari kuch, tezlik va chidamlilikning uyg‘unlashgan shakli bo‘lib, ular jurashchilarning texnik va taktik qobiliyatlarini oshirishda asosiy omillardan biri hisoblanadi. Ushbu maqolada malakali jurashchilarning tezkor-kuch sifatlarini oshirish bo‘yicha zamonaviy yondashuvlar va uslubiyat tahlil qilinadi.

Tezkor-kuch jismoniy sifatlarining ahamiyati

Tezkor-kuch sifatlari jurash sportida muhim ahamiyatga ega bo‘lib, ular sportchilarning raqibga qarshi harakatlardagi tezkorlik va kuch talab qiladigan vaziyatlarda ustunlikka ega bo‘lishiga yordam beradi. Tezkor harakatlarni amalga oshirish uchun zarur bo‘lgan kuch va tezlik uyg‘unligi sportchining natijalarini sezilarli darajada yaxshilashi mumkin. Bundan tashqari, musobaqa davomida bir xil kuch va tezlikni ushlab turish imkoniyati chidamlilikni oshiradi va yuqori texnik samaradorlikni ta’minlaydi.

Tezkor-kuch sifatlarini rivojlantirishga yo‘naltirilgan mashg‘ulotlar sportchining umumiy jismoniy tayyorgarligini mustahkamlashga xizmat qiladi va musobaqalarda muvaffaqiyatga erishish imkoniyatini oshiradi. Ushbu sifatlar sportchilarning texnika va taktika borasidagi yutuqlarini ta’minlaydi.

Tezkor-kuch sifatlarini rivojlantirish uslubiyatlari

Malakali jurashchilarning tezkor-kuch sifatlarini rivojlantirish uchun turli xil uslubiyatlardan foydalaniladi. Ushbu uslubiyatlar murakkablik darajasi, sportchining tayyorgarlik darajasi va mashg‘ulotning maqsadlariga qarab farqlanadi.

Maxsus mashqlar jurashchilarning mushaklarini kuchaytirish va harakat tezligini oshirishga yo‘naltirilgan. Plioemetrik mashqlar sakrashlar va tezkor harakatlar orqali mushaklarning portlovchi kuchini oshirishga xizmat qiladi. Og‘ir atletika mashqlari esa shtanga va gantellar bilan bajariladigan mashqlar bo‘lib, ularda asosiy e’tibor mushaklarning kuchini rivojlantirishga qaratilgan. Portlovchi kuch mashqlari sportchilarning qisqa vaqt ichida maksimal kuch hosil qilish qobiliyatini yaxshilashga mo‘ljallangan.

Mashg‘ulotlarning tizimli rejasi sportchilarni tayyorlash jarayonida asosiy ahamiyatga ega. Tayyorlov jarayonida boshlang‘ich bosqichda umumiy jismoniy faollikni oshirishga e’tibor qaratiladi. Asosiy bosqichda esa mashqlar sportchining individual ehtiyojlariga moslashtiriladi va ular orqali tezkor-kuch sifatlari rivojlantiriladi. Yakuniy bosqichda sportchilar musobaqalarga tayyorlanadi va tiklanish jarayonlari amalga oshiriladi.

Zamonaviy texnologiyalardan foydalanish tezkor-kuch tayyorlovini samarali tashkil etish imkonini beradi. Biosensorlar sportchilarning holatini monitoring qilishga xizmat qiladi, video tahlil texnik harakatlarni tahlil qilish va kamchiliklarni

aniqlashda yordam beradi. Virtual trenajyorlar esa texnikani takomillashtirish va harakatlarni takrorlash uchun zamonaviy uskunalar sifatida qo‘llaniladi.

Individual yondashuvning zarurligi

Har bir jurashchining jismoniy va psixologik imkoniyatlari turlicha bo‘lganligi sababli, mashg‘ulot dasturlarini individual tarzda ishlab chiqish muhimdir. Bunday yondashuv sportchining kuch, tezlik va chidamlilik darajasini to‘g‘ri baholashni talab qiladi. Yosh va tajribasi turlicha bo‘lgan sportchilarga mos dasturlar ishlab chiqish orqali ularning individual ehtiyojlari qondiriladi. Psixologik tayyorgarlik esa sportchilarning o‘ziga bo‘lgan ishonchini oshirish va musobaqa davomida stressga bardosh berish qobiliyatini kuchaytiradi.

Natijalar monitoringi

Mashg‘ulot jarayonida erishilgan natijalarni baholash uchun muntazam monitoring o‘tkazilishi lozim. Bu sportchilarning kuch, tezlik va chidamlilik darajasidagi o‘zgarishlarni kuzatish imkonini beradi. Jismoniy holatni tahlil qilish, mashqlar samaradorligini baholash va musobaqa natijalarini tahlil qilish orqali mashg‘ulot jarayonining sifati oshiriladi va sportchilarning muvaffaqiyat ko‘rsatkichlari yaxshilanadi.

Xulosa

Musobaqalarga tayyorgarlik jarayonida malakali jurashchilarning tezkor-kuch jismoniy sifatlarini rivojlantirish sportchilarning natijalarini sezilarli darajada yaxshilashga yordam beradi. Maxsus mashqlar, tizimli rejalar va zamonaviy texnologiyalarni qo‘llash orqali ushbu sifatlarni rivojlantirishga erishish mumkin. Individual yondashuv va muntazam monitoring esa tayyorlov jarayonining asosiy qismidir. Ushbu maqolada keltirilgan uslubiyat trenerlar va sport mutaxassislari uchun muhim qo‘llanma bo‘lib xizmat qiladi. Mashg‘ulotlarning sifati va samaradorligini oshirish orqali sportchilar musobaqalarda yuqori natijalarga erishish imkoniyatini kengaytiradi.

Foydalanilgan adabiyotlar ro‘yhati

1. Majidov, R. R., Boqiyev, F. H., Raximov, D. R., Saydaxmadov, A. V., Soliyev, I. S., & Abduqodirov, D. S. (2023). JISMONIY TARBIYA VA SPORT PEDAGOGIKASI DARS MASHG ‘ULOTLARINI SAMARADORLIGINI OSHIRISHNING USULLARI. Educational Research in Universal Sciences, 2(1), 28-32.
2. Raximjonov, D. (2024). MILLIY KURASHNING AHOLI JISMONIY TAYYORGARLIGINI OSHIRISHDAGI O ‘RNI. Research and implementation, 2(6), 26-29.
3. Dostonbek, R. (2024). DZYUDOCHILARNING PSIXOLOGIYA TAYYORGARLIK TO’G’RISIDA TUSHUNCHA VA UNI TAKOMILASHTIRISH. JOURNAL OF INNOVATIONS IN SCIENTIFIC AND EDUCATIONAL RESEARCH, 7(4), 212-217.
4. asanov, A. T., & Raximjonov, D. R. (2023). SPORT O ‘YINLARI BO ‘YICHA MASHG ‘ULOTLARNI TASHKILLASHNING O ‘ZIGA XOS JIHATLARI. O'ZBEKISTONDA FANLARARO INNOVATSIYALAR VA ILMIY TADQIQOTLAR JURNALI, 2(19), 1382-1387.

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SOG`LOM AVLOD UCHUN AMBULATOR KUZATUV: BOLALARNING SOG`LOM TURMUSH TARZINI SHAKLLANTIRISHGA QARATILGAN YONDASHUV

Annotatsiya*: Ushbu tadqiqot bolalar sog'lig'iga ta'sir etuvchi xavf omillarini va hayot tarzining rolini o'rganadi. Natijalar shuni ko'rsatadiki, nosog'lom turmush tarzi sog'lig'ida muammolari bo'lgan bolalar orasida ko'proq uchraydi va kun tartibiga rioya qilish sog'liqni saqlashda muhim ahamiyatga ega. Tadqiqot sog'lom turmush tarzini targ'ib qilish va ota-onalarni kasallik xavfi haqida xabardor qilish zarurligini ta'kidlaydi. Pediatrlarning ishi bolalar va ularning ota-onalariga sog'lom turmush tarzining muhimligini anglashga yordam beradi va ularga butun hayoti davomida sog'lig'ini saqlash uchun zarur bo'lgan bilim va ko'nikmalarni beradi. Oila va sog'lom turmush tarzi muammolari mamlakatimiz uchun dolzarb bo'lib qolmoqda. Demografik vaziyatning keskinlashuvi, asosan, so'nggi o'n yilliklardagi tub ijtimoiy-iqtisodiy o'zgarishlar bilan bog'liq bo'lib, butun jamiyatining hayotiy manfaatlariga bevosita ta'sir qiladi.*

Kalit so'zlar: *dinamika, profilaktika, bolalar hayot tarzi, oilaviy muhit, tarbiya, qobiliyat, xavf omillari.*

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OUTPATIENT FOLLOW - UP FOR A HEALTHY GENERATION: AN APPROACH AIMED AT SHAPING A HEALTHY LIFESTYLE FOR CHILDREN

Annotation: this study studies the risk factors and the role of lifestyle that affect children's health. The results show that an unhealthy lifestyle is more common among children with health problems, and keeping an agenda is important in health care. The study highlights the need to promote a healthy lifestyle and educate parents about the risk of the disease. The work of Pediatricians helps children and their parents to realize the importance of a healthy lifestyle and gives them the knowledge and skills they need to maintain their health throughout their lives. Family and healthy lifestyle problems remain relevant for our country. The aggravation of the demographic situation is mainly due to the fundamental socio-economic changes of the past decades, which directly affect the vital interests of its entire society.

Keywords: dynamics, prevention, children's lifestyle, family

Kirish. Chaqaloqlik davri bolaning jismoniy va psixologik rivojlanishi uchun o'ta muhim davr hisoblanadi. Chaqaloqning sog'lig'iga ta'sir etuvchi omillarni aniqlash va ularni bartaraf etish kelajakda sog'lom avlodni tarbiyalashning asosiy shartidir [1,2].

Bolalar hayotining ko'p qismi oilada o'tadi, shuning uchun ularning salomatligi ota-onalarning turmush tarzi bilan belgilanadigan barcha ijobiy va salbiy ta'sirlarni boshdan kechiradi [3,4]. Bolaning salomatligi ko'p jihatdan ota-onalarning salomatligiga bog'liq. Shu bilan birga, biz olgan ma'lumotlar shuni ko'rsatadiki, ona to'g'ri ovqatlanish, mehnat va dam olishni muntazam ravishda almashish [5], tashqi muhitning turli zararli ta'sirlaridan qochish orqali sog'lom kelajak avlodning rivojlanishini "boshqarishi" mumkin [6,8]. "Asr dinamikasi" tushunchasi bilan gipnoz qilingan ba'zi ota-onalar o'z farzandlarini deyarli 2-3 yoshidan savodxonlikka, hisobga o'rgatishga shoshilishadi, ularni chet tillari, gimnastika bilan shug'ullanishga majbur qilishadi []. Buni juda erta qilish kerak emas, bir qobiliyatning rivojlanishi boshqalarga zarar yetkazishi muqarrar. Bolalikda qo'ldan boy berilgan narsani to'ldirish ba'zan oson bo'lmaydi. Bolani tinch, tabiiy, oqilona muhitda o'stirish kerak [7].

Tadqiqot maqsadi. Ambulator kuzatuv doirasida pediatrlarning bolalarda sog'lom turmush tarzini shakllantirishdagi samaradorligini baholash

Tadqiqot vazifalari:

1. Sog'lig'ida muammolari bo'lgan bolalarda nosog'lom turmush tarzining tarqalishini aniqlash.
2. Kun tartibiga rioya qilishning bolalar sog'lig'iga ta'sirini baholash.
3. Oila muhitining bolalar sog'lig'iga ta'sir etuvchi xususiyatlarini aniqlash.
4. Olingan natijalar asosida sog'lom turmush tarzini targ'ib qilish bo'yicha tavsiyalar ishlab chiqish.

Tadqiqot materiallari va usullari. Tadqiqotni o'tkazish uchun bizga shifokorlar nazoratida bo'lgan 2.5 yoshdan 6 yoshgacha bo'lgan 24 nafar bola ularning ota-onalari ishtirok etdi. Ishtirokchilar ikki guruhga bo'lindi: sog'lig'ida muammolari bo'lgan bolalar (asosiy guruh) va sog'lom bolalar (nazorat guruhi). Ma'lumotlar quyidagi usullar yordamida to'plandi:

Anamnez to'plash: onaning homiladorlik davridagi kasalliklari, homiladorlik davridagi asoratlar, onaning yoshi kabi tibbiy ma'lumotlar to'plandi.

So'rovnoma: ota-onalarning hayot tarzi, kun tartibiga rioya qilish, ovqatlanish odatlari va oilaviy muhit haqida ma'lumot olish uchun so'rovnoma o'tkazildi.

Kuzatuv: chaqaloqlarning uyqusi, ovqatlanishi va o'yin faoliyatlari kuzatildi.

Statistik tahlil: olingan ma'lumotlar statistik usullar yordamida tahlil qilindi.

Natijalar va muhokama. Ambulator kuzatuv jarayonida shifokorlar bolalarning jismoniy o'sishi va rivojlanishini muntazam ravishda baholash, ularning salomatligi bilan bog'liq muammolarni erta bosqichlarda aniqlash va ularni davolash uchun tegishli choralar ko'rish imkoniyatiga ega. Bundan tashqari, bolaning psixologik holatini kuzatish uning salomatligi va farovonligiga ta'sir

qilishi mumkin bo'lgan turli stressli vaziyatlarni aniqlash va muvaffaqiyatli bartaraf etish imkonini beradi.

Ambulator kuzatuvning asosiy vazifalaridan biri bolalarda turli kasalliklarning oldini olishdir. Shifokorlar muntazam ravishda bolaning vaznini, bo'yini tekshiradilar, ovqatlanish va jismoniy faollikni tahlil qiladilar, buning yordamida sog'lom turmush tarzining individual rejasini tuzadilar. To'g'ri ovqatlanish va muntazam jismoniy rivojlanish sog'lom turmush tarzining muhim tarkibiy qismlari hisoblanadi va aynan ambulator kuzatuv ota-onalarga va bolalarga ularning xususiyatlarini hisobga olish va to'g'ri qarorlar qabul qilishga yordam beradi.

Bundan tashqari, ambulatoriya kuzatuvi bolalar uchun ta'lim faoliyatining rivojlanishiga yordam beradi. Shifokorlar va tibbiyot xodimlari maslahatlar va o'quv dasturlarini taklif etadilar, ular bolalar va ularning ota-onalariga sog'lom turmush tarzi qoidalarini tushunishga yordam beradi, shuningdek, kelajakda salomatlikka salbiy ta'sir ko'rsatishi mumkin bo'lgan chekish yoki spirtli ichimliklarni iste'mol qilish kabi zararli odatlardan ogohlantiradi.

Qo'yilgan maqsadlarga erishish uchun bolalarni tekshirish va reabilitatsiya qilish bosqichlari ishlab chiqilgan. 6 yosh va undan katta bo'lgan bolalar sog'lomlashtirish markaziga quyidagi hollarda yuboriladi: ota-onalarning tashabbusi bilan; o'tkir kasallik tufayli statsionarda bo'lganidan so'ng; pediatr shifokor yoki ta'lim muassasalarining tibbiyot xodimlarining tavsiyasi bilan.

Bolaning hayotining dastlabki yillari uchun universal deb hisoblash mumkin bo'lgan usul mavjud, chunki u bolaning sog'lig'ini mustahkamlashga va to'g'ri tarbiyalashga bir xilda yordam beradi. Poliklinikada xavf guruhidagi yangi tug'ilgan chaqaloqlarni va sog'lom bolalarni ambulatoriya kuzatuvi paytida shifokorning birinchi tashrifi tug'ruqxonadan chiqqanidan keyin uch kun ichida o'tkazilishi muhim. Xuddi shu bosqichda davolanishni talab qilmaydigan, ammo ularning dinamikasi hayotning 12-16 va 22-24 kunlaridagi keyingi tashriflarda baholanadigan o'rtacha darajada ifodalangan chegara holatlari paydo bo'lishi mumkin. Bir oylik yoshda bolalar poliklinikasida barcha zarur tekshiruvlarni mutaxassislar - pediatr shifokor, nevrolog, bolalar jarrohi, oftalmolog, bolalar stomatologi o'tkazadilar. Laboratoriya, funktsional va boshqa tadqiqotlar normativ hujjatlarga muvofiq o'tkaziladi.

Muayyan guruhga tegishliligini tasdiqlash uchun zarur protseduralar va tekshiruvlar o'tkaziladi. Turli xil patologiyalari bo'lgan bolalarga ambulatoriya davolanishi va holatni doimiy nazorat qilish zarur. Zarur bo'lganda, mutaxassislarning uyda maslahati o'tkaziladi va agar davolanish natija bermasa, kasalxonaga yotqizish masalasi hal qilinadi.

Bola bir oylik yoshga to'lgandan so'ng, xududiy pediatri ushbu davrni yakunlaydi, xavf omillarini tahlil qiladi va keyingi kuzatuv va davolash to'g'risida qaror qabul qiladi. Ko'krak suti bilan muvaffaqiyatli oziqlantirayotgan ayollarga yordam ko'rsatiladi va rejimni tashkil etish va laktatsiya bilan bog'liq muammolarning oldini olish bo'yicha maslahatlar beriladi. Aniqlanishicha, sog'lig'ida muammolari bo'lgan bolalar orasida har uchinchi bola nosog'lom

turmush tarzini olib boradi, nazorat guruhida esa bunday bolalar kamroq. Kun tartibiga rioya qilish - bolaning sog'lig'i haqida g'amxo'rlik qilishda asosiy jihat, shu jumladan to'g'ri ovqatlanish, uyqu, sayr qilish. Qisman sog'lom turmush tarzini olib boradigan bolalar o'rtasida sog'liq qoidalariga har doim rioya qilmaydigan bolalar bilan solishtirganda sezilarli farqlar aniqlanmadi. Bolalikdan mustahkam xarakter shakllantirishni boshlash muhim - bu bolaning sog'lig'iga ijobiy ta'sir qiladi. Homiladorlik davrida allaqachon allalar aytish va ona bilan muloqot qilish bolaning psixik rivojlanishiga ijobiy ta'sir ko'rsatadi. Sog'lig'ida muammolari bo'lgan bolalarning hayot tarzini o'rganish ularning hayot tarzining asosiy jihatlarini, shuningdek, oilaviy muhitning o'ziga xos xususiyatlarini aniqlashga imkon berdi.

Tadqiqot natijalari: shuni ko'rsatdiki, sog'lig'ida muammolari bo'lgan bolalar orasida nosog'lom turmush tarzi (har uchinchi bola) nazorat guruhiga qaraganda ko'proq uchraydi. Kun tartibiga rioya qilish sog'liqni saqlashda muhim rol o'ynaydi. Shuningdek, anamnezdagi noqulay tibbiy ma'lumotlar, oilada sog'lom turmush tarzining yetishmasligi va yetarli tibbiy faollik emasligi chaqaloqlar sog'lig'iga salbiy ta'sir ko'rsatishi aniqlandi. Qisman sog'lom turmush tarzini olib boradigan bolalar o'rtasida sog'liq qoidalariga har doim rioya qilmaydigan bolalar bilan solishtirganda sezilarli farqlar aniqlanmadi.

Olingan natijalar: shuni ko'rsatadiki, bolalar sog'lig'iga ta'sir etuvchi omillar mavjud. Nosog'lom turmush tarzi, noqulay anamnez ma'lumotlari va oiladagi muhitning o'ziga xos xususiyatlari chaqaloqlar sog'lig'ida og'ishlarning paydo bo'lishiga olib kelishi mumkin. Kun tartibiga rioya qilish esa organizmning hayotiy faoliyati uchun eng yaxshi sharoitlarni yaratish orqali sog'liqni saqlashga yordam beradi.

Shuningdek, tadqiqot natijalari homiladorlik davrida ona salomatligiga e'tibor qaratish, sog'lom turmush tarzini targ'ib qilish va ota-onalarni kasallik xavfi haqida xabardor qilish muhimligini ta'kidlaydi. Bolalikdan mustahkam xarakter shakllantirish va ona bilan muloqot qilish bolaning psixik rivojlanishiga ijobiy ta'sir ko'rsatadi.

Xulosa. Ushbu tadqiqot chaqaloqlarning sog'lig'iga ta'sir etuvchi hayot tarzi omillarini aniqlashda muhim ahamiyatga ega. Olingan natijalar asosida sog'lom turmush tarzini targ'ib qilish, ota-onalarni kasallik xavfi haqida xabardor qilish va oilaviy muhitni yaxshilash bo'yicha chora tadbirlar ishlab chiqish.

Adabiyotlar.

1. Худоярова, Г. Н. (2024). ДЕЙСТВИЕ ТОКСИНА КАРЛИКОВОГО ЦЕПНЯ НА ОРГАНИЗМ ПОДРОСТКА. *MODELS AND METHODS FOR INCREASING THE EFFICIENCY OF INNOVATIVE RESEARCH*, *4*(40), 34-36.
2. Daminov, A. T., & Kuchkorova, M. Z. (2024). Sporadich Goitter. *International Multi-disciplinary Journal of Education*, *2*(8), 112
3. Исматова, М. Ш. (2024). ВЛИЯНИЕ ТЕМПЕРАМЕНТА НА УСПЕШНОСТЬ ОБУЧЕНИЯ СТУДЕНТОВ. *SCHOLAR*, *2*(4), 105-110.
4. Sadullayeva, M., & Boboqandova, M. (2023). CHANGES IN THE LIVER OF RATS WITH COBALT MICROELEMENT DEFICIENCY. *Science and innovation*, *2*(D2), 59-63.

5. Эргашева, М. Я., & Субхонова, С. К. (2023). Анализ диагностической ценностипрокальцитонина при оценки тиеченя COVID-19//GOLDEN BRAIN.–2023. *GOLDEN BRAIN*, *1*(8), 60-72.
6. Yakubovna, E. M., & Komilovna, S. S. (2023). Diagnostic value of procalcitonin in covid-19 disease. *Science and innovation*, *2*(D4), 148-153.
7. Одилова Г. М. ЭПИДЕМИК АҲАМИЯТГА ЭГА БЎЛГАН МИКРООРГАНИЗМЛАРНИ АНТИСЕПТИКЛАР ВА ДЕЗИНФЕКЦИЯ ЛОВЧИ ВОСИТАЛАРГА ЧИДАМЛИЛИГИНИ БАҲОЛАШ // Экономика и социум. 2024. №10-2 (125). URL: https://cyberleninka.ru/article/n/epidemik-a-amiyatga-ega-b-lgan-mikroorganizmlarni-antiseptiklar-va-dezinfektsiyalovchi-vositalarga-chidamliligini-ba-olash.
8. Одилова Г. М. ОСОБЕННОСТИ КЛИНИЧЕСКОГО ТЕЧЕНИЯ, ДИАГНОСТИКИ И ЛЕЧЕНИЯ ХРОНИЧЕСКОГО НЕСПЕЦИФИЧЕСКОГО КОЛИТА // Экономика и социум. 2024. №11-1 (126). URL: https://cyberleninka.ru/article/n/osobennosti-klinicheskogo-techeniya-diagnostiki-i-lecheniya-hronicheskogo-nespetsificheskogo-kolita.

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QUYONLARDA PROSTATTA BEZINING MORFOLOGIYASI

Annotatsiya: *Maqolada quyonlarda prostata bezining gistologik tuzilishining xususiyatlari tasvirlangan. Quyonlarda prostata bezi yetarli darajada rivojlangan va yaxshi alveolyar tuzilishga ega. Stroma biriktiruvchi va silliq mushak to'qimalaridan iborat bo'lib, elastik tolalar oz sonli bo'lib, kapsulada va bez elementlari va tomirlari atrofida joylashgan.*

Kalit so'zlar: *quyon, prostata bezi, gematoksilin va eozin, Van Gison, elastik tolalar, stroma, argirofil tolalar.*

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MORPHOLOGY OF THE PROSTATE GLAND IN RABBITS

Annotation*: the article describes the features of the histological structure of the prostate gland in rabbits. In rabbits, the prostate gland is sufficiently developed and has a good alveolar structure. The Stroma consists of connective and smooth muscle tissue, with a small number of elastic fibers, located in the capsule and around the elements and vessels of the gland.*

Keywords: *rabbit, prostate gland, hematoxylin and eosin, Van Gison, elastic fibers, stroma, argyrophilic fibers.*

Kirish. Bugungi kunga qadar quyonlarda prostata bezining gistomorfologiyasi bo'yicha batafsil qiyosiy anatomik ma'lumotlar kam uchraydi.[1,2]. Oxirgi 10 yildagi ilmiy adabiyotlar sharhlari quyonlarda prostata bezining anatomiyasi va gistologik tuzilishi haqida tushuncha kam o`rganilgan. Shuning uchun shu iimiy ma`vzuda izlanish olib borish tibbiyotda yangi davolash usullarini ishlab chiqish uchun foydalidir[5,4]. Yana bir guruh olimlar quyon va kalamushlarda o`t yo`llari va o`nikki barmoqli ichak devoridagi nerv chigallarini o`rgangan. Biroq, umurtqali hayvonlardan quyonlarda prostate bezining gistologik tuzilishini o`zgarishlarni o`rgangan ilmiy ma`lumotlar topmadik[3].

Tadqiqotning maqsadi va vazifalari. Voyaga etgan sog`lom quyonlarda prostata bezining gistologik tuzilishini o'rganish.

Materiallar va tadqiqot usullari. Voyaga etgan sog`lom 12 ta quyonlardan olingan prostata bezlarida tadqiqot olib borildi. Materiallar 12% neytral formalinda fiksatsiya qilindi. To`qimalarni umumgistalogok tuzilishni o`rganish uchun Gematoksilin-Eozin bilan bo'yaldi. Van Gison usulida elastik tolalar aniqlandi.. Nervlarni o`rganish uchun gistologik kesmalar muzlatadigan mikrotomida tayyorlanib, Bilshovskiy-Gross usulida bo`yaldi.

Tadqiqot natijalari. Voyaga etgan quyonlarda prostata bezi yaxshi rivojlangan va to`liq shakillangan bo`lakchalarga ega, bo`lakchalarga nisbatan katta, alveolyar tuzilishga ega. Secretor bo1imining ohirgi qismi va chiqaruv naylari keng, lekin teks tuzilmagan. Ichki tomondan silindirik epiteliy bilan qoplangan bo`lib, joylarda o'simtalar hosil qiladi. Ba'zi sekretorning bo'shlig'ida ko'rinadigan granularlik bilan amorf sekretsiya topiladi. Stroma biriktiruvchi va silliq mushak to'qimalaridan iborat bo'lib, elastik tolalar soni kam, ingichka, kapsulada va bez elementlari va tomirlari atrofida joylashgan. Interlobulyar biriktiruvchi to'qima yaxshi rivojlangan bo'lib, undan yupqa qatlamlar bo'lakchalarga tarqalib, terminal sekretsiya bo'limlari va kanallarini o'rab oladi. Kapsula atrofida ko'plab tomirlar va katta nerv tugunlari mavjud. Argirofil tolalar yaxshi rivojlangan. Ichki va tashqi argirofil membranalar yupqa va qalin argirofil tolalardan iborat. Stromada argirofil tolalarning katta va kichik to'rli tarmog'i ko'rinadi. Intramural nerv tolalari sezilarli miqdorda, ayniqsa organning periferiyasida kuzatiladi. Ular to'plamlar, tugunlar bilan ifodalanadi va turli qalinlikdagi individual nerv tolalari mavjud, ba'zida varikoz, burmali va tekis. Joylarda bo'linib, ular stroma hujayralarida yoki epiteliya hujayralarida tugaydigan buta shaklidagi retseptorlarni hosil qiladi. Terminal qismlarini qoplaydigan epiteliy odatda ko'p qatorli silindrsimon bo'ladi. Hujayra yadrolari yaxshi bo'yalgan, asosda joylashgan bo'lib, yumaloq va oval cho'zilgan shaklga ega. Ba'zi kanallarning devorlari va terminal sekretor bo'limlari past kubsimon epiteliy bilan qoplangan. Silliq muskullar soni bezning chetiga qarab ko'payadi va u erda chiziqli mushaklar ham rivojlangan. Stromada va ayniqsa organning tashqi qismlarida turli kalibrli tomirlar ko'p. Tashqi va ichki argirofil membranalar yaxshi rivojlangan bo'lib, ingichka va qalin, biroz burishgan tolalardan iborat.Ko'p sonli nerv elementlari asosan nerv tolalari va asab tugunlari bilan ifodalanadi. Gangliyalarning hujayralari har xil o'lchamda bo'lib, aniq yumaloq va oval yadrolarga ega.Bezning markaziy qismlarida mayda ko'p qutbli nerv hujayralaridan tashkil topgan mayda tugunlar kuzatiladi. Ba'zi nerv to'plamlari va alohida tolalar bez elementlari bilan chegaradosh. Ko'p sonli nerv tolalari stromaga kirib, joylarda keng retseptor maydonlarini hosil qiladi, shuningdek, terminal bo'limlari va kanallari epiteliysiga etib boradi. Polivalent retseptorlari, dendritik retseptorlari va qon tomir retseptorlari kabi ko'plab nerv uchlari mavjud. Genital tanacha va kolba tipidagi kapsulalangan retseptorlari stromada va ko'proq periferiya bo'ylab keng tarqalgan.

Xulosa. Voyaga etgan quyonlarning prostata bezi yxshi rivojlangan bo`lib, bo`laklardan iborat tuzilishga ega. Parenximasini to`qimalari to`liq rivojlangan. Terminal sekretor bo'limlari va kanallari juda kichikdir. Quyonlarda prostata bezi juda ko'plab intramural nerv chigallari va nerv tolalari bilan ta`minlangan. Ular ko'p

va xilma-xil bo'lib, nerv magistrallari, shoxlari va turli hil erkin va kapsulalangan retseptorlari bilan ifodalanadi.

Использованная литература:

1. Маматалиев А. Р. Нервный аппара внепеченочных желчных протоков у кролика после экспериментальной холецистэктомии //international journal of recently scientific researcher's theory. – 2024. – т. 2. – №. 4. – с. 161-165. Academic research in modern science.International scientific-online conference
2.Маматалиев А. Р., Орипов Ф. С. Қуёнларда жигардан ташки ўт йулларининг одатда ва ўт халтасини олиб ташлагандан сўнги гистологик ўзгариш //journal of biomedicine and practice. – 2021. т. 6. – №. 3. – с.117- 125.
3.Абдуллаева Д. Р., Исмати А. О., Маматалиев А. Р. Анатомическое строения внепеченочных желчных протоков у крыс //golden brain. – 2023. – т. 1. – №. 10. – с. 493-499.
4. Зохидова С., Маматалиев А. Морфофункциональная и гистологическом строении эпителия языка крупного рогатого скота //евразийский журнал медицинских и естественных наук. – 2023. – т. 3. – №. 2. – с. 133-139.
5.Зохидова, С. Х., Маматалиев, А. Р., Тухтаназарова, Ш. И., Мусурмонов, А. М., Омонов А. Т., & Мусурмонов, Ф. И. (2023). Возрастной особенности гистологического строения различных отделов аорты у плодов и новорожденных. Central asian journal of innovations on tourism management and finance, 4(5), 115-121.
6.Маматалиев А.Р.Особенности нейрогистологическое строение интразонального нервного аппарата вне печеночных желчных протоков у крыс //экономика и социум. – 2024. – №. 3-2 (118). – с. 692-695.
7.Абдуллаева Д. Р., Исмати А. О., Маматалиев А. Р. Особенности гистологического строения внепеченочных желчных протоков у крыс //golden brain. – 2023. – т. 1. – №. 10. – с. 485-492.
8.Маматалиев А. Р.Нервный аппарат внепеченочных желчных протоков у кролика после экспериментальной холецистэктомии // international journal of recently scientific researcher's theory. – 2024. – т. 2. – №. 4. – с. 161-165.9.
9. Bobur Toshbekov [1] Abdumalik R. Mamataliyev [2] Bayramdurdi Sapaev [3] Abdijabbor S. Amanov [4] Nazora Xudoyberdiyeva [5] G'olib T. Kurbanov [6] Dadakhon M. Abdullaev [7] Ikrom Nasimov [8] Matluba K. Rasulova [9] Iroda K. Turakulova. Behavioral Adaptations of Arctic Foxes (Vulpes lagopus) in Response to Climate Change.*Caspian Journal of Environmental Sciences*. ISSN: 1735-3033

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CHARACTER OF ANNA BOLEYN IN BIOFICTION

Abstract*: Anna Boleyn—historically known as Anne Boleyn—stands among the most compelling figures of the English Tudor era, largely due to her controversial rise and dramatic downfall as the second wife of King Henry VIII. Her story has inspired a wealth of historiographical works, but the relatively new literary category of "biofiction" has breathed fresh interpretive life into her narrative. Biofiction, a genre that merges factual historical data with creative imagination, allows authors to bridge archival records and the literary world, reshaping how Anna Boleyn's character is understood. This article explores the character of Anna Boleyn in biofiction, analyzing how literary novelists grapple with the intersection of fact, myth, and creative embellishment.*

Key words*: Anna Boleyn, Anne Boleyn, biofiction, Tudor England, historical fiction, literary representation, feminism, Henry VIII, cultural narrative.*

INTRODUCTION

Anna Boleyn's life and death have long captivated readers and historians alike. Though most academic and popular accounts refer to her as "Anne," the name "Anna" occasionally appears in various records and translations, underscoring the transnational interest in her biography [1]. Her biography involves a meteoric rise to the status of Queen Consort of England in the 16th century before her sudden, tragic downfall by execution in 1536. Beyond mere historical curiosity, Anna's story resonates because it epitomizes the tumultuous intersection of personal ambition, royal power, and religious upheaval [2].

While historians have drawn from letters, ambassadorial reports, and contemporary chronicles to piece together a portrait of Anna, the incomplete or contradictory nature of archival sources has left ample room for speculation [3]. Over time, novelists have stepped into this gap to craft imaginative works that explore the emotional and psychological dimensions of Anna's life. These literary pieces belong to a subgenre known as "biofiction," wherein authors interweave historical facts with creative liberties, aiming to fill in the gaps in the record to present a more complete or dramatically compelling portrayal of their subject [4].

The renewed scholarly attention to biofiction has generated debates on whether such works enhance or distort historical understanding. Critics argue that imaginative embellishments risk trivializing or romanticizing serious historical matters, whereas proponents maintain that fiction illuminates the human elements often lost in strictly empirical biographies [5]. The figure of Anna Boleyn is especially susceptible to these debates. She is variously depicted as a cunning manipulator, a victim of political machinations, a reformist icon, or a tragic romantic heroine. This multiplicity of interpretations underscores the fragility of facts when subjected to centuries of myth-making.

In this article, we probe the portrayal of Anna Boleyn in biofiction, examining how novelists balance factual fidelity with creative invention. The discussion spans textual analysis, feminist critique, and cultural context, ultimately offering a holistic perspective on how biofiction has reshaped the modern audience's understanding of Anna's life. By situating these fictional narratives within broader literary and historical discourses, we observe the dynamic interplay between the real, the imagined, and the mythic in constructing the character of Anna Boleyn.

LITERATURE REVIEW

Emergence of Biofiction

Biofiction, sometimes referred to as the "biographical novel" or "literary biography," has gathered momentum in the last few decades, driven by readers' fascination with historically grounded storytelling [6]. While historical novels have existed for centuries—marked by Walter Scott's influential works—biofiction distinctively centers on real historical figures, granting authors the freedom to inhabit their internal worlds. Scholars like Renk [7] note that biofiction straddles the line between biography and novel, challenging both the objectivity of the historian and the imaginative boundaries of the novelist.

In the context of Tudor England, biofiction has proven remarkably popular, partly because the Tudor monarchs and their consorts lived dramatic lives filled with courtly intrigue and social upheaval. Authors frequently choose famous figures—such as Henry VIII, Elizabeth I, and Anna Boleyn—as focal points, combining extensively researched historical scaffolding with invented dialogues, emotional narratives, and interpretive commentary. This approach strives to humanize distant figures, making them accessible to contemporary readers [8].

Anna Boleyn in Historical Narratives

Historically, Anna Boleyn has been the subject of numerous biographies, each reflecting the author's methodological and ideological bent. Early Catholic accounts often presented her as a scheming seductress who lured Henry VIII away from Queen Catherine of Aragon [9]. Protestant-leaning authors of the 19th century, by contrast, sometimes portrayed Anna as a martyr for religious reform, given her alleged support for vernacular scripture [10]. Historians in the 20th century began to reassess her role more critically, scrutinizing the political, economic, and personal motivations behind her union with Henry VIII.

While primary sources such as letters from Eustace Chapuys, the imperial ambassador, and legal documents from the trial that led to Anna's execution offer some factual grounding, they are often fragmentary, biased, or contradictory [3]. More recent scholars have employed feminist and cultural studies approaches to re-interpret Anna's historical significance. Warnicke [11], for example, examines her downfall through the lens of gender politics, suggesting that Anna's failure to produce a male heir—rather than her alleged infidelities—was the true catalyst for her downfall.

Transition to Fictional Portrayals

The paucity of definitive information on Anna's motivations, personality, and private feelings has attracted novelists seeking fertile ground for creative exploration. The fictional retellings typically revolve around certain key themes:

1. **Romance vs. Political Ambition**: Did Anna genuinely love Henry VIII, or were her affections tied to ambition? Fiction often dramatizes her emotional state, painting her as either a naïve lover or a calculating political player [12].

2. **Religious Convictions**: Some novels emphasize her engagement with religious reform, framing her as an intellectual ally of Protestant-leaning court figures. Others downplay these aspects, focusing instead on her personal struggles [10].

3. **Victimhood and Agency**: Fictional narratives oscillate between depicting Anna as a tragic victim of royal caprice and a cunning strategist aware of her own manipulative power [4]. These portrayals influence how modern audiences perceive her moral standing.

4. **Feminist Reclamation**: In recent decades, feminist scholarship and popular culture have collaborated to "reclaim" Anna Boleyn's image, highlighting her resilience, intelligence, and ability to navigate a patriarchal court. Such portrayals challenge longstanding stereotypes [11].

Theoretical Tensions

Biofiction around Anna Boleyn often grapples with theoretical concerns. Postmodern critiques question the feasibility of objective history, arguing that all historical accounts already contain elements of narrative construction [13]. From this angle, biofiction is not a distortion but a more transparent acknowledgment of the interpretive leaps in writing history. Similarly, reader-response theories highlight how each new retelling of Anna's life invites distinct interpretations, influenced by the cultural milieu in which the text is produced [14].

Despite these theoretical defenses, the blurring of fact and invention continues to spark debate. Critics worry that readers may mistake fictional details—especially emotionally charged scenes—for historical truths. Proponents argue that the emotional resonance of fiction can spark deeper engagement with a historical figure, perhaps inspiring readers to delve into more scholarly treatments [15].

In summary, biofiction's treatment of Anna Boleyn reflects broader trends in literary studies and historiography. This genre both capitalizes on historical interest and challenges the boundaries of fact and fiction, creating multiple interpretive frames for one of history's most enigmatic queens.

DISCUSSION

1. Crafting an Interior World

One of the most prominent features of biofiction about Anna Boleyn is the attempt to construct her interior world—her thoughts, desires, and fears. Historical sources rarely provide direct access to Anna's inner self. Ambassadors' letters, trial records, and royal decrees focus on external events and biases rather than introspective reflections [3]. In response, novelists creatively fill these gaps,

offering hypothetical emotional arcs and rhetorical soliloquies that transform her from a mere historical icon into a relatable character.

Such fictional interiority often hinges on interpreting key moments: Anna's first significant encounters with Henry VIII, the bitter realization of her precarious position after her miscarriages, and her final moments in the Tower of London. By dramatizing her internal dialogues, authors aim to invite readers into Anna's emotional sphere. For example, some works depict her as wracked by conflicting emotions—torn between love and fear—while others envision her as resolute and even defiant, using her wits to navigate the court's treacherous environment [12].

2. Balancing Romance and Realpolitik

Biofictional portrayals typically straddle a dual narrative structure: the romance with Henry and the political intricacies of the Tudor court. Given the era's norms, a marriage to the king was as much a diplomatic transaction as a personal bond. Yet many biofictions foreground an intimate love story, possibly to satisfy modern readers' preference for romantic narratives [6].

However, some authors choose to lay bare the political stakes. They highlight that Anna's union with Henry fundamentally reshaped English religious policy by enabling the break from Rome, thus tying her personal story to a major historical shift [9]. Fiction in this vein often casts Anna as an active player in courtly politics, navigating alliances and rivalries with careful calculation. Still, the portrayal varies: in certain novels, Anna is a pawn manipulated by her father Thomas Boleyn and her uncle, the Duke of Norfolk, while in others, she emerges as a cunning architect of her own rise [4].

3. Intersections with Feminist Reclamation

Anna Boleyn's role has gained renewed visibility in light of feminist scholarship, which questions male-centric historical narratives. Biofiction can thereby become a form of revisionist storytelling, affirming Anna's agency and intellectual prowess. In these renditions, Anna is not merely an object of Henry's desire but an intelligent woman championing religious and political transformations, even if doing so in an environment that severely limited women's autonomy [11].

Such feminist-driven retellings can reshape the standard "love-and-betrayal" plot into one that underscores how Anna confronted patriarchy, championed certain religious reforms, and attempted to carve out a space of autonomy within the constraints of a male-dominated system. Even so, some critics argue that romanticizing her as a proto-feminist figure can overlook the complexities of her complicity in the court's hierarchical structure [10].

4. Literary Techniques and Authenticity

Biofiction authors must weigh fidelity to historical record against the demands of compelling narrative structure. Tools such as focalization, multiple narrators, and time shifts are often employed to offer different perspectives on Anna's life, emphasizing its contradictions [15]. Dialogues, especially those that dramatize her exchanges with Henry, are nearly always invented, since verbatim transcripts from the 16th century rarely exist. Yet these invented dialogues can carry

significant interpretive weight: how Anna addresses the king, negotiates with her foes, and expresses vulnerability or defiance shapes readers' perception of her character.

The challenge lies in maintaining a semblance of historical plausibility. Authors frequently embed their narratives with archaic vocabulary, period-specific references, and direct allusions to known events—for instance, the details of Henry's quest for annulment from Catherine of Aragon or Anna's miscarriages. Minor anachronisms can be forgiven as creative license, but glaring factual errors risk undermining the novel's credibility [1].

5. Myth-Making and Cultural Reverberations

Over the centuries, Anna Boleyn's image has been subject to myth-making, from sensational rumors about witchcraft to legends that she possessed a sixth finger. Biofiction grapples with whether to perpetuate or debunk these myths. Some authors incorporate them symbolically, using the alleged deformities as metaphors for otherness, while others dismiss such tales as malicious propaganda [3].

In contemporary pop culture, Anna's story resonates because it dovetails with broader narratives of women navigating hostile political worlds. Television adaptations of novels that fictionalize Anna's life, such as *The Other Boleyn Girl*, have further popularized her image. While these adaptations often condense or amplify certain aspects—turning complex political issues into simplified romantic drama—they also spark renewed interest in her story [12].

The recurring portrayal of Anna Boleyn in new literary works underscores the resilience of her narrative. She becomes a screen onto which different eras project their anxieties and aspirations: from 19th-century Victorian morality plays to 21st-century feminist or postmodern reinterpretations. Such cultural reverberations illustrate the enduring power of the Anna Boleyn figure to captivate the collective imagination.

RESULTS

Drawing upon this exploration of Anna Boleyn in biofiction, several overarching results emerge:

1. **Multiplicity of Interpretations**: Biofiction confirms that there is no single, definitive portrayal of Anna Boleyn. Instead, she is reimagined through various lenses—romantic, political, feminist—that reflect the authors' goals and cultural contexts [4].

2. **Feminist Approaches Reconfigure Traditional Stereotypes**: Modern biofiction often emphasizes Anna's intelligence, resilience, and political engagement, challenging older narratives that cast her primarily as a manipulative temptress or unwitting pawn. This shift aligns with broader feminist critical trends in historical fiction [11].

3. **Blurring of Fact and Creative License**: While authors aim for historical verisimilitude by incorporating known events, they also exercise creative license to dramatize Anna's internal monologues, dialogues, and motivations. This interweaving of fact and fiction complicates the boundary between biography and novel [6].

4. **Mythical Dimensions Remain**: Biofiction frequently acknowledges or explores the legends surrounding Anna—e.g., physical deformities, rumors of witchcraft—even if only to debunk them. The persistence of these myths attests to the malleable nature of her cultural image [3].

5. **Pedagogical and Cultural Impact**: Because biofiction often reaches a wide audience—through popular novels and their adaptations—it can strongly influence public perceptions of Anna Boleyn. For some readers, fictional portrayals serve as a gateway to more rigorous historical research, indicating a synergy between entertainment and education [12].

In summation, the character of Anna Boleyn in biofiction emerges as a contested, richly layered figure whose portrayal evolves in tandem with cultural and scholarly shifts. While the tension between historical accuracy and narrative invention persists, the genre's popularity suggests a continuing fascination with a woman who helped transform England's political and religious landscape.

CONCLUSION

Anna Boleyn's enduring influence in modern literature speaks to her unique position at the intersection of royal intrigue, religious reform, and personal ambition. Biofiction has proven a particularly potent avenue for reimagining her life story, allowing authors to fill in the historical gaps with speculative but psychologically resonant details. Far from diluting history, these fictional retellings can deepen our understanding of Anna's complexities, probing the emotional and moral nuances that traditional archives may omit.

However, as the discussion has shown, biofiction raises important questions regarding the use of historical figures as literary characters. While such works can illuminate underexplored aspects of a person's life, they also risk constructing narratives that may become mistaken for fact. The tension between historical integrity and imaginative freedom remains a central theme in scholarly debates on biofiction. In Anna Boleyn's case, her transformation into a feminist icon in some texts, or her portrayal as a tragic romantic figure in others, testifies to the flexibility of her story and the ongoing reinterpretation she undergoes in contemporary culture.

Looking ahead, the proliferation of digital platforms and streaming services is likely to amplify the biofictional rendering of Anna Boleyn, reaching new global audiences. These adaptations will continue to stir dialogue about her legacy—was she a cunning schemer or a misunderstood reformer, a woman undone by political conspiracies or her own ambition? Whichever portrayal resonates most, the discourse surrounding Anna Boleyn in biofiction underscores the vital role of storytelling in shaping collective memory. For scholars, the task remains to critically engage with these literary depictions, sifting through the imaginative constructs to glean insights into both the historical figure and the cultural moment that reimagines her.

REFERENCES

1. Loades, D. (2013). *The Boleyns: The Rise & Fall of a Tudor Family.* Amberley Publishing.
2. Ives, E. (2004). *The Life and Death of Anne Boleyn.* Blackwell.

3. Warnicke, R. (1989). *The Rise and Fall of Anne Boleyn: Family Politics at the Court of Henry VIII.* Cambridge University Press.
4. Gregory, P. (2001). *The Other Boleyn Girl.* Touchstone.
5. Lodge, D. (1992). The Novelist at the Crossroads and Other Essays on Fiction and Criticism. *Critical Inquiry,* 19(1), 1–11.
6. Rimmon-Kenan, S. (2002). *Narrative Fiction: Contemporary Poetics.* Routledge.
7. Renk, K. (2012). Biographical Fiction or Fictional Biography: A Renaissance in the Genre. *Journal of the Midwest Modern Language Association,* 45(2), 113–130.
8. Mantel, H. (2009). *Wolf Hall.* Fourth Estate.
9. Catholic Record Society (1921). Various Accounts of the Marriage of Henry VIII. *Transactions of the Catholic Record Society,* 22, 13–39.
10. Denny, J. (2005). *Anne Boleyn: A New Life of England's Tragic Queen.* Da Capo Press.
11. Bernard, G. W. (2010). *Anne Boleyn: Fatal Attractions.* Yale University Press.
12. Weir, A. (2008). *The Lady in the Tower: The Fall of Anne Boleyn.* Ballantine Books.
13. White, H. (1973). *Metahistory: The Historical Imagination in Nineteenth-Century Europe.* Johns Hopkins University Press.
14. Fish, S. (1980). *Is There a Text in This Class? The Authority of Interpretive Communities.* Harvard University Press.
15. Lukács, G. (1962). The Historical Novel. *Studies in European Realism,* 5(2), 88–96.

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CREATING ONLINE COURSES WITH THE HELP OF H5P: A BEGINNER'S GUIDE AND EXPERIENCES

Abstract: *This article examines the basic principles and capabilities of creating online courses using H5P technology. H5P is an open source platform that provides convenient tools for creating and managing interactive educational resources. The article analyzes the advantages of H5P tools, their adaptability to different learning styles, and the possibilities of using gamification elements. It also discusses experiences in effectively creating courses using H5P and future development prospects.*

Keywords: *H5P, online education, interactive courses, gamification, distance learning, open source platform.*

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H5P YORDAMIDA ONLAYN KURSLARNI YARATISH: BOSHLANG‘ICH QO‘LLANMA VA TAJRIBALAR

Annotatsiya: *Ushbu maqolada H5P texnologiyasi yordamida onlayn kurslarni yaratishning asosiy tamoyillari va imkoniyatlari ko‘rib chiqiladi. H5P ochiq kodli platforma bo‘lib, u interaktiv ta’lim resurslarini yaratish va boshqarish uchun qulay vositalarni taqdim etadi. Maqolada H5P vositalarining afzalliklari, ularning turli xil o‘quv uslublariga moslashuvchanligi va gamifikatsiya elementlarini qo‘llash imkoniyatlari tahlil qilinadi. Shuningdek, H5P yordamida kurslarni samarali yaratish bo‘yicha tajribalar va kelajakdagi rivojlanish istiqbollari muhokama qilinadi.*

Kalit so‘zlar: *H5P, onlayn ta’lim, interaktiv kurslar, gamifikatsiya, masofaviy ta’lim, ochiq kodli platforma.*

H5P yordamida onlayn kurslarni yaratish bugungi kunda ta’lim sohasida katta ahamiyat kasb etmoqda. Raqamli texnologiyalarning rivojlanishi bilan birga, an’anaviy ta’lim tizimlari ham zamonaviy texnologiyalar bilan boyitilib, interaktiv va moslashtirilgan o‘qitish usullarini qo‘llashga tobora ko‘proq e’tibor qaratmoqda. H5P ochiq kodli va HTML5 asosidagi platforma bo‘lib, u foydalanuvchilarga dasturlash bilimiga ehtiyoj sezmasdan interaktiv onlayn kurslarni yaratish imkonini beradi. Bu vosita ayniqsa masofaviy ta’lim, o‘z-o‘zini o‘rgatuvchi dasturlar va ta’lim resurslarini diversifikatsiya qilish uchun samarali hisoblanadi.

H5P platformasi turli xil interaktiv vositalarni taklif etadi. Bular orasida testlar, viktorinalar, video tahlillar, o‘yinlar, interaktiv slaydlar va boshqa ko‘plab multimedia vositalari mavjud. Bu imkoniyatlar ta’lim oluvchilarga bilimlarni chuqurroq o‘zlashtirish va faollikni oshirish uchun qo‘l keladi. An’anaviy onlayn kurslar odatda faqat videodarslar va matnli materiallarga asoslangan bo‘lsa, H5P vositasidan foydalangan holda ta’lim jarayoniga interaktiv mashqlar va real vaqtda qayta aloqa tizimini qo‘shish mumkin. Masalan, kurs davomida ta’lim oluvchilar o‘qigan ma’lumotlarini mustahkamlash uchun interaktiv testlardan foydalanishi, dars davomida esa videolardagi muhim joylarni belgilar bilan ta’kidlashi mumkin.

H5P ning eng katta afzalliklaridan biri uning moslashuvchanligi va keng platformalarda qo‘llanilishi hisoblanadi. Moodle, WordPress, Drupal kabi ta’lim tizimlariga osongina integratsiya qilish mumkin, bu esa o‘qituvchilarga o‘z mavjud kurslarini H5P vositalari bilan boyitish imkonini beradi. Shu bilan birga, H5P dan mustaqil veb-saytlarda ham foydalanish mumkin, bu esa o‘zining shaxsiy onlayn kurs platformasini yaratmoqchi bo‘lgan pedagoglar va tashkilotlar uchun katta imkoniyatlar taqdim etadi. H5P ning yana bir muhim jihati shundaki, barcha interaktiv kontentlar mobil qurilmalar bilan to‘liq mos keladi, bu esa foydalanuvchilarga istalgan joydan o‘qish imkoniyatini ta’minlaydi.

Onlayn kurslarni yaratishda H5P dan samarali foydalanish uchun muayyan strategiyalarni qo‘llash maqsadga muvofiq. Avvalo, kurs mazmuni va maqsadi aniq belgilanib, har bir dars qismi uchun mos keladigan interaktiv vositalar tanlanishi lozim. Misol uchun, nazariy tushunchalarni tushuntirish uchun interaktiv slaydlar yoki videolar ishlatilishi mumkin, amaliy mashg‘ulotlar uchun esa drag-and-drop, krossvord yoki testlar qo‘llanilishi lozim. Bundan tashqari, kurs ishtirokchilarining natijalarini kuzatish va baholash tizimini ham yo‘lga qo‘yish muhim ahamiyatga ega. Buning uchun H5P ning ball tizimi va avtomatik baholash funksiyalaridan foydalanish mumkin.

H5P orqali kurs yaratish jarayoni oson va intuitiv bo‘lib, foydalanuvchilarga har xil turdagi kontentlarni bir joyda birlashtirish imkonini beradi. Masalan, kurs davomida bir nechta turli formatdagi interaktiv vositalarni birlashtirish mumkin: video darsliklarga interaktiv testlar qo‘shish, slaydlar orasiga savollar kiritish yoki talabalarga mustaqil ravishda topshiriqlarni bajarish imkoniyatini berish. Bu yondashuv o‘quvchilarni faollashtirish va ta’lim materiallarini yaxshiroq o‘zlashtirishga yordam beradi.

Onlayn kurslarni yaratishda H5P ning qulayliklaridan yana biri uning ochiq kodli tizim ekanligidir. Bu degani, dasturchilar yoki platforma foydalanuvchilari

H5P kodlarini o‘z ehtiyojlariga mos ravishda moslashtirishlari va takomillashtirishlari mumkin. Bu esa universitetlar, kompaniyalar yoki shaxsiy trenerlar uchun o‘z kurslarini yanada samarali va o‘ziga xos qilish imkonini yaratadi. Shu bilan birga, H5P jamoasi muntazam ravishda yangilanishlarni chiqazib, foydalanuvchilarga yangi imkoniyatlar va texnologiyalarni taqdim etmoqda.

H5P vositalaridan foydalanish tajribasi shuni ko‘rsatmoqdaki, interaktiv kurslar orqali ta’lim oluvchilarning darslarga bo‘lgan qiziqishi ortadi. Masalan, ba’zi universitetlar o‘zlarining Moodle tizimlariga H5P ni qo‘shish orqali talabalarning faol ishtirok etishini oshirishga muvaffaq bo‘lgan. O‘quvchilarga kurs materiallari ichida real vaqt rejimida test topshirish yoki interaktiv mashqlarni bajarish imkoniyati berilganda, ularning kursga bo‘lgan qiziqishi oshadi va natijada bilimlarni chuqurroq o‘zlashtirish imkoniyati yaratiladi.

H5P texnologiyasining yana bir muhim jihati – bu platformaning turli xil o‘qitish uslublariga mos kelishi. Masalan, vizual o‘rganuvchilar uchun interaktiv videolar va infografikalar, eshitish orqali o‘rganadiganlar uchun ovozli topshiriqlar va podkast shaklidagi materiallar, kinestetik o‘quvchilar uchun esa drag-and-drop kabi interaktiv mashqlarni taqdim etish mumkin. Bu esa har xil turdagi o‘quvchilarni jalb qilish va ularning o‘zlashtirish darajasini oshirishga yordam beradi.

Shuningdek, H5P yordamida yaratilgan kurslarning samaradorligini oshirish uchun ta’lim jarayoniga gamifikatsiya elementlarini kiritish mumkin. Gamifikatsiya – bu o‘quv jarayoniga o‘yin elementlarini qo‘shish orqali foydalanuvchilarning qiziqishini oshirish usuli bo‘lib, u ballar tizimi, darajalar, mukofotlar va yetakchilar doskasi kabi komponentlarni o‘z ichiga oladi. Masalan, H5P vositalari orqali kurs ichida ballar tizimini joriy etish, o‘quvchilarni turli bosqichlarga ajratish va ularga rag‘batlantiruvchi mukofotlar taqdim etish mumkin. Bu o‘quvchilar orasida raqobat muhiti yaratib, ularning darslarga yanada faol qatnashishiga sabab bo‘ladi.

H5P dan samarali foydalanishning yana bir yo‘li – kursni doimiy ravishda takomillashtirib borish va foydalanuvchilarning fikr-mulohazalarini hisobga olishdir. Kurs yaratish jarayonida faqatgina interaktiv vositalarni qo‘shish bilan cheklanmasdan, balki o‘quvchilarning natijalarini tahlil qilish, ularning qiyinchiliklarga duch kelgan joylarini aniqlash va shu asosida kursni yanada rivojlantirish muhimdir. H5P ning natijalarni kuzatish va baholash tizimi orqali har bir o‘quvchining qaysi mashqlarni yaxshi bajarayotgani yoki qaysi dars bo‘limlarida qiyinchilikka uchrayotganini aniqlash mumkin.

H5P yordamida onlayn kurslarni ishlab chiqishda ba’zi muammolar ham uchrab turadi. Ulardan biri – interaktiv elementlarni haddan tashqari ko‘p ishlatish natijasida kontentning murakkablashib ketishi. Har bir interaktiv element o‘z o‘rnida bo‘lishi va kursning umumiy maqsadiga xizmat qilishi kerak. Shuningdek, ba’zi foydalanuvchilar texnologiyani ishlatishda dastlab qiyinchiliklarga duch kelishlari mumkin. Bu muammolarni hal qilish uchun H5P platformasidan qanday foydalanishni tushuntiruvchi qo‘llanmalar va video darsliklarni taqdim etish muhimdir.

Xulosa qilib aytganda, H5P yordamida onlayn kurslar yaratish zamonaviy ta’lim jarayonida katta ahamiyatga ega. Ushbu texnologiya ta’lim oluvchilarni jalb qilish, interaktiv ta’lim muhitini yaratish va samaradorlikni oshirishga xizmat qiladi. Moodle va WordPress kabi platformalar bilan integratsiyalashuvi uning qulayligini oshirib, har qanday o‘qituvchi yoki trener uchun onlayn kurslarni ishlab chiqish jarayonini soddalashtiradi. Bunday imkoniyatlardan to‘laqonli foydalanish orqali ta’lim muassasalari va mustaqil trenerlar o‘z kurslarini interaktiv va samarali qilishlari mumkin.

Foydalanilgan adabiyotlar:

1. Westin, T., & Hedman, J. (2023). Interactive learning with H5P: Opportunities and challenges. Springer.
2. Anderson, P., & Johnson, M. (2022). Digital education tools: Enhancing engagement through interactivity. Routledge.
3. Smith, R. (2021). Gamification in online learning: Practical applications and case studies. Elsevier.
4. Brown, K., & Lee, J. (2023). Adaptive learning technologies and their impact on student performance. Wiley.

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GEOECOLOGICAL PROBLEMS IN THE NISHAN DISTRICT

Abstract: *Nishon district, located in Kashkadarya region, is known for its flat terrain, the presence of high groundwater levels, and salinity problems. This article analyzes the geoecological problems of Nishon district, especially the proximity of groundwater to the surface, increased soil salinity, and the impact of these processes on the ecological and agricultural sectors. Comprehensive solutions to the problems are proposed.*

Keywords: *Geoecology, Nishon district, Kashkadarya region, groundwater, soil salinity, ecological problems, agricultural development, irrigation technologies, water resources management.*

Introduction: Nishon district is located in the southern part of Kashkadarya region, which is characterized by its flat terrain and natural resources. One of the main geoecological problems in the district is the high level of groundwater and its impact on ecological and agricultural development. Groundwater plays an important role in irrigation of crops and economic activities in the region, but the high location of these waters leads to soil salinization and other environmental problems.

Main part: The groundwater level in Nishan district is very high. This, in turn, makes it difficult to use water located close to the surface. The high water level leads to soil salinization, which reduces soil fertility. At the same time, the structure and chemical composition of groundwater also affect the agro-ecological environment.

Soil salinization is one of the biggest geo-ecological problems. As a result of the presence of high groundwater in Nishan district, soils are experiencing salinization. Soil salinization is mainly caused by high groundwater levels and improper irrigation management.

The onset of salinization leads to the rise of water to the soil, its evaporation on the soil surface and the accumulation of mineral salts above the ground. This, in turn, changes the physicochemical properties of the soil and reduces its absorption capacity for plants. The effects of soil salinization not only negatively affect the development of major crops such as cotton and grain, but also reduce biodiversity. Soil salinization, in turn, destroys the structure of the soil, while making it difficult for free water to move through the soil. The deterioration of the soil structure leads to a decrease in the moisture necessary for plants. This situation, in particular, negatively affects the growth of crops and limits the production of agricultural products.

The environmental problems of Nishon district include factors such as soil salinity, high groundwater levels, and soil degradation. The negative impact of these problems on the agricultural sector reduces production efficiency and complicates the cultivation of agricultural products. As a result of ecological changes, productivity decreases, and the ability to effectively use agricultural resources decreases.

To prevent soil salinity and manage groundwater, it is necessary to introduce innovative irrigation technologies. New technologies, such as drip irrigation systems, help save water and increase productivity. Through such technologies, the amount of water entering the soil is precisely controlled, while at the same time reducing the salinization process. It is also necessary to develop modern management systems to save groundwater. This will help to economically manage water resources, optimize irrigation plans, and ensure balanced water distribution.

Soil salinization is the process of increasing the salt content in the soil, which adversely affects plant growth and reduces agricultural productivity. It is most common in arid and semi-arid regions, where evaporation rates are higher than precipitation, causing salts to accumulate on the soil surface.

Causes of soil salinity:

1. Natural causes:

Climate: In hot and dry climates, high evaporation rates cause water to rise from the soil, bringing salts with it.

Base material: Some soils, especially those in coastal or desert areas, may naturally contain high levels of salt.

2. Due to human activities:

Irrigation: Irrigation with saline water causes the gradual accumulation of salts in the soil.

Poor drainage system: Lack of a good drainage system prevents water from flowing through, causing salts to accumulate on the soil surface.

Excessive use of fertilizers: Excessive use of chemical fertilizers can increase soil salinity.

Consequences of soil salinity: Reduced agricultural yields: High salt concentrations reduce the ability of plant roots to absorb water, reducing yields.

Deterioration of soil structure: Salt breaks down the physical structure of the soil, making it difficult for water and air to penetrate the soil.

Reduced biodiversity: Plants and animals that rely on healthy soils can be affected, leading to the decline of local ecosystems.

Better irrigation practices: Using efficient irrigation systems such as drip irrigation and avoiding over-watering can reduce salt accumulation.

Soil improvement: Adding organic materials or gypsum (calcium sulfate) can improve soil structure and reduce the effects of salinity.

Plant selection: Planting salt-tolerant plants can reduce the negative effects of salinity. The negative effects of soil salinization can be reduced and agricultural land can be preserved through careful use of irrigation and the adoption of improved farming practices.

Conclusion: Geoecological problems in Nishon district, especially groundwater and soil salinity issues, negatively affect the agrarian and ecological situation of the district. It is necessary to take comprehensive measures to eliminate these problems. By innovatively introducing irrigation technologies, reducing soil salinity, and managing water resources, it is possible to improve the ecological situation and stabilize agricultural activities in the Nishon district. To eliminate geoecological problems in the district, it is necessary to introduce modern ecological technologies, strengthen land reclamation measures, and expand environmental protection measures. By implementing these measures, it is possible to improve the ecological situation of the region and increase soil fertility necessary for agriculture.

References

1. Qurbonov P. R. Iqlim o'zgarishi sharoitida tekislik mintaqasi shaharlarining rivojlanish xususiyatlari (janubiy o'zbekiston misolida) //Экономика и социум. – 2023. – №. 10 (113)-1. – С. 210-214.
2. Safarov I. B., Chorshamiyev R. R. Guzor tumani ziyoratgohlar maskani //Экономика и социум. – 2024. – №. 2 (117)-1. – С. 609-616.
3. Usmanova R., Safarov I. O 'zbekistonda turizmni shakllantirishning geografik jihatlari //yangi o 'zbekistonda milliy turizm istiqbollari. – 2024. – Т. 1. – №. 01.
4. Safarov I. B., Raxmonov A. R. Biogeografiya fanini o'qitishda innovatsion texnologiyalar //Экономика и социум. – 2025. – №. 1-2 (128). – С. 428-431.
5. Safarov I. B., Poyanov J. P. Forms and content of tourism //Экономика и социум. – 2024. – №. 4-1 (119). – С. 491-494.
6. Safarov I. B. Developing in mubarak district pilgrimage tourism //Экономика и социум. – 2024. – №. 5-2 (120). – С. 590-593.
7. Safarov I. B., Loqayeva Z. P. Unique features and potential of pilgrimage tourism //Экономика и социум. – 2024. – №. 4-2 (119). – С. 453-458.
8. Сафаров И. Б., Расулов Ф. Социально-экономические проблемы и перспективы развития городов Кашкадарьинской области //Экономика и социум. – 2024. – №. 1 (116). – С. 1304-1311.
9. O'G'Li S. I. B., O'G'Li T. I. T. Organization of mountain tourism in Kashkadarya region and its significance //Eurasian Journal of Mathematical Theory and Computer Sciences. – 2024. – Т. 4. – №. 3. – С. 7-12.
10. Safarov I. B., Rasulov F. I. Development of social spheres in the cities of Kashkadarya region //Educational Research in Universal Sciences. – 2024. – Т. 3. – №. 4. – С. 85-90.
Safarov I. B., Toshquvvatov I. T. Recreational and touristic opportunities of uzbekistan's mountains //Экономика и социум. – 2023. – №. 11 (114)-1. – С. 303-312.

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DISTRIBUTION AND MEDICINAL PROPERTIES OF THE ROSEMARY PLANT

Abstract: *Rosemary (Rosmarinus officinalis L.) is also a plant rich in essential oil, it belongs to the family of labiates (labiatae), and grows up to 2 meters in height. It is native to the countries around the Mediterranean Sea. It has been cultivated in Europe and Africa for a long time. The plant has been cultivated for more than 2 thousand years, and is currently cultivated and used in large areas as the main essential oil plant in Spain, France, Algeria, Tunisia, Yugoslavia and India. Main applications: pharmacology, food industry, perfumery, culinary industry, Rosemary is very useful for nutritional and health care. Its leaves and essential oils contain many beneficial substances.*

Keywords: *essential oils, rosemary, medicinal, inflammation, dose, preparation, culinary, anti-inflammatory.*

The rosemary plant has straight stems and can reach a height of 1.5-2 meters. Its leaves are narrow, long and small, green on the upper side and gray or silvery on the lower side. In summer, rosemary produces small, blue or purple flowers.

The main use of this plant is widely used in the culinary field. Rosemary is added to various dishes with its aroma and pungent taste, especially meat and fish dishes, as well as salads and sauces. In addition, rosemary is also known for its health benefits. It is believed to reduce inflammation in the body, improve digestion and have antibacterial properties.

Rosemary grows in warm climates, but it can also be grown indoors, especially in containers or pots. The processing of this plant is mainly used for its leaves and its unique essential oils.

Rosemary contains essential oils, which are often used internally or externally. However, caution is required when dosing rosemary, as excessive use can cause side effects in some people (for example, stomach upset, allergic reactions). Therefore, it is recommended to consult a specialist before using it for medical purposes.

Now it has been determined that this plant can be cultivated and used in Uzbekistan. Rosemary is a shrub that is adaptable to heat and cold in irrigated gray soil. The leaves are oblong, blunt-pointed, the underside of the leaf is covered with coarse hairs. The leaves are 3-3.5 cm long, 1.5-2 mm thick, and are arranged in clusters of 5-6. The flowers have a short panicle, the petals are blue-violet, 5-8 flowers are arranged in a panicle, a ball-shaped cluster on the stem. The fruit is a

nut. Essential oils are contained in all parts of the rosemary plant (especially in young stems and flowers, its content is up to 1.2%). Since the essential oil contains 50% pinene, camphene, cineole, barneol and camphor, they are used in the perfumery industry, in the preparation of medicinal and insecticidal preparations. Tinctures and alcohol solutions (nastoyka) made from the above-ground leaves and young stems of the plant have a positive effect in the treatment of headaches, gastrointestinal diseases, colds, and some diseases in women. At the same time, they also have the property of refreshing the body and giving strength. Due to the unique aroma and taste of its leaves, rosemary is also used as a spice in cooking meat products and for their long-term preservation. When added to confectionery products, it gives a unique taste and aroma. Considering that the plant does not shed its leaves even in winter and emits a unique aroma, it is grown as an ornamental shrub in parks and avenues, courtyards and recreation areas.

The following nutritional and health benefits can be cited:

1. Vitamins and Minerals: Rosemary contains essential vitamins and minerals such as vitamin A, C, B6 (pyridoxine), folate (folic acid), iron, calcium, magnesium, and potassium. These substances play an important role in supporting health, helping to strengthen the immune system, and improving overall well-being.

2. Essential Oils: Rosemary essential oils, in particular, have antioxidant properties. They help neutralize free radicals in the body, as well as reduce inflammation. Rosemary essential oil also has anti-bacterial and anti-microbial properties, which makes it possible to use it as a natural disinfectant.

3. Digestive Support: Rosemary helps improve the digestive and intestinal system. It stimulates digestion, as well as reduces stomach pain and bloating. It naturally supports healthy digestive function.

4. Anti-inflammatory properties: Rosemary has anti-inflammatory properties, which help reduce inflammation. This property is especially useful in relieving pain associated with arthritis or other inflammatory diseases.

5. Antioxidant properties: Rosemary contains powerful antioxidants such as polyphenols and flavonoids. These substances help repair damaged cells in the body and slow down the aging process.

In addition to its culinary uses, rosemary is also often used in aromatherapy and herbal medicine.

The main medicinal properties of rosemary are:

Anti-inflammatory: The rosemary plant has strong anti-inflammatory properties. It helps reduce inflammation in the body and relieves pain in conditions such as arthritis.

Improves digestion: Rosemary has a beneficial effect on the gastrointestinal system. It improves digestion, reduces stomach pain, eliminates bloating and helps relieve gas. It can also help stimulate the appetite.

Cardiovascular benefits: Rosemary improves blood circulation, which is good for the heart and blood vessels. It lowers blood pressure and improves the elasticity of blood vessels. At the same time, it can help lower cholesterol levels.

Antioxidant effects: Rosemary contains powerful antioxidants that neutralize free radicals. This property helps in slowing down the aging process and in cell regeneration.

Reduces stress and anxiety: Rosemary is used as a natural stress reliever. It calms the nervous system and improves mood. When used in aromatherapy, rosemary is useful in relieving nervous tension.

Boosts immunity: Rosemary strengthens the immune system and protects the body against various infections. The essential oils and antioxidants it contains increase the body's ability to repair itself.

Treats headaches and migraines: Rosemary is used to relieve headaches and migraines. It can be effective when massaged into the head or drunk as an infusion.

Antibacterial properties: Rosemary has strong antibacterial and antifungal properties. It can be effective in treating infections, including fungal and bacterial diseases of the skin.

REFERENCES USED

1.“Розмарин в медицина” Evghenii Gutu 2020

2. Zakirjonovich, Muradov Rustam. "EFIR MOYIGA BOY BO’LGAN ROZMARINNING BIOLOGIYASI VA XALQ TABOBATIDA QO’LLANILISHI." *PEDAGOG* 5.4 (2022): 160-164.

3. Fayzulloyevich X. X. DORIVOR ROZMARINNING (ROSMARINUS OFFICINALES L) TARKIBINI O ‘RGANISHDA OLIB BORILGAN TADQIQOTLAR //Научный Фокус. – 2023. – Т. 1. – №. 6. – С. 388-391.

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ARTERIAL GIPERTONIYA KASALLIGINING KELIB CHIQISH OMILLARI VA KLINIK KECHISH XUSUSIYATLARI

Abstract: *Worldwide, approximately 1.28 billion adults aged 30–79 years have hypertension, most of whom (two-thirds) live in low- or middle-income countries. About 46% of adults with hypertension do not know they have it. Less than half (42%) of adult patients with hypertension are diagnosed and treated. One in five (21%) adults with hypertension have the disease under control.[3,4]*

Key words: *Arterial hypertension, obesity, rational nutrition.*

Relevance of the topic – Currently, hypertension is one of the most important and complex problems facing 21st century medicine. Prevention, early detection and effective treatment of this dangerous disease are among the urgent problems facing modern medicine. Eliminating the complications of the disease, alleviating its course, and thereby achieving the prolongation of life of patients with hypertension are urgent tasks for us, medical workers[1,2].

Excess body weight is one of the risk factors leading to the onset and development of cardiovascular diseases, including arterial hypertension (AH). Unlike other risk factors for AG, excess body weight is among the controllable factors, and its reduction or elimination is one of the non-drug treatment methods of the disease. Therefore, adherence to a healthy lifestyle is important in preventing arterial hypertension and reducing its complications[2].

Approximately 1.28 billion adults aged 30–79 years worldwide have hypertension, with the majority (two-thirds) living in low- and middle-income countries. Approximately 46% of adults with hypertension are unaware that they have the disease. Less than half (42%) of adults with hypertension are diagnosed and treated. One in five (21%) adults with hypertension have their disease under control.[3,4]

Objectives of the study. The main objective of this study was to determine the prevalence of arterial hypertension in the population and to study its age-related clinical course.

The study aimed to investigate the main factors influencing the development of arterial hypertension, including harmful habits (smoking, alcohol consumption, sedentary lifestyle), unhealthy and irrational diet, excess body weight, stress, and the impact of social networks and media on human health in the context of modern globalization.

Also, one of the important areas of the study is the study of the lifestyle of patients with arterial hypertension, the stages of development of the disease and its complications.

Based on the results of the study, scientific and practical conclusions are given aimed at early detection of hypertension-related problems and improving preventive measures. At the same time, one of the goals of this work is to develop healthy lifestyle measures aimed at the population to reduce the factors that predispose to arterial hypertension.

Materials and methods of the study. We conducted our study during the winter training period in the Department of Arterial Hypertension and the Department of Cardiac Arrhythmias of the Andijan branch of the R.I.K.I.A.T.M. Our observations were conducted on 80 patients among the population of the region who complained of increased blood pressure. The average age of the patients was 60±5, of which 35 (44%) were men and 45 (56%) were women. We recorded the vital and disease-specific anamnesis of our patients, examination results in the observation card during treatment. We statistically analyzed the health indicators and morbidity of the patients.

Results and their analysis. The results showed that the complaints of the patients in our study when they came to the hospital were headache in 75 (94%), dizziness in 20 (25%), tinnitus in 48 (60%), neck pain in 70 (87.5%), and numbness and coldness in the limbs when blood pressure increased in 30 (37.5%). 48 (60%) of the patients regularly take some type of antihypertensive medication, 20 (25%) patients take it only when blood pressure increases, and the remaining 12 (15%) patients do not take such medications. 65 (81.2%) of the patients have a problem with excess weight. When additional somatic diseases of patients were studied, 27 (34%) of them suffered from diabetes mellitus, 32 (40%) had chronic cholecystitis. 68 (85%) of patients had an irrational diet, their daily diet included fatty, spicy and doughy foods.

When we studied the ECG results of the patients under our observation, signs of left ventricular hypertrophy were observed in 45 (56%). When tests were performed with dosed physical loads to determine their individual tolerance to physical exertion, latent coronary insufficiency was detected in 12 (27%) patients, and variable heart rhythm disturbances in 18 (40%).

Conclusions: The conducted studies helped to identify the high incidence of arterial hypertension and the main factors affecting it. The results showed that:

Arterial hypertension is associated with excess body weight in 65% of patients, which is confirmed as a significant risk factor for the development of this disease.

85% of patients have irrational eating habits, and excessive consumption of fatty, spicy and carbohydrate-rich foods contributes to the development of diseases such as hypertension, obesity and diabetes.

56% of the patients participating in the study had signs of chronic heart failure, which confirms the severity of hypertension complications.

Electrocardiographic (ECG) examinations revealed left ventricular hypertrophy in 56% of patients, which is associated with an increase in the load on the cardiovascular system.

Individual tolerance tests to physical exertion revealed latent coronary insufficiency in 27% of patients and cardiac arrhythmias in 40%, which indicates the urgency of preventive and therapeutic measures.

The results once again confirm the need to form a healthy lifestyle, promote the principles of rational nutrition, and regularly monitor patients in order to prevent and alleviate the course of arterial hypertension. These aspects are of great importance in reducing the spread of the disease and improving the quality of life of patients.

REFERENCES:

1. Abdug‘offorova Z. Qon bosimi (gipertoniya)-sabablari, belgilari, tasnifi va davolash //Ilm-fan va ta'lim. – 2024. – №. 6 (21).
2. Botirovich I. J. et al. Gipertoniya kasalligi, asoratlari va ularni oldini olishga qaratilgan chora tadbirlar //Innovative developments and research in education. – 2024. – T. 3. – №. 28. – C. 211-216.
3. Maxsuma S. Ortiqcha tana vaznining arterial gipertoniya bilan xastalangan bemorlarda tarqalishi //Journal of innovations in scientific and educational research. – 2023. – T. 6. – №. 6. – C. 83-85.
4. Parpiyeva O. R., Ro’ziboyeva O. Gipertoniya kasalligi va uni oldini olishda ovqatlanish tartibi //So ‘ngi ilmiy tadqiqotlar nazariyasi. – 2024. – T. 7. – №. 12. – C. 86-89.

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KASBIY-EKOLOGIK KOMPETENTLIKNI RIVOJLANTIRISHDA INNOVATSION PEDAGOGIK TEXNOLOGIYALARNI QO‘LLASH

Anotatsiya: *Ushbu maqolada kasbiy-ekologik kompetentlik tushunchasi va uni rivojlantirishda innovatsion pedagogik texnologiyalarni qo‘llash masalalari tahlil qilinadi. Tadqiqot davomida ekologik ta'lim jarayonida axborot-kommunikatsion texnologiyalar, loyihaviy ta'lim, muammo asosida o‘qitish (PBL), gamifikatsiya va simulyatsion o‘yinlardan foydalanish samaradorligi o‘rganildi. Natijalar shuni ko‘rsatdiki, ushbu texnologiyalar talabalarning ekologik mas'uliyatini oshirish, ekologik muammolarni tahlil qilish va hal qilish qobiliyatlarini rivojlantirishda muhim ahamiyat kasb etadi. Shuningdek, pedagoglarning AKT bilan ishlash bo‘yicha malakasini oshirish va ta'lim infratuzilmasini rivojlantirish kelgusidagi istiqbolli yo‘nalishlar sifatida tavsiya etiladi.*

Kalit so‘zlar: *kasbiy-ekologik kompetentlik, innovatsion pedagogik texnologiyalar, ekologik ta'lim, axborot-kommunikatsion texnologiyalar, loyihaviy ta'lim, muammo asosida o‘qitish, gamifikatsiya, ekologik mas'uliyat.*

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APPLICATION OF INNOVATIVE PEDAGOGICAL TECHNOLOGIES IN THE DEVELOPMENT OF PROFESSIONAL-ECOLOGICAL COMPETENCE

Abstract: *This paper examines the idea of professional-ecological competence and the challenges associated with its development through the use of cutting-edge pedagogical technology. Information and communication technology, project-based learning, problem-based learning (PBL), gamification, and simulation games were all examined for their efficacy in environmental education. The findings demonstrated the significant impact these technologies have on raising students' awareness of environmental issues and improving their capacity to assess and resolve them. Developing educational infrastructure and enhancing teachers' ICT proficiency are also suggested as possible future directions.*

Keywords: *professional-ecological competence, innovative pedagogical technologies, environmental education, information and communication technologies, project-based learning, problem-based learning, gamification, environmental responsibility.*

Kirish: Bugungi kunda barqaror rivojlanish tamoyillarini ta’minlash jarayonida kasbiy-ekologik kompetentlikni shakllantirish dolzarb masalalardan biri bo‘lib qolmoqda. Ekologik muammolarni hal qilish va barqaror rivojlantirish tamoyillarini ta’minlash uchun kelajak mutaxassislari yuqori ekologik kompetentlikka ega bo‘lishlari zarur. Shu nuqtayi nazardan, zamonaviy ta’lim jarayonida innovatsion pedagogik texnologiyalarni joriy etish orqali kasbiy-ekologik kompetentlikni rivojlantirish muhim ahamiyat kasb etadi. Ushbu maqola kasbiy-ekologik kompetentlik tushunchasini tahlil qilish va uni rivojlantirishda innovatsion pedagogik texnologiyalarni qo‘llashning samaradorligini o‘rganishga bag‘ishlangan.

Kasbiy-ekologik kompetentlik – bu shaxsning kasbiy faoliyatida ekologik masalalarga nisbatan ongli yondashuvi, ekologik muammolarni tahlil qilish va ularni hal qilish qobiliyatidir. Ushbu kompetentlikni shakllantirish orqali nafaqat ekologik muammolarga yechim topish, balki barqaror rivojlanish tamoyillarini qo‘llash ham ta’minlanadi. Kasbiy-ekologik kompetentlik quyidagi tarkibiy qismlarni o‘z ichiga oladi:

- **Bilim komponenti** – Ekologik qonuniyatlar, atrof-muhitni muhofaza qilish tamoyillari va barqaror rivojlanish yo‘nalishlari haqidagi bilimlar.
- **Amaliy komponent** – Kasbiy faoliyat doirasida ekologik muammolarni aniqlash va ularni hal qilish bo‘yicha ko‘nikmalar.
- **Motivatsion komponent** – Shaxsning ekologik barqarorlikni ta’minlashga bo‘lgan qiziqishi va mas’uliyati.
- **Axloqiy komponent** – Ekologik me’yor va qadriyatlarga muvofiq harakat qilish qobiliyati.

Innovatsion pedagogik texnologiya	Bilim komponenti	Amaliy komponent	Motivatsion komponent	Axloqiy komponent
Axborot-kommunikatsion texnologiyalar (AKT)	Yuksaladi	O‘rta	O‘rta	Kam
Loyihaviy ta’lim	O‘rta	Yuksaladi	Yuksaladi	O‘rta
Muammo asosida o‘qitish (PBL)	Yuksaladi	Yuksaladi	O‘rta	O‘rta
Gamifikatsiya va simulyatsion o‘yinlar	O‘rta	O‘rta	Yuksaladi	Kam
Ekologik laboratoriyalar va dala amaliyotlari	O‘rta	Yuksaladi	O‘rta	Yuksaladi

1-Jadval Innovatsion pedagogik texnologiyalarning kasbiy-ekologik kompetentlik tarkibiy qismlariga ta’siri

Usul: Tadqiqotda analitik, taqqoslash, empirik va eksperimental metodlar qo‘llanildi. Kasbiy-ekologik kompetentlikni rivojlantirishda innovatsion texnologiyalarni joriy etishning ilmiy asoslarini o‘rganish uchun ilg‘or pedagogik tajribalar va mavjud adabiyotlar tahlil qilindi. Shuningdek, eksperimental

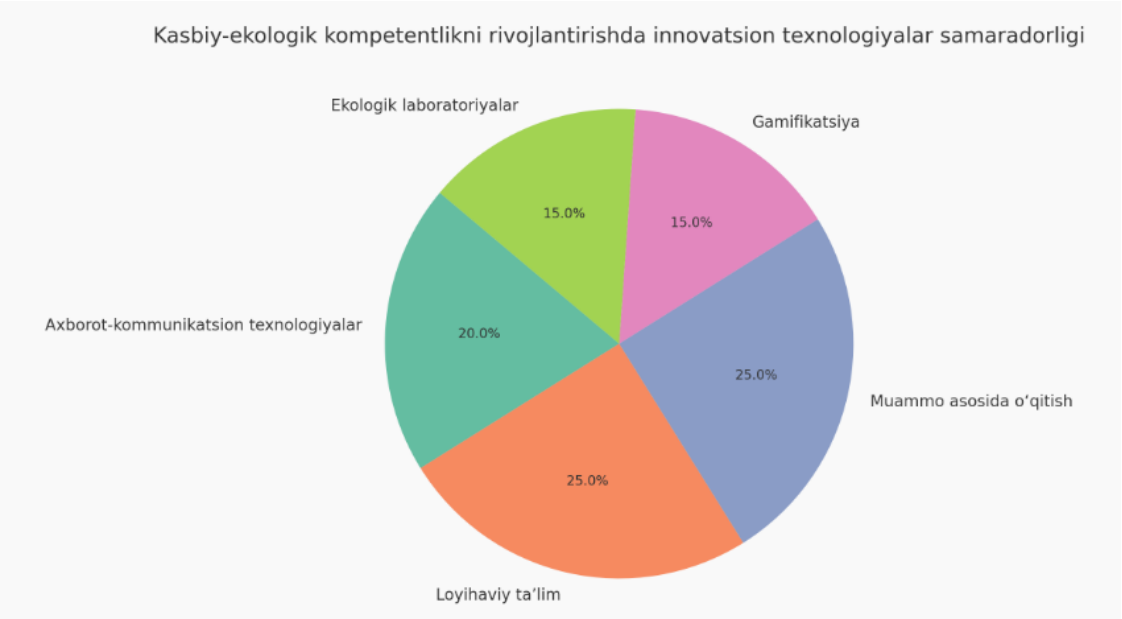
tadqiqotlar orqali yangi pedagogik texnologiyalarning samaradorligi baholandi. Tadqiqot doirasida pedagoglar va talabalar o‘rtasida so‘rovnomalar o‘tkazilib, natijalar statistik usullar orqali qayta ishlanib tahlil qilindi.

Tadqiqot natijalari shuni ko‘rsatdiki, kasbiy-ekologik kompetentlikni rivojlantirishda quyidagi innovatsion pedagogik texnologiyalar samarali hisoblanadi:

1. **Axborot-kommunikatsion texnologiyalar (AKT)** – Ekologik muammolarni vizualizatsiya qilish, interaktiv darsliklar yaratish va onlayn o‘quv platformalaridan foydalanish orqali o‘quvchilarning ekologik ongini shakllantirishga yordam beradi.
2. **Loyihaviy ta’lim** – Talabalarning ekologik muammolarni hal qilishga yo‘naltirilgan loyihalar ustida ishlashi orqali kasbiy-ekologik kompetentligini rivojlantirish mumkin.
3. **Muammo asosida o‘qitish (Problem-Based Learning, PBL)** – Talabalar real ekologik muammolarni hal qilishga yo‘naltirilgan vazifalar ustida ishlashi natijasida ekologik kompetentlik shakllanadi.
4. **Gamifikatsiya va simulyatsion o‘yinlar** – O‘yin texnologiyalaridan foydalanish orqali ekologik tushunchalarni samarali o‘rgatish imkoniyati yaratiladi.
5. **Ekologik laboratoriyalar va dala amaliyotlari** – Talabalarga tabiiy muhitda ekologik tadqiqotlar o‘tkazish imkonini beradi.

Natijalar: Eksperimental tadqiqotlar natijasida ushbu texnologiyalarni qo‘llagan talabalar ekologik mas’uliyat, muammolarni tahlil qilish va amaliy yechimlarni ishlab chiqish qobiliyatlari bo‘yicha yuqori natijalarga erishgani aniqlandi. Xususan, PBL va loyihaviy ta’lim orqali o‘qigan talabalar ekologik muammolarni hal qilish bo‘yicha aniq strategiyalarni ishlab chiqish qobiliyatiga ega bo‘lishdi. Gamifikatsiya va interaktiv darsliklar esa talabalarning motivatsiyasini oshirishda samarali ekani aniqlandi.

Munozara: Tadqiqot natijalari ko‘rsatdiki, innovatsion pedagogik texnologiyalar kasbiy-ekologik kompetentlikni rivojlantirishda muhim rol o‘ynaydi. Xususan, interaktiv va loyihaviy ta’lim metodlarining qo‘llanilishi talabalar o‘rtasida ekologik muammolarga nisbatan ongli munosabatni shakllantirishda samarali ekani aniqlandi. Biroq, ushbu texnologiyalarni ta’lim jarayoniga joriy etishda bir qator muammolar ham mavjud. Jumladan, pedagoglarning AKTdan foydalanish bo‘yicha malaka darajasi, ta’lim muassasalarining texnologik infratuzilmasi va o‘quv dasturlarining moslashuvchanligi kabi omillar muhim ahamiyat kasb etadi.



Xulosa: Tadqiqot natijalari shuni ko‘rsatadiki, kasbiy-ekologik kompetentlikni rivojlantirishda innovatsion pedagogik texnologiyalarni qo‘llash zarurati yuqori. Ushbu texnologiyalar ekologik muammolarni chuqur anglash, tahlil qilish va amaliy yechimlar ishlab chiqishda talabalarga samarali ta’sir ko‘rsatadi. Kelajakda pedagoglarning malakasini oshirish, ta’lim muassasalarining texnologik infratuzilmasini yaxshilash va ekologik ta’lim dasturlarini takomillashtirish bo‘yicha tadqiqotlar olib borish muhim hisoblanadi.

Adabiyotlar

1. UNESCO. (2017). Education for Sustainable Development Goals: Learning Objectives.
2. Savelyeva, T., & McKenna, J. R. (2011). Environmental education in university education: A global perspective.
3. Bonnett, M. (2002). Education for Sustainability as a Frame of Mind. Environmental Education Research, 8(1), 9-20.
4. Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Prentice Hall.
5. Sharifov A.E. Ministry of Higher Education, Sciece and Innovations of the Respublik of Uzbekistan in recognition contrbution in organisatsion of Scopus Awards event // ELSEVIER–Amsterdam, . 2023 yil 25 dekabr 2181 8274 6-son
6. Sharifov A. E. Professional ta’lim muassasalarida kimyo fanini innovatsion metodlar orqali o‘qitishni tashkil etish // Mug‘allim hem uzliksiz bilimlendiriu №2 2022 jil.Ilimiy-metodikaliq jurnal, 2 2022-son
7. Sharifov A.E. Professional ta’limda va ishlab chiqarishning dual tizimida kadrlar tayyorlash bo‘yicha ilg‘or xorijiy tajribalar // Ta’lim, fan va innovatsiya jurnali.–Toshkent, . 2023 yil 25 dekabr 2181 8274 6-son
8. Sharifov A.E. Professional ta’limda o‘quvchilarning kasbiy ekologik kompetentligini rivojlantirishning nazariy asoslari // International scientific journal science and innovation journal – Tbilisi, 2023-yil 2-aprel 2181-3337

9. Sharifov A.E. Kimyo fanini professional ta‘lim muassasalarida o‘qitishni tashkil etishda, ushbu fan asosida ta‘lim olinadigan kasblarning yaqin va uzoq kelajakdagi nomlanishining taxminiy prognozlari.// Mutafakkir ilmiy jurnali –Toshkent, 2022 yil 2 maydagi 2-son.
10. Sharifov A.E. Professional ta’limda kimyo fanini o‘qitishda foydalanish mumkin bo‘lgan ayrim interfaol metodlar haqida // Mutafakkir ilmiy jurnali – Toshkent, 2022 yil 6 sentabrdagi 6-son.

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IMPROVEMENT OF VEHICLE LOCATION DETERMINATION SYSTEMS

Annotation. *The regional level of transport telematics is designed to collect and process information about road traffic participants (vehicles, passengers, pedestrians), the condition of road infrastructure, meteorological conditions, the location of technical means of organizing road traffic, and for subsequent traffic management based on the criteria of safety and efficiency of the transport process.*

Keywords: *Road infrastructure, meteorological situation, front panel, AVL (Autotactic Vehicle Location system), global, populated areas, Vehicle location, Inversive approach, PIN code.*

Introduction Improvements in automobile design led to increased engine power, increased speed, and an increase in the number of vehicles. In addition to environmental information, the driver needed information about the operating mode of the units and the entire vehicle: the availability of fuel and technical fluids, the current speed of movement, etc. This information began to be displayed on the devices on the front panel of the car. The second stage in the development of information technologies was the introduction of a radio receiver into the car, with the help of which it became possible to receive important information related to road traffic in a timely manner: road closures, major traffic accidents, dangerous weather and climatic phenomena, etc.

Automatic vehicle location systems - AVL (Autotactic Vehicle Location system) - calculate the coordinates of a vehicle in groups of similar vehicles as it moves within a certain area.

According to the coverage area of the system, the following coverage areas can be distinguished:

- global, covering the globe, continents or territories of several countries;
- regional, as a rule, limited to the borders of settlements, regions, regions;
- local - designed for small-radius traffic (city, regional territory), which is characteristic mainly for remote tracking and search systems for stolen cars.

A network of control zones is created by using a sufficient number of control points to determine the location of a moving object within the city.

The location of a vehicle is determined as it passes through the areas of

influence of these points.

Figure 1 below presents a classification of location detection methods.

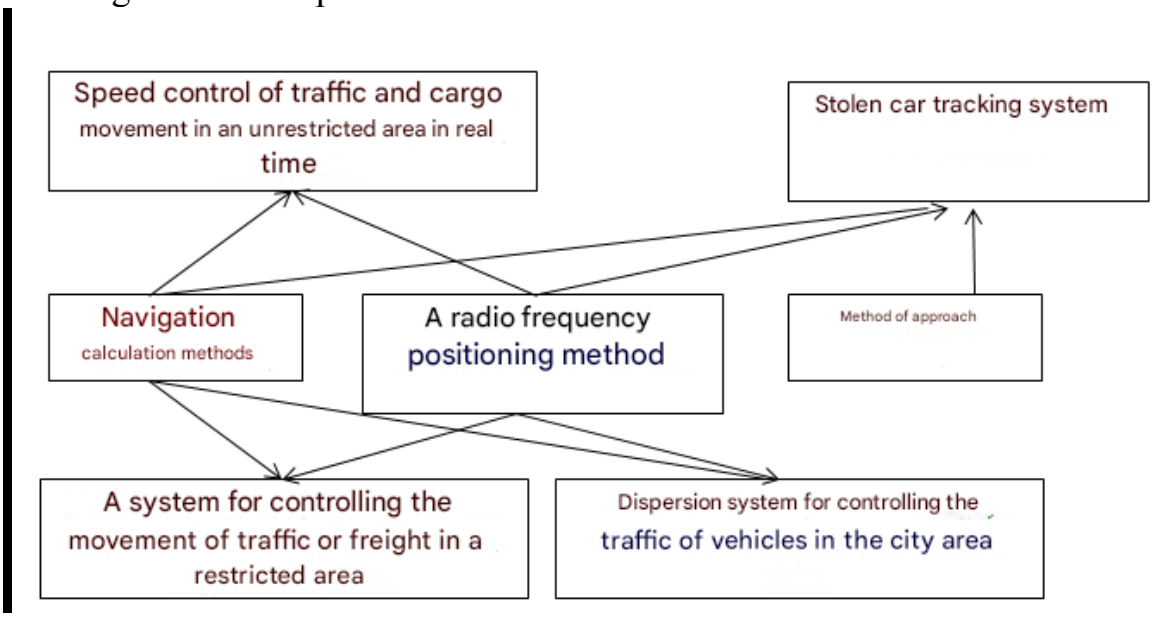

Figure 1 - Classification of positioning methods.

Systems based on approximation methods

In this case, the personal code of each checkpoint is transmitted via a radio channel to the vehicle's on-board equipment, which, in turn, transmits this information, as well as its identification code, to the control and data processing subsystem through the information transmission subsystem.

Thus, the correct approximation method is implemented.

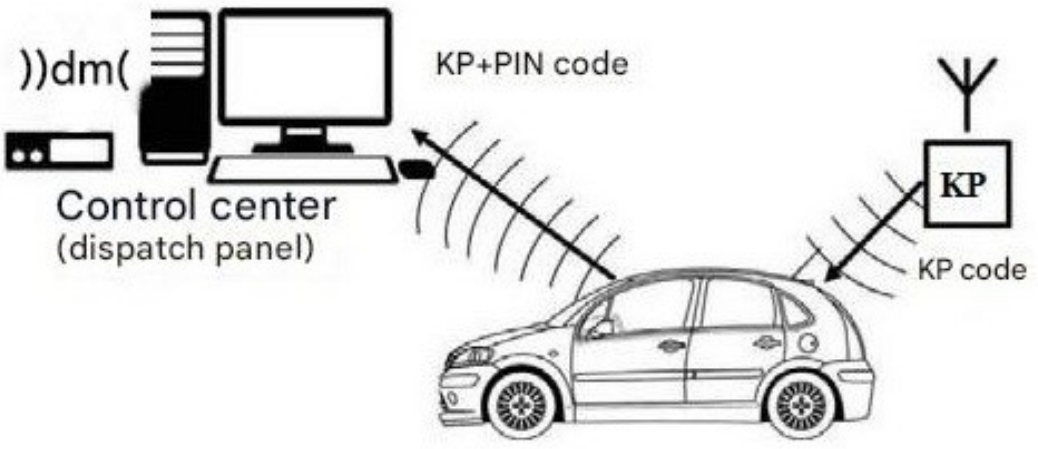

Figure 2 - Correct approach.

However, in practice, the reverse approach method is often used, with the detection and recognition of vehicles being carried out using active, passive or semi-active low-power radio beacons installed on them, which transmit their personal code to the checkpoint receiver, or using optical equipment to read and recognize the characteristic features of the object, for example, vehicle license plates.

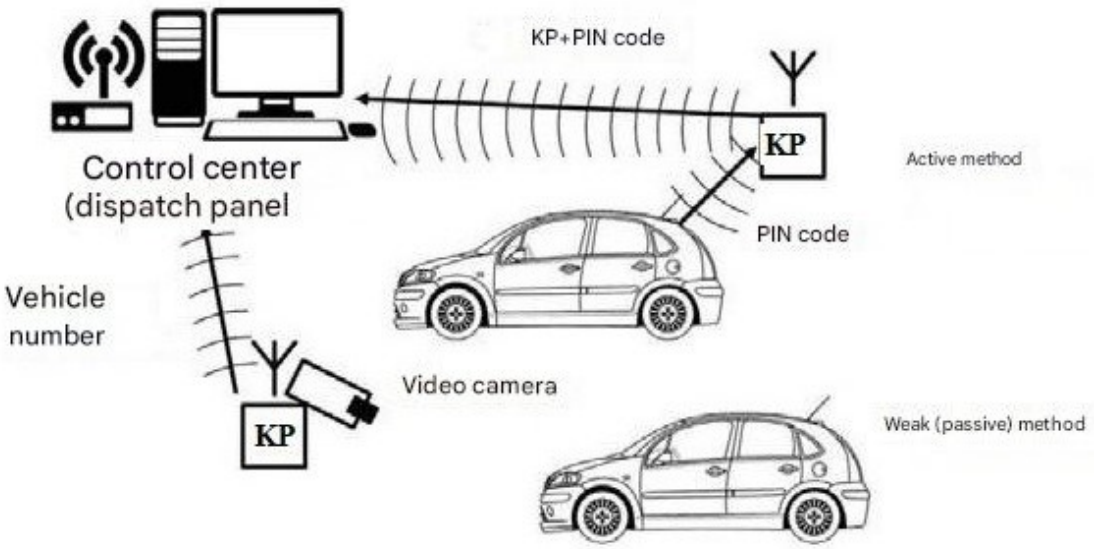

Figure 3 - Inverse approximation methods.

The information received from the control points is then transmitted to the data management and processing subsystem.

The accuracy of location determination and the frequency of data update directly depend on the density of the control points in the system's operating area. Since proximity methods require a developed communication infrastructure, they are very expensive to build systems covering large areas. At the same time, reverse proximity methods allow you to minimize the size of on-board equipment - a radio beacon - or to work without equipment installed on the car. The main application of these systems is to provide comprehensive security for cars, and to ensure the search in case of theft.

Conclusion: The development of vehicle location determination systems plays a crucial role in modern transport telematics. Various methods, including global, regional, and local tracking approaches, ensure accurate vehicle positioning and efficient traffic management. While proximity-based systems offer precise location tracking, they require extensive infrastructure. In contrast, reverse proximity methods minimize on-board equipment, making them cost-effective for security and theft recovery applications. The integration of advanced detection technologies, such as radio beacons and optical recognition, enhances the reliability and efficiency of these systems. Future improvements should focus on optimizing infrastructure costs while maintaining high accuracy and real-time data updates.

References:

1. Q.H.Azizov. Harakat xavfsizligini tashkil etish asoslari.-T., “Fan va texnologiya”, 2009, b-44.

2. Mukhamedov, J., A. Qosimov, M. Mansurov, D. Shotmonov, and N. Asqarov. "Development of Structures and Structural Analysis of Gear-Lever Belt Transmission." *Development* 7, no. 10 (2020).

3. ДС Шотмонов, ЖА Маннонов, АХ Бобоматов, АА Махмудов. Формирование профессиональных качеств учителя профессионального образования. 165-167(2016).
4. Polvonov, A.S., Normirzaev, A.R., Khabibullaev, A.X., Tuxliev, G.A., Shodmonov, D.S. and Valieva, G.F., 2014. Study of physico-mechanical properties of the polyurethane adhesive. *Austrian Journal of texnikal and Natural Sciences*, (11/12), pp.93-96.
5. К.С. Нарзуллаев, Д.С. Шотмонов, А.Ш. Насриддинов. Современные методы получения нефти из битуминозного песка. № 7, 2016
6. Soliyev Rustamjon Xakimjonovich, Imomnazarov Sarvar Qoviljanovich, Shotmonov Davron Samarbekovich. Developing effective compositions of ceramic masses for the purchase of sanitary buildings on the basis of local raw materials with high physical and mechanical properties. 2022/5/28
7. Soliyev Rustamjon Xakimjonovich, Imomnazarov Sarvar Qoviljanovich, Shotmonov Davron Samarbekovich. Study of chemical structure, composition, properties and mechanical activity of mineral raw materials in purchase of sanitary building product. 2022/5/28
8. Абдужалил Саттарович Полвонов, Давронбек Самарбекович Шотмонов, Нодиржон Абдужалил Угли Абдусаттаров. Теоретические предпосылки повышения долговечности постелей коренных подшипников в зависимости от теплопроводности соединений. 10-1 (67). 2019.

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TASHQI SAVDODA NAZARIYALARNING AMALIY AHAMIYATI

Annotatsiya: *Maqolada jahohdagi tashqi savdo jarayonlarining nazariy talqinlari va ularning o’ziga xos jihatlari yoritilgan. Omillar nisbati nisbati va yangi tashqi savdo nazariyalarining mohiyati tahlil qilingan. Bu nazariyalarning rivojlangan va rivojlanayotgan mamlakatlar vaziyatiga muvofiq amaliy xarakteri va xususiyatlari ochib berilgan. Tashqi savdo obyekti bo’lgan tovarlarning nazariy jihatdan talqini keltirilgan.*

Kalit so‘zlar: *tashqi savdo nazariyasi, yangi tashqi savdo nazariyasi, miqyos samarasi, tovarlarni tabaqalashtirish, eksport, import, tashqi savdo, jahon savdosi, xalqaro savdo, jahon bozori, savdo.*

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THE PRACTICAL IMPORTANCE OF THEORIES IN FOREIGN TRADE

Abstract: *The article covers theoretical interpretations of world foreign trade processes and their specific aspects. The ratio of factors and the essence of new foreign trade theories are analyzed. The practical nature and features of these theories are revealed in accordance with the situation of developed and developing countries. A theoretical interpretation of goods that are the object of foreign trade is presented.*

Keywords: *foreign trade theory, new foreign trade theory, scale economies, product differentiation, export, import, foreign trade, world trade, international trade, world market, trade.*

Milliy iqtisodiyotning takror ishlab chiqarish jarayoni makrodarajada yalpi ichki mahsulot ishlab chiqarish shaklida sodir bo‘ladi va uning tarkibiy qismlaridagi o‘zgarishlarning yo‘nalishlarini namoyon qiladi. Bu o‘zgarishlar asosida ahohlining iste’mol va jamg‘arish moyilligi, iqtisodiyotni modernizatsiya qilishning investitsion imkoniyatlari va eksportga yo‘nalganligi borasida tasavvur hosil qilish mumkin bo’ladi. Milliy iqtisodiyot tarmoqlarining tarkibiy tuzilish va ishlab chiqarishda ularning nisbati hamda dinamikasi, yetakchi tarmoqlarda samaradorlikning o‘sishi, resurslar tejamkorligi va boshqalarni aniqlash uchun

imkoniyat tug’uladi. Shuning uchun O‘zbekiston Respublikasi Prezidentining “O‘ZBEKISTON — 2030” strategiyasi to‘g‘risidagi farmonining “Barqaror iqtisodiy o‘sish orqali aholi farovonligini ta’minlash” yo’nalishi 55-maqsadida “Milliy iqtisodiyotning eksport salohiyatini kuchaytirish va uning tarkibida qo‘shilgan qiymati yuqori bo‘lgan mahsulotlar ulushini keskin oshirish” borasida vazifa[26] belgilangan.

Milliy iqtisodiyotning texnologik tuzilishi esa an’anaviy va zamonaviy texnologiyalar nisbati dinamikasi, ilg‘or texnologiyalarning ishlab chiqarish jarayoniga joriy etish tendensiyasi borasida vaziyatni namoyon qilsa, uning mintaqaviy tuzilishi esa ishlab chiqarish tizimida mamlakat hududlarining o‘rni va rolini, ularning o‘zaro mutanosibligi va rivojlanish xususiyatlarini aks ettiradi. Shu bois, M.Porter "Xalqaro savdoni mamlakatlarning nisbiy afzallikka erishish garovi" sifatida talqin qilgan. Globallashuv avj olib borayotgan davrda xalqaro savdo – bu mamlakatlar iqtisodiyotlarining internatsionallashuvi, xalqaro mehnat taqsimoti jarayonining chuqurlashuvi, fan-texnika taraqqiyoti va innovatsiyalarning jadal avj olib borishi sharoitida ko’plab milliy xo’jaliklar o‘rtasida tovar va xizmatlarni ayirbosh qilish mexanizmining namoyoni bo‘lib, u mamlakatlar va mintaqalarning ijtimoiy-iqtisodiy yuksalishi uchun ustuvor ahamiyat kasb etadigan aspekt hisoblanadi.

Jahon hamjamiyatida xalqaro savdo natijasida har bir mamlakat muayyan turdagi tovarlarni ishlab chiqarishga ixtisoslashish va cheklangan resurslardan samarali foydalanish orqali xususan mamlakat miqyosida, umuman dunyo miqyosida aholining moddiy va ma’naviy farovonlik darajasi yuksaladi. Shu bois ayrim tadqiqotchilar xalqaro savdoning klassik va keynsyan iqtisodiy ta’limotlarga muqobil sifatida miqyos samarasiga asoslangan xalqaro savdo nazariyasini o’rtaga tashlagan. Zero, miqyos samarasi tushunchasining mohiyati bu aniq mavjud bo’lgan texnologiya asosida ishlab chiqarishni tashkil etib, mahsulot chiqarish hajmi ortgan sari uzoq muddat mobaynida bir birlik tovarga to’g’ri keladigan o’rtacha xarajatlar miqdori qisqarishini bildiradi. Chunki ommaviy ishlab chiqarish jarayonida tejash imkoniyati vujudga keladi va bu yetarli darajada yirik bozor bo’lishini talab etadi.

Mazkur vaziyatda xalqaro savdo hal qiluvchi rolni bajaradi va mahsulot sotiladigan bozorlarni kengayishiga imkoniyat ta’minlab beradi. Shu bois, texnologik uzilish yoki ochiqlik nazariyasiga binoan mamlakatlardagi fan-texnik yutuqlari barqaror ko’paymaganligi uchun muayyan mamlakat ishlab chiqarishida birinchi bo’lib yangilik yaratilishi mumkin bo’ladi. Natijada bu mamlakatlar mazkur yangi tovar hisobiga xalqaro bozorda monopollashadi va o’zi shu mahsulotni ishlab chiqarib, sotish imkoniyatini qo’lga kiritadi. Lekin mamlakat tashqi savdosida eksportning yangi texnologiya asosida yangi turdagi mahsulotlarni ishlab chiqarishga ixtisoslashuvi o’zining an’anaviy mahsulotga ixtisoslashuviga nisbatan muvaqqat xarakterga ega bo’ladi. Chunki bu texnologiyani boshqa mamlakatlar o’zlashtirib olishi bilan uni nisbiy afzallikka ega bo’lgan mamlakatlar

[26]O‘zbekiston Respublikasi Prezidentining “O‘ZBEKISTON — 2030” strategiyasi to‘g‘risidagi (2023-yil 11-sentabr, PF-158-son) farmoni

ishlab chiqarish faoliyatini amalga oshira boshlaydi.

Iqtisodiy ta’limot sifatida tashqi savdo borasidagi afzal ko’rish yoki tanlovlardagi o’xshashlik nazariyasiga binoan B.S.Linderning fikriga ko’ra, jahondagi savdoda sanoat mahsulotlari oqimi taklif vaziyatiga qaraganda talab shart-sharoitlariga bog’liq bo’ladi. Unga ko’ra, bir mamlakatda ishlab chiqarilayotgan mahsulot turi shu mamlakat iste’molchilarining xilma-xil ehtiyojlariga to’liq mos kelmaydi. Aynan, xalqaro savdo jarayoni ana shu yetishmayotgan tovar turini ta’minlashga zamin hozirlaydi. Shu nuqtayi-nazardan kelib chiqqan holda qaysi davlatlar o’zaro savdo aloqalarini o’rnatishi mumkinligi haqida taxminiy xulosaga, borsa bo’ladi. Bunda asosan mamlatlarda turmush farovonligi darajasining yaqinligi va o’xshashligi ahamiyat kasb etadi. Chunki, davlatlardagi iste’molchilar o’zlari iste’mol qilayotgan tovar turiga va sifatiga to’g’ri keladigan tovarlarni xorijiy mamlakatlardan import qilib, xarid qilishga moyil bo’ladilar. Mazkur vaziyat bugungi kunda postindustrial mamlakatlarning tashqi savdo sheriklari nima uchun bu darajada rivojlangan boshqa mamlakatlardan iborat ekanligini isbotlashga asos bo’ladi. Umumiy tahlil va tadqiqotlardan kelib chiqmoqdaki, xalqaro savdo borasida ta’limotlarni ishlab chiqishda namoyondalar tovarlar va ishlab chiqarish omillari taklifini o’rganishga ustuvor darajada e’tibor qaratgan bo’lsada, talab shartlariga va vaziyatlariga yetarli darajada diqqat qilmagan. Bu yondashuv tarzi klassik iqtisodiy ta’limotlar maktabi namoyondalari usuli sifatida sohadagi ilmiy izlanish amaliyotiga kirib kelgan va bugungi kunda ham bu usul to’liq amaliy xarakterga ega hisoblanadi.

Ma’lumki, har qanday bozor singari, xalqaro bozorda ham tovarlar taklifi uning talabiga bevosita bog’liq bo’ladi. Shu bois zamonaviy shart-sharoitlardan va imkoniyatlardan kelib chiqib, xalqaro savdo borasida o’rtaga tashlanayotgan nazariya va gipotezalarda tovarlarning talab bilan taklifiga jiddiy e’tibor qaratilishi tabiiy hisoblanadi. Iqtisodiy ta’limot sifatida katta ahamiyatga ega bo’lgan, talab bilan taklif muvozanati neoklassik farazlarga asoslangan va tashqi savdoning standart modeli ko’plab tadqiqotlarning samarasi o’laroq paydo bo’lgan. Shu bois tashqi savdoning iqtisodiy o’sishga ta’siri tadqiqot olib borish uchun jiddiy ahamiyat kasb etgan. Chunki bir tomondan ishlab chiqarishni kuchaytirish eksport taklifini kengaytirishga va yangi bozorlarni o’zlashtirishga olib kelsa, ikkinchi tomondan iqtisodiy o’sishning jadallashuvi hisobiga erishilgan yutuqlar eksport narxlar orqali xorijiy mamlakatlarga transfert bo’lib ketishi mumkin. Milliy iqtisodiyotlarda o’sishning tashqi savdo jarayoniga ta’siri uch xil ko’rinishda bo’lishi mumkinligi xulosa qilingan. Jumladan, ular, neytral, eksportni kengaytiruvchi va import o’rnini bosuvchi ko’rinishlarda yuzaga chiqishi mumkin.

Jahonda tashqi savdo jarayonini tahlil qilish natijasida kelib chiqqan V.Leontev paradoksi va uning Xeksher-Ohlin yoki omillar nisbati nazariyasi borasida yuzaga keltirgan munozaralari tufayli 20-asrning 60-yillaridan keyin mamlakatlararo savdo aloqalarini bayon qilish uchun ko’plab yangicha yondashuvlar va gipotezalar o’rtaga tashlangan. Bu yangicha yondashuvlarning ishlab chiqilishi va talqini tashqi savdo nazariyasi sohasida muhim ilmiy yutuqlarning namoyoni sifatida talqin qilinadi. Chunki, ikkiyuzga yaqin

mamlakatlar milliy iqtisodiyotlari o‘rtasida amalga oshiriladigan turli-tuman milliondan ortiq bo‘lgan va doimiy ravishda o‘zgarib turadigan tovarlar va xizmatlar savdosini talqin qiluvchi tashqi savdo masalasini oddiy-sodda va sanoqli nazariyalar bilan yoritib berish imkoniyati chaklangan. Faqat har qanday nazariyadan biron bir turdagi yoki guruhdagi tovarlarning tashqi savdo jarayonidagi talqinini izohlash maqsadida foydalanish mumkin. Shu bois, turli xususiyatlardagi tovarlar hamda mamlakatlar o’rtasidagi tashqi savdo jarayonini asoslash va izohlash uchun ko’plab yondashuvlar hamda nazariyalarning tabiiy voqelik hisoblanadi.

Tashqi savdo borasida o’rtaga tashlangan zamonaviy yondashuvlardan biri bu malakali ishchi kuchi gipotezasidir. Xususan, ayrim tadqiqotchi olimlar xulosasiga ko’ra, taraqqiy etgan mamlakatlarda tashqi savdo hajmining aksariyat qismini malakali ishchi kuchiga asoslangan tovar va xizmatlar tashkil qilishi qayd qilinadi. Mazkur talqinga binoan muayyan turdagi kasbiy mahoratga ega va malakali ishchiga boy mamalakatlarda ishlab chiqarish faoliyati asosan kasbiy mahoratga ega va malakali ishchilar ishtirokida ishlab chiqariladigan tovarlarni tayyorlashga ixtisoslashadi hamda ularni eksport qiladilar. Ayni paytda, malakasiz ishchi kuchi ko‘p bo‘lgan mamlakatlar esa, malakasiz ishchi kuchi ishlab chiqaradigan tovarlarni ishlab chiqarishda ustunlikka ega bo‘ladi va ularni eksport qiladi. Ushbu izohlarga ko‘ra, omillar nisbati nazariyasi bilan malakali ishchi kuchi gepotezasi o‘rtasida muhim darajada umumiylik yoki o‘xshashlik mavjud. Ya’ni, malakali ishchi kuchini tayyorlash ham, moddiy sarmoyani shakllantirish ham jamg‘armalar hosil qilish orqali ularni investitsiya sifatida yo’naltirishni talab etadi. Amaliyotda malakali mehnat talab qiladigan tovarlar bilan sarmoya talab qiladigan tovarlar ko‘p jihatdan bir-biriga o‘xshash bo’ladi. Shuning uchun ayrim mutaxassislar ularni “neo-omil joylashtirish” nazariyasi sifatida talqin qiladilar. Xususan, amaliy tadqiqotlarda malakali ishchi kuchi taqchil, tabiiy resurslarga boy rivojlanayotgan mamlakatlarda ko’proq an’anaviy agrar mahsulotlar, kasbiy jihatdan malakali ishchi kuchiga boy rivojlangan mamlakatlarda esa intensiv tarzda sanoat mahsulotlari ishlab chiqarilayotganligi va eksport qilinayotganligi isbotlangan.

Globallashuv avj olib borayotgan sharoitda tashqi savdo bo’yicha o’rtaga tashlangan gipotezalar qatorida texnologik uzilish yoki bo‘shliq nazariyasi ham mavjuddir. U gipotezaga binoan industrial mamlakatlar o‘rtasidagi tashqi savdoning katta qismi yangi innovatsion tovarlarga va ishlab chiqarish jarayonlariga asoslangan bo’ladi. Bu tovar va xizmatlar innovatsiya faoliyatini muntazam amalga oshiruvchi kompaniyalar tomonidan ishlab chiqarilgan bo‘lib, u kompaniyalarning aksariyati rivojlangan mamlakatlar rezidenti hisoblanadi. Shuningdek, innovatsion faoliyat natijalari patent va intellektual mulk huquqiga oid qonunlari bilan himoyalangan bo’ladi. Ya’ni, innovatsion yangilikni birinchi bo’lib yaratgan firma u yangilik asosida ishlab chiqariladigan tovarning monopol egasiga aylanadi va undan keladigan yuqori daromadni qo’lga kiritadi. Ushbu ixtironing boshqalar tomonidan litsenziyasiz ishlatilishiga esa tegishli qonunlar yo‘l qo‘ymaydi.

Shu bois, texnologik uzilish gipotezasiga ko‘ra, yangi mahsulot yoki ishlab chiqarish jarayonini yaratgan sanoati taraqqiy etgan mamlakatlar bu tovarlarning

birinchi ishlab chiqaruvchisi va eksportchisi bo‘ladi. Biroq, vaqt o‘tishi bilan, bu ishlab chiqarish texnologiyasiga taqlid qilinganidan yoki u texnologiya tashqi savdoda erkin tovarga aylanganidan keyin, boshqa davlatlar ishchi kuchi arzonligi yoki tabiiy resurslar borasidagi ustunligi tufayli yangi tovarni birinchi bo‘lib ixtiro qilgan mamlakatga nisbatan kamroq xarajatlar bilan ishlab chiqarish salohiyatiga ega bo’ladi. Natijada ushbu tovarlarni rivojlanayotgan mamlakatlar ishlab chiqarish va eksport qilish imkoniyatini qo’lga kiritadi.

Ayni paytda, mazkur tovarning birinchi novatorlari esa bu mamlakatlar bilan raqobatlasha olmaganligi uchun u tovarlarni xorijiy mamlakatlardan import qilishga ehtiyoj sezadi. Xususan, jahon amaliyotida Buyuk Britaniya bir vaqtlar dunyodagi eng yirik to‘qimachilik mahsulotlari ishlab chiqaruvchisi va eksportchisi bo‘lgan. Ammo, qachonki, rivojlanayotgan mamlakatlar to‘qimachilik mahsulotlarini ishlab chiqarishni boshlagach, Buyuk Britaniyada bu mahsulotni ishlab chiqarish kamayib, uni hatto chet eldan import qilishga to‘g‘ri kelgan bo’lib, bu jarayon bugungi kunda ham faol davom etmoqda. Omillar nisbati nazariyasiga binoan barcha mamlakatlar bir xil darajadagi ishlab chiqarish texnologiyasini erkin qo’lga kiritishi va ulardan foydalanishda hech qanday to‘siq bo’lmaydi, degan, tushunchaga asoslanadi.

Haqiqatda ba’zi sanoat tarmoqlarida barcha mamlakatlarda bir xil ishlab chiqarish texnologiyasi mavjud bo’lishi yoki mos tushishi mumkin. Ammo, bu talqin ko‘pgina sanoat tarmoqlari uchun to‘g‘ri kelmaydi va ommaviy xarakterga ega emas. Chunki, aksariyat kompaniyalar ko‘pincha texnologiyalarni “tijorat siri” sifatida atrofdagilardan va raqobatchilardan maxfiy holda saqlaydilar. Shuningdek, bunga patent, sanoat namunalari va intellektual mulk huquqlari to‘g‘risidagi qonunlar ham asqotadi va imkoniyat yaratib beradi.

Jahon amaliyotida ishlab chiqarish texnologiyalarining asosiy qismi rivojlangan mamlakatlarda yaratilayotgan bo’lib, ular muayyan muddatdan keyin rivojlanayotgan mamlakatlarga transfert qilinadi va ommaviy ishlab chiqarish jarayoniga joriy etiladi. Xususan, to‘qimachilik sanoatida, elektron mahsulotlarida, kimyo sanoatida, temir-po’lat sanoatida va boshqa shu kabi texnologiyalarini transfert qilish imkoniyati bo’lgan ko‘plab sohalarda bu amaliyot kuzatilgan. Jumladan, hozirgi kunda ham AQSh texnologiya jihatidan dunyodagi eng ilg‘or mamlakat bo’lib, juda ko‘plab ilg‘or texnologiya (Hi-Tech) asosida ishlab chiqarilgan mahsulotlarni eksport qiladi. Ammo, boshqa mamlakatlar bu yangi texnologiyalarni xarid qilib, o‘zlarida mavjud bo‘lgan arzon ishchi kuchi imkoniyatiga tayangan holda vaqt o‘tishi bilan mazkur mahsulot bo’yicha jahon bozorini va hatto Amerika bozorini ham egallab olishga erishmoqda.

Ayni paytda rivojlangan mamlakatlarning innovatorlari yangi turdagi tovarlarni va ishlab chiqarish jarayonlarini kashf etishni davom etadilar. Natijada ushbu mamlakatlarning eksportidagi tovar va xizmatlarda texnologik ustunlikka asoslangan xususiyatlar ahamiyatini saqlab qolmoqda. Shu bois, bu gipotezani testdan o’tkazish uchun xususan rivojlangan mamlakatlar iqtisodiyoti bo‘yicha ko‘plab ilmiy-tadqiqotlar o‘tkazilgan. Bu tadqiqotlar natijasida muayyan sanoat tarmog‘ining sof eksport miqdori bilan u tarmoqdagi tadqiqot va taraqqiyot (R&D)

masalasida qilinadigan investitsiyalar, ya’ni, ilmiy-tadqiqot va tajriba konstruktorlik ishlariga kiritiladigan sarmoyalar o‘rtasida yuqori darajadagi korrelyatsion bog‘liqlik mavjudligini ko‘rsatgan. Mazkur vaziyat innovatsiyaga asoslanan va ilg’or texnologiya taraqqiyotiga tayangan rivojlanish nazariyalarini rag’batlantiruvchi ahamiyatga ega bo’lgan.

Bugungi kunda xalqaro hamjamiyatda globallashuv va integratsiyalashuv jarayoni chuqurlashib borayotgan sharoitda tashqi savdo aloqalari qariyb ikki yuzga yaqin mamlakatlar o‘rtasida millionlab turdagi tovarlar va xizmatlar bo‘yicha amalga oshirilmoqda. Ayni paytda ushbu tovar va xizmatlarning turi, shakli, sifati va boshqa xususiyatlari muntazam ravishda va uzluksiz tarzda o‘zgarib turadi. Shu bois, masalaga real vaziyatdan kelib chiqib baho beriladigan bo‘lsa, o’ta darajada xilma-xil va rang-barang xarakterga ega bo’lgan jahon savdosi hamda uning rivojlanish tendensiyasini sanoqli nazariya va gipotezalar bilan muvaffaqiyatli va to’liq yoritib berish qanchalik murakkabligini tasavvur qilish mumkin.

Shunday bo’lsada, tahliliy asosda ko‘rib chiqilgan nazariya va gipotezalarning amaliy ahamiyatga egaligi borasida olib borilgan tadqiqotlardan o’ziga xos xulosalar kelib chiqmoqda. Xususan, hozirgi ijtimoiy-iqtisodiy taraqqiyot davrida rivojlangan va rivojlanayotgan davlatlar o‘rtasidagi tovarlar savdosining aksariyat qismi “Omillar nisbati nazariyasi”da olg’a surulganidek, mamlakatlardagi ishlab chiqarish omillari zichligiga va texnologiyaga asoslangan tarmoqlararo savdo tashkil etadi. Shuningdek, taraqqiy etgan milliy iqtisodiyotlar o‘rtasidagi tovar aylanmasining muntazam o‘sib borayotgan qismi, bu yangi nazariyalarda yoritib berilganidek, tabaqalashtirilgan tovarlardan iborat ekanligi ma’lum bo’lmoqda.

Muxtasar xulosa sifatida shuni qayd qilish mumkinki, Omillar nisbati nazariyasi va yangi gipotezalarning har biri tashqi savdo jarayonida alohida jihatlarni va boshqalar nazarda tutmagan vaziyatlarni ochib berishga mo‘ljallangan bo’lib, shu bois ular o‘rtasidagi munosabatlar bir-birini to‘ldiruvchi xarakterga ega hisoblanadi. Shuning uchun mamlakatlarda ishlab chiqarish omillari zichligi jihatidan bir-biridan keskin farq qilsa, ular o‘rtasida tashqi savdo aylanmasining hajmi tarmoqlararo shunchalik darajada katta bo‘ladi. Aksincha, agar mamlakatlarda ishlab chiqarish omillari zichligi borasida mushtarak xususiyatlar mavjud bo‘lsa, ular o‘rtasidagi savdo aloqalari tarmoqlararo emas, balki, tarmoqichi savdo shaklida rivojlanadi. Demak, masalaga iqtisodiy rivojlanish nuqtayi nazaridan qaraladigan bo’lsa, rivojlanayotgan mamlakatlar bilan taraqqiy etgan davlatlar o‘rtasidagi tashqi savdo aloqalari, odatda, tarmoqlararo savdo xarakteriga ega bo‘ladi va jarayonning bu turi “Omillar nisbati nazariyasi”ga binoan namoyon bo’ladi. Shuningdek, taraqqiy etgan mamlakatlar o‘rtasidagi tashqi savdo aloqalari ko‘proq tarmoqichi shaklda amalga oshadi va ularning vaziyati tashqi savdo borasidagi yangi nazariyalar talqiniga binoan yuzaga chiqadi. Ana shu shart-sharoitlardan va o’ziga xos jihatlardan kelib chiqqan holda, qaysi nazariya qanday vaziyatda qo‘llanilishini, ya’ni, obyektning mohiyatini yaxshi bilishni talab etadi. Zero, ishlab chiqarish omillari nisbati yoki zichligi nazariyasi xomashyo, qishloq xo‘jaligi mahsulotlari va mehnat talab qiladigan tarmoqlarga oid tovarlarning tashqi

savdosini talqiniga qaratilgan bo'lsa, miqyos samarasi va tabaqalashtirilgan tovarlar borasidagi yangi nazariyalar esa sarmoya sig'imliligiga va innovatsion texnologiyaga asoslangan tarmoqlardagi tovarlarning tarmoqichi tashqi savdosini tushuntirish yo'nalgan nazariyalar hisoblanadi.

Foydalanilgan va tavsiya etiladigan adabiyotlar ro'yxati

1.O'zbekiston Respublikasi Prezidentining "O'ZBEKISTON — 2030" strategiyasi to'g'risidagi (2023-yil 11-sentabr, PF-158-son) farmoni

2.Mirziyoev Sh.M. Tanqidiy tahlil, qat'iy tartib-intizom va shaxsiy javobgarlik –har bir rahbar faoliyatining kundalik qoidasi bo'lishi kerak. O'zbekiston, T.: 2017.

3.Vaxabov A.V. va boshqalar Jahon iqtisodiyoti va xalqaro iqtisodiy munosabatlar. Darslik. Baktria press, T.: 2015.

4.Dominick S., International economics. Printed in the USA /. – 13th ed. 2019. 720 p.

5.Krugman P., Obstfeld M., Melitz M. International economics: theory and policy. 12 th edition. Harlow, Essex: Pearson, 2023, 817p.

6. Sirajiddinov N. Xalqaro iqtisodiy munosabatlar. Birinchi qism. Tashqi savdo nazariyasi va siyosati. O'quv qo'llanma. – T.: JIDU, 2017. – B. 182.

7. Seyidoğlu H. Uluslararasi Iktisat: Teori Politika ve Uygulama. Güzem can yayinlari, Istanbul, 2022. - 22. baski

8.Thomas A. Pugel. International Economics. Printed in the USA /. – 18th Edition. 2024.

9.Tuxliyev N. Jahon iqtisodiyoti rivojlanishida yangi trendlar. Monografiya.– T.: "Ilm-Ziyo-Zakovat", 2021. – 72 b.

12.https://wdi.worldbank.org/tables

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USING GEOGEBRA TO CALCULATE DOUBLE INTEGRALS

Abstract: *This article briefly discusses the analysis and calculation of multiple integrals using the GeoGebra program when calculating a double integral, setting a limit over a given domain, and changing variables.*

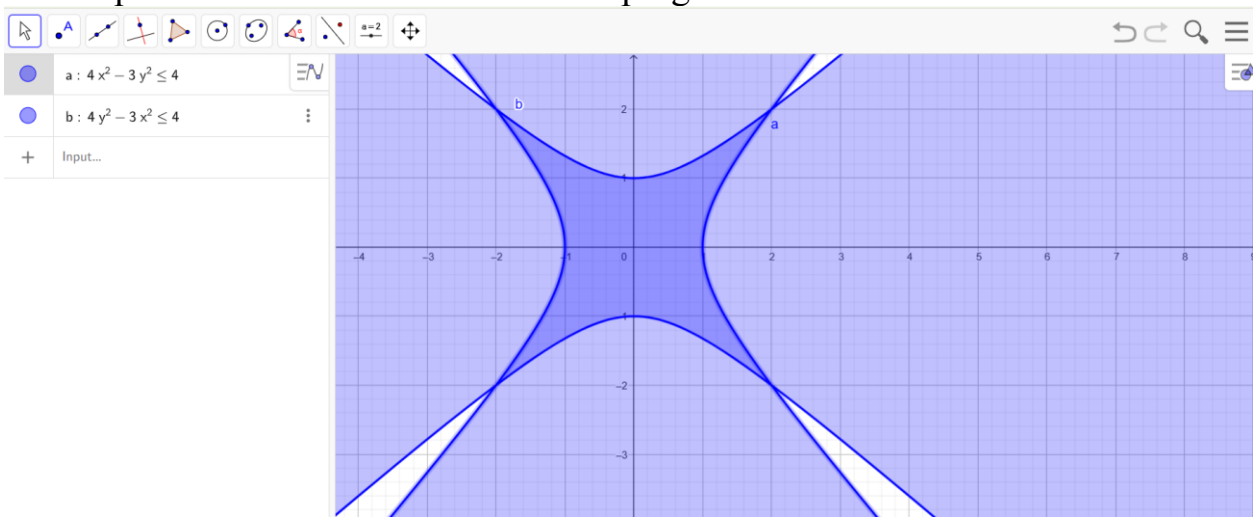
Keywords: *double integral, closed domain, entering a variable into a double integral, GeoGebra program.*

We know from mathematical analysis or higher mathematics, which are the subjects of mathematics, physics, engineering, economics and other areas of higher education, that the concept of a definite integral of a multivariable function leads to the concept of double or triple, ... integrals. When finding the multiple integral of a function through a form bounded by a closed domain in a certain interval, it is necessary to know the appearance of the domain and to know the exact image of the domain in order to determine the intervals of change of variables. [4]

Below, we will use the Geogebra program to conclude that when calculating the multiple integral using domains bounded by the graphs of a certain function, it is necessary to set limits on variables or use the method of introducing variables in the multiple integral.

Example 1: $\iint (x^3y + xy^3)dxdy$ Calculate the double integral in the domain given below. $D = \{(x, y) \in R^2, x \geq 0, y \geq 0, 4x^2 - 3y^2 \leq 4, 4y^2 - 3x^2 \leq 4\}$ [1,2]

Solution: Before calculating this multiple integral, let's first define the shape of the sphere. We will use the GeoGebra program to do this.



Since both variables in the domain are positive, the first quarter of the coordinate plane of the domain is taken. Now, since it is somewhat difficult to set a

limit in this domain, we use the method of introducing variables in the multiple integral. For this:

$\begin{cases} x = u\,chv \\ y = \frac{2}{\sqrt{3}} u\,shv \end{cases}$ We can introduce variables such as . Now we define the boundaries of the new variables. To do this, first $4x^2 - 3y^2 \leq 4$ by putting variables into the equation $0 \leq u \leq 1$ we find that is. Now $4y^2 - 3x^2 \leq 4$ from inequality $0 \leq shv \leq \sqrt{3}$ we find that.

When changing variables in a multiple integral, it is necessary to find the Yakabian, and the Yakabian is

$I(u,v) = \begin{vmatrix} x'_u & x'_v \\ y'_u & y'_v \end{vmatrix} \neq 0$ is found using the formula [1,2,3].

So now we find the Jacobian in terms of the variables introduced above.

$\begin{vmatrix} x'_u & x'_v \\ y'_u & y'_v \end{vmatrix} = \begin{vmatrix} chv & u\,shv \\ \frac{2}{\sqrt{3}} shv & \frac{2}{\sqrt{3}} u\,chv \end{vmatrix} = \frac{2}{\sqrt{3}} u$ is equal to . Now we calculate the value of the integral by putting all the values found into the integral. The integral

$$\iint (x^3 y + xy^3) dxdy = \int_0^1 du \int_0^{sh^{-1}\sqrt{3}} \frac{4}{3} u^5\, chv\, shv\, (ch^2 v + \frac{4}{3} sh^2 v) dv$$

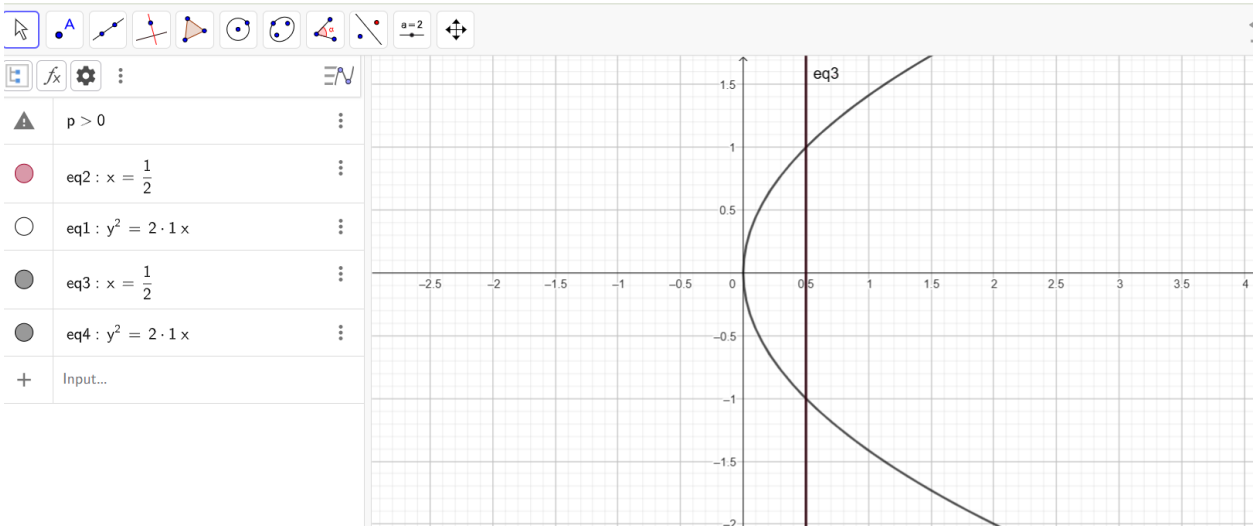
appears (here $sh^{-1}v$ it's shv (the inverse function of the function) . Now $ch^2 v = 1 + sh^2 v$ using the fact that

$$\int_0^1 du \int_0^{sh^{-1}\sqrt{3}} \frac{4}{3} u^5\, chv\, shv\, (ch^2 v + \frac{4}{3} sh^2 v) dv =$$
$$\int_0^1 du \int_0^{sh^{-1}\sqrt{3}} \frac{4}{3} u^5\, shv\, (1 + \frac{7}{3} sh^2 v) d(shv)$$

If we calculate the integral by expressing it in the form $\iint (x^3 y + xy^3) dxdy = \frac{3}{2}$ It turns out that.

Example 2: $\iint xy^2 dxdy$ multiple integral, $D = \{(x,y) \in R^2, y^2 = 2px, x = \frac{p}{2}, p > 0\}$ Calculate in the field. [1,2]

Solution: As above, we first draw the domain in Geogebra to determine the limits of the integral.



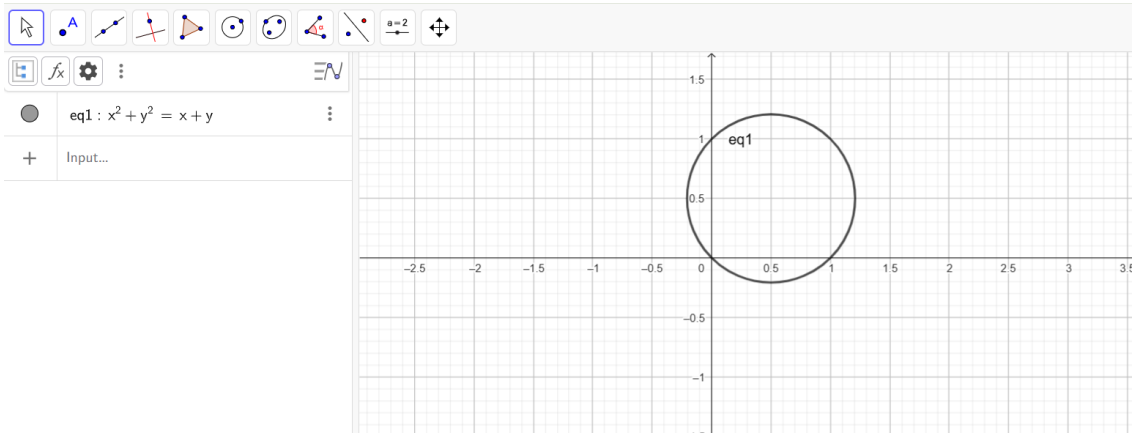
So the domain is a closed domain bounded by lines. Now we define the boundaries. From this, the boundaries of the variables $\{0 \le x \le \frac{p}{2}, -\sqrt{2px} \le y \le \sqrt{2px}\}$ It follows that. If we calculate the integral from this

$$\iint xy^2 dxdy = \int_0^{\frac{p}{2}} dx \int_{-\sqrt{2px}}^{\sqrt{2px}} xy^2 dy = \frac{p^5}{21}$$

It turns out that.

Example 3: $\iint (x+y)dxdy$ integral $D = \{(x,y) \in R^2, x^2 + y^2 = x + y\}$ Calculate in the field. [1,2]

Solution: Just like in the two examples above, to find the solution to this example, we will draw the sphere using Geogebra and



Now, in calculating this multiple integral, we also use the method of changing variables. That is, usually if the domain of the multiple integral is a circle or an ellipse, then it is very convenient to switch to polar coordinates in such a domain. Therefore, we use polar substitution. To do this, we first write down the full form of the equation of the circle from the given domain.

$x^2+y^2-x-y=0 \to \left(x-\frac{1}{2}\right)^2+\left(y-\frac{1}{2}\right)^2=\frac{1}{2}$ and we introduce the following definitions here.

$\begin{cases} x-0.5=rcos\varphi \\ y-0.5=rsin\varphi \end{cases} \to \begin{cases} x=rcos\varphi+0.5 \\ y=rsin\varphi+0.5 \end{cases}$ here $0 \le r \le \frac{1}{\sqrt{2}}, 0 \le \varphi \le 2\pi$ We find the Yakabian just as in Example 1 above.

$$\begin{vmatrix} x'_r & x'_\varphi \\ y'_r & y'_\varphi \end{vmatrix} = \begin{vmatrix} cos\varphi & -rsin\varphi \\ sin\varphi & rcos\varphi \end{vmatrix} = r$$

Now we calculate the integral by setting all the limits.

$\int_0^{\frac{1}{\sqrt{2}}} dr \int_0^{2\pi} r(rcos\varphi+rsin\varphi+1)d\varphi = \frac{\pi}{2}$ It follows that it is equal to .

References.

1. A.Sadullayev, H.Mansurov, G.Khudoyberganov, A.Vorisov, R.G‘ulomov. Collection of examples and problems from the course of mathematical analysis, part 2. Tashkent-1995.
2. B.A.Shoimkulov, T.T.Tuychiyev, D.H.Dzhumaboyev. Independent exercises from mathematical analysis. “National Society of Philosophers of Uzbekistan” publishing house 2008.
3. T.Azralorov, H.Mansurov. Mathematical analysis, part 1. Tashkent “Teacher” 1994.
4. Using the GeoGebra program when choosing the limits of double integrals. “Economy and Society” journal. January 2024 No. 1. 512b
5. Solayeva M.N., Eshqorayev Q.A., Seytov A.J. Methods for solving some examples using extraordinary limits Using unconventional methods Teacher and continuous education 1-1 2020 pp. 109-113.
6. Solayeva M. N., Seytov A. J. Innovative methods of working with some examples in teaching sequence and function limits to schoolchildren SCIENTIFIC JOURNAL 2020, issue 4 ISSN 2091-5446.

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STRATEGIC MANAGEMENT OF THE ORGANIZATION IN THE CONTEXT OF INNOVATIVE DEVELOPMENT

Abstract: *This paper explores the core elements, challenges and coping strategies of Kazakhstan's organizational strategic management in the context of innovative development. By analyzing the policy, economic, technological and social and cultural environment, the article points out that Kazakhstan is in a critical stage of transformation from a resource-dependent economy to a knowledge-based economy. The balance between the government-led innovation model and the market mechanism, the coordinated development of traditional industries and emerging industries, and the construction of regional cooperation networks have become important directions for organizational strategic management. The article also emphasizes challenges such as energy economic inertia and shortage of high-end technical talents, and proposes coping strategies such as building an "innovation enclave" and optimizing the strategic decision-making system. Finally, the article summarizes the domestic reform and international linkage of Kazakhstan's "dual circulation" logic, providing a paradigmatic inspiration for the innovation strategy of emerging resource-based countries.*

Keywords: *Innovative Development, Organizational Strategic Management, Kazakhstan, Economic Transformation, Regional Cooperation*

Introduction

Against the backdrop of profound changes in the global economic landscape, innovation-driven development has become an important engine for driving the sustainable development of emerging economies. The wave of technological revolution and digital transformation is reshaping the global value chain, providing unprecedented opportunities and challenges for emerging market countries. As a hub country in Eurasia, Kazakhstan, with its unique geo-economic advantages, is at a critical stage of transforming from a traditional resource-dependent economy to a knowledge-based economy. This transformation is not only an inevitable choice to cope with the pressure of global energy market fluctuations and climate change, but also a strategic path to achieve long-term national competitiveness.[1] The Kazakhstan government's "Strategy 2050" and "Digital Kazakhstan" plan aim to promote economic structural diversification and digital transformation by building an innovation ecosystem. This series of measures not only reflects the country's strategic emphasis on innovation development, but also provides an important practical background for the study of organizational strategic management.[2] This

paper will take Kazakhstan as the research object to explore how organizations can achieve optimal resource allocation and capacity upgrading through strategic management in the context of innovation development, so as to occupy a favorable position in global competition.

Coupling of organizational strategic management and innovative development

Against the background of profound changes in the global economic landscape, innovation-driven development has become an important engine for promoting sustainable development in emerging economies. The wave of technological revolution and digital transformation is reshaping the global value chain, providing unprecedented opportunities and challenges for emerging market countries. As a hub country in Eurasia, Kazakhstan, with its unique geo-economic advantages, is at a critical stage of transformation from a traditional resource-dependent economy to a knowledge-based economy. This transformation is not only an inevitable choice to cope with the pressure of global energy market fluctuations and climate change, but also a strategic path to achieve long-term national competitiveness. The "2050 Strategy" and "Digital Kazakhstan" plan proposed by the Kazakhstan government aim to promote economic structural diversification and digital transformation by building an innovative ecosystem. This series of measures not only reflects the country's strategic emphasis on innovative development, but also provides an important practical background for the study of organizational strategic management.

The coupling of organizational strategic management and innovative development is the core topic of this study. In the context of innovation-driven development, the core dimension of strategic management has shifted from traditional static resource allocation to dynamic capability construction and ecosystem synergy. Dynamic capability theory emphasizes that organizations adapt to external challenges by integrating, reconstructing, and releasing resources in a rapidly changing environment. This theory provides important inspiration for the adaptability of Kazakhstan's enterprises in transformation.[3] At the same time, the rise of the open innovation model requires organizations to break through boundaries and build an innovation ecosystem through collaborative cooperation with external innovation entities (such as governments, universities, and research institutions). This model can not only accelerate technology diffusion and knowledge sharing, but also effectively reduce innovation risks and enhance overall competitiveness. In the context of Kazakhstan, its unique geo-economic characteristics make it a bridge connecting the Eurasian market, which provides a broad space for regional cooperation for organizational strategic management. However, Kazakhstan's innovation model has a significant government-led feature. How to find a balance between government guidance and market mechanisms has become the key to the success of organizational strategic management.

Analysis of the Strategic Environment for Innovation Development in Kazakhstan

The strategic environment analysis for innovation development in Kazakhstan needs to be carried out from three dimensions: policy, economy and technology, and social culture, in order to fully reveal the construction logic and internal driving force of its innovation ecosystem. In terms of policy environment, the Kazakhstan government has clarified the long-term goal of national innovation development through the "2050 Strategy", aiming to transform the economy from resource-dependent to knowledge-intensive. This strategic framework provides a clear direction for organizational strategic management. As a regional financial and innovation hub, the Astana International Financial Center (AIFC) has not only attracted international capital and technology inflows, but also provided local enterprises with international financial and legal services through institutional innovation, becoming an important policy tool to promote innovation development. In terms of economic and technological environment, Kazakhstan's traditional industries, especially energy and mining, are facing an urgent need for technological upgrading.[4] The advancement of global energy transformation and carbon neutrality goals has forced these industries to improve their competitiveness through digitalization and green transformation. At the same time, Kazakhstan's layout in digital economic infrastructure, such as 5G networks, blockchain technology, and smart city construction, not only provides technical support for the development of emerging industries, but also creates conditions for the digital transformation of traditional industries. This dual transformation of technology and economy requires organizations to take into account both short-term efficiency improvement and long-term innovation capacity building in strategic management.

The social and cultural environment is an important dimension of Kazakhstan's innovation and development that cannot be ignored. The cultivation of entrepreneurial culture and the reserve of young innovative talents are the key driving forces for promoting economic transformation. The Kazakhstan government is gradually building a social atmosphere conducive to innovation and entrepreneurship through a series of policy supports, such as entrepreneurial incubators, innovation funds, and international education cooperation projects. The cultivation and introduction of young talents not only injects vitality into the innovation ecosystem, but also provides human resources guarantee for organizational strategic management. In addition, Kazakhstan's multi-ethnic cultural integration characteristics pose unique challenges and opportunities to organizational management. The coexistence of multiple cultures may bring obstacles to communication and collaboration, but it may also become a source of inspiration for innovative thinking. How to effectively utilize cultural diversity in organizational strategic management and build an organizational culture that coexists with inclusiveness and innovation is an important issue facing Kazakhstan companies.

Core elements of strategic management of Kazakhstan’s organizations

The core elements of strategic management of Kazakhstan’s organizations revolve around three dimensions: strategic positioning, resource integration, and organizational culture. These elements together constitute its strategic framework

in the context of innovative development. Strategic positioning and goal selection are the primary tasks for organizations to achieve sustainable development in a complex environment. Kazakhstan's traditional industries, especially energy and mining, are facing the pressure of global energy transformation and carbon neutrality goals, and urgently need to achieve transformation through technological upgrading and green transformation. At the same time, the rise of emerging industries such as financial technology and green energy has provided new growth points for economic diversification.[5] Organizations need to find a path for coordinated development between traditional and emerging industries to achieve optimal allocation of resources and comprehensive improvement of competitiveness. Market positioning from the perspective of regional cooperation further highlights the strategic value of Kazakhstan as a hub of the Eurasian Economic Union. By deepening regional cooperation, Kazakhstan companies can make full use of the scale effect of the Eurasian market, expand their business boundaries, and enhance their international competitiveness.

Resource integration and capacity building are the core links of organizational strategic management. By building a government-enterprise-university innovation triangle model, Kazakhstan is gradually forming a resource integration mechanism driven by collaborative innovation. This model can not only accelerate the process of technology research and development and commercialization, but also provide organizations with continuous knowledge and talent support. The introduction of international capital and technology is an important driving force for Kazakhstan's innovation and development, but its success depends on its local adaptation capabilities. Organizations need to absorb international advanced technologies while combining local market demand and resource endowments to build an innovation ecosystem with regional characteristics.[6] Organizational culture and innovation mechanisms are the inherent driving forces of strategic management. State-owned enterprises occupy an important position in Kazakhstan's economy, and the agility reshaping of their reforms is the key to improving overall economic efficiency. By introducing market-oriented mechanisms and innovative management models, state-owned enterprises can enhance their market competitiveness while maintaining their strategic dominance. As an important part of the innovation ecosystem, the digital transformation of small and medium-sized enterprises requires government support through incentive mechanisms to unleash their innovation potential.

Challenges and coping strategies

The main challenges faced by Kazakhstan in the process of innovation and development are concentrated in the crowding-out effect of energy economic inertia on innovation input, the shortage of high-end technical talents and regional competition pressure. As a traditional resource-dependent economy, Kazakhstan's energy industry has long dominated. This economic structure has led to relatively insufficient innovation input and resource allocation has tilted toward traditional industries, thus inhibiting the growth space of emerging industries. At the same time, the shortage of high-end technical talents has further aggravated the lack of

innovation capabilities, and regional competition pressure has made Kazakhstan face greater challenges in attracting international talents and technologies. The existence of these problems not only restricts the optimization and upgrading of the economic structure, but also puts higher requirements on organizational strategic management.

To meet these challenges, Kazakhstan needs to adopt a systematic strategic path. Building an "innovation enclave" model, such as the Astana Hub Science and Technology Park, can create a regional innovation highland and attract international technology and capital inflows by concentrating resources and policy support. Strengthening the Central Asian regional innovation cooperation network can make up for the lack of innovation resources in a single country through regional synergy and enhance overall competitiveness. In addition, the optimization of strategic decision-making systems based on AI and big data provides organizations with more accurate market analysis and resource allocation capabilities, which helps to achieve dynamic adjustments and efficient decision-making in complex environments. These response strategies not only provide a practical path for Kazakhstan's innovative development, but also provide new perspectives and inspiration for the research on organizational strategic management.

Conclusion

The core logic of Kazakhstan's organizational strategic management is reflected in the "dual circulation" model, that is, through the coordinated promotion of domestic reforms and international linkages, the deep integration of innovation-driven and economic transformation is achieved. At the domestic level, Kazakhstan promotes the upgrading of traditional industries and the cultivation of emerging industries through policy guidance and resource integration, and builds an economic ecosystem with innovation as the core. At the international level, its unique geo-economic advantages provide broad space for regional cooperation and integration into the global value chain. The establishment of platforms such as the Astana International Financial Center (AIFC) further strengthens the ability to introduce international capital and technology. This "dual circulation" logic not only provides sustainable impetus for Kazakhstan's innovative development, but also provides important paradigm inspiration for other emerging resource-based countries. By balancing domestic reforms and international cooperation, emerging economies can achieve a strategic transformation from resource dependence to innovation-driven in the global competition, injecting new vitality into global economic development.

References

1. Сайымова М., Есберген Р., Демеуова Г. и др. Экономика, основанная на знаниях, и инновационная политика в Казахстане: рассмотрение ключевых практических проблем // Academy of Strategic Management Journal. 2018. Т. 17, № 6. С. 1-11.

2. Жакиев Н., Каленова А., Хамзина А. Энергетический сектор столицы Казахстана: статус-кво и политика в направлении «умного города» // International Journal of Energy Economics and Policy. 2022. Т. 12, № 4. С. 414-423.

3. Аранго-Васкес Л., Джентилин М. Организационные связи: обзор литературы // Innovar. 2021. Т. 31, № 79. С. 161-178.
4. Садырова М., Юсупов К., Иманбекова Б. Инновационные процессы в Казахстане: факторы развития // Journal of Innovation and Entrepreneurship. 2021. Т. 10, № 1. С. 36.
5. Цеховой А., Султанбекова З., Степанов А. и др. Влияние зрелости управления проектами на выбор стратегий роста МСП: случай Казахстана // International Journal of Business Innovation and Research. 2024. Т. 34, № 5. С. 1-30.
6. Смагулова Г., Гонсалвес М. Содействие инновациям через венчурный капитал в Казахстане // Journal of International Business and Management. 2024. Т. 7, № 2. С. 01-27.

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ENDOGEN KONLARNING SHAKLLANISH SHAROITLARI VA GEOGRAFIK TARQALISHI

Annotatsiya. *Maqolada endogen konlarning shakllanish sharoitlari va geografik tarqalishini o‘rganishga doir ma’lumotlarni qisqacha tahlil qilingan bo‘lib. Xususan, Yerning ichki qismida kechgan geodinamik jarayonlar natijasida hosil bo‘lgan foydali qazilma konlarini keyingi o‘zgarishi va bosim, harorat o‘zgarishlari natijasida qayta taqsimlanishiga oid masalalar muhokama qilingan va tegishli mulohazalar olib borilgan.*

Kalit so‘zlar: *endogen, kon, ma’dan, foydali qazilma, magmatik, metamorfik, cho‘kindi, jins, organik, kontinent, konvergensiya, kompleks, litologik, stratigrafik, paleontologik, paleobotanik, strukturaviy, tektonik, geokimyoviy.*

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CONDITIONS OF FORMATION AND GEOGRAPHICAL DISTRIBUTION OF ENDOGENOUS DEPOSITS

Abstract. *The article briefly analyzes the data on the study of the conditions of formation and geographical distribution of endogenous deposits. In particular, the issues of further transformation of mineral deposits formed as a result of geodynamic processes in the Earth's interior and their redistribution as a result of changes in pressure and temperature are discussed and relevant considerations are made.*

Key words: *endogenous, deposit, ore, mineral, igneous, metamorphic, sedimentary, rock, organic, continent, convergence, complex, lithological, stratigraphic, paleontological, paleobotanical, structural, tectonic, geochemical.*

KIRISH Endogen konlar Yerning ichki geodinamik jarayonlari natijasida hosil bo‘ladigan foydali qazilmalar konlaridir. Ular asosan magmatik va metamorfik jarayonlar bilan bog‘liq bo‘lib, yerni chuqur ichki qismida kechuvchi harakatlari, bosim va harorat o‘zgarishlari natijasida shakllanadi.

Hozirgi davr adabiyotlarida alohida (differensiatsiyalangan) kimyoviy elementlar qit’alarning cho‘kindi-metamorfik (sial) hududiga kirishi va ularning

konsentratsiyasi (qayta o‘zgarish hisobiga jinslar saralanishi) quyidagilar tufayli sodir bo‘lganligini ko‘rsatadigan ko‘plab ma’lumotlar mavjud:

a) birlamchi, Yerning qisman shakllangan geologik atmosferasi;

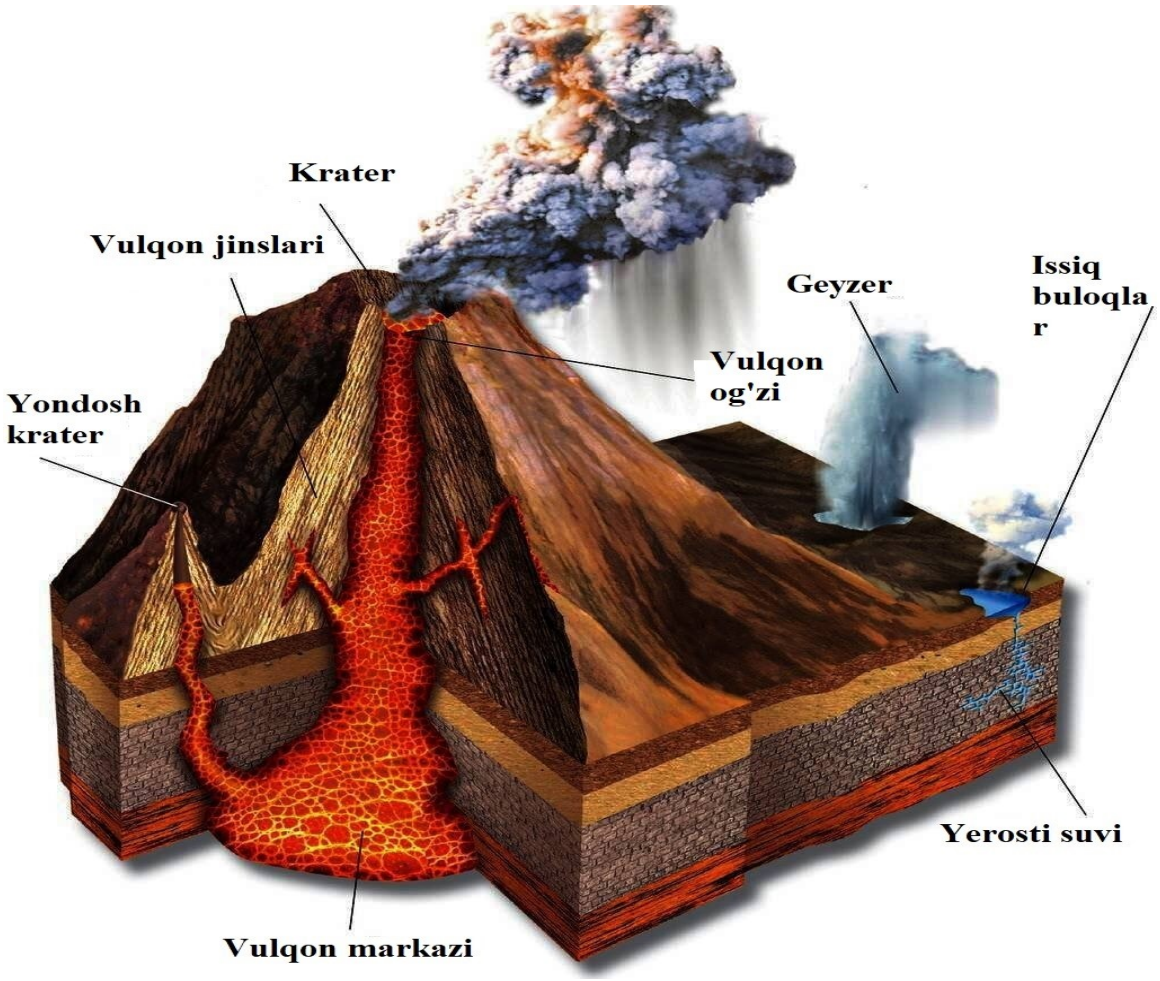
b) ko‘p marta o‘zgargan, ayniqsa, tokembriy davridagi parchalanish mintaqasi;

d) tirik organik moddalar qoldiqlari;

e) mantiyaning yuqori qatlami bilan bog‘liq bo‘lgan yuvenil magmatik (intruziv va vulkanik) joylashuvlar, gidrotermal o‘zgarishlar.

ADABIYOTLAR TAHLILI VA METODOLOGIYAMukammal yer qobig‘i kontinental sharoitlari 3 milliard yildan ko‘proq vaqt oldin paydo bo‘lgan va bu allaqachon farqlangan, bunda eroziya mahsulotlari relyefning pastki (botiq) qismlarida to‘plangan. Qoldiq jinslar hisobiga akkumulyativ konlar shakllandi. Keyinchalik metamorfizm, ultrametamorfizm va palingenez hududlarida turli bosqichlarda metamorflangan minerallarning uyali yoki varaqsimon konlari paydo bo‘ldi, ular qisman gidrotermik qayta ishlanishi va ruda komponentlarining harakati gidrotermal (metamorfogen) konlarning hosil bo‘lishi bilan sodir bo‘lgan, mahalliy yoki keng miqyosda, deyarli barcha kontinental mintaqalarda assimilyatsiya qiluvchi silikat (xususan, granitoid va ishqoriy) magmalar bilan paragenetik bog‘liq bo‘lgan temir, fosfat, karbonat va boshqa magmatik konlar hosil bo‘lgan.

Tabiiyki, bunday hollarda metamorfizm jarayoni hisobiga chuqurlikda qayta taqsimlangan mahsulotlar konvergensiya (qayta o‘zgarishi) hodisalari tufayli bir qator detallarda umumiy ko‘rinishi va xossalariga ko‘ra tog‘ jinslari bilan birikishi va o‘zaro jins hosil qilish qilish mexanizmida ham o‘xshash bo‘lgan. To‘liq shakllanmagan magmatik jarayonlarga oid jinslar va ular bilan birga kechadigan kontakt-metamorfik hodisalarga chambarchas bog‘liqdir. Xususan, gidrotermal sharoitda mineral tomirlarning tarkibi va ruda (ma’dan) hosil bo‘lish mexanizmi muqarrar ravishda juda o‘xshash xususiyatlarni ochib beradi va faol hududdagi suvlar va chuqurlikda aylanish hisobiga isitiladigan Yer usti suvlari faolligi o‘rtasidagi farqlarni ajratish qiyin. Shunga qaramay, cho‘kindi-metamorfik komplekslar va tabiiy ravishda tuzilgan shakllanishlarni keng qamrovli va maqsadli geologik (litologik-stratigrafik, paleontologik va paleobotanik, strukturaviy, tektonik, geokimyoviy) tadqiqotlar deyarli har doim bu genetik masalaga zarur oydinlik kiritishga yordam beradi (Sidorenko, Lune 1961; Sidorenko, Ojogin, 1968; Serdyuchenko, 1935; Serdyuchenko va boshqalar, 1960, 1963).



1-rasm. Oddiy vulqon jarayoni kechishi va tuzilishi.

Intruziv-effuziv jarayon (magma mahsulotlarining yer ustki va ichki qismida sovib qotishi) larning asosiy ma’dan hosil qiluvchi o‘rni katta va muhim, asosan Yer qobig‘i geologik rivojlanishining arxey bosqichida va tokembriydan keyingi davrda chuqur yoriqlar hududlarida ma’danning yosh manbai sifatida shakllanadi sovuydi. Yer proterozoyda va undan ham keyingi davrlarda, vulqon jarayonlari hisobiga jinslar o‘zgarishi kechgan va hozir ham bu davom etmoqda, hosil bo‘lgan ma’danlar tashqi omillar hisobiga ko‘chirilgan va cho‘kindi konlarda to‘plangan asosan dengiz sharoitdagi po‘stloqda. Shu nuqtai nazardan, so‘nggi proterozoy, paleozoy va mezo-kaynozoyda keng tarqalgan tomirsimon gidrotermal mineral konlari qadimgi qatlamlarda, ya’ni dengiz cho‘kindi jinslarida tarqalgan va bularning katta miqdorda o‘zlashtirilishi mumkinligi haqidagi xulosalar katta qiziqish uyg‘otadi (P.S.Saakyan, 1968).

MUHOKAMA Materik (yerning asosiy quruqlik qismi) lar yuzasida iqlimni issiq va nam sharoitda quyi Arxey (Katarxey) davridan boshlab, Yer rivojlanishining birlamchi bosqichida boy CO_2, H, F, Cl, B va. deyarli kislorodsiz atmosfera (asta-sekin) biogen bosqichga o‘tdi va avval dengiz, so‘ngra quruqlik hayoti, shu bilan bog‘liq holda CO_2 kam va kislorod bilan boyitilgan atmosferaning shakllanishi kechdi.

Shunday qilib, nurash qobig‘ini o‘rganish va ma’danlarni shakllanishiga oid ma’lumotlarni tahlil qilishda organik moddalarni ya’ni tirik organizmlarni rivojlanishi jadallashgan (erta arxeydan). Bu biosferaning shakllanishiga olib keldi, uning ichida (hayot faoliyati natijasida kamaytiruvchi muhit va kuchli sorbsiya uchun sharoitlar yaratilishi) grafit, temir va boshqa ko‘plab minerallar konlari paydo bo‘ldi (Laitakari, 1925; Serdyuchenko, 1927, 1935), 1969).

Organik moddalar bilan genetik bog‘liq bo‘lgan sulfid tipidagi konlar, ayniqsa diqqatga sazovordir, ular keyinchalik (epigenez va metamorfizm natijasida) qora slanetslar deb ataladigan, grafitlangan gneyslarga aylanadi.

Misol tariqasida shuni ta’kidlaymizki, Amerika Qo‘shma Shtatlarining janubi-sharqidagi o‘rta ordovik davriga oid qora slanetslari (Dadgor va Fagan, 1969), asosan karbonatli hududlar va qatlamlarda, shakli va tarkibi jihatidan Tinch okeani tubining zamonaviy tugunlariga o‘xshash barit tugunlarini o‘z ichiga oladi. Bu slanetslarning qora karbonli massasida pirit bilan birga ko‘plab individual barit kristallari tarqalishini ko‘rsatadi.

Endogen konlar genetik jihatdan qadimgi platformalar va qalqonlar (Boltiq, Ukraina, Sibir, Kanada, Afrika-Arabiston) hududida qadimgi nurash qobiqlarining (xususan, asosiy va o‘ta asosli magmatik jinslarda) shakllanishi va keyinchalik eroziyalanishi va qayta joylashishi bilan bog‘liqligini ko‘rsatadi, temir, marganets, alyuminiy va pirit-sulfid rudalari, ba’zi hollarda bariy sulfatning keng tarqalgan yoki varaqsimon to‘planishi joylarda fosfat minerallarining sezilarli konsentratsiyasi uchrashi bilan ahamiyatlidir.

Sohil bo‘yidagi dengiz cho‘kindilarining fatsial profilida nurash qobig‘ining (alyuminiy, temir, fosfor, marganets va boshqalar) erigan va qayta o‘zgargan mahsulotlarining cho‘kishi bilan birga kechuvchi jarayonlari ushbu elementlarning ko‘p yoki kamroq qayta tartiblanishiga olib keldi va hatto vodorod sulfidi bilan aralashgan pirit va boshqa (mis, qo‘rg‘oshin) jinslar bilan birga paydo bo‘lishi (paleogeografik va geologik-geokimyoviy sharoitga qarab) buzilgan, rux sulfidli minerallashuv paydo bo‘lgan. Nihoyat, joylarda, qirg‘oq bo‘yidagi lagunal sharoitda, kimyoviy-sho‘rlangan konlar, xususan, bor minerallari va boshqalar rivojlangan.

Konvergensiya hodisalarini hisobga olgan holda shuni ta’kidlash kerakki, ko‘plab geologlar magmatik va gidrotermal jarayonlarning asosiy mahsuloti deb hisoblaydigan karbonatitlar bilan bir qatorda ultramafik ishqoriy magmalardan qoplama jinslar ham mavjud. Albatta, ularga juda o‘xshash, cho‘kindi-metamorfik jarayon hisobiga kelib chiqadigan karbonatitga o‘xshash shakllanishlarni ko‘pincha ulardan ajratish qiyin. Ular ko‘pincha intruziv xarakterga ega, ammo bu plastik deformatsiyalar ohaktoshlar va dolomitlarning siqib chiqishi bilan bog‘liq bo‘lib, buda tuzilmalar, gidrotermik tomirlar (karbonatitga o‘xshash) jinslarning shakllanishi bilan termal va dinamik ta’sirga duchor bo‘ladi, ammo ular ko‘pincha saqlanib qoladi. Karbonat angidridning metamorfogen gidroterallari nafaqat nodir metallarning (noyob yer elementlari, tantal-niobiy, titan-vanadiy, sirkoniy, bor va boshqalar), balki sulfid va sulfat (bariy va stronsiy), shuningdek, fosfatning hosil bo‘lishi va qayta joylashishiga olib keladi, apatit , titan (titan magnetit, ilmenit) va

temir (magnetit) minerallari hosil bo‘lishi kuzatiladi. Tegishli komponentlar karbonat qatlamlarining o‘zidan va ulardagi gneys va slanetslardan olingan. Afrikaning yirik meridional yoriqlari (Keniya va boshqalar) hududidagi mashhur karbonat magmalari katta ehtimol bilan ushbu yoriqlar tomonidan ajratilgan qadimgi karbonat qatlamlarining erishi natijasida (bosim va issiqlik ta’sirida) hosil bo‘lgandir.

Yerda ma’danli elementlarning tarqalishi aniq litologik-stratigrafik nazoratdan o‘tadi.

Birinchi bosqich konlarida qo‘rg‘oshin, rux, mishyak va bor qatlamlararo grafitli va kremniyli ohaktoshlar, grafitli va seritsit-xloritli aksinitli slanetslar birliklari bilan chegaralanadi. Ushbu jinslarning tarqalishi (shakllanish va tarqalish hududi) 150 kilometr masofada kuzatilgan (D.N.Alekseyev, 1967, Serdyuchenko, 1956). Uni qalinligi 100 - 300 metr, uzunligi 5 - 8 kilometrgacha bo‘lgan bir necha ma’danli qavat (linza) larni o‘z ichiga oladi.

Ikkinchi bosqich cho‘kindilarida bir xil elementlarning konsentratsiyasining ortishi (cho‘kindi qatlamlarining quyi qismida) qatlamlararo dolomitlar, ohaktoshlar, karbonli slanetslar va rang-barang jinslar birliklari bilan chambarchas bog‘liq. Har bir cho‘kma siklining negizida rang-barang (sayoz suvli) alevrolitli ohaktoshlar, ohaktoshlar va mergellar joylashgan bo‘lib, o‘z o‘rnini karbonatli slanetslar va karbonatitlarga beradi; ma’danning minerallashuvi ular chegaralaridan tashqarida keng tarqalmaydi. Minerallanishning ko‘p bosqichli taqsimlanishi takroriy regressive va transgressiv harakatlar bilan bog‘liq.

Shunga o‘xshash qatlamli cho‘kindi qo‘rg‘oshin va rux ma’danli konlari Tyonshonning devon davri konlarida o‘rganilgan va tavsiflangan. Bu ma’lumotlarning barchasi ushbu turdagi ma’danlarning birlamchi cho‘kindilarini kelib chiqishi bo‘yicha genetik kontsepsiyani to‘liq tasdiqlaydi.

XULOSA (ЗАКЛЮЧЕНИЕ/CONCLUSION). Shunday qilib, yuqorida aytilganlardan ko‘rinib turibdiki, kontinental qobiqda hosil bo‘lgan konlarning katta qismi, cho‘kindi jinslarning o‘zgarishi bilan genetik jihatdan bog‘liq. Magmatizm yoki endogen konlar saqlanib qolishi juda cheklangan turdagi eng qadimiy shakllanishlarni (platinoidlar, titanomagnetitlar, mis-nikel sulfidlarining ba’zi konsentratsiyalari va boshqalar) tashkil qiladi. Endogen konlarning geografik tarqalishi va kelib chiqishi chuqur yoriqlar hududidagi ayrim zonalar uchun ham isbotlanishi mumkin, masalan, magma otilishi va boshqalar. Biroq, ularning ba’zilari, ayniqsa paleozoy va mezo-kaynozoy intruziv- vulkanik jinslarining shakllanishidagi metallogenik o‘zgarishlar amaliy ahamiyatga ega.

ADABIYOTLAR RO‘YXATI

1. Guilbert, John M. and Park Jr., Charles F ., 1986, The Geology of Ore Deposits: W.H. Freeman and Company, 985 p.
2. Evan, Anthony M., 1993, Third Edition, Ore Geology and Industrial Minerals-An Introduction: Blackwell Scientific Publications Inc., 389 p.
3. N.Karimov, M.Kulmetov, N.Safarova, Kh.Jumaev, M.Fayzullaev, Sh.Sultanov, A.Gapporov, Z.Yakhshieva., The Ecotourism Industry's Role in Environmental

Stewardship. Year 2024, Volume: 9 Issue: 2, 293 - 308, 30.10.2024 https://doi.org/10.28978/nesciences.1574450
4. Navotova D.I. Internal Differences In The Use Of Land Resources In The Agriculture Of Kashkadarya Region//Eurasian Journal of History, Geography and Economics. Volume 16. Belgiya. 2023.P.100-104
5. Sultonov Shuxrat Adxamovich, Norbekov Ilyos Sherzodjon o‘g‘li Litosfera qismlarining (plitalarining) mantiyaga yutilishiga oid mulohazalar. Tadqiqotlar jahon ilmiy–metodik jurnali 34 (2), 106–112 betlar 2024-yil. https://scholar.google.com/scholar?hl=ru&as_sdt=0,5&cluster=11047607629006377819
6. SS Adxamovich, SA Rustam o'g'li Yerning ichki sferalaridagi moddalarning zichligi va uning faolliklari bilan farqlanishi. Tadqiqotlar jahon ilmiy–metodik jurnali 34 (2), 98–105 betlar – 2024-yil. https://scholar.google.com/scholar?hl=ru&as_sdt=0,5&cluster=6206463818347299910
7. Shuxrat Adxamovich Sultonov, Nekro‘z Aliqulzoda Sultonov Yer qobig‘ida konveksiya natijasida superkontinentlarni shakllanishi va qayta o‘zgarishi. 2024/12/15 Educational Research in Universal Sciences 3/12 307-315-betlar. https://researchweb.uz/index.php/erus/article/view/176
8. Shuxrat Adxamovich Sultonov. Magmatik jarayonlarda vujudga keluvchi foydali qazilma konlarining genetik belgilariga doir mulohazalar 2024/10/30 RESEARCH AND EDUCATION 3/10, 52-61 betlar, https://researchweb.uz/index.php/researchedu/article/view/84
9. Sultonov Shuxrat Adxamovich, & Sultonov Nekro‘z Aliqulzoda. (2024). Yer ichki energiyasi ta’sirida Yer po‘stining o‘sishiga oid ba’zi ehtimoliy manbalarni nazariy baholash va tahlil qilish. Tadqiqotlar jahon ilmiy – metodik jurnali 34(2), 113–118 betlar. http://tadqiqotlar.uz/index.php/new/article/view/2401
10. Sultonov Shuxrat Adxamovich, Norbekov Ilyos Sherzodjon o‘g‘li. Yerdagi hayot tarziga ta’sir etuvchi salbiy omillar va unda insoniyatni o‘rni haqida ba’zi mulohazalar. Pedagogs 46/2 69-74 betlar. https://pedagogs.uz/index.php/ped/article/view/271
11. Sultonov Sh.A, “Foydali qazilmalar hosil bo‘lishida geodinamik jarayonlarning o‘rni”. Journal of new century innovations. 47/1, 2024/2/16. 13-21-betlar. https://newjournal.org/index.php/new/article/view/11592
12. Sultonov Shuxrat Adxamovich, Sultonov Nekro‘z Aliqulzoda, Yer tarixida kechgan metallogenik bosqich va davrlar haqida ayrim mulohazalar. Лучшие интеллектуальные исследования: Vol. 16 No. 1 (2024). 105-112-betlar.
13. Sultonov Shuxrat Adxamovich, Sultonov Nekro‘z Aliqulzoda. Meteoritlar hosil qilgan kraterlar va ular natijasida foydali qazilmalarni hosil bo‘lishiga doir mulohazalar. Лучшие интеллектуальные исследования: Vol. 16 No. 1 (2024). 113-123-betlar.
14. Sultonov Shuxrat Adxamovich, Navotova Dilnoza Ibrogimovna, O‘zbekistonda rangli metallarning geografik tarqalishi va foydalanish xususiyatlari. Экономика и

социум. -№2(117)-1 2024, 682-690 betlar, 2024-yil. http://www.iupr.ru , ISSN 2225-1545
15. Sh.A.Sultonov, D.N.Mavlonova, Z.B.Boboqulova, Foydali qazilmalarning sanoat turlarini o‘rganishga doir ma’lumotlarni qisqacha tahlil qilish. Экономика и социум №1(128)-2 2025, 454-459 betlar, 2025-yil, www.iupr.ru, ISSN 2225-1545

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QASHQADARYO VILOYATI TOG‘LI HUDUDLARIDA FOYDALI QAZILMALARNI GEOGRAFIK TARQALISHI

Annotatsiya. *Maqolada Qashqadaryo viloyati tog‘li hududlarida foydali qazilmalarni geografik tarqalishiga doir ma’lumotlarni qisqacha tahlil qilingan bo‘lib. Jumladan, hududdagi foydali qazilmalarni o‘zlashtirishda ko‘p yillik geografik o‘rganishlar va geologik tadqiqotlar olib borilishi natijasida turli qimmatbaho qazilma boyliklari borligi, ularning miqdoriy jihati va sanoat ahamiyati va xalq xo‘jaligini muhim tarmoqlarini, ayniqsa gaz, oltin ishlab chiqarish, kimyoviy o‘g‘itlar, rangli metallurgiya, ruda bo‘lmagan xom ashyolar va qurilish materiallari konlari haqida mulohazalar qilingan va tegishli xulosalar keltirilgan.*

Kalit so‘zlar: *tog‘, hudud, tabiiy komleks, sanoat, xomashyo, kon, qidiruv, foydali qazilma, neftgaz, oltin, gips, slanets.*

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GEOGRAPHICAL DISTRIBUTION OF MINERALS IN THE MOUNTAINOUS AREAS OF KASHKADARYA REGION

Abstract. *The article briefly analyzes data on the geographical distribution of minerals in the mountainous regions of the Kashkadarya region. In particular, as a result of many years of geographical studies and geological research in the development of minerals in the region, the presence of various valuable mineral resources, their quantitative and industrial significance, and important sectors of the national economy, especially gas, gold production, chemical fertilizers, non-ferrous metallurgy, non-ore raw materials and construction materials, are considered and relevant conclusions are drawn.*

Key words: *mountain, region, natural complex, industry, raw materials, mining, exploration, mineral, oil and gas, gold, gypsum, shale.*

KIRISH Hozirgi kundagi xalq xo‘jaligi rivoji, shahar infratuzilmasi, transport, qurilish, suv inshootlarini bunyod etilishi, yangi yerlarni o‘zlashtirish va boshqa xalq xo‘jaligi ishlarini chuqur geografik va geologik tadqiqotlarsiz amalga oshirib bo‘lmaydi. Shuni inobatga olib O‘zbekiston geolog va geograflari jumladan, tabiiy jarayonlarni o‘rganish soha mutaxassislarining ham ilmiy tadqiqot ishlari xalq xo‘jaligi taraqqiyoti jarayonida vujudga keladigan muammolarni hal qilish hamda atrof-muhitni va yirik hududiy ishlab chiqarish majmualarini sifat jihatdan o‘zgartirishning ilmiy asoslarini yaratishga qaratilgandir.

Ushbu vazifalarni amalga oshirish O‘zbekiston hududi tabiiy sharoitini chuqur bilishni taqozo qiladi. Shuning uchun soha mutaxassislari O‘zbekistonning tabiiy komponentlari, tabiiy komlekslari, ularning holati, bir-biriga bog‘liqligi tabiiy boyliklari, ulardan oqilona foydalanish, muxofaza qilish haqida bilish bilan birga, Respublikamiz tabiatidagi tafovutlarni tushunib olishga, amaliy faoliyatda ularni nazarda tutishga xizmat qiladi.

O‘zbekiston hududida ko‘p yillik geografik o‘rganishlar va geologik tadqiqotlar olib borilishi natijasida turli qimmatbaho qazilma boyliklari borligi, ularning miqdoriy jihati va sanoat ahamiyatiga ega bo‘lgan konlari aniqlandi. Bu xalq xo‘jaligini muhim tarmoqlarini, ayniqsa gaz, oltin ishlab chiqarish, kimyoviy o‘g‘itlar, rangli metallurgiya, ruda bo‘lmagan xom ashyolar va qurilish materiallari sanoatlarini tez sur’atlar bilan rivojlantirish imkoniyatini berdi. Hozirgi kunga kelib aniqlangan qazilma boyliklar manbalari ishlab chiqarish korxonalarini uzoq muddat davomida oltin, mis, tabiiy gaz, qo‘rg‘oshin, rux, ko‘mir va boshqa mahsulotlar bilan taminlabgina qolmay, hattoki ishlab chiqarishni ancha kengaytirish imkonini ham beradi.

MUHOKAMA Qashqadaryo viloyati tog‘li hududlarida aniqlangan uglevodorod konlari Hisor tizmasining janubi-g‘arbiy qismida joylashgan bo‘lib, Odamtosh, Gumbuloq, Pachkamar, Qizilbayroq, Omanota nomli joylarda yuqori yura davri karbonat tog‘ jinslari antiklinal burmalarida ham ochilgan.

Qashqadaryo viloyati hududida sanoat ahamiyatiga ega bo‘lgan ko‘mir konlari yo‘q. Viloyatning ko‘mirga bo‘lgan ehtiyojini Yakkabog‘ tog‘laridagi Vori va Zarmas qishloqlari orasidagi toshko‘mir koni qisman qondirishi mumkin (A.Mamatov, 1994).

Dehqonobod tumanining janubi sharqida Dehqonobod, Xo‘jarna, Qizilcha, Dardara, Kann va boshqa konlarda yonuvchi slanetslarning namoyon bo‘lishi aniqlangan. Ammo ularning sanoat ahamiyati hozircha aniq emas. Slanetslardan nerozin – g‘uza o‘sishining stimulyatorini olish mumkin ekanligini nazarda tutgan holda yonuvchi slanetslar xom ashyosining konlarini va ulardagi zahiralarni aniqlash bo‘yicha tadqiqotlarni davom ettirish muhim ahamiyatga ega.

Qashqadaryo viloyati hududida rangli metallar ma‘danlari toifasiga mansub bo‘lgan marganetslarning zahiralari Qoratepa tog‘larining janubi – g‘arbiy yonbag‘irlaridagi Davtosh va Qizilbayroq konlarida (Chiroqchi tumani) topilgan. Ammo marganets ma‘danlarining uncha katta bo‘lmagan bu konlari sanoat ahamiyatiga ega emas. Dovtosh konining zahirasi 0,8 million tonnani tashkil etadi, madandagi marganetsning miqdori 16,8 % ni tashkil etadi. Konda marganets ma‘danini ochiq usulda qazib olish mumkin. Qizilbayroq konining ma‘danlari metallurgiya sanoatida hamda qishloq xo‘jaligida mikroo‘g‘itlar sifatida foydalanilishi mumkin. Chunki marganets ma‘danining tarkibida kobalt, molibden, miss, rux va boshqa kimyoviy elementlar mavjud. Bu konlardagi marganets ma‘danlaridan hozirgi sharoitda qora metallurgiyada foydalanish iqisodiy jihatdan maqsadga muvofiq emas, ammo geologik qidiruv ishlari uchun katta ahamiyatga ega bo‘lishi mumkin.

Ma‘lumki, O‘zbekistonda juda katta kaliy va osh tuzi konlari mavjud. taxminiy hisoblarga qaraganda, kaliy tuzlari 100 yildan ko‘proqqa yetadi, osh (tosh) tuzining mamlakatimizdagi konlardagi zahirasi 90 milliard tonnani tashkil etadi.

Osh tuzini yirik koni viloyatning Dehqonobod tuz havzasini (Hisor tizmasining janubi – g‘arbiy tarmoqlarida) o‘z ichiga oladi. Dehqonobod tuzli havzasi Boybichakon, Xamkon va boshqa tuzli struktulalarni o‘z ichiga oladi. Bu yerda Boybichakon va Tepaquton osh tuzining juda yirik konlari aniqlangan. Butun havza doirasida tuz qatlamlarining qalinligi 200 – 600 metrni tashkil etadi.

Boybichakon osh tuzi koni Qamashi tumanida Langar qishlog‘idan 12 kilometr janubi – sharqda, Qamashi shahridan esa 52 kilometr janubi – sharqda joylashgan. Tuzli qatlamlar yer yuzasidan 600 – 1000 metr chuqurliklarda joylashgan. Mahsuldor qatlamning qalinligi 240 metr.

Tuzlarning C_1 toifasi balans zahirasi 234,6 million tonna, C_2 toifasi bo‘yicha esa 485, 1 million tonnani tashkil etadi. Osh tuzining istiqbolli zahiralari juda ulkan.

Osh tuzi shuningdek Tepaquton kaliy tuzli konida ham mavjudligi aniqlangan. Bu yerda osh tuzining zahirasi 6,1 million tonnani tashkil etadi.

Qashqadaryo viloyati ulushiga kaliy tuzlarining O‘zbekistonda bashoratlashtirilgan zahiralarining 70% ga yaqini va balansdagi zahiralarning qariyb 100% i to‘g‘ri keladi.

Hisor tizmasining janubi – g‘arbiy tarmoqlaridan Oqbosh, Tepaquton, Kaypantov va Pachkamar tuzli maydonlari aniqlangan. Ular orasida eng yirigi Dehqonobod shaharchasidan 30 kilometr shimoli – sharqda joylashgan Tepaquton konidir. Bu kondagi kaliy tuzlarining bashoratlashtirilgan zahirasi 500 million tonnani tashkil etadi.

Tepaquton kaliy tuzlari koni negizida chet ellik investorlar ishtirokida kaliy o‘g‘iti ishlab chiqarishini tashkil etish nazarda tutilmoqda. Tuzlarni kompleks qayta ishlash bromli temir, magnezit, gips va boshqa materiallarni yo‘l – yo‘lakay olish imkonini beradi.

Hisor tizmasining janubi – g‘arbiy tarmoqlari doirasida Dehqonobod tumanida ToshDU (Hozirgi O‘zMU) geologlari tomonidan bashoratlashtirilgan zahirasi 213 million tonnani tashkil etadigan fosforit konlarining mavjudligi aniqlangan. Fosforit konlari ochiq usulda ekspluatatsiya qilinishi mumkin. Hududda geologik qidiruv ishlarini davom ettirish boyroq ma‘danli konlarni topish imkonini berishi mumkin.

Geologik qidiruv ishlari natijasida Qoratepa tog‘larining yonbag‘irlarida, Chiroqchi shahridan 30 kilometr shimoli – sharqda pegmatitning Lolabuloq koni aniqlangan bo‘lib, unda pegmatitning bashoratlashtirilgan zahirasi 7 million tonnani tashkil etadi.

O‘zbekistonning boshqa hududlari kabi Qashqadaryo viloyati hududi ham turli qurilish materiallariga juda boy. Viloyatda qazib olinayotgan mineral boyliklar ichida marmar, dolomit, ohaktosh, keramzit kabi pardozlash, haykaltaroshlik, qurilish xom ashyosi bo‘lgan noma‘dan boyliklar yoqilg‘i – energetika resurslaridan keyinig o‘rinda turadi.

Qashqadaryo tog‘ – kon kimyo sanoati uchun kerakli bo‘lgan turli xom ashyolarga ham boy hududdir.

Hozirda, mamlakatimizda 20 dan ortiq marmar koni aniqlangan bo‘lib, ulardan Bodomzor, Iskana, Sevaz, Tomchiota, Makrid, Xazornava, Birkunlik va boshqa konlar Qashqadaryo viloyati hududidadir. Bu konlardan xilma – xil tovlanuvchi marmarlar qazib olinadi. Bu konlardagi marmarning umumiy zahirasi 4 million kub kilometrdan ortiqroqdir. Viloyatdagi marmar konlarining xom ashyosi Kitob va Makrid toshga ishlov berish kombinatlarida marmar bloklari va maydalangan uvoqlarini ishlab chiqarishda foydalanilmoqda. Bu kombinatlarning texnologik asbob – uskunalari mustaqillik yillarida xorijiy mamlakatlardan keltirilgan yangi asbob – uskunalar bilan almashtirildi va mahsulot ishlab chiqarish va mahsulot turlari ko‘paytirildi. Hozirgi paytda viloyatimizda qazib olinayotgan bezakbop qoplama toshlarning ajoyib xususiyatlaridan yanada kengroq foydalanish imkoniyatlari mavjud.

Dolomitli ohaktoshning zahiralari ham ancha katta bo‘lib, Dehqonobod va Pachkamar konlarida ayniqsa batafsil o‘rganilgan. Dehqonobod konida devorbop doloitlarning zahirasi 6,4 million kub metrni, Pachkamar konida esa 4,7 million kub metrga yaqinni tashkil etadi. Hozirgi paytda bu konlarning dolomitli ohaktoshlari devorbop toshlar va o‘tga chidamli xom ashyo uchun foydalanilmoqda. Bu konlar mahalliy ehtiyojdan tashqari Samarqand va Toshkent chinni zavodlariga ham xomashyo yetkazib bermoqda.

Ohaktoshning Zarafshon tizmasi janubiy tarmoqlaridagi Qaynar II va Hisor tizmasining janubi – g‘arbiy tarmoqlaridagi Langar konlari aniqlangan.

Qaynar II koni Kitob shahridan 7 kilometr shimolda, Qoratepa tog‘larining janubi – sharqiy qismida joylashgan bo‘lib, karbonatli qatlamning qalinligi 640 metrdan 1150 metrgacha yetadi. Bu oradagi ohaktoshlar 1 navli ohak ishlab chiqarish uchun yaroqli. Umumiy zahirasi A + B + C_1 toifasi bo‘yicha 8862,0 ming tonnani tashkil etadi.

Langar qishlog‘i yaqinidagi ohaktoshlarning konida qazib olish chuqurligi 30 metrgacha bo‘lgan 15 million tonnalik bashoratlashtirilgan zahirasi aniqlangan. Geologik qidiruv ishlari natijasida olingan taqribiy ma‘lumotlarga ko‘ra Langar konining C_1 toifasi bo‘yicha zahirasi 140 million tonnani tashkil etadi.

Sement xom ashyosi sifatida foydalanish bo‘lgan ohaktoshlar Kitob shahridan 12 kilometr shimolda joylashgan Qoratepa konida topilgan bo‘lib, C_1 C_2 toifasi bo‘yicha zahirasi 326 million tonnani, shu jumladan C_1 toifasi bo‘yicha zahirasi 215 million tonnani tashkil etadi.

Ganch – albastr xom ashyosi bo‘lgan gpisning yirik zahirasi Pachkamar, Langar, Oloviddin, Qalqama, Maymanoq, Koson tog‘ kabi konlarda to‘plangan.

Gipsning eng yirik koni Pachkamar konidir, bu kon G‘uzor shahridan 10 kilometr janubi-sharqida joylashgan bo‘lib, kimyoviy tarkibiga ko‘ra 1 navli qurilish gipsidir. Taqribiy hisoblarga ko‘ra Pachkamar konidagi qatlamning qalinligi 6 metr hisoblangandagi gipsning zahirasi 1692 ming tonna tashkil etadi. Qurilish materiali sifatida gips Tepaquton va Langar konlaridan ham qazib olish mumkin.

Qashqadaryo viloyatida qurilish uchun zarur bo‘lgan qum – shag‘al va pishiq g‘isht tayyorlashga zarur bo‘lgan tuproq – grunt zahiralari juda katta. Hozirgi paytda viloyatda va mamlakatimizning boshqa hududlarining ehtiyoji uchun foydalanilayotgan eng yirik Tanhoz qum – shag‘al koni ba‘zasida Tanhoz shag‘al saralash zavodi mahsulot bermoqda. 1964 yilda aniqlangan bu yerdagi qum – shag‘alning zahirasi 29,2 million kub metr.

Chiroqchi tumanida yirik donador qumning B + C_1 toifasi bo‘yicha belgilangan zahirasi 38,97 mln m^3 bo‘lgan Chiyal koni beton va qurilish ishlari uchun katta miqdorda xom ashyo berish mumkin.

XULOSA Shunday qilib, yuqorida aytilganlardan ko‘rinib turibdiki Qashqadaryo viloyatining tog‘li hududlaridagi foydali qazilmalarning geografik tarqalishi ancha tarqoq bo‘lishiga qaramay Respublika sanoatida muhim ahamiyat kasb etadi. Ayniqsa, neftgaz va qurilish materiallari jihatidan muhim rol o‘ynaydi. Shu bilan birga, yangi geologik tadqiqotlar davomida foydali qazilmalar tarqalish kengligi va zaxiralari ham aniqlanishida muhim ahamiyat kasb etadi.

ADABIYOTLAR RO‘YXATI

1. Каримов И.А., Ўзбекистон XXI аср бўсағасида. Т., 1997. 244 - бет.
2. Бедер Б.А., Артезианский воды Юго-Западного Узбекистана. Т.1961.
3. Гвоздецкий Н.А., Природные районирование Средние Азий Физика-географический районирование ССР. Изд-во МГУ,1960.
4. Faizullaev M.A., Nurmatov A.U., Khujakulov S.U.Economic geographical characteristics of the development of industrial networks of Kashadarya region // Proceedings of International Conference on Modern Science and Scientific Studies Hosted online from Paris, France. P. 125-134.
5. Файзуллаев.М.А., Жанубий Ўзбекистонда аграр-индустриал циклнинг шаклланиши ва ривожланиши. Ўзбекистон География жамияти ахбороти. 2015, 46, 103-105.
6. Султонов Ш.А., Навотова Д. И., Алиева Д. И. Қашқадарё вилояти минерал ресурслари ва улардан фойдаланишнинг географик хусусиятлари //Science and education in the modern world: challenges of the XXI century" Nur-Sultan, Kazakhstan. – 2020. – С. 12-15.
7. Исползование минерально-сырьевых ресурсов. Изд-во. Узбекистан, Т. 1977.
8. Кашкадарьинсий область, Труды САГУ.Том.I Т. 1959.
9. Faizullaev M.A., Characteristics of agriculture in Uzbekistan in the years of independence. European science review, 2015, 3 (4), 67-69.
10. Samiyev U.A., O‘zbekiston tabiiy geografiyasi. Darslik: Andijon – 2024-yil / 230 b.
11. Sultonov Shuxrat Adxamovich, Navotova Dilnoza Ibrogimovna, O‘zbekistonda rangli metallarning geografik tarqalishi va foydalanish xususiyatlari. Экономика и социум. -№2(117)-1 2024, 682-690 betlar, 2024-yil. http://www.iupr.ru , ISSN 2225-1545

12. Sh.A.Sultonov, D.N.Mavlonova, Z.B.Boboqulova, Foydali qazilmalarning sanoat turlarini o‘rganishga doir ma’lumotlarni qisqacha tahlil qilish. Экономика и социум №1(128)-2 2025, 454-459 betlar, 2025-yil, www.iupr.ru, ISSN 2225-1545

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JAMILA ERGASHEVANING “DEVOR” HIKOYASIDA KONFLIKT MASALASI

Annotatsiya: *Ushbu maqolada badiiy asarning muhim va personajlarning ichki va tashqi olamini tadqiq qilish uchun eng zarur elementlaridan biri konflikt (ziddiyat)ni*
tavsiflash maqsad qilib olingan. Jamila Ergashevaning “Devor” hikoyasidagi aks etgan konfliktlar o‘rni, ularning turlari va asarning ahamiyati haqida so‘z boradi. Zamonaviy adabiyotshunoslik nuqtai nazaridan insonning boshqa bir inson, tabiat, jamiyat, taqdir va boshqa narsalar o‘rtasidagi ziddiyatlar haqida qarashlar va misollar mavjud.

Kalit so‘zlar*: xarakter, konflikt, psixologik, xarakterlararo, odam va muhit konfliktlari, ong oqimi, ruhiyat tasviri.*

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THE ISSUE OF CONFLICT IN JAMILA ERGASHEVA'S STORY "THE WALL"

Abstract: *In this article, one of the most important elements of a work of art and the most necessary for researching the inner and outer world of characters is conflict. Intended to describe. The role of conflicts reflected in the story "The Wall" by Jamila Ergasheva, their types and the importance of the work will be discussed. From the point of view of modern literary studies, there are views and examples of conflicts between a person and another person, nature, society, fate and other things.*

Keywords: *character, conflict, psychological, interpersonal, human and environmental conflicts, stream of consciousness, image of psyche.*

Man has been wounded and lives with conflicts since time immemorial. For example, he lives between good and evil, white and black, light and darkness, friendship and enmity. In addition, in every artistic work, such situations are observed. Certain problems and solutions are given in the works of fiction. On the way from this problem to the solution, conflicts and conflicts occur between the images or in the inner stream of consciousness of the images. In literature, these contradictions in the system of images are called conflict. Since the subject of the work of art is made up of events, and the events are made up of the characters' actions, complex relationships, and conflicts, it is defined as a system of events summarizing the conflicts of life. A two-way relationship is observed between the subject and the conflict: on the one hand, the subject summarizes the conflicts, and on the other hand, the conflict is the main force that moves the subject. It seems that subject and conflict are combined in a work of art, one requires the other.

"Conflict" is Latin for "conflict". Conflict means mutual struggles between the characters of a work of art, conflicts between the hero and his environment, as well as contradictions in his psyche. Because the work of art is an artistic reflection of reality and human image is at the center of it, all the conflicts that exist in the real life of a person find an artistic reflection in it. From this point of view, three types of artistic conflict are distinguished:

1. Conflict between characters;
2. The conflict between the hero and the environment;
3. Internal (psychological) conflict."

The types of conflicts given above are used in a mixed manner in artistic works. All types of conflict motivate the hero to a certain action, which allows us to interpret the conflict as a driving force for the subject.

In inter-character conflict - a character faces opposition from another character or group of characters. This includes physical confrontations, verbal arguments, or social conflicts.

The hero and the environment are involved in conflict - a hero who fights against natural forces, such as weather, animals or other elements of the environment. Survival stories in which heroes struggle with the desert are a common example of human and nature conflicts.

Internal that is, psychological conflict - occurs in the mind of the hero. This involves the hero's struggle with his own fears, doubts or moral dilemmas. Internal conflict often revolves around difficult decisions, emotional disturbances, or self-discovery in the stream of consciousness.

The above types of conflict can also be analyzed according to a story by one of our female writers, Jamila Ergasheva, entitled “The Wall”. Jamila Ergasheva's story, "The Wall", is rich in the internal contradictions experienced by the characters, in particular the protagonist Toshpulat. Some of the main internal conflicts explored in the story are:

Inter-character conflict: when certain conflicts in the work continue in certain episodes and then disappear, some conflicts begin in the main part of the work, as events develop, the conflict also develops and is resolved at the end of the work.

Take, for example, the character in Toshpolat and groom, in the story the groom is portrayed as a person who only thinks about his own interests. Toshpolat, on the other hand, suffers a lot of anguish, thinking of both his family and his sister in his apartment.

To the inter character conflict, we can again cite Toshpolat's coworker and the ants. In the work, the colleague does not want to leave his home to the ants, appreciating his father's ash. Two times build and break the House. Worst of all: "But one day he roared

Hero and environment: the conflict between the heroes of the work and the environment is reflected in several parts of story. For example, in conversations with his sister, wall construction, pomegranate planting, watering. In the construction of the castle with his brother-in-law, between the co-worker and the ants.

Psychological (internal) conflict: the main character of the work will be the sister Toshpolat, who will be a bride to a five-son household, and at the request of her mother, Toshpolat will set aside land for her sister to make a house out of her house. The sister and brother-in-law move in, the brother-in-law puts the house in the middle of the yard, which Toshpolat does not like. Because he had daughters who reached his height. "Even though his teeth were gnawing out of anger, not saying a word he threw two more meters from his ground and raised a wall." This was his condition after the house was built.

" Toshpolat was embarrassed when he was asleep, I bothered my mother's soul because of this wall, thinking that I would not have been dishonest, since there was no dishonesty in brother-in-law with my sister. Although it's more cost. With this, it is likely that he will become a sister again..."

In addition to the above, several contradictions can be witnessed in the work, but we are far from saying that they are also a type of conflict.

1.Highness and misery: mother and brother give the groom and sister the land as Highness, and the brother-in-law and sister are miserable and do not help the construction of a single wall.

2. Gratitude and envy: the sister being greedy plants pomegranate under the wall, but she gives it to neither her brother nor her mother. As if this were not enough, the day after day she would water the pomegranate and damage the wall. Grateful brother, on the other hand, restores the wall every time from his own pocket, from his son's salary.

3.Invincibility and relentless struggle: the colleague does not want to get over the crustaceans, and even he wants to build a house of iron, where the tooth of the ants does not pass: "do I leave the lands where my umbilical cord blood drips to the ants? There is no way. I can't even imagine that these lands, which my ancestors passed through, were torn apart and lying abandoned. I will build a house of iron, where their teeth do not pass, if not, I will make a ditch, but I will not leave these lands for the ants."

4. Brother and sister relationship: in the work, the brother always wants to help the sister, giving her kindness as a brother, but cannot get an answer from the sister. As a result, one wall goes as indecent: “it's been two years, we will not talk, because of this wall we say you (disrespectful) to You (respectful)...”

As we conclude our thoughts, the study of these internal and external contradictions serves to deeper understand the state of the characters, reveal the content of the work, impressively deliver it to the reader. The use of all three types of conflict reflects unique writing skills. Also, without conflict, the character of the heroes of the work cannot be formed. In particular, the literary scholar Hotham Umurov noted that " conflict is the force that drives the plot. It is the element that determines its influence, curiosity, scope”.

LITERATURE USED:

1.Hamdam U. Vatan haqida qo’shiq. T.: “Akademnashr”, 2014.
2.Umurov H. Adabiyotshunoslik nazariyasi. T.: A.Qodiriy nomidagi xalq merosi nashriyoti, 2004-yil.
3. Quronov D. Adabiyotshunoslikka kirish. Toshkent. Abdulla Qodiriy nomidagi xalq nashriyoti
4. Xudoyberdiyev E. Adabiyotshunoslikka kirish. T.: “Sharq”, 2008
5. D. Quronov, Z. Mamajonov, M. Sheraliyeva. Adabiyotshunoslik lug’ati. Toshkent. “Akademnashr”. 2013.
6. www.ziyouz.com kutubxonasi.

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BOSHLANG'ICH SINF O'QUVCHILARIDA MAS'ULIYAT HISSINI SHAKLLANTIRISHNING MAZMUNI

Annotatsiya: *Boshlang'ich ta'limning uzluksiz ta'lim tizimida tutgan muhim o'rni va yosh avlodni barkamol shaxs etib tarbiyalashdagi asosiy roliga yuksak baho berib, sobiq tuzum davrida boshlang'ich ta'lim tizimida ham muayyan kamchiliklar mavjud bo'lganligiga e'tiborni qaratadi. O'quvchi shaxsini hurmat qilish tamoyilini aks ettiruvchi boshlang'ich ta'lim mazmunidir. Muloqot va hamkorlik ko'nikmalarining shakllanishi. Bolalarning ongi va tafakkurida mavjud bo'lgan yashirin imkoniyatlarni aniqlash. O'zbek tilida psixologik holatlarning emas, balki muayyan xatti-harakatlar yoki faoliyatning istiqbolli bo'lishi ifodalanadi.*

Kalit so'zlar: *boshlang'ich ta'lim, bosqichining maqsadi, faoliyat turlari, psixologik va fiziologik salomatliklar, muhim yutuqlar, imkoniyat, bilim yurtlari tizimi, istiqbol, ta'lim mazmuni.*

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THE CONTENT OF THE FORMATION OF A SENSE OF RESPONSIBILITY IN PRIMARY SCHOOL STUDENTS

Annotation: places a high emphasis on the important role of Primary Education in the system of continuing education and its main role in educating the younger generation as a harmonious person, focusing on the fact that even in the period of the former regime, there were certain shortcomings in the system of primary education. It is the content of primary education that reflects the principle of respect for the personality of the student. Formation of communication and cooperation skills. Identification of hidden possibilities that exist in the minds and thinking of children. In Uzbek, it is expressed that there are not psychological states, but specific behaviors or activities that are promising.

Keywords: primary education, the purpose of the stage, types of activities, psychological and physiological health, important achievements, opportunities, educational institutions on the knee

Kirish. O'zbekiston Respublikasi Prezidenti Sh.M.Mirziyoyev boshlang'ich ta'limning uzluksiz ta'lim tizimida tutgan muhim o'rni va yosh avlodni barkamol

shaxs etib tarbiyalashdagi asosiy roliga yuksak baho berib, sobiq tuzum davrida boshlang‘ich ta’lim tizimida ham muayyan kamchiliklar mavjud bo‘lganligiga e’tiborni qaratadi: “Ochiq aytishimiz kerak: bilimi sayoz muallimlar ham birinchi sinfda dars beraveradi. Boshlang‘ich ta’limga past nazar bilan qaralishining isboti shuki, sobiq SSSRda butun boshli pedagogika texnikumlari va bilim yurtlari tizimi tashkil etilib, ular asosan 1-4-sinf o‘quvchilarini o‘qitadigan muallimlar tayyorlar edi[27]”.

Bizning nazarimizda eng muhim yutuqlar quyidagilardan iborat:

1.Demokratik sharoitda erkin, mustaqil fikrga ega yosh avlodni tarbiyalashga imkon beruvchi boshlang‘ich ta’lim Kontseptsiyasi[28] yaratildi.

2.Insonparvar va demokratik g‘oyalar, shuningdek, o‘quvchi shaxsini hurmat qilish tamoyilini aks ettiruvchi boshlang‘ich ta’lim mazmuni asoslandi.

3.Boshlang‘ich ta’lim tizimida o‘qitilishi zarur deb belgilangan o‘quv predmetlari bo‘yicha o‘zlashtiriluvchi majburiy bilimlar minimumini belgilovchi davlat ta’lim standartlari ishlab chiqildi.

Adabiyotlar sharhi. “Boshlang‘ich ta’lim Konsepsiyasi”da belgilab berilganidek, uzluksiz ta’lim tizimi bu bosqichining maqsadi quyidagilardan iboratdir[29]:

- bolalarning psixologik va fiziologik salomatliklarini muhofaza qilish va mustahkamlash;
- barcha faoliyat turlari bo‘yicha bolalar tashabbusini uyg‘otish va qo‘llab-quvvatlash;
- muloqot va hamkorlik ko‘nikmalarining shakllanishiga erishish;
- o‘ziga ijobiy baho berish va o‘ziga bo‘lgan ishonchni qo‘llab-quvvatlash;
- o‘quv mustaqilligini shakllantirish o‘qishga bo‘lgan xohish va ko‘nikma, shuningdek, shaxsiy imkoniyatlari darajasini kengaytirib borish.

Mazkur hujjatda bayon qilinishicha, boshlang‘ich ta’limni tashkil etish jarayonida quyidagi vazifalar bajarish lozim:

1. Bolalarning ongi va tafakkurida mavjud bo‘lgan yashirin imkoniyatlarni aniqlash va rivojlantirish.

2. Kichik maktab yoshidagi bolalarda ta’limning dastlabki davridan boshlab yangi imkoniyatlarni shakllantirish, qaysiki, bunday yangi imkoniyatlar o‘quv materialini muvaffaqiyatli o‘zlashtirishgagina emas, balki hayotiy muammolarni yechishga ham tayyorlaydi.

3. O‘quvchilarda o‘rganishga hamda ta’lim jarayoniga nisbatan jonli qiziqishni shakllantirish.

Shu o‘rinda aytib o‘tish kerakki, “Boshlang‘ich ta’lim Kontseptsiyasi”da vazifalarni yoritishda grammatik xatolarga yo‘l qo‘yilgan. Bizning nazarimizda, ular quyidagilardir:

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[27] O‘zbekiston Prezidenti Shavkat Mirziyoyev 2020-yil 23-sentabr kuni yangi tahrirdagi “Ta’lim to‘g‘risida”gi qonun

[28] Бошланғич таълим Концепцияси / Муаллифлар: Қ.А.Абдуллаева, Р.Ғ.Сафарова, М.О.Очилов, К.Н.Назаров, Н.У.Бикбаева, М.А.Зайнитдинова // Boshlang’ich ta’lim j. – Т.: 1998. 6-сон. – 12-18-б.

[29] Бошланғич таълим Концепцияси / Муаллифлар: Қ.А.Абдуллаева, Р.Ғ.Сафарова, М.О.Очилов, К.Н.Назаров, Н.У.Бикбаева, М.А.Зайнитдинова // Boshlang’ich ta’lim j. – Т.: 1998. 6-сон. – 11-14-б.

1) 2-bandda ko‘rsatilishicha, “kichik maktab yoshidagi bolalarda ta’limning dastlabki davridan boshlab yangi imkoniyatlarni shakllantirish” zarur. Bu o‘rinda “imkoniyatlarni shakllantirish” tushunchasi noto‘g‘ri qo‘llanilgan. Binobarin, imkoniyatlar shakllantirilmaydi, balki olinayotgan ob’ektga nisbatan yaratiladi, yoki rivojlantiriladi. Kontseptsiyada ob’ekt sifatida boshlang‘ich maktab yoshidagi bolalar olinganligi bois ularning imkoniyatlari ochib berilishi yoki rivojlantirilishiga e’tiborni qaratish maqsadga muvofiq edi;

2) 3-bandda “jonli qiziqish” tushunchasi ham noto‘g‘ri qo‘llanilgan. Binobarin, qiziqish “jonli” bo‘lmaydi, balki xususiyatiga ko‘ra “kuchli” bo‘lishi mumkin.

Konsepsiyada, shuningdek, boshlang‘ich ta’limning mazmuni va asosiy vositalarini tanlashda quyidagi printsiplarga (“printsiplar” tushunchasi aynan keltirildi) asoslanishining maqsadga muvofiqligi aytiladi:

a) jamiyat taraqqiyoti bilan barobar rivojlanib boruvchi ta’lim tamoyillariga;
b) ijtimoiy buyurtmaga;
c) o‘quvchilarning bilishga bo‘lgan qiziqishlarining istiqbollariga;
d) ijtimoiy so‘rovlarning ilmiy jihatdan ta’minlanganligiga;
e) ta’limning hammabopligiga;
f) ta’limning umumiyligiga;
g) boshlang‘ich ta’limning ochiqligiga;
h) boshlang‘ich ta’limning ilmiyligiga;
i) boshlang‘ich ta’lmning dunyoviyligiga;
j) boshlang‘ich ta’limning reprezentativligiga;
k) boshlang‘ich ta’limning optimalligiga;
l) boshlang‘ich ta’limning milliyligiga;
m) boshlang‘ich ta’limning insonparvarligiga va umuminsoniyligiga;
n) boshlang‘ich ta’limning innovatsionligiga;
o) boshlang‘ich ta’lim shakllari va o‘quv predmetlari orasidagi aloqalarning o‘zaro ta’minlanganligiga.

Shu o‘rinda mualliflarning fikrlariga to‘la qo‘shilish mumkin emasligini aytib o‘tmoqchimiz. Ularning fikrlariga qo‘shila olmaslikni quyidagi sabablar bilan izohlash mumkin:

1) 5 (d)-13 (m) hamda 15 (o) bandlarda sanab o‘tilgan holatlarning deyarli barchasi ta’lim tushunchalarini ifodalagan holda boshlang‘ich ta’lim mazmuni va asosiy vositalari “jamiyat taraqqiyoti bilan barobar rivojlanib boruvchi ta’lim tamoyillariga” (1 (a)-band) muvofiq tanlanishi aytib o‘tiladi. Bizning fikrimizcha, bunday yondashilganda 5-15 bandlar qayta ifodalanmasligi yoki 1-band o‘zgacha yoritilishi lozim edi;

2) “o‘quvchilarning bilishga bo‘lgan qiziqishlarining istiqbolligiga” jumlasi ham noto‘g‘ri bayon etilgan. Binobarin, qiziqishlar istiqbolli bo‘lmaydi, balki davomiy, turg‘un bo‘lishi mumkin. O‘zbek tilida psixologik holatlarning emas, balki muayyan xatti-harakatlar yoki faoliyatning istiqbolli bo‘lishi ifodalanadi. Masalan, “istiqbolli hamkorlik” tarzida. Chunki hamkorlik o‘zaro kelishuvga muvofiq kelgusida ham davom etishi mumkin;

3) bizning nazarimizda “ijtimoiy so‘rovlarning ilmiy jihatdan ta’minlanganligiga” degan jumlaning qo‘llanilganligi o‘rinli emas. Zero, bu o‘rinda ilmiy-tadqiqotlar yoki ma’lum tekshirishlar xususida emas, balki boshlang‘ich ta’limni yo‘lga qo‘yish to‘g‘risida so‘z yuritilmoqda;

4) “boshlang‘ich ta’limning milliyligiga” jumlasi “boshlang‘ich ta’limning milliy g‘oyalarga tayanganligiga” shaklida to‘g‘ri ifodalangan bo‘lardi;

Tahlil va natijalar. Innovatsionlik ta’limning, shu jumladan, boshlang‘ich ta’limning ichki xususiyati bo‘lishi kerak. Ana shunga ko‘ra bu holatni ustuvor g‘oya sifatida qayd etishga nisbatan ehtiyoj yo‘q.

Boshlang‘ich ta’lim bosqichida quyidagi shartlarga amal qilinishi ta’lim va tarbiya ishlarining samaradorligini ta’minlash, o‘quvchilarning har tomonlama kamolga yetishlari uchun zamin yaratadi:

- bolalarning jismoniy va psixologik rivojlanishi hamda salomatliklarini ta’minlashga imkon beruvchi zamonaviy ta’lim texnologiyalaridan foydalanish;
- o‘qituvchi va o‘quvchilar jamoasini tashkil etishda o‘zaro birdamlik va bir-birini tushunishning yangi usullarini topish;
- bolalarda o‘qishni davom ettirish istagini saqlab qolish va ularda o‘qish malakasi asoslarini shakllantirish (shaxsiy yutuq va cheklanishlarni mustaqil aniqlash, o‘z imkoniyatlari chegaralarini boshqalar – kattalar va tengdoshlari yordamida kengaytirish);
- bola individualligining rivojlanishini pedagogik qo‘llab-quvvatlash.

O.Musurmonova «Ma’naviy qadriyatlar va yoshlar tarbiyasi” asarida “e’tiqod” haqida shunday fikr bildiradi: “Inson e’tiqod bilan tirik, e’tiqod bilan aziz va mukarramdir. E’tiqodi sof inson jamiyatning ma’naviy pokligi, barkamolligi uchun kurasha oladi. E’tiqodi mustahkam xalq o‘zining diniy madaniyatiga, pok insoniy munosabatlar tizimiga ega bo‘ladi. Har qanday farovon turmush tarzi ma’lum e’tiqodli, axloq normalari shakllangan jamiyatda qaror topadi, rivojlanadi[30] Ta’limiy islohotlar davrida boshlang‘ich ta’lim tizimida amalga oshirilgan o‘zgarishlar mustaqil, o‘z fikrini mustaqil ifodalay oladigan shaxsni shakllantirish yo‘lida quyidagilarga erishish maqsadga muvofiqligini ifodalaydi[31]:

- bola va ota-onalarning ta’lim xizmatlaridan foydalanish borasidagi huquqlarini kengaytirish;
- bola shaxsiga bo‘lgan hurmat; har bir o‘quvchining ta’limiy manfaatlarini inobatga olish;
- ta’lim jarayonining yoshga muvofiq kelishi;
- to‘laqonli psixologik va jismoniy rivojlanishni ta’minlash;
- bolalarning salomatliklarini muhofaza qilish.

Uzluksiz ta’lim tizimining asosiy bosqichi bo‘lgan boshlang‘ich ta’lim tizimini yanada takomillashtirish xorijiy mamlakatlarda bu sohada qo‘lga kiritilgan tajribalarni o‘rganish, ularni tahlil etish, shuningdek, milliy-mintaqaviy xususiyatlarni inobatga olish asosida ilg‘or tajribalardan respublika boshlang‘ich

[30] Мусурмонова О. Маънавий қадриятлар ва ёшлар тарбияси. – Т.: Ўқитувчи, 1996. – 190 б.
[31] Образовательный процесс в начальной, основной и старшей школе. – М.: Сентябрь, 2001. – 240 с.

ta’lim maktablarida maqsadga muvofiq foydalanish foydadan holi bo‘lmaydi. Ana shu maqsadda tadqiqot chog‘ida Rossiya, AQSh, Yaponiya va Fransiya davlatlari, shuningdek, O‘zbekiston Respublikasi boshlang‘ich ta’lim tizimi mazmuni bilan tanishildi. Boshlang‘ich ta’lim bo‘yicha yetakchi xorijiy mamlakatlar ta’lim tizimi tajribalarini o‘rganish sohada bir qator ijobiy an’analar mavjudligini ko‘rsatdi. Germaniyadagi maktab[32] tizimi boshlang‘ich va o‘rta ta’limni, ya’ni boshlang‘ich maktablarni (1-4/6-sinflar) va birinchi va ikkinchi o‘rta maktablarni o‘z ichiga oladi. Ikkinchisida turli qobiliyat darajasidagi o‘quvchilar bir guruh bo‘lib (Gesamtschule, 5–12-sinflar) yoki alohida (Hauptschule, 5–9-sinflar; Realschule, 5–10; Gymnasium, 5–12/13) o‘qitiladi. Bundan tashqari, ko‘plab federal shtatlarda maxsus maktab turlari mavjud. Boshqa ko‘plab mamlakatlarning maktab tizimidan farqli o‘laroq, ularning natijalaridan qat’i nazar barcha o‘quvchilar bir xil davlat imtihonlaridan o‘tadilar.

Germaniya mamlakatida maktab tizimi umumiy o‘rta ta’lim maktablaridan tashqari kasb-hunar maktablarini ham o‘z ichiga oladi. Germaniyada o‘quvchilar uchun maktabda o‘qish majburiy hisoblanadi. Jumladan:

- boshlang‘ich ta’limga nisbatan pedagogik yondoshuvning turli ko‘rinishlari yuzaga keldi;
- o‘qituvchilar davlat siyosati bilan qo‘llab-quvvatlanayotgan ijodiy izlanish erkinligiga ega bo‘ldilar, Rossiya, AQSh, Yaponiya va Frantsiya davlatlarida guberniya hamda shtatlar boshqaruvi asosida faoliyat yurituvchi xususiy maktablar tashkil etilmoqda;
- ota-onalarga maqul pedagogik tizimni tanlash imkoniyati berilmoqda, ota-onalarning onglilik darajasi o‘smoqda;
- bolada ta’lim olishga bo‘lgan rag‘batni yuzaga keltirishda individul metod va vositalarni qo‘llash maqsadga muvofiq ekanligi tobora ko‘proq e’tibor berilmoqda.

“... O‘qishga o‘quvchilarning shaxsiy mas’uliyatini kuchaytirish, har bir yigit va qiz ongida tarbiyachilikning barcha imkoniyatlari ta’sirida o‘qishga ijtimoiy va fuqarolik burchi deb qarashni shakllantirish[33]” uzluksiz ta’lim tizimini isloh qilish, ta’limni rivojlantirish va uni jahon ta’limi standartlari darajasiga ko‘tarish yo‘lida olib borilayotgan bir sharoitda nihoyatda muhimdir.

“Mas’uliyat” tushunchasi arab tilidan tarjima qilinganda “javobgarlik”, “hisob bermoqlik” ma’nolarini anglatib, biror ish, xatti-harakat oqibati, natijasi uchun javoblarlik kabi ma’nolarni bildiradi[34]. O‘zbek tilida “mas’uliyat” so‘zining muqobili sifatida “javobgarlik” tushunchasi bevosita qo‘llaniladi. Masalan, davlat javobgarligi, huquqiy javobgarlik, ma’muriy javobgarlik va hokazo..

Ayrim manbalarda mazkur tushuncha mohiyatini yoritishda uning “jamiyatga munosabatni xarakterlovchi” axloqiy kategoriya hamda “shaxsni o‘z-o‘zini

[32] www.schule.com

[33] Ўқувчиларда ўқув фаолиятига масъулият ҳиссини тарбиялаш (Оилада ва синфдан ташқари вақтларда) //Тузувчилар: М.Ш.Алламуратова, Г.Жўрабоева. – Т.: ЎзПФИТИ, 1990. – 37 б.

[34] Ўзбек тилининг изоҳли луғати. 5 жилдли. Иккинчи жилд. Е – М. – Т.: “Ўзбекистон миллий энциклопедияси” Давлат илмий нашриёти, 2006. – 556- б.

boshqarish shakli” ekanligiga ham alohida e’tibor berilgan. Jumladan, “Mas’uliyat shaxsning jamiyatga munosabatini xarakterlovchi, uning talablarini bajarishni yuksak shaxsiy-axloqiy xislatlarini namoyon bo‘lishi odob-axloqning etik ko‘rinishidir. Shaxsning mas’uliyati uning butun borliqqa bo‘lgan munosabati, har bir aniq vaziyatga bo‘lgan alohida munosabati orqali namoyon bo‘ladi[35]”.

“Oliy ta’lim (lug‘at-ma’lumotnoma)”da bu tushuncha o‘z xatti-harakatlarini tushunish va nazorat qilish sifatida talqin etilgan: “Mas’uliyat – shaxsni o‘z-o‘zini boshqarish shakli, o‘zi tomonidan amalga oshirilgan xatti-harakatlari va ularning oqibatiga sabab deb bilishda namoyon bo‘ladi, shuningdek, atrof-muhitda va shaxsiy bo‘lishdagi o‘z qobiliyatini tushunish va nazorat qilishda aks etadi[36]”.

Xulosa va takliflar. Bizning nazarimizda, mas’uliyat shaxsning o‘z-o‘zini boshqarishi emas, aksincha, uning xatti-harakatlari hamda atrofdagilarga nisbatan munosabati bo‘lib, individuallik va ijtimoiylik xususiyatini kasb etadi. Keltirilgan ta’rifda leksik xatoga ham yo‘l qo‘yilgan. Zero, o‘zbek tilida “atrof-muhitda o‘z qobiliyatini tushunish va nazorat qilish” hamda “shaxsiy bo‘lishdagi o‘z qobiliyatini tushunish va nazorat qilish” jumlalari mavjud emas. Bu o‘rinda mualliflarning “jamiyatda” yoki “ijtimoiy borliqda”, “ijtimoiy munosabatlar jarayonida”; “yakka tartibda” kabi tushunchalarni qo‘llashlari maqsadga muvofiq bo‘lardi.

Foydalalilgan adabiyotlar ro‘yxati

1. O‘zbekiston Prezidenti Shavkat Mirziyoyev 2020-yil 23-sentabr kuni yangi tahrirdagi “Ta’lim to‘g‘risida”gi qonun
2. Каримов И.А. Биз келажагимизни ўз қўлимиз билан қурамиз. Том 7.- Т.: Ўзбекистон, 1999.- 300 б.
3. Ўқувчиларда ўқув фаолиятига масъулият ҳиссини тарбиялаш (Оилада ва синфдан ташқари вақтларда) //Тузувчилар: М.Ш.Алламуратова, Г.Жўрабоева. – Т.: ЎзПФИТИ, 1990. – 37 б.
4. Ўзбек тилининг изоҳли луғати. 5 жилдли. Иккинчи жилд. Е – М. – Т.: “Ўзбекистон миллий энциклопедияси” Давлат илмий нашриёти, 2006. – 556-б.
5. Мусурмонова О. Маънавий қадриятлар ва ёшлар тарбияси. – Т.: Ўқитувчи, 1996. – 190 б.
6. Образовательный процесс в начальной, основной и старшей школе. – М.: Сентябрь, 2001. – 240 с.
7. Бошланғич таълим Концепцияси / Муаллифлар: Қ.А.Абдуллаева, Р.Ғ.Сафарова, М.О.Очилов, К.Н.Назаров, Н.У.Бикбаева, М.А.Зайнитдинова // Boshlang‘ich ta’lim j. – T.: 1998. 6-сон. – 12-18-б.
8. Бошланғич таълим Концепцияси / Муаллифлар: Қ.А.Абдуллаева, Р.Ғ.Сафарова, М.О.Очилов, К.Н.Назаров, Н.У.Бикбаева, М.А.Зайнитдинова // Boshlang‘ich ta’lim j. – T.: 1998. 6-сон. – 11-14-б.

[35] Ўқувчиларда ўқув фаолиятига масъулият ҳиссини тарбиялаш (Оилада ва синфдан ташқари вақтларда) //Тузувчилар: М.Ш.Алламуратова, Г.Жўрабоева. – Т.: ЎзПФИТИ, 1990. – 24 б.

[36] Олий таълим (луғат-маълумотнома) /Акад. С.Ғуломовнинг умумий таҳрири остида. Тузувчилар: М.Х.Саидов, Л.В.Перегуров, З.Т.Тоҳиров. – Т.: Молия, нашриёти, 2003. – 456 б.

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7-12 YOSHLI BOLALARNING TAEKVONDO SPORT TURI BILAN SHUG'ULLANISHI OQIBATIDA TANASIDAGI IJOBIY O‘ZGARISHLARI

Annotatsiya: *Ushbu maqolada taekvondo mashg'ulotlari natijasida 7-12 yoshli bolalar organizmida yuz beradigan ijobiy o'zgarishlar haqida so'z boradi. Taekvondo bolalarning jismoniy va aqliy rivojlanishiga katta yordam beradi. Ushbu sport tufayli bolalar mushaklarning kuchi, moslashuvchanligi, muvozanati va chidamliligi kabi jismoniy ko'rsatkichlarni sezilarli darajada yaxshilaydi. Shuningdek, taekvondo bolalarda o‘zini tuta bilish, tartib-intizom, o‘ziga ishonch va ijtimoiy ko‘nikmalarni rivojlantiradi. Maqolada taekvondo mashg'ulotlari va uning yosh bolalar organizmiga ta'siri batafsil tahlil qilinadi.*

Kalit so'zlar: *Taekvondo, Bolalar sporti, Jismoniy rivojlanish, Ma'naviy rivojlanish, Intizom, O'ziga o'zi ishonch, Aloqa maxorati, jismoniy rivojlanish, jismoniy tarbiya, mashg‘ulotlar, chidamlilik, mushaklar, ko‘nikmalar, texnika, taktika.*

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POSITIVE CHANGES IN THE BODY OF CHILDREN AGED 7-12 YEARS CAUSED BY PLAYING THE SPORT OF TAEKWONDO

Abstract*: This article talks about the positive changes that occur in the body of children aged 7-12 years as a result of taekwondo training. Taekwondo greatly contributes to the physical and mental development of children. Thanks to this sport, children significantly improve physical performance such as muscle strength, flexibility, balance and endurance. Taekwondo also develops self-control, discipline, self-confidence and social skills in children. The article analyzes taekwondo training and its effects on the body of young children in detail.*

Keywords*: Taekwondo, Children's sports, Physical development, Spiritual development, Discipline, Self-confidence, Communication skills, physical development, physical education, training, endurance, muscles, skills, technique , tactics.*

Maqolada taekvondo mashg'ulotlari 7-12 yoshli bolalar tanasiga qanday ijobiy o'zgarishlar olib kelishi haqida gap boradi. Taekvondo nafaqat bolalarning jismoniy holatini yaxshilaydi, balki ularning aqliy va ijtimoiy rivojlanishiga ham

katta ta’sir ko‘rsatadi. Taekvondo mashg'ulotlari davomida bolalar mushaklarning kuchini, moslashuvchanligini, muvozanatini va chidamliligini yaxshilaydi. Ayni paytda ushbu sport turi bolalarning chidamliligi, intizomi, o‘ziga ishonchini oshirishga ham xizmat qiladi. Yig‘ilgan ma’lumotlar va tahlillar shuni ko‘rsatadiki, taekvondo nafaqat bolalarning jismoniy salomatligini mustahkamlash vositasi, balki ularning shaxsiy va ijtimoiy rivojlanishiga ham katta yordam beradi.

7-12 yoshli bolalar uchun taekvondo mashg'ulotlari ularning jismoniy, aqliy va ijtimoiy rivojlanishiga ko'plab ijobiy o'zgarishlar olib kelishi mumkin. Mana asosiylari: Jismoniy rivojlanish Umumiy jismoniy tayyorgarlikni yaxshilang: taekvondo bo'yicha muntazam mashg'ulotlar chidamlilik, kuch, moslashuvchanlik va muvofiqlashtirishni rivojlantirishga yordam beradi.

Harakat ko'nikmalarini rivojlantirish: Taekvondo nozik va qo'pol motorli ko'nikmalarni yaxshilaydigan murakkab harakatlar va kombinatsiyalarni o'z ichiga oladi.

Taekvondo bo'yicha harakat qobiliyatlarini rivojlantirish

Taekvondo - koreys jang san'ati bo'lib, u yuqori dinamika va murakkab texnik elementlar bilan ajralib turadi. Harakat ko'nikmalarini rivojlantirish taekvondo mashg'ulotining asosiy tarkibiy qismlaridan biridir, chunki sportchining turli xil texnika va texnikalarni bajarishdagi muvaffaqiyati ularga bog'liq.

Taekvondoda harakatchanlik turlari Taekvondo uchun zarur bo'lgan vosita mahoratini bir necha asosiy toifalarga bo'lish mumkin.

Harakatni muvofiqlashtirish: murakkab texnika va kombinatsiyalarni bajarish uchun tananing turli qismlari ishini sinxronlashtirish qobiliyati.

Tezlik: tezkor zarbalar va mudofaa harakatlari uchun muhim.

Kuch: kuchli zarbalar berish va zarbalar berish uchun zarur.

Chidamlilik: uzoq vaqt davomida yuqori intensiv mashg'ulotlar va raqobatni saqlab qolish imkonini beradi.

Moslashuvchanlik: yuqori zarbalar va murakkab akrobatik elementlarni bajarish qobiliyatini ta'minlaydi.

Motor ko'nikmalarini rivojlantirish usullari Issiqlik va cho'zish: Har bir mashg'ulotdan oldin, mushaklar va bo'g'inlar uchun cho'zish mashqlarini o'z ichiga olgan yaxshilab isinishni bajaring. Bu nafaqat tanani stressga tayyorlaydi, balki moslashuvchanlik va harakatchanlikni ham yaxshilaydi.

Kuch mashqlari: Og'irlik mashqlari, surish, tortish va boshqa kuch mashqlari kuchli zarbalar va mudofaa harakatlarini bajarish uchun zarur bo'lgan mushaklarni kuchaytirishga yordam beradi.

Maxsus muvofiqlashtirish va muvozanat mashqlari: Har xil muvozanat mashqlari, masalan, bir oyoq ustida turish yoki beqaror yuzada tepish, muvofiqlashtirishni yaxshilashga yordam beradi.

Tezlikni oshirish bo'yicha mashg'ulotlar: Panjalar bilan urish yoki soya boksi kabi tezlikni mashq qilish tezkor reaktsiyalarni va texnikani bajarish tezligini rivojlantirishga yordam beradi.

Kardio: Yugurish, arqondan sakrash va boshqa kardio mashqlari sportchining umumiy chidamliligini yaxshilaydi.

Texnika va taktika: texnik elementlar va taktikalarni mashq qilishga qaratilgan muntazam mashg'ulotlar ularning bajarilishini yaxshilashga va harakatlarini avtomatlashtirishga yordam beradi.

Psixologiyaning vosita ko'nikmalarini rivojlantirishga ta'siri Taekvondoda harakat ko'nikmalarini rivojlantirish faqat jismoniy tayyorgarlik bilan cheklanmaydi. Psixologik jihat ham muhim rol o'ynaydi. O'ziga bo'lgan ishonch, motivatsiya va diqqatni bir vazifaga jamlash qobiliyati yangi texnikani tezroq va samaraliroq ishlab chiqishga va mavjud ko'nikmalarni yaxshilashga yordam beradi. Meditatsiya va vizualizatsiya chidamlilik va diqqatni kuchaytirish uchun foydali vosita bo'lishi mumkin.

Taekvondo bo'yicha harakat qobiliyatlarini rivojlantirish jismoniy tayyorgarlik, texnika ustida ishlash va psixologik tayyorgarlikni o'z ichiga olgan kompleks yondashuvni talab qiladi. Bu jihatlarning har birini sinchiklab o‘rganish sportchiga ushbu jang san’atida yuksak natijalarga erishish va mahoratini oshirish imkonini beradi.

Mushaklar va suyaklarni mustahkamlang: mushtlash, sakrash va blokirovka qilish kabi mashqlar tayanch-harakat tizimini mustahkamlashga yordam beradi.

Yurak-qon tomir tizimining rivojlanishi: Intensiv mashg'ulotlar yurak va o'pka faoliyatini yaxshilaydi va tananing umumiy chidamliligiga hissa qo'shadi.

Aqliy rivojlanish Diqqat va konsentratsiyani oshirish: mashg'ulotlar yuqori konsentratsiyani talab qiladi, bu esa bolalarning diqqatni jamlash qobiliyatini yaxshilashga yordam beradi.

Intizom va o‘z-o‘zini nazorat qilishni rivojlantirish: Murabbiyning qoida va ko‘rsatmalariga rioya qilish intizom tuyg‘usini, his-tuyg‘ularini nazorat qilish qobiliyatini rivojlantiradi.

O'z-o'zini hurmat qilish va ishonchni oshirish: Sportdagi yutuqlar va bolalar qo'lga kiritgan kamarlar ularga o'zlarini yanada ishonchli his qilishlariga yordam beradi.

Stressni kamaytiring va kayfiyatni yaxshilang: Jismoniy faollik stressni engishga va kayfiyatni yaxshilashga yordam beradigan endorfinlarni chiqaradi.

Ijtimoiy rivojlanish Jamoada ishlash ko'nikmalari: Guruh faoliyati jamoaviy ruhni va jamoada ishlash qobiliyatini rivojlantirishga yordam beradi.

Boshqalarga hurmat: Taekvondoning tamoyillaridan biri bu boshqalarga hurmat bo'lib, bu bolalarda to'g'ri ijtimoiy normalar va qadriyatlarni singdiradi.

Mojarolarni bartaraf etish qobiliyati: Trening bolalarga ziddiyatli vaziyatlarni hal qilishning to'g'ri usullarini, zo'ravonlikdan qochishni o'rgatadi.

Yangi tanishlar va do'stlik: muntazam guruh faoliyati tengdoshlar o'rtasida yangi ijtimoiy aloqalar va do'stlikni shakllantirishga yordam beradi.

Taekvondo nafaqat jismoniy ko'nikmalarni rivojlantiradi, balki bolalarning aqliy va ijtimoiy rivojlanishiga sezilarli ijobiy ta'sir ko'rsatadi. Ushbu sport kuchli, o'ziga ishongan va ijtimoiy moslashgan shaxslarni shakllantirishga yordam beradi.

Taekvondo nafaqat jismoniy rivojlanish, balki tartib-intizom, o‘ziga ishonch va axloqiy qadriyatlarni tarbiyalovchi sport turidir. Ayniqsa, 7 yoshdan 12 yoshgacha bo‘lgan bolalar uchun ushbu sport turi o‘zining ko‘p qirraliligi va

ko‘plab afzalliklari bilan ajralib turadi. Ushbu maqolada taekvondo sporti bolalar rivojlanishiga qanday ta'sir ko'rsatishi, ularning jismoniy, aqliy va ijtimoiy rivojlanishiga qanday foyda keltirishi haqida gapiramiz. Jismoniy rivojlanishTaekvondo bolalarning jismoniy rivojlanishida muhim omil hisoblanadi. Ushbu sport tufayli bolalar:

Moslashuvchanlik va muvozanatni yaxshilaydi: Taekvondo mashqlari bolalarda moslashuvchanlik va muvozanatni rivojlantirishga yordam beradigan turli zarbalar, zarbalar va harakatlardan iborat.

Taekvondo - o'z-o'zini himoya qilish, falsafa va tartib-intizom elementlarini o'z ichiga olgan koreys jang san'ati va sporti. Uning nomini "oyoq va musht yo'li" deb tarjima qilish mumkin, bu esa tepish va mushtlashga qaratilgan urg'uni aks ettiradi. Taekvondo dunyodagi eng mashhur jang san'atlaridan biri bo'lib, Olimpiya o'yinlariga kiritilgan.

Taekvondoning asosiy jihatlari: Tarix va kelib chiqishi, Taekvondo Koreyada 20-asr o‘rtalarida paydo bo‘lgan, garchi uning ildizlari Koreyaning subak va taekkyon kabi qadimgi jangovar an’analarida yotadi.

Taekvondo 1955 yilda general Choy Xong Xi koreys jang san'atlarini bir nom ostida birlashtirganda rasman tan olingan. Taekvondo besh tamoyilga asoslanadi: xushmuomalalik, halollik, qat'iyatlilik, o'zini tuta bilish va buzilmas ruh. Bu tamoyillar o`quvchilarning nafaqat jismoniy malakalarini, balki axloqiy sifatlarini ham rivojlantirishga qaratilgan.

Texnik elementlar: Taekvondo yuqori tezlik va aniqlik bilan ajralib turadigan zarbalarga e'tibor qaratadi.

Bloklar, zarbalar va harakat texnikasi ham muhim elementlardir.

Taekvondoda harakatlar ketma-ketligi bo'lib, mashq qilish va texnikani ko'rsatish uchun xizmat qiluvchi turli xil shakllar (poomsa) mavjud. Salomatlik uchun foydasi:

Moslashuvchanlik: Muntazam taekvondo mashg'ulotlari katta hajmdagi cho'zish mashqlarini o'z ichiga oladi. Yuqori zarbalar va o'ziga xos harakatlar mushaklar va bo'g'inlarda, ayniqsa oyoqlarda, sonlarda va pastki orqada moslashuvchanlikni oshirishga yordam beradi.

Turli zarbalar va bloklarni bajarish yaxshi muvofiqlashtirish va barqarorlikni talab qiladi, bu umumiy tana muvozanatini yaxshilashga yordam beradi.

Statik pozitsiyalar va dinamik harakatlarni mashq qilish muvozanat hissini rivojlantiradi.

Jismoniy tarbiya: Taekvondo umumiy jismoniy tayyorgarlikni yaxshilaydi, chunki u kardio, kuch va chidamlilikni o'z ichiga oladi.

Ushbu sport yurak-qon tomir tizimini mustahkamlashga, mushaklar kuchini va chidamliligini oshirishga yordam beradi. Taekvondo nafaqat samarali o'zini himoya qilish tizimi, balki jismoniy tayyorgarlikni saqlash va salomatlikni yaxshilashning ajoyib usulidir. Ushbu sport bilan muntazam shug'ullanish moslashuvchanlikni, muvozanatni, muvofiqlashtirishni va kuchni rivojlantiradi, shuningdek, ma'naviy va axloqiy rivojlanishga yordam beradi.

Kuch va chidamlilikni oshiradi: muntazam mashg'ulotlar bolalar mushaklarini mustahkamlaydi, yurak-qon tomir tizimini rivojlantiradi va umumiy chidamlilikni yaxshilaydi.

Harakat qobiliyatlarini yaxshilaydi: Tezlik, kuch va aniqlikni talab qiluvchi taekvondo harakatlari bolalarning harakatchanligini oshirishga katta yordam beradi.

Ma'naviy rivojlanish Taekvondo ham bolalarning aqliy rivojlanishiga katta ta’sir ko‘rsatadi. Ularning:

O'ziga bo'lgan ishonchni oshiradi. Taekvondo orqali bolalar o‘z kuch va imkoniyatlarini sinab ko‘rish va muvaffaqiyatga erishish imkoniyatiga ega bo‘lib, bu ularning o‘ziga bo‘lgan ishonchini oshiradi.

Taekvondo sportida ma'naviy yuksalish Taekvondo nafaqat jang san'ati, balki jismoniy kamolotni ruhiy rivojlanishdan ajralmas bo'lgan ruhiy rivojlanishning o'ziga xos tizimidir. Boshqa sharq jang san’atlari singari taekvondoda ham insonning ichki holati, uning axloqiy fazilatlari, ma’naviy yuksalishiga alohida e’tibor beriladi.

Taekvondoda ruhiy rivojlanish asoslar Taekvondo beshta asosiy tamoyilga asoslanadi: xushmuomalalik (Ye-Ui), halollik (Yom-Chi), qat'iyatlilik (In-Nae), o'zini tuta bilish (Geuk-Gi) va buzilmas ruh (dae-engeng) ,(Baekjul- boolgool). Bu tamoyillar har bir amaliyotchining ma’naviy rivojlanishi uchun asos bo‘lib xizmat qiladi.

1.Odoblilik (ee-ui, Ye-Ui): Bu tamoyil boshqalarni, xoh o‘qituvchi, xoh o‘quv sherigi, xoh raqibni hurmat qilishga o‘rgatadi. Xushmuomalalik kamtarlik va boshqalarga hurmatni tarbiyalaydi, bu ma'naviy rivojlanishning muhim jihati hisoblanadi.

2. Halollik (ejo-i, Yom-Chi): Taekvondoda halollik mashg‘ulot xonasida ham, undan tashqarida ham hayotning ajralmas qismi sifatida qaraladi. Halollikka amal qilgan holda, amaliyotchi samimiylik va ochiqlikni rivojlantiradi.

3. Qat’iyatlilik (engda, In-Nae): Qat’iyat kishini qiyinchiliklarni yengib o‘tishga va to‘siqlar oldida taslim bo‘lmaslikka o‘rgatadi. Bu jasorat va o'ziga ishonchni rivojlantirishga yordam beradi.

4. O‘z-o‘zini nazorat qilish (gangeg, Geuk-Gi): O‘z-o‘zini nazorat qilish nafaqat jangovar vaziyatlarda, balki kundalik hayotda ham muhim ahamiyatga ega. Bu ruhiy o'sishning asosiy jihati bo'lgan his-tuyg'ularni va harakatlarni boshqarishga yordam beradi.

5. Buzilmas ruh (baekjul-Boolgool, Baekjul-Boolgool)**: Bu tamoyil bukilmas iroda muhimligini va qiyinchiliklarga qaramay o'z o'rnida turish qobiliyatini ta'kidlaydi. Buzilmas ruh hayotdagi qiyinchiliklarni engishga va ichki kuchni saqlashga yordam beradi.

Meditatsiya va nafas olish amaliyotlari Taekvondo meditatsiya va nafas olish amaliyotlariga katta e'tibor beradi, bu konsentratsiya va ichki xotirjamlikni rivojlantirishga yordam beradi. Bu amaliyotlar o‘quvchilarga o‘zlarini va his-tuyg‘ularini yaxshiroq tushunish imkonini beradi, bu esa ma’naviy rivojlanishga yordam beradi. Ma'naviy rivojlanishning shaxsga ta'siri

Taekvondoda ma'naviy rivojlanish amaliyotchi shaxsiga sezilarli ta'sir ko'rsatadi. Doimiy mashq qilish va ushbu jang san'ati tamoyillariga rioya qilish quyidagi fazilatlarga ega kuchli va barkamol shaxsni shakllantirishga yordam beradi:

1. Kamtarlik va hurmat: xushmuomalalik va hurmat muhimligini doimiy eslatish kundalik hayotda bu fazilatlarni rivojlantirishga yordam beradi.

2. Ishonch va qat'iyat: Treningda jismoniy va ruhiy qiyinchiliklarni yengish ishonch va qat'iyatni rivojlantirishga yordam beradi.

3. O'z-o'zini tarbiyalash: Qattiq mashg'ulot rejimi va o'z-o'zini nazorat qilish hayotning istalgan sohasida maqsadlarga erishish uchun zarur bo'lgan intizomni rivojlantirishga yordam beradi.

4. Emosional barqarorlik: Meditatsiya va o‘z-o‘zini nazorat qilish amaliyotlari his-tuyg‘ularingizni yaxshiroq tushunish va boshqarishga yordam beradi, bu esa stressli vaziyatlarda xotirjam va muvozanatli bo‘lishga yordam beradi.

Taekvondo shunchaki sport yoki jang san'ati emas. Bu nafaqat jangovar mahoratni, balki hayotning eng muhim tamoyillarini ham o'rgatadigan ruhiy rivojlanish yo'lidir. Taekvondo falsafasiga amal qilgan holda, amaliyotchilar tana va ruh o'rtasidagi uyg'unlikni topadilar, ichki kuch va chidamlilikni rivojlantiradilar, bu ularga yanada yaxlit va uyg'un shaxslar bo'lishga yordam beradi. Taekvondoda ma’naviy rivojlanish uzluksiz jarayon bo‘lib, doimiy harakatni talab qiladi, lekin hayotning barcha jabhalariga ta’sir ko‘rsatadigan chuqur va mazmunli natijalar beradi.

Intizom va o‘z-o‘zini nazorat qilishni rivojlantiradi: Taekvondo mashg‘ulotlari qat’iy qoidalar va tartib-intizomni talab qiladi, bu esa bolalarga o‘zini tuta bilish, maqsad qo‘yish va mehnatsevarlikni o‘rganishga yordam beradi.

Stressni boshqarishni yaxshilaydi. Jismoniy faollik va jismoniy mashqlar orqali bolalar stressni kamaytirish va salbiy his-tuyg'ularni boshqarishni o'rganadilar.

Ijtimoiy rivojlanish Taekvondo bolalarning ijtimoiy ko‘nikmalarini ham rivojlantiradi. Ular:

Ular jamoada ishlashni o'rganadilar: sinflarda bolalar birgalikda ishlashni, bir-birlarini qo'llab-quvvatlashni va hamkorlik qilishni o'rganadilar.

Hurmat va axloqiy qadriyatlarni rivojlantiradi: taekvondo an’anaga ko‘ra axloqiy qadriyatlar, odob-axloq qoidalari va kattalarga hurmatni o‘rgatadi.

Yangi do'stlar orttiring. Taekvondo mashg'ulotlari va musobaqalar orqali bolalar yangi do'stlar orttirish va ijtimoiy munosabatlar o'rnatish imkoniyatiga ega.

7-12 yoshli bolalar uchun taekvondo ularning jismoniy, aqliy va ijtimoiy rivojlanishida muhim o‘rin tutadi. Taekvondo bilan shug‘ullanish orqali bolalar sog‘lom va baquvvat bo‘lib o‘sadi, o‘z-o‘ziga ishonchi va o‘zini tuta bilishi, ijtimoiy ko‘nikmalari shakllanadi. Shuning uchun ota-onalar farzandlarini taekvondo bilan shug‘ullanishga undashlari va qo‘llab-quvvatlashlari kerak.

FOYDALANILGAN ADABIYOTLAR

1. Goncharova O.V. Yosh sportchilarning jismoniy qobiliyatlarini rivojlantirish. O‘kuv qullama. Toshkent, 2005. – 172 s., il.
2 .Чой Хонг Хи. «Энциклопедия таэквондо» (дата обращения: 14.07.2020
3 Передельский, Алексей Анатольевич, Горбачева, Алиса Юрьевна, Румянцева, Екатерина Владимировна, Глебов, Глеб Юрьевич, Чжун, Лэй. Тхеквандо: теория, методика, технология.
4 Шулика, Ю.А. Тхэквондо. Теория и методика. Спортивное единоборство / Ю.А. Шулика. Е.Ю. Ключникова. – Ростов н/Д.: Феникс, 2004 – Т.1. – 800 с.
5 Холодов Ж.К. Теория и методика физического воспитания и спорта. Учеб. пособие для студентов вузов физ. культуры. - 2-е изд., испр. и до
6.To‘lqinova, S. (2024). PARALIMPIYA TAEKVONDOCHILARINING JISMONIY TAYYORGARLIGINI O ‘RGANISH. *Research and implementation*, *2*(5), 134-138.
7.To‘lqinova, S. (2024). Taekwondo sport turining yosh avlodni jismoniy rivojlanishdagi o ‘rni. *Research and implementation*, *2*(5), 62-66.
8. TAEKWONDO SPORT TURINING YOSH AVLODNI JISMONIY RIVOJLANISHDAGI O‘RNI Shoxistaxon To'lqinova - Research and implementation, 2024
9. To‘lqinova S. PARALIMPIYA TAEKVONDO BO'YICHA MASTER-KLASSDAGI PSIXOLOGIK HIMOYA VA UNING ASOSIY XUSUSIYATLARI //Research and implementation. – 2024. – Т. 2. – №. 6. – С. 58-63.

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QURILISH KORXONALARIDA BOSHQARUV MEXANIZMINI TASHKIL ETISH

Annotatsiya: *ushbu maqolada O'zbekistonda so'nggi yillarda ishlab chiqarish jarayonining tahlili, qurilish korxonalarida boshqaruv mexanizmini tashkil etish mexanizmlari haqida ma'lumotlar keltirilgan.*

Kalit so'zlar: *qurilish materiallari, ishlab chiqarish korxonalari, mahsulot sifatini oshirish, raqobatbardoshlikni kuchaytirish, diversifikatsiya siyosati.*

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ORGANIZATION OF THE MANAGEMENT MECHANISM IN CONSTRUCTION ENTERPRISES

Annotation: *this article provides information on the analysis of the production process in Uzbekistan in recent years, on the mechanisms of organizing the management mechanism at construction enterprises.*

Keywords: *building materials, manufacturing enterprises, product quality improvement, Competitiveness Enhancement, diversification policy.*

O'zbekistonda so'nggi yillarda ishlab chiqarish, umuman sanoat boshqarish tizimlarini tubdan isloh qilishga katta ahamiyat berilmoqda. Ayniqsa, boshqaruv mexanizmini takomillashtirishga keng imkoniyatlar yaratilmoqda. Bunda dunyoning iqtisodiyoti rivojlangan mamlakatlari tajribasidan foydalanishga keng o'rin ajratilmoqda. Boshqaruv mexanizmi samaradorligini oshirishga yangicha yondashuvlar yo'lga qo'yilmoqda. Qurilish materiallari ishlab chiqarish korxonalarda mahsulot sifatini oshirish, raqobatbardoshlikni kuchaytirish, diversifikatsiya siyosatini, modernizatsiyalashni amalga oshirish va boshqalar shular jumlasidandir. 2022-2026 yillarga mo'ljallangan Yangi O'zbekistonni rivojlantirish strategiyasida qurilish materiallari ishlab chiqarish sohasiga alohida e'tibor qaratilgan. Farmonda ko'rsatilgan vazifalarni samarali hal etishda, ayniqsa sanoat, jumladan qurilish materiallari ishlab chiqarish tarmog'idagi vazifalarni hal etilishi boshqaruv mexanizmini xorij standartlari asosida takomillashtirish belgilab berilgan.

Bozor iqtisodiyoti sharoitida boshqaruv faoliyati va boshqaruv mexanizmi sanoatning rivojlanishi, uning samaradorligini oshirishning muhim omili hisoblanadi. Shu sababli ushbu faoliyat doimo takomillashtirilishi zarurdir. Bunda uni tashkil etish mexanizmi, umuman olganda ayniqsa, boshqarish mexanizmini zamon talablarida kelib chiqib, rivojlantirish lozim.

Bozor mexanizmi bilan boshqaruv mexanizmi nazariya va amaliy nuqtai nazardan mos holda rivojlanishini ta’minlashda ularning qonuniy tomonlari, usullari, funktsiyalari, tashkiliy tuzilmasini o’rganish va takomillashtirilib borishi maqsadga muvofiq hisoblanadi. Ularni korxona darajasida tadqiq etish hozirgi davrda ahamiyatli vazifadir. Ayniqsa boshqaruv mexanizmining nazariy va uslubiy jihatlarini tadqiq etishda oldingilari bilan taqqoslash va bu borada ularni rivojlantirish iqtisodchi olimlarimiz oldida turgan dolzarb masalalardan biridir.

Bundan tashqari, bozor munosabatlari sharoitida tovar-pul munosabatlari, ishlab chiqarish munosabatlarini rivojlantirish, ularni boshqaruv mexanizmini elementlari bilan uzviy bog’liqlikda tadqiq etish va bu borada qarorlar qabul qilish boshqaruv mexanizmining samaradorligini oshirishga asos bo’ladi.

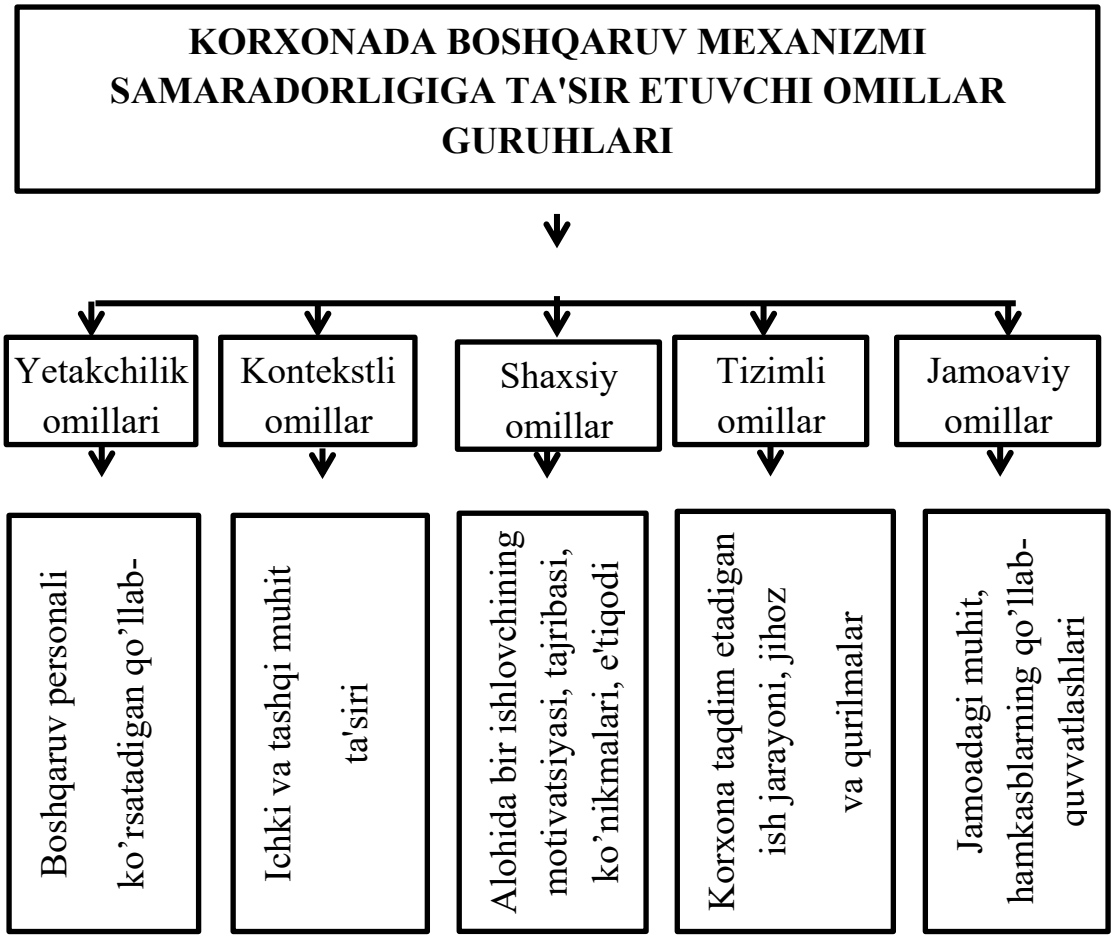
Barcha iqtisodiy jarayonlar boshqaruv mexanizmini tartibga keltirish asosida amalga oshiriladi. Shunday ekan, boshqaruv mexanizmi - bu keng ma’noda bir-biri bilan uzviy ravishda bog’liq bo’lib, ularning umumiyligini saqlagan holda boshqaruv ob’ektida amalga oshirilayotgan jarayonlarning samaradorligini belgilaydi.

Qurilish materiallari ishlab chiqarish korxonalari jamoasining yoki alohida olingan tarzda ishchi-xodimlarning faoliyati natijadorligi bu korxonadagi boshqaruv mexanizmi samaradorligini anglatib, uning baholanishini korxonadagi ish (mehnat) jarayoni yakunlari bo’yicha amalga oshirishi mumkin. Bitta ishchi-xodim faoliyatining natijadorligi amalga oshirilgan ishning, belgilangan vazifalarni bajarish to’liqligi va sifati ko’rsatkichlariga bog’liq bo’ladi. Korxonadagi mehnat jamoasi faoliyatining natijadorligini oshirishda quyidagilar juda muhim deb hisoblanadi:

- ishchi-xodimlar korxona maqsadi va missiyasini qo’llab-quvvatlashlari;
- jamoada va umuman butun korxonada o’zlarining tutgan o’rinlarini yaxshi anglab yetishlari;
- o’z bilimi, malakasi va ko’nikmalarini rivojlantirib, kasbiy kompetentsiyalarini oshirib bora bilishlari;
- qulay ish joyiga va o’z vazifalarini bajarish uchun zaruriy asbob-uskuna hamda qurilmalarga ega bo’lishlari;
- zaruriy axborotlarni ola bilishlari;
- o’z xizmat vazifalari va bajargan ishlari uchun ma’sul bo’la bilishlari kerak.[37]

Ta’kidlab o’tish kerakki, boshqa barcha xo’jalik sub’ektlari singari Qurilish materiallari ishlab chiqarish korxonalari faoliyatini baholashda hisobga olinishi zarur bo’lib sanaladigan mehnat faoliyati natijadorligiga va umuman, boshqaruv mexanizmi samaradorligiga ta’sir ko’rsatuvchi bir qator omillar mavjud bo’lib, ular quyidagidek bo’lishi mumkin (1-rasm).

[37]Коломыц О.Н., Прохорова В.В. Экономика знаний - базис для развития инновационной экономики // Представительная власть — XXI век: законодательство, комментарии, проблемы. - 2017. - № 2-3 (153-154). - С. 55-58.



1-rasm. Qurilish materiallari ishlab chiqarish sanoati korxonalarida boshqaruv samaradorligini oshirish mexanizmi.

Bular asosida har bir ta'sir ko'rsatuvchi omillarning mazmun-mohiyati, ularning ta'sir ko'rsatish doirasi va imkoniyatlarini belgilash mumkin bo'ladi. Shunga ko'ra, qurilish materiallari ishlab chiqarish korxonalarida boshqaruv mexanizmini takomillashtirish samaradorligini oshirish yo'nalishlaridan biri sifatida mazkur mexanizmni qo'llash maqsadga muvofiq deb hisoblaymiz. Shunday qilib iqtisodiyotimizning hozirgi rivojlanish davrida boshqaruv mexanizmini tizim sifatida tadqiq etish nafaqat uning metodologik jihatlarini, balki amaliy tomonlarini ham takomillashtirishga asos bo'ladi.

Mamlakatimizda iqtisodiy islohatlarni amalga oshirish natijasida qurilish materiallari ishlab chiqarish tarmog'i, uning korxonalarida katta ijobiy o'zgarishlar amalga oshirilmoqda. Shu bilan birga ushbu sohada barcha muammolar o'z yechimini topdi deb bo'lmaydi. Ayniqsa boshqaruv sohasida bir qator masalalar mavjud. Masalan, korxonalarda korporativ boshqaruv usulidan foydalanish, boshqaruv munosabatlari va elementlarini takomillashtirish, korxona boshqaruv personalidan unimli foydalanish, boshqaruv tamoyillariga asoslangan holda

mehnatni tashkil etish va boshqalar shular jumlasidandir. Ularni o’rganish va tadqiq etishda xorijiy tajribani qo’llash maqsadga muvofiq bo’ladi.

Foydalanilgan adabiyotlar:

1. Минцберг Г. Структура в кулаке. Создание эффективной организации. – СПб.: Питер, 2003.
2. Galbreith R. Jay, Lawler, Edward E and associates. Organizing for the Future. San-Francisco, 1993, p-310.
3. Катькола В.С. Исходные концепции стратегического управления и их современная оценка. Российский журнал менеджмента. 2003, № С7-300.
4. Пренниников В.В. Стратегическое управление финанцивие-экономического кризисных условий. Диссертация кандидат экономической наук. – М., 1999 г.
5. Турсунқулов И.А. Бошқарув механизми мазмун-моҳияти ва унинг назарий-амалий жиҳатларини такомиллаштириш. Таълим, фан ва инновация. Маънавий-маърифий илмий-услубий журнал. 2021/5-сон
6. Tursunqulov I.A. Tashkilotlarda kompleks boshqaruv mexanizmi. Zamonaviy tadqiqotlar, innovatsiyalar, texnika va texnologiyalarning dolzarb muammolari va rivojlanish tendensiyalari mavzusidagi respublika miqyosidagi ilmiy-texnik anjumani materiallari to’plami 2- qism (2022 yil 8-9-aprel)

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DEVELOPMENT AND USEFUL ASPECTS OF AUDITING ACTIVITY IN NEW UZBEKISTAN

Abstract: *Today, a lot of attention is being paid to audit activities in our country, and opportunities are being created for its development on a large scale. Because of this, the audit activity assesses the truthfulness and completeness of the financial statements of the companies, and also makes a great contribution to the prevention of the expected risks and development of the company.*

Key words: *audit, auditor, audit activity, national standard, international standard, internal control, financial system, investor, financial report, auditor qualification certificate.*

First of all, let us define the word "audit". The term audit is derived from the Latin language and means "listener", "to hear". The field of auditing is not a new field. In general, it can be said that this field has been used since ancient times, but it came in a different form. For example, past kings regularly inspected the treasures in the treasury and kept reports on discrepancies between the records. At this point, a legitimate question may arise as to what is the main reason for this industry to reach the 21st century. The reason for this is society's need for auditing. These are the ones that have come so far and become increasingly underdeveloped when society doesn't feel the need for it.

"Auditing activity is a business activity aimed at independent verification of financial statements, settlement documents, tax declarations and other financial obligations of economic entities by auditing firms." Audit, like a number of other practical fields, has its own subject and method of studying this subject. The subject of inspection of this area is, first of all, the financial statements of the enterprise. The set of measures used by the independent auditor to express his opinion on the fact that these substantive reports are prepared based on the requirements of the law and provide correct and complete information about the financial status, changes in the financial status, and cash flows of this enterprise is the methodology of the audit.

In general, the following significant changes occurred in the field of auditing in the 20th century:

1. Occurrence of voluntary audit along with mandatory audit.

At the end of the 19th century, until the beginning of the 20th century, the audit was conducted mainly on the basis of the request of high-ranking

organizations and state institutions, but since the 20th century, in order to avoid audits, the heads of enterprises began to voluntarily invite independent auditors.

2. Expansion of the scope of the audit of financial statements.

Prior to 1900, auditing was primarily focused on detecting fraud. Since the first half of the 20th century, the purpose of the audit has shifted away from detecting fraud, and focused on studying whether the financial statements fully and truthfully reflect the company's financial status, performance results, and changes in its financial status.

3. Increase in auditor's responsibility.

Audit ethics became one of the most important changes in the field of auditing by the 20th century, which was the increase of the auditor's obligation to the group of users of financial statements. In the early days, auditors were primarily responsible to banks, but now they are also responsible to millions of investors.

4. Internal control system as the basis of sampling method.

After the auditors mastered the method of selective inspection, they realized that the internal control system has an important role in the process of effective application of this method.

The subject of inspection of the audit field is the financial statements of the enterprise. The result of this inspection is announced by the auditor through his conclusion. The auditor's opinion can be given in 4 forms:

• positive conclusion;
• conditional positive conclusion;
• negative conclusion;
• will be in the form of refusal to give a conclusion.

Not only the audit methodology, but also the legal basis of the audit plays an important role in the effective organization of the audit. In this regard, a number of practical works are being carried out in our republic. In particular, in the years of independence, regulatory documents defining the legal basis of audit activity were adopted in our republic.

Before providing audit services at a client company, audit firms assume the following responsibilities to the client:

- fully complying with the clauses and articles of the "Law on Auditing" in providing services;
- conducting the audit in accordance with the requirements included in the "National Standards of Auditing";
- to have a special license to work in the field of auditing;
- keeping secret information about the client's activities as a commercial secret;
- it is proved by showing full assumption of legal responsibility for his conclusion.

Failure of the auditor to fully comply with his responsibility to the client creates the auditor's responsibility to the client. The responsibility of the auditor in this case is determined based on the Civil Code of the Republic of Uzbekistan and a decision is made by court authorities.

Despite the great attention paid to the development of the national audit activity in accordance with the requirements of the modern financial market, there are still a number of issues that are waiting for their solution regarding the practical and methodological foundations of the national audit system. Referring to these problems, Honorable First President I. A. Karimov said, "...the growing global financial crisis shows that there are serious flaws in the world financial and banking system and that this system needs to be radically reformed. At the same time, this crisis also confirms that there is insufficient control over the activities of banks, which have been working mainly for their own corporate interests and indulged in various speculative practices in the credit and securities markets. - they emphasized. This, like other sectors of the financial system, requires the implementation of comprehensive measures aimed at the future development of audit activity in the audit system and based on international requirements.

There are national standards of audit activity that have been adopted in our country and must be followed by auditors during the audit. But it is expected to gradually move from national standards to international standards. I think that the transition to international standards will open the door to greater opportunities for our country.

During the years of independence, special attention is being paid to the development of auditing activities. Wide opportunities are created for the organizations operating in this field and for scientists and researchers conducting scientific research aimed at developing the theoretical foundations of audit activity. I think that one day, Uzbekistan will make great progress in the field of auditing, and the developed field of auditing will effectively ensure the control of our enterprises and lead to its development.

LIST OF REFERENCES:

1. The Law of the Republic of Uzbekistan "On Auditing Activities" of February 5, 2021.
2. Abdumannonovna, T. D. (2024, June). INTERNAL AUDIT SERVICE IN JOINT STOCK COMPANIES IMPROVEMENT. In *INTERNATIONAL CONFERENCE ON ADVANCE SCIENCE AND TECHNOLOGY* (Vol. 1, No. 6, pp. 17-20).
3. Abdumannonovna, T. D., & Abdurasul, A. D. (2024). FORMATION OF STATE FINANCE AND AUDIT ACTIVITY IN THE EARLY PERIODS IN UZBEKISTAN. *JOURNAL OF EDUCATION, ETHICS AND VALUE*, *3*(1), 34-37.
4. Abdumannonovna, T. D., & Asadbek, R. (2024, October). Financial Analysis Based on Accounting Statements. In *International Conference of Economics, Finance and Accounting Studies* (Vol. 10, pp. 86-89).
5. Abdumannonovna, T. D., & Habibullo G'anijon o'g, A. (2024). The Role of International Audit Organizations in the Transition to International Standards in Uzbekistan. *American Journal of Public Diplomacy and International Studies (2993-2157)*, *2*(2), 1-6.

6. Abdumannonovna, T. D., & Sherzod, K. S. (2024). SIGNIFICANCE AND ROLE OF INTERNATIONAL AUDITING STANDARDS. *JOURNAL OF EDUCATION, ETHICS AND VALUE*, *3*(1), 57-60.
7. Turumova, D. A. (2023). Audit as a Factor of Increasing the Efficiency of Enterprises. *Nexus: Journal of Innovative Studies of Engineering Science*, *2*(11), 92-95.
8. Turumova, D. A. (2023). Foreign Experience of Increasing the Attractiveness of Financial Reporting. *Nexus: Journal of Innovative Studies of Engineering Science*, *2*(11), 87-91.
9. Turumova, D., & Rayimkulov, A. (2024). THE NEED FOR MODERN TECHNOLOGIES IN ACCOUNTING AND AUDITING. *Technical science research in Uzbekistan*, *2*(7), 284-287.

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GEOECOLOGICAL PROBLEMS OCCURRING IN THE LANDSCAPES OF THE SAMARKAND OASIS

Anatatsiya. *This article examines the geoecological problems affecting the landscapes of the Samarkand oasis. It examines the main factors leading to ecological degradation, including the impact of intensive agricultural practices, irrigation systems, and anthropogenic activities. Particular attention is paid to soil salinization, water resource depletion, and land cover change. The study identifies the impact of these processes on the stability and resilience of the region's ecosystems.*

Keywords: *Geoecology, Samarkand oasis, soil salinization, water resource depletion, land degradation, sustainable land use, irrigation impact.*

The Samarkand oasis, located in the central part of Uzbekistan, represents a unique and historically significant region where natural landscapes have been transformed by human activities over centuries. This region, situated in the middle reaches of the Zarafshan River, has experienced extensive agricultural development, urbanization, and water management practices. While these transformations have contributed to economic growth and food security, they have also led to a range of geoecological problems that threaten the stability and sustainability of the region's landscapes.

One of the primary geoecological challenges in the Samarkand oasis is land degradation, which includes soil erosion, salinization, and desertification. Intensive irrigation practices, combined with the region's arid climate, contribute to rising groundwater levels and increased soil salinity. This not only reduces agricultural productivity but also disrupts natural ecosystems. Additionally, the overuse of chemical fertilizers and pesticides further deteriorates soil quality and contaminates water resources.

Water scarcity is another critical issue affecting the Samarkand oasis. The Zarafshan River, the main water source for the region, faces declining water flow due to upstream extraction and climate variability. This exacerbates competition for water resources among agricultural, industrial, and domestic sectors, leading to further environmental stress. The reduced availability of water impacts not only irrigation systems but also the health of riparian ecosystems and biodiversity.

Urban expansion and infrastructure development in the Samarkand oasis also contribute to environmental degradation. Rapid population growth and increased industrial activities result in the loss of fertile agricultural land, pollution of air and water, and the accumulation of solid waste. These processes intensify the pressure on the region's natural resources and undermine the ecological balance.

Understanding and addressing these geoecological problems requires a comprehensive analysis of the interactions between natural processes and human

activities. This article aims to examine the key geoecological issues in the Samarkand oasis, identify their causes and consequences, and propose sustainable management strategies to mitigate their impacts. By integrating scientific research and policy measures, it is possible to preserve the ecological integrity of the Samarkand oasis while supporting the socio-economic needs of the region's population.

The geoecological problems of the Samarkand oasis have been the focus of various studies, particularly concerning soil salinization, water resource management, and anthropogenic impacts. Previous research highlights the effects of intensive agricultural practices and irrigation on land degradation. Several studies have examined the chemical composition of soils, the extent of salinization, and the efficiency of irrigation systems. Recent work also emphasizes the role of climate change in exacerbating ecological degradation. Additionally, studies have addressed the socio-economic consequences of environmental degradation, including reduced agricultural productivity and increased costs for land reclamation. Researchers have investigated the historical transformation of the region’s landscapes due to irrigation development and urban expansion, revealing long-term changes in ecosystem structure and function. Despite these efforts, there is a need for more integrated approaches combining remote sensing technologies, geographic information systems (GIS), and field observations to better understand the long-term dynamics of ecological changes. This study builds on existing literature while providing updated data and a comprehensive analysis of geoecological processes in the region.

The research reveals that the primary geoecological problems in the Samarkand oasis are closely linked to intensive agricultural activities and inefficient irrigation practices. Field studies indicate that over 60% of agricultural lands exhibit varying degrees of soil salinization, leading to reduced soil fertility and declining crop yields. Remote sensing data confirms significant changes in land cover over the past two decades, with a marked increase in degraded and barren lands. Water resource depletion remains a critical concern, with groundwater levels decreasing annually due to excessive extraction for irrigation.

The study also highlights the impact of anthropogenic activities on ecological stability. Urban expansion has contributed to the loss of natural vegetation, while the unregulated use of agrochemicals accelerates soil contamination. Climate variability exacerbates these issues by intensifying drought periods and reducing the availability of surface water.

The following table summarizes key geoecological indicators based on GIS analysis:

Indicator	Measurement	Impact
Soil Salinization	60% of agricultural lands	Reduced soil fertility, lower yields
Land Cover Change	20% increase in degraded land	Loss of arable land, increased erosion
Groundwater Depletion	1.5-2 meters/year reduction	Water scarcity, reduced irrigation
Urban Expansion	15% increase over 20 years	Loss of natural vegetation, habitat loss
Agrochemical Use	High levels of nitrate detected	Soil and water contamination

Recommendations derived from the research include adopting advanced irrigation technologies to enhance water efficiency, implementing soil reclamation measures to combat salinization, and promoting sustainable agricultural practices. Integrated monitoring systems using GIS and remote sensing are proposed to track and mitigate further ecological degradation in the region.

Conclusion

A number of problems are emerging in the landscapes of the Samarkand oasis as a result of geoecological processes. The main problems include soil degradation, salinization, depletion and pollution of water resources, loss of biodiversity, and increased anthropogenic impact. Improper organization of the irrigation system and intensive land use disrupt the ecological balance and threaten the sustainable development of the region.

An integrated approach is necessary to solve these problems. Effective management of water and land resources, restoration of soil fertility, improvement of the ecological monitoring system, and introduction of sustainable agricultural technologies are important. At the same time, increasing environmental literacy among the population and farmers is also an important factor. These measures will improve the ecological condition of the landscapes of the Samarkand oasis and reduce geoecological problems.

References.

1. Abdulkasimov A. Landscapes of the Samarkand oasis. // Problems of desert development. -Ashgabat, 1999. №5. - p. 64-69.
2. Karaev S., Gulomov P., Rakhimbekov R. Dictionary of geography. Tashkent: Teacher, 1979. 156 p.

3. Ulugmurodov E. Anthropogenic landscapes of central zarafshan // International journal of pharmaceutical research. July-September 2020, Volume 12, Issue 3 (scopus)
4. Ulugmurodov E.B., Dilmurodov B.Sh., Yarlaqopova G.O. Establishment of ancient hydraulic facilities in connection with the climate conditions and inland water of samarkand region // Economics and Society, Part 1. - Saratov. 2020, №5 (72). -C. 167-170 (11.00.00. Commonwealth of Independent Publications No. 11)
5. Ali A., Quvodiq Y., Elmurod U. Formation and development of oasis landscapes in Zarafshan basin // Vidyabharati International Interdisciplinary Research Journal (Special Issue-11) (Oct., 2021)

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SCIENTIFIC AND PRACTICAL IMPORTANCE OF LANDSCAPE PROTECTION

Abstract: *The article describes the ecological state of agrolandscapes, the protection of the landscapes of the Zarafshan Bay and oasis, the preservation of the unique landscapes of the Zarafshan Bay, residential and geocomplexes of the ancient city.*

Key words: *residential, irrigation, bay, geosystem, ecosystem, valley, proluvial, reclamation, morphological.*

Introduction. The landscapes of the Zarafshan Bay and oasis are an integral part of the natural world, and their preservation, preservation and rational use in the interests of mankind is one of the most pressing problems of our time. The landscapes of the oasis serve as the main source of material and spiritual needs of mankind. Therefore, since man has appeared, he continues to have a positive and negative impact on nature and use it for various purposes. The level of influence of human economic activity on nature is increasing due to the growth of the population on a regional and global scale, the development of industrial enterprises and scientific and technological development.

Nature conservation is a broad concept that makes up a system of complex measures. This complex system includes the preservation of nature in the interests of humanity and its reasonable and expedient change for present and future generations, reclamation of unusable land, rational use of natural resources, prevention of groundwater and surface water pollution, restoring the ecological balance of the environment, maintaining productivity and increasing the efficiency of agrolandscapes, prevention of poisoning of cultivated areas with nitrates, pesticides and herbicides, optimization of the process of degradation of geosystems and ecosystems, control of soil erosion and repeated salinization of soils on irrigated lands, a set of measures, such as the rational use of geosystems, taking into account the laws of nature.

Main part. They argue that the concept of nature conservation has two interpretations. First, nature is protected passively. Passive protection provides for the natural maintenance and protection of specially designated landscape complexes. In protected areas, there is a natural development process, seasonal dynamics of geocomplexes, measures are being taken to preserve and reproduce unique species of plants and animals. Such work is carried out in specially organized national parks, reserves, reserves and nurseries.

The second environmental interpretation is broad, the main purpose of which is the active protection and management of nature. This interpretation provides for the protection of nature in the process of creating anthropogenic landscapes and their use in various sectors of the national economy. Therefore, nature conservation should be understood not only as the protection of created national parks, reserves and reserves, but also the protection of all types of anthropogenic landscapes and their components that arose as a result of human economic activity. Only in this way can we preserve nature, its natural and anthropogenic forms, as well as its healthy geoecological state for future generations.

Today, all residents of the Earth, including residents of Zarafshan oases, live in a period of exacerbation and development of the ecological crisis. Currently, all experts recognize that the geoecological balance formed during geological progress in nature is disturbed under the influence of an anthropogenic factor and, as a result, environmental tensions arise.

Of great positive importance in increasing the productivity of agro-geocomplexes is the protection of the landscapes of the Zarafshan Bay, the development of a scientifically based program of measures, the organization and management of the mechanism for its consistent application in practice. However, the intensification of negative processes leading to a decrease in the productivity of irrigated agrolandscapes requires the identification and implementation of measures with both environmental and economic efficiency for the rational organization of the use of such geocomplexes in agricultural production and the protection of land and water resources. The solution of geoecological problems associated with oasis landscapes should be aimed at optimizing environmental management and fundamentally improving environmental and reclamation work.

The impact of irrigation erosion occurring in irrigated areas on the annual decline in the productivity of agrolandscapes, which occupy a significant place in the oasis geosystems, on the desertification of cultural geocomplexes, soil poverty is extremely high. To protect agrolandscapes from such negative phenomena, it is necessary to carry out such measures as agromelioration, hydromelioration, phytomelioration. Irrigation erosion occurs mainly on slopes, in foothill proluvial plains, on slopes. Irrigation erosion activity is directly related to the level of slope of the area.

Most of the agrolandscapes in the Zarafshan Bay were built on the pre-proluvial plains. Here, the slope of the plain surface increases from the Zaravshan valley to the foothills. In the lower part of the plane, the slope averages 1-3^0, in the middle part - 3-6^0 and in the upper part - 6-10^0. In the relief of agrolandscapes formed on birches and over the birch terraces of the Zeravshan River, the slope is not noticeable.

According to M.K. Kodirkulov, irrigation erosion in areas with a slope of 1-3^0 or more occurs in the process of irrigation of crops. The irrigation erosion that has just occurred can be eliminated by technical means. If the process of irrigation erosion was delayed for a long time, washing away the fertile soil layer and forming the soil, then it is technically impossible to eliminate it. For this, a set of measures

requires the use of agro-reclamation, hydro-reclamation, phyto-reclamation and other agro-technical measures.

Irrigation equipment plays an important role in protecting irrigated soils, preserving their fertility and combating irrigation erosion. To minimize irrigation erosion, it is necessary to divide the areas into areas depending on the slope of the relief. In areas with a relief slope of 0.5-1^0, the relief length should not exceed 150-200 m, on lands of 1.5-2.5^0 m - 100-150 m, in areas with a slope of 3-5^0 m - 100 m. According to experts, on foothill plains with soil with a slope of more than 1.5^0 m and a length of 80-150 m, water flows at a speed of 0.05-0.2 l/s. In order to avoid irrigation erosion of the soil on foothill plains with a slope of more than 5-10^0 m, it should be used for sowing grain ears and perennial grasses.

Erosion of the upper layer of watered serous soil on the preproluvial plains due to irrigation erosion reduces the productivity of agrolandscapes. An average of 100 tons of soil is washed from each hectare of land per year. As a result, fertile soils lose 100 kg of nitrogen and 115 kg of phosphoric acid during the year. To prevent irrigation erosion and increase soil resistance to erosion on the territory of agrolandscapes on the slopes, it is recommended to fill 15-20 tons of organic fertilizers per hectare of sown area. On the one hand, organic fertilizer increases the fertility of the soil, and on the other hand, reduces its washing.

One of the urgent problems of our time is the organization and development of a mechanism for protecting irrigated soils from poisoning with pesticides, herbicides, nitrates and other chemicals for growing environmentally friendly products on agrolandscapes. In order to avoid soil contamination with mineral fertilizers and pesticides, irrigated lands should, first of all, prohibit their excessive use.

When crop plants absorb 35-40% of nitrogen and 15-20% of phosphorus used in agrolandschaft oases of the Zarafshan Bay, 20-25% of them freeze in the soil as a chemical compound that is difficult to dissolve. At the same time, 25% of nitrogen injected into the ground, 5% of phosphorus, dissolve in water, merge into groundwater, collectors and rivers. Nitrogen compounds contained in the soil prolong the growing season of cultivated plants, delay the ripening of crops and reduce the quality of products. The large amount of nitrates and sodium compounds in irrigated soils poisons fruits and vegetables and causes serious harm to human health. Therefore, the protection of the soil cover of agrolandscapes serves as an important measure for the cultivation of environmentally friendly products in agriculture and the promotion of human health.

When protecting the unique landscapes of the Zarafshan Bay, the geocomplexes of the ancient settlement city, the Zarafshan reserve created in the Zarafshan Gorge, ancient monuments were kept secret. Nature monuments play an important role in the Afrosiab State Archaeological Reserve and foothills located in the northeastern part of the city of Samarkand. In the Zarafshan reserve, along with landscape protection and Zarafshan peacocks, scientific research is carried out, such as observing the natural development of plants, their seasonal and gradual changes, breeding of Zarafshan peacocks, adaptation of Bukhara deer to local conditions.

And the Afrosiab State Archaeological Reserve serves as the main object of studying urban residential landscapes and their morphological structure, identifying the species and age of anthropogenic geocomplexes created 2.5-3 thousand years ago. At the same time, the Afrosiab reserve enriches the geographical information system of the history of the formation of anthropogenic landscapes with paleoanthropogeographic information. All of the above opinions indicate that the protection of the landscapes of the Zarafshan Bay and the oasis is of great scientific and practical importance.

Conclusions. The rational use of agro-geosystems with a complex mechanism of scientific and practical significance of landscape protection consists in organizing such measures as reclamation of disturbed lands, prevention of pollution of inland waters with various chemical compounds, combating salinization and soil erosion, restoring the geoecological environment, increasing the productivity of agro-geosystems, optimizing the environmental situation occurring in them. At the same time, a number of measures have been developed and practical proposals have been made regarding the problem of improving and optimizing the geoecological situation that has developed within the framework of urban and rural residential landscapes.

References.

1. Abdulkasimov A.A., Abdurakhmanova Yu.Kh. Anthropogenic landscapes of Zarafshan and their classification. Collection: Geography and Values. - Tashkent, 2001. 34-37 pp.
2. Abdulkasimov A.A., Abdurakhmonova Yu.Kh. Landscape and ecological characteristics of the Katakurgan oasis of the Zarafshan foundation pit. Environmental problems of Uzbekistan and nature protection. - Samarkand, 1998. 19-24 p.
3. Abdulkasimov A. Landscapes of the Samarkand oasis. // Problems of desert development. -Ashgabat, 1999. №5. - p. 64-69.
4. Karaev S., Gulomov P., Rakhimbekov R. Dictionary of geography. Tashkent: Teacher, 1979. 156 p.
5. Ulugmurodov E. Anthropogenic landscapes of central zarafshan // International journal of pharmaceutical research. July-September 2020, Volume 12, Issue 3 (scopus)
6. Ulugmurodov E.B., Dilmurodov B.Sh., Yarlaqopova G.O. Establishment of ancient hydraulic facilities in connection with the climate conditions and inland water of samarkand region // Economics and Society, Part 1. - Saratov. 2020, №5 (72). -C. 167-170 (11.00.00. Commonwealth of Independent Publications No. 11)
7. Ali A., Quvodiq Y., Elmurod U. Formation and development of oasis landscapes in Zarafshan basin // Vidyabharati International Interdisciplinary Research Journal (Special Issue-11) (Oct., 2021)

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TOSHKENT VILOYATIDA BALIQCHILIKNI RIVOJLANTIRISH UCHUN KANALLAR VA IRRIGATSIYA TIZIMLARINING IMKONIYATLARI

Annotatsiya. *Ushbu ilmiy maqolada Toshkent viloyatida baliqchilik sanoatini rivojlantirish uchun mavjud kanallar va irrigatsiya tizimlarining imkoniyatlari har tomonlama o‘rganiladi. Maqolada, hududning tabiiy-geografik sharoitlari, jumladan, Chirchiq va Ohangaron daryolari, shuningdek, Bo‘zsuv va Qorasuv kabi asosiy kanallarning baliqchilik tarmog‘iga ta’siri ilmiy jihatdan tahlil qilinadi. Shuningdek, suv resurslaridan foydalanishning ekologik va iqtisodiy jihatlari yoritilib, baliqchilik xo‘jaliklari uchun optimal joylashuv omillari aniqlanadi. Maqolada mavjud suv infratuzilmasidan samarali foydalanish bo‘yicha ilg‘or xalqaro tajribalar, xususan, Niderlandiya, Norvegiya va Xitoy davlatlarining baliqchilik sohasi bo‘yicha muvaffaqiyatli modellarini o‘rganishga alohida e’tibor qaratilgan. Toshkent viloyati irrigatsiya tizimlari va tabiiy suv resurslari orqali baliqchilik sanoatini yanada rivojlantirish uchun katta potensialga ega. Baliqchilikni rivojlantirish jarayonida ekologik barqarorlik, iqtisodiy samaradorlik va innovatsion texnologiyalardan foydalanish muhim ahamiyat kasb etadi. Shu jihatdan, maqolada mahalliy sharoitlarga mos ravishda ishlab chiqilgan tavsiyalar asosida, baliqchilik xo‘jaliklarini tashkil etish va ularni barqaror rivojlantirishga doir aniq ilmiy-amaliy takliflar ishlab chiqilgan.*

Kalit so‘zlar. *Toshkent viloyati, baliqchilik, baliqchilik xo‘jaliklari, xorijiy tajribalar, irrigatsiya tizimlari, kanallar, suv resurslari, ekologik barqarorlik, iqtisodiy samaradorlik, agroturizm, suv omborlari.*

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THE POSSIBILITIES OF CANALS AND IRRIGATION SYSTEMS FOR THE DEVELOPMENT OF FISHERIES IN THE TASHKENT REGION

Abstract. *This scientific article will comprehensively explore the possibilities of existing canals and irrigation systems for the development of the fishing industry in the Tashkent region. The article scientifically analyzes the natural and geographical conditions of the area, including the impact on the fishing network of the Chirchik and Akhangaran rivers, as well as the main channels such as Bozsu and Karasu. The environmental and economic aspects of the use of water resources are also highlighted and the factors of the optimal location of fisheries are*

determined. The article focuses on the study of international best practices in the effective use of existing water infrastructure, in particular the successful models of the fishing sector in the Netherlands, Norway and China. Tashkent region has great potential for further development of the fishing industry due to irrigation systems and natural water resources. In the process of fisheries development, environmental sustainability, economic efficiency, and the use of innovative technologies are becoming important. In this regard, the article develops specific scientific and practical proposals for the organization of fisheries and their sustainable development based on recommendations developed in accordance with local conditions.

Keywords. *Tashkent region, fisheries, fisheries, foreign experience, irrigation systems, canals, water resources, environmental sustainability, economic efficiency, agrotourism, reservoirs.*

KIRISH

Toshkent viloyati O‘zbekistonning markaziy qismida joylashgan bo‘lib, hududining katta qismi tekisliklardan iborat. Viloyatning tabiiy geografik o‘rni unga qulay agroiqlim sharoitlarini ta’minlaydi. Toshkent viloyatining iqlimi kontinental bo‘lib, yoz oylarida issiq va quruq, qish oylarida esa mo‘tadil sovuq bo‘ladi. O‘rtacha yillik yog‘in miqdori 250-400 mm atrofida bo‘lib, asosan qish va bahor fasllariga to‘g‘ri keladi.

Viloyatning asosiy ichki suv manbalari Chirchiq daryosi, Ohangaron daryosi, Qorasuv, Bo‘zsuv va boshqa kanallardan iborat bo‘lib, ushbu suv resurslari qishloq xo‘jaligi va baliqchilik uchun muhim ahamiyatga ega. Ayniqsa, **Bo‘zsuv kanali, Chirchiq daryosi va Tuyabo‘g‘iz suv ombori** viloyatda baliqchilikni rivojlantirish uchun katta potensialga ega bo‘lib, ushbu suv havzalari baliqchilik xo‘jaliklarini kengaytirish va agroturizmni rivojlantirish imkonini beradi [3].

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Baliqchilik sanoatini rivojlantirishda mavjud kanallar va sug‘orish tizimlarining imkoniyatlaridan samarali foydalanish viloyatda oziq-ovqat xavfsizligini ta’minlash va iqtisodiy rivojlanishni qo‘llab-quvvatlashda muhim omil bo‘lishi mumkin. Mavjud suv resurslaridan maqsadli foydalanish nafaqat baliqchilik tarmog‘ini kengaytiradi, balki atrof-muhit barqarorligini ta’minlashga ham xizmat qiladi [2]. Ushbu maqolada Toshkent viloyatida baliqchilikni rivojlantirish uchun kanallar va irrigatsiya tizimlarining imkoniyatlari va geografik asoslari ko‘rib chiqiladi.

Toshkent viloyatidagi irrigatsiya tizimlari va ularning baliqchilik uchun ahamiyati. Toshkent viloyati hududida keng irrigatsiya tarmog‘i mavjud bo‘lib, ushbu tizim baliqchilikni rivojlantirish uchun muhim manba hisoblanadi. Quyida asosiy irrigatsiya tizimlari va ularning baliqchilik uchun ahamiyati keltirilgan:

- **Qorasuv kanali:** Toshkent viloyatining asosiy suv arteriyalaridan biri bo‘lib, qishloq xo‘jaligida va baliqchilikda keng qo‘llaniladi. Kanaldagi suv oqimi yil davomida barqaror bo‘lib, baliq yetishtirish uchun qulay sharoit yaratadi.

- **Bo‘zsuv kanali:** Bu kanal Toshkent shahri va viloyatining qishloq xo‘jaligi maydonlarini sug‘orishda muhim ahamiyatga ega. Undan foydalanish baliqchilik xo‘jaliklari uchun qo‘shimcha suv resurslarini ta’minlaydi.
- **Chirchiq daryosi va uning tarmoqlari:** Chirchiq daryosi Toshkent viloyati suv ta’minotining asosiy manbalaridan biri bo‘lib, uning irmoqlari baliqchilik xo‘jaliklari uchun tabiiy yashash muhitini yaratadi [4].
- **Tuyabo‘g‘iz suv ombori:** Baliq yetishtirish va tabiiy suv muhitini yaratish uchun juda muhim suv havzasi hisoblanadi. Bu yerda sun’iy baliqchilik xo‘jaliklarini tashkil etish imkoniyati mavjud.

NATIJALAR

Kanallar va suv havzalarida baliqchilikni tashkil etishning afzalliklari. Toshkent viloyatidagi kanallar va irrigatsiya tizimlaridan foydalanish orqali baliqchilikni rivojlantirish quyidagi afzalliklarga ega:

- **Ekologik barqarorlik:** Sun’iy suv havzalari va kanallar baliq uchun tabiiy yashash joyini yaratadi. Suv muhitining tozalanishi va tabiiy oziq-ovqat zanjirining shakllanishi ekologik barqarorlikni oshiradi [5].
- **Iqtisodiy samaradorlik:** Sug‘orish kanallaridan foydalanish baliqchilik xo‘jaliklariga katta infratuzilma investitsiyalarisiz faoliyat yuritish imkonini beradi. Bu esa tadbirkorlar va fermerlar uchun qo‘shimcha daromad manbai bo‘lishi mumkin [1].
- **Mahalliy bozorni ta’minlash:** Mahalliy talabni qondirish uchun yangi baliq yetishtirish manbalarini yaratish oziq-ovqat xavfsizligini mustahkamlashga xizmat qiladi. Bundan tashqari, yangi ish o‘rinlari yaratilishi bilan iqtisodiy faollik ham oshadi.
- **Biologik xilma-xillikni saqlash:** Suv havzalarida baliq yetishtirish tabiiy populyatsiyalarning saqlanishi va ko‘payishiga yordam beradi. Bu ekologik muvozanatni saqlash uchun muhim ahamiyatga ega.
- **Turizm va rekreatsiya imkoniyatlari:** Baliqchilik xo‘jaliklari va suv havzalarida turizm va rekreatsiya faoliyatini rivojlantirish imkoniyati mavjud. **Baliq ovlash turizmi, gastronomik festivallar va tabiiy dam olish maskanlari orqali mahalliy iqtisodiyotga ijobiy ta’sir ko‘rsatish mumkin [6].**

MUHOKAMA

Xorijiy tajriba va xalqaro amaliyot. Baliqchilik sohasi bo‘yicha rivojlangan davlatlar tajribasidan o‘rganish muhim ahamiyatga ega. Masalan:

- **Niderlandiyada** kanallardan foydalangan holda baliqchilikning innovatsion texnologiyalari joriy etilgan bo‘lib, bu suv resurslaridan samarali foydalanish imkonini beradi.
- **Norvegiyada** baliqchilik sohasi ilg‘or texnologiyalar asosida rivojlangan bo‘lib, suv resurslarini to‘g‘ri boshqarish va ekologik muhofazaga katta e’tibor qaratiladi.
- **Xitoyda** baliqchilik qishloq xo‘jaligi bilan integratsiyalashgan bo‘lib, agro-baliqchilik majmualari orqali ekstensiv va intensiv usullar muvaffaqiyatli qo‘llaniladi [7].

XULOSA

Toshkent viloyatidagi kanallar va irrigatsiya tizimlari baliqchilikni rivojlantirish uchun ulkan imkoniyatlarga ega. Ushbu suv resurslari iqtisodiy samaradorlikni oshirish, oziq-ovqat xavfsizligini ta’minlash va atrof-muhit muhofazasiga xizmat qilishi mumkin.

Baliqchilik sohasi bilan bog‘liq muammolarni bartaraf etish uchun suv sifati monitoringini kuchaytirish, maxsus baliqchilik xo‘jaliklarini tashkil etish va turizm bilan integratsiyalashgan loyihalarni rivojlantirish muhim ahamiyatga ega. Bu yondashuvlar orqali nafaqat baliqchilik sohasining rivojlanishi, balki viloyatda ekologik va iqtisodiy barqarorlik ta’minlanishi mumkin.

Kelajakda Toshkent viloyatida agroturizm va baliqchilikni birlashtirgan innovatsion loyihalar amalga oshirilishi orqali ushbu tarmoqni yanada yuqori bosqichga olib chiqish imkoniyati mavjud.

ADABIYOTLAR RO‘YXATI

1. **B. R. Karimov, A. M. Yo‘ldoshev (2021)** – "Sug‘orish tizimlari va baliqchilik: ekologik va iqtisodiy jihatlar". Toshkent: Fan va Taraqqiyot.
2. S. P. Ivankov (2019) – "Ichki suv havzalarida baliq populyatsiyasini saqlash va rivojlantirish". Moskva: Ekologiya nashriyoti.
3. **X. X. Toshmatov (2020)** – "O‘zbekiston tabiiy geografiyasi". Toshkent: Fan va Texnologiya nashriyoti.
4. **"Chirchiq daryosi va uning gidroenergetik imkoniyatlari" (2022)** – O‘zbekiston Respublikasi Suv xo‘jaligi ilmiy markazi.
5. **O‘zbekiston Respublikasi Ekologiya, atrof-muhitni muhofaza qilish va iqlim o‘zgarishi vazirligi (2023)** – "O‘zbekistonning ichki suv havzalari ekologik holati".
6. **O‘zbekiston Respublikasi Innovatsion rivojlanish vazirligi (2023)** – "Akvakultura texnologiyalarining rivojlanishi va baliqchilik sektoriga ta’siri".
7. **FAO (2021)** – "Sustainable Aquaculture Development: Case Studies from Central Asia".

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ZAYSAN VA OLAKO`L BOTIQLARI LANDSHAFTLARIGA QIYOSIY TAVSIF

Annotatsiya: *Maqolada O`rta Osiyo mintaqasida joylashgan Zaysan va Bell tog ' vodiylari landshaftlarining shakllantiruvchi omillari va ularning tabiiy xususiyatlarining qiyosiy tavsifi berilgan. Shuningdek, geografik nomlarning kelib chiqishiga e'tibor qaratilmoqda. Geografik joylashuvi, geologiyasi, relyefi, iqlim va suv resurslarining xususiyatlari, tuproq qoplamasi, flora va faunasining o`xshashliklari va farqlari, ulardan foydalanish natijasida yuzaga keladigan ba'zi tabiat muammolari tasvirlangan.*

Kalit so‘zlar: *tog` oraliq, botiq, vodiy, karbon, oligotsen,bo`r davri, relikt, flora, fauna, qo`riqxona.*

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COMPARATIVE CHARACTERISTICS OF THE LANDSCAPES OF THE ZAISAN AND ALAKOL VALLEYS

Abstract: *The article provides a comparative description of the formative factors of the landscapes of the Zaisan and Alakol mountain valleys located in the Central Asian region and their natural features. Attention is also paid to the origin of geographical names. The geographical location, geology, relief, features of climate and water resources, similarities and differences of soil cover, flora and fauna, and some natural problems arising from their use are described.*

Key words: *the mountain is intermediate, concave, long, carboniferous, oligocene, Cretaceous, relict, flora, fauna, nature reserve.*

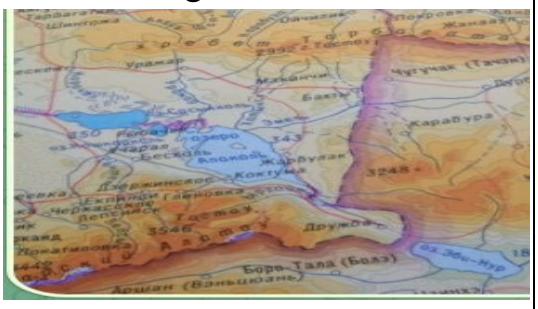
Kirish. Qiyosiy tavsif usuli tabiiy geografiyada qadimdan qo`llab kelinadi. Hozirgi davrda ham mazkur usul geografik tadqiqotlar olib borishning asosiy usuli hisoblanadi. Qiyosiy-tavsif usuli turli hududlarni relyefini, iqlimini, ichki suvlarini, o`simligi, tuproq, hayvonot dunyosi, tabiat zonalari va landshaftlarni o`rganishda

keng qo`llaniladi. Mazkur usul mamlakatshunoslikda ko`proq foydalaniladi, ammo biz ushbu usuldan tog` oraliq botiqlaridan Zaysan va Olako`l botiqlarining landshaft xususiyatlarini o`rganishni maqsad qildik. Zaysan va Olako`l soyliklari O`rta Osiyoning boshqa tog` oraliq botiqlariga nisbatan, sharqiy qismida Xitoy davlati bilan chegaraga yaqinligi, tog`liklar va ko`llarning mavjudligi o`quvchilarni qiziqtiradi. Bu tadqiqot yuqorida nomlari keltirilgan botiqlarning geologiyasi-geomorfologiyasiga bog`liq holda shakllangan iqlimi, yer usti va yer osti suvlari, tuproq qoplami va organik olam to`g`risida qiziqarli ma`lumotlar beradi. Shu sababli mazkur tadqiqot hududi bo`lajak geografiya o`qituvchilarini yangi geografik bilim manbalari bilan boyitishda muhim omil bo`lib xizmat qiladi.

Asosiy qism. Hozirgi zamon geografiyasi tabiiy- hududiy komplekslar bilan hududiy ishlab chiqarish komplekslarining rivojlanish va tarqalish qonuniyatlarini o`rganadigan, tadqiq etadigan fan sifatida o`z nazariy asoslariga ega. Har qanday geografik obyektning boshqalardan farq qiladigan va boshqalarga o`xshaydigan o`ziga xoslik xususiyati uning joylashgan o`rni hamda uni o`rab turgan boshqa obyektlar bilan bog`liq bo`ladi.

O`rganilayotgan obyekt O`rta Osiyoning shimoli -sharqiy qismidagi hududini egallab, keskin kontinental iqlimi va noqulay geografik sharoiti bu regionning o`zlashtirilishida qiyin bo`ladigan eng asosiy to`siqlarning biri bo`lib hisoblanadi.

O`rta Osiyo tabiiy geografiyasi fanini o`rganish davomida o`lkadagi tabiiy rayonlarning bir – biriga o`xshash tomonlarini va tafovutlarini ham o`rganiladi. Shu o`lkadagi tabiiy imkoniyatlarini yanada oshirish tadbirlarini ishlab chiqishda ushbu fanning ham ahamiyati kattadir. Ayniqsa o`lkaning tog`oraliq botiqlarini qiyosiy tahlil asosida o`rganilganda, o`quvchilar hududning tabiiy sharoiti va resurslari haqida chuqur bilim va ko`nikmaga ega bo`ladilar.

№	Tabiiy geografik xususiyat-lari	Zaysan botig`i	Olako`l botig`i
			

1.	Nomlari-ning kelib chiqishi	Zaysan nomining kelib chiqishiga ko`ra turlicha bo`lib, Zaysan - Zaysang (xitoycha ”Tsay-Syan”, ”kansler, buyuk vazir” unvonidan) mongollar, buryatlar, qalmiqlar, Oltoylar, xakaslar, telengitlar lavozimi hisoblanadi. Zaysan-Yuan imperiyasi davridan beri ma'lum bo'lgan qadimiy unvon bo`lib, ulusni yoki elatning meros egasi ekanligini anglatadi. Ba`zi hollarda unvon shahzodaga mos keladi. Ulan-Bator yaqinidagi yodgorlik majmuasi, Zaysan nomli tepalikda joylashgan.	Qadimgi davrlarda olako`l deb atalishi har-xil bo`lib, uning nomini kelib chiqishini ko`lning tabiiy sharoiti va xususiyatlari bilan bog`liq bo`lishi mumkin. Masalan, olako`l - mo`g`ulcha gurgen-nor nomini olgan, bu ”ko`priklar ko`li” degan ma`noni anglatadi. Balki, olako`l atrofidagi quruq yerlari ko`rgan qadimgi xalqlar ko`llar zanjirini ajratib turadigan ko`priklarga o`xshatishgandir. Olako`l -qozoq. -alakul, ala kouldan-yorqin, rang- barang ko`l ma`nosida ham ishlatiladi. Ix-xi asrlar kimaki bu ko`lni koktum pasyolkasidagi shahar nomi bilan gagan deb atashgan.
2.	Geografik o`rni	Zaysan botig`i O`rta Osiyo o`lkasining sharqida Oltoy tog` tizimining janubiiy tizmalari va Torbag‘otoy, Manrak, Saur va Saykan tog` tizmalarining shimoliy tizmalari bilan chegaralangan, tog`lar orasidagi keng vodiydir. Manrak va Saykan tog` tizmalari Chilikta va Kenderlik daryo vodiylarini Zaysan botig`idan ajratib turadi. Zaysan botig`i subkenglik bo`yicha yo`nalgan bo`lib, umumiy maydoni taxminan 40 ming km^2 ni tashil etgan. Botiqning 3/4 qismi Qozog`iston hududida, qolgan qismi esa Xitoy hududida joylashgandir.	Olako`l botig‘i g`arbda Ayaguz daryo vodiysi, shimolda Torbog`otoy tog`i, janubda Jung`oriya Olatovi tizmalari orasida joylashgandir. Sharqiy qismi Xitoy davlat chegarasiga to`g`ri keladi. Hudud Balxashbo‘yi va Olako`l tekisligida Balxash-Olako`l botig‘ini egallab, g`arbda Chu-Talas botig`idan Chu-Ili va Jeltu orqali ajralib turadi. Ulkan Olako`l botig`i Torbog`otoy tizmasining janubi va janubiy-g`arbida joylashgandir. U O`rta Osiyo tog`lik qismining shimoli-sharqida joylashgan yirik tog` oraliq botiqlaridan biri hisoblanadi. Olako`l botig`i yoki soyligining sharqida dengiz sathidan 343 metr balandlikda Olako`l botig`i yastanib yotadi.
3.	Geologik tuzilishi	Har ikkala hudud paleozoy erasining karbon davrlarida qit`alararo Jung`oriya dengizi - Paleoosiyo okeanining relikti bo`lgan. Perm davrida esa bu dengiz yo`q bo`lib ketgan. Keyinchalik eosen davrida esa yagona Balxash-Olako`l suv havzasi hosil bo`ldi. Shundan so`ng Balxash-Olako`l, Sharqiy Zaysan va Gobi ko`llarining transgressiyasi boshlanib, qit`alararo Xanxay dengizi hosil bo`lgan. Bu dengiz Yetti Daryo va Jungoriyaning katta qismini egallab olgan, ammo oligotsenda u relikt (qoldiq) ko`llar Balxash, Olako`l, Zaysan va Gobi hosil bo`lishi bilan qurib qolgan. Keyingi tektonik jarayonlar kuchayib, hozirgi botiqlarning yer yuzi cho`kib boshladi va tog`li hududlar esa ko`tarilishi natijasida (Torbag`otoy tizmasi) Zaysan, Olako`l va boshqa ko`llar alohida suv havzalari sifatida shakllandi. Zaysan va Olako`l havzasi tektonik kelib chiqishga ega botiqlardir.	
4.	Relyefi	Zaysan botig`i gertsin tog` hosil bo`lish bosqichiga to`g`ri keladi. Botiq dengiz sathidan 395 m balandlikda joylashgan bo`lib, maydoni 1800 km^2ni tashkil etadi. Botiqning eng past qismida (382 m)	Balxashbo‘yi va Olako‘l regioni tektonik bukilmada joylashganligi tufayli uning ustuni qalinligi 1000 m gacha boradigan mezozoy-kaynozoy yotqiziqlari qoplab olgan. Bu

		Zaysan ko`li hosil bo`lgan. Botiqning balandligi tog‘lar etagida 370 m dan 900-1000 m gacha boradi. Zaysan botig`i tekisliklardan qoldiq tog` massivlari, qirlarni ko‘tarilib turganligini ko`rish mumkin. Botiq kaynozoy geologic davrlar mobaynida yotqiziqlari bilan qoplangan jinslardan tashkil topgan. Ayniqsa, yer yuzasi k`ol, daryo yotqiziqlari va qumliklardan tuzilgan. Zaysan botig`ida qum relyef shakllari, qum tepalari va barxanlar ham uchraydi.	yotqiziqlarning ustuni esa nisbatan yosh flyuvioglyatsial, allyuvial, prolyuvial, ko‘l va eol kabi yotqiziqlar qoplab olgan. Olako‘l botig‘ining o‘rtacha balandligi 400 m bo‘lib, markazdan har tomonga balandlashib boradi. Markaziy qismida uning balandligi 343-350 m atrofida o‘zgaradigan Olako‘l, Sassiq ko‘l va Uyaliko‘l kabilar joylashgan. Bu ko‘llarning atrofi past bo‘lib, qirg‘oqlari botqoq, sho‘rxok yerlardan va to‘qayzorlardan iborat.
5.	Iqlimi	Zaysan botiqining iqlimi keskin kontinentaldir. Zaysan botig`ida bahor va kuzda ob-havo harorati beqaror bo`lib o`zgaruvchandir, yoz faslida esa quruq ob-havo kuzatiladi. Zaysanda qishda yanvar oyining o`rtacha harorati $16,6^0$ C ga, iyul oyining o`rtacha harorati $22,7^0$ C ga teng. Yillik o`rtacha harorati esa $5,2^0$ C ni tashkil etadi. Botiq tekislik qismining shimoli-sharqida o`rtacha yillik yog`in miqdori 350-380 mm, janubi-sharqiga tomon yog`in miqdori (250-300 mm) Zaysan ko`liga botig`i tomon esa (129 mm gacha) kamayib boradi. Oltoy tog`lariga tomon yog`in miqdori (1000-1500 mm) ortib boradi. Yilning sovuq oylarida yog`in qor shaklida tushadi. Eng ko`p yog`in (19 mm) iyul oyiga to`gri keladi. Eng kam ko`p qor ko`rinishidagi yog`in (32 mm) yanvar oyiga to`g`ri keladi. Zaysan botig`ida havo massalarining harakati mavsumiy o`zgarib turadi. Yiliga taxminan to`rt oy mart oyining oxiridan iyul oyining oxirigacha shamol bo`lishi kuzatiladi. Zaysan botig`ida may oyi eng shamolli oy hisoblanadi. Hududda vegetatsiya davri shimoli-g`arbida 176 kundan shimoli-sharqida 190 kungacha boradi.	O`lako`l botig` ham iqlimi quruq keskin kontinental bo`lib, botiqning tog`li va tog` oldi hududlarida mo`tadil iqlim hukmron. Olako`lda qish qattiq, sovuq harorat va kuchli shamollar bilan tavsiflanadi. Dekabr oyida kunduzgi harorat kamdan - kam hollarda 0°C dan oshadi, kechasi esa -10°C gacha tushishi mumkin. Kunduzi harorat -5°C atrofida, kechasi esa -15°C va undan past bo`lishi mumkin. Olako`ldagi qishki shamollar ayniqsa kuchli bo`lib, kunlarning yana sovib ketishini kuchaytiradi. Iyulda o`rtacha harorat 18-23°C ni tashkil etadi. Tekislik hududida yillik yog`in miqdori 135-200 mm, tog`li hududlarda esa 350-550 mm ga yetadi. Sovuqsiz kunlar 163-168 kun, + 10° dan yuqori bo`lgan haroratning yig`indisi 3300-3400°. Shamol yil bo`yi shimoldan va shimoli-sharqdan esib, tezligi daqiqasiga 1,9-4,7 m ga yetadi.  Jungoriya darvozasining har ikki tomonida atmosfera bosimlari farqi kattalashganda tez esib, daqiqasiga 10-15 m, ayrim vaqtlarda, hatto 40 m ga ham yetadi. «Saykon» sovuq shamol bo`lib, ko`proq qishda essa, aksincha «Ebi» issiq shamol bo`lib, yozda esadi.

6.	Ichki suvlari	Zaysan - tektonik ko`l bo`lib, litosfera plitalarining tektonik siljishi natijasida bo`r davrida hosil bo`lgan degan taxminlar bor. Zaysan ko`lining havzasi 47° 60' va 48° 30' shimoliy kengliklar va 83° va 85° sharqiy uzoqliklar o`rtasida joylashgandir. Ma`lumotlarga ko`ra, ba`zi olimlar Zaysanni eng qadimgi ko`l deb, ba`zilari esa ko`lning taxminan 70 million yil oldin paydo bo`lgan deb, ta`kidlashadi. Ko`l dengiz sathidan 395 m balandlikda joylashgan bo`lib, maydoni 1800 km²ni tashkil etadi. Zaysan ko`lining suvi tiniq (shaffofligi 1,3 m) bo`lib, suvining toza va chuchukligi bilan mashhurdir. Ko`l qish (XI-IV) oylarida muz bilan qoplanadi. Ko`lga sharq tomondan Qora Irtish va Kenderlik daryosi, g`arbdan esa Ko`kpekti, Bugaz va Bozor, shimol tomondan esa Chegra, Arasan va boshqa daryolar oqadi.	Olako`l ko`li (46°04′ va 46°52′ shimoliy kengliklarda, 81°45′va 81°51″ sharqiy uzoqliklar orasida) dengiz sathidan 343 metr balandlikda Balxash-Olako`l havzasida joylashgan. Uning umumiy maydoni deyarli 2700 $km^2$ ni tashkil etadi. Ko`lning maksimal chuqurligi 150 yil oldin taxminan 20 metr bo`lgan bo`lsa, bugungi kunda 54 metrga etdi. Suv havzasining uzunligi 104 km, eni 52 km ni tashkil qiladi. Qoshqarko`l, Sasiqko`l va Jalanashko`l sayoz ko`llari Olako`l ko`l tizimini tashkil qiladi. Qachonlardir bu ko`llar yaxlit ko`l havzasini tashkil qilgan. Yoz oylarida ko`ldagi suv +25-28°C gacha qiziydi. Ko`lning asosiy daryolari: Qoratol, Oqsu, Lepsa, Ayaguz, Urjar (206 km, suv yig`ish maydoni 5280 $km^2$), Xatinsu, Emel, Urgayt, Jamanti, Tentek. Olako`l ko`lining uchta oroli bor. Ko`l suvida yoddan tashqari Mendeleyev davriy jadvalining deyarli barcha elementlari uchraydi. Olako`l ko`lining bir litr suvida 11 grammgacha tuz mavjud. Amir Temur hukmronligi davrida o`zining harbiy yurishlari davomida Olako`l botig`idan o`tgan vaqtida, bu ko`ldan suv ichib bo`lmasligini ko`rib, “it ichmaydi” yoki “it-ichmas” deb ta`rif bergan, chunki bu ko`llar suvi sho`r bo`lib ichishga yaroqsizdir. Olako`l ko`lida bir litr suvda 11 gramm tuz bor edi. Olako`l ko`li 60-65 mln yil oldin paydo bo`lgan degan fikrlar bor.
7.	Tuproqlari	Zaysan botig`ida tog`lar oldidagi tekisliklarda qora tuproqlar, Irtishning chap qirg`og`ida to`q kashtan tuproqlar, och kashtan tuproqlarida, jigarrang tuproqlarda sho`r bosgan hududlarda botqoqlar va qum do`nglik massivlari uchraydi.	Olako`l hududida jigarrang cho`l-dasht va kam karbonatli bo`z tuproqlar, sho`r botqoq tuproqlar, kulrang rang qo`ng`ir chalacho`l tuproqlari, tog`lar oldida och kashtan va to`q qora tuproqlar tarqalgan.
8.	O`simlik-lari	Dashtlarda shuvoq – tipchoq, shuvoq-byurg`un o`simliklari uchraydi. O`rmon zonasida terak, archa, qayin, tilog`och, kedr va boshqalar uchraydi. Tog` etaklarining quyi qismlarida tog` dashtlari, tog` yonbag`irlarida esa o`rmon zonasi yastanib yotadi.	O`simlik dunyosi 270 ga yaqin turli xil flora turlari bilan ajralib turadi. Olako`l botig`ida cho`l va chalacho`l o`simliklari (shuvoq, saksovul, juzgun, boyalich va b.), ko`llar atrofida va daryolar qayirlarida to`qayzorlarda qamish va chiya chakalakzorlari, tog`li

			hududlarda qayin, olma, Tyan-Shan archa va Sibir qarag`ay o`rmonlaridan iborat.
9.	Hayvonot dunoyosi	Sutemizuvchilardan yovvoyi cho`chqa, kiyik, mushklar va elik ham yashaydi. Umuman olganda, havzaning faunasida olimlar amfibiyalarning 2 turini, sudralib yuruvchilarning 14 turini, qushlarning 287 turini va sutemizuvchilarning 68 turini aniqlashgan.  Zaysan baliqqa boy ko`ldir. Bu yerda sazan, cho`rtan baliq, karas, lesh, tanga baliq, Telets sigi, lenok, taymen, Sibir yeletsi, qisqichbaqa va boshqa turlar uchraydi.	Olako`l hududida qushlar bozorini kuzatish mumkin. Bu hududda qushlarning 200 ga yaqin turlari mavjud. Noyob turlaridan: pushti pelikanlar, qora laylaklar, oqqushlar va boshqa xilma-xil qushlar galasi uchun maskan hisoblanadi. Olako`l botig`ida relikt qushlar ham mavjud. Qushlarning 40 turi “Qizil kitob”ga kiritilgan. Ko`lda baliq turlaridan sazan, kumushrang karas, lesh, Osman, marinkaning bir nechta turlari va boshqa baliq turlari yashaydi. Olako`l ko`lning atrofidagi qo`riqxonada ko`plab hayvonlar mavjud: tulki, bo`ri, yovvoyi cho`chqa, bo`rsiq, to`ng`iz, ermine, kiyik va qunduz.
10.	Qo`riq-xonalari	1968 yilda Zaysan havzasining janubi-g`arbida Torbog`toy davlat zoologiya buyurtma qo`riqxonasi tashkil etilgan. Ko`lda ondatra iqlimlashtirilgan.	1968 yilda Olako`l qo`riqxonasi tashkil etilgan.
12.	O`ziga xosligi	Suvining tiniqligi, atrofining go`zallgi, Yevrosiyoda yagona tabiat yodgorliklaridan Kiin-Kerish “olovli qoyalar”, Shekelmes burni xilma-xil rangli loylar makoni kabi landshaftlari bilan mashhur. Shu tufayli ham ko`lda dam olish, ham atrof manzaralarini tomosha qilish uchun yilbo`yi sayyohlar bilan gavjum bo`ladi.	Olako`l hududi toza havoga egaligi (atrofi 600 km atrofida og`ir sanoat yo`q), tuz molekulalari va dasht o`tlarining xushbo`y hidi bilan mashhur. Alakol sohilidagi havo vannalari nafas olish organlari kasalliklari va yurak kasalliklarini engishga yordam beradi. Bundan tashqari ko`l suvida davolovchi minerallarning ko`pligidan “Shibobaxsh ko`l” nomini olgan. Shuning uchun ko`plab dam olish maskanlari tashkil etilgan.

Demak, o`rganilayotgan Zaysan botig`i va Olakol` botig`i ham Xitoy chegarasiga yaqin joylashgan. Jumladan, Zaysan ko`lining sharqiy qirg`og`idan 60 km uzoqlikda Xitoyning davlat chegarasi joylashgan. Olako`l botig`i esa Jung`oriya yo`lagi bo`ylab Qozog`iston va Xitoy chegarasini bog`laydi. Olako`l botig`i ushbu Jung`oriya darvozasi deb ataladigan joy bilan mashhur. Bu Jung`oriya yo`lagi keng tog` dovoni bo`lib, uning uzunligi 50 kilometr va kengligi 10

kilometrga teng. Bundan tashqari Olako`l ko`l sistemasi qadimda Ebi-Nur, Ubsi-Nur kabi Xitoyda joylashgan ko`llar tizimi bilan bog`lig`liq bo`lgan.

Yuqoridagilarni tahlil qilish asosida O`rta Osiyo o`lkasining har bir obyekti o`ziga xos tabiatga ega ekanligini va barchani birday qiziqtirishini ko`rish mumkin. O`rta Osiyo o`lkasini hali ham ochilmagan sirlari ko`p. Bu haqida kelgusi tadqiqotlar olib borish asosida, o`quvchilarni qiziqtiradigan va o`rganish zarur bo`lgan obyektlar haqida yoritish maqsadidamiz.

Foydalanilagan adabiyotlar:

1.Баратов П. ва бошқалар. Ўрта Осиё табиий географияси //Ўқув қўлланма. Т.: “Ўқитувчи” 2002. 639 б.

2. Алакóль // Словарь географических названий СССР / ГУГК, ЦНИИГАиК. — 2-е изд., перераб. и доп. — М. : Недра, 1983. — С. 10. — 94 000 экз.

3.Балкаш-Алакольская впадина // Казахстан. Национальная энциклопедия. — Алматы: Қазақ энциклопедиясы, 2004. — Т. I. — ISBN 9965-9389-9-7. (CC BY-SA 3.0).

4.Панов Д. И. — статья «ПАЛЕОАЗИÁТСКИЙ ОКЕÁН : [арх. 28 декабря 2021] // Большая российская энциклопедия : [в 35 т.] / гл. ред. Ю. С. Осипов. — М. : Большая российская энциклопедия, 2004—2017.

5. Маматов А., Усманова Р. Микротопонимларни географик ғоялар тарихи билан боғлаб ўрганиш масалалари //“Қишлоқ тараққиёти ва фаровонлиги” йилига бағишланган илмий-амалий конф. материаллари. Қарши“Насаф”2009. 1-жилд. 102-104 б.

6. Усманова Р., Ҳусанов И. География дарсларида таълим технологияларидан фойдаланиш // Водий ва воҳалар: табиати, аҳолиси,хўжалиги. Республика илмий-услубий конф.матер. Андижон-2012. 287-290 б.

7. Усманова Р. География таълими самарадорлигини ошириш хусусида // Ўзбекистон географияси: табиати, аҳолиси, хўжалиги. Иқтидорли талабалар ва ёш олимларнинг Респ. Илмий-амал.конф.мат.Т.: 2013. 337-338 б. Усманова Р. Ўлкани ўрганишда топонимлардан фойдаланиш масалалари //Антропоген ландшафтшунослик Илмий мақолалар тўп. Ўз. География Жамияти.СамДУ. Самарқанд-2014. 135-140 б.

7. Усманова Р., Муродова Д. География дарсларида интерфаол усуллардан фойдаланиш // Узлуксиз таълим мазмуни, метод ва воситаларини модернизациялашнинг дидактик принциплари. Респ. Илмий-амал.конф.материали. Қарши – 2015. 243-244 б.

8. Usmanova R., Murodova D. Tog’ oraliq botiqlarining landshaft xususiyatlari.// “Ozbekiston geografiya jamiyati” Toshkent,6-7 dekabr 2019 y. 41-44 b.

9. https://kz24.news/article/interesnye-mesta/ozero-zaysan.html

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A NEW APPROACH TO THE LEGACY OF THE JADIDS AND THE JADIDISM MOVEMENT – A REQUIREMENT OF THE TIME

Abstract: *This article is dedicated to the dialectics of spiritual processes and their philosophical laws, representing a new stage in studying the legacy of the Jadid intellectuals and applying their experience in modern times.*

Keywords: *dialectics of spiritual processes, New Uzbekistan, renewal and reform process, new-method schools, ideas and philosophy of the Jadids, independent thinking.*

The speech of the President of the Republic of Uzbekistan, Shavkat Mirziyoyev, delivered on December 22, 2023, at the expanded meeting of the Republican Council for Spirituality and Enlightenment, is a historically significant document of great importance for the development of this field. It has initiated a new stage and deep reforms in studying the legacy of the Jadid intellectuals and applying their experience in modern times.

One of the fundamental laws of this field is the interconnection and interdependence of events occurring in the sphere of spiritual life, which expresses the dialectics of spiritual processes.

From this perspective, the current stage of Uzbekistan's development is closely linked to the process of elevating the attitude towards the legacy of the Jadids to a new level, which is an integral part of the ongoing renewal and reform processes in our spiritual life.

The Year 2024, Named “The Year of Supporting Youth and Business,” and the Growing Attention to the Legacy of the Jadids and the Jadidism Movement

The increasing focus on the field of spirituality, particularly on the legacy of the Jadids and the Jadidism movement, in 2024—the year named “The Year of Supporting Youth and Business”—serves as a significant indicator of our direct participation and responsibility in the ongoing reforms. All of these factors clearly demonstrate that the reforms at the current stage of our country’s development are being carried out based on the principle that “if the body of society is the economy, its soul and spirit is spirituality.”

It is precisely this principle that has laid the foundation for the dialectics of reforms in our spiritual life, as well as for a renewed approach to the ideas, philosophy, educational, and literary heritage of the Jadids in today's world.

So, why is attention to the legacy of the Jadids and its significance increasing in the current stage of Uzbekistan's development? Why is special importance being given to the Jadidism movement, its ideas, philosophy, and practice?

It is well known that the full formation and consolidation of a nation's high-level independent thinking within the psyche of an entire society is a complex evolutionary process. This process requires systematic efforts and is linked to long-term political, economic, and socio-spiritual transformations within a country. Strengthening Independent Thinking and the Role of Jadid Philosophy in Modern Uzbekistan

In today's world, where there is an urgent need to further strengthen independent thinking and shape a new generation with a modern worldview, the philosophy of the Jadids is undoubtedly emerging as one of the key sources and factors in reinforcing the spirit of independence and independent thinking in the society of New Uzbekistan.

Regarding this, Doctor of Philosophy, Professor Q. Nazarov writes:

"The ideas and philosophy of the Jadids, the Jadidism movement, and its practices should not only serve as fundamental sources of support for courageous intellectuals but also as an essential guide for the process of intellectual renewal in our time. Moreover, they should become a model of inspiration and a factor in strengthening the sense of moral responsibility for each of us." [1]

To objectively assess and correctly characterize the reasons for the emergence and development of the Jadidism movement in our country, as well as its role in societal life, it is crucial to analyze the extent to which historical conditions and socio-political factors influenced this process.

In the socio-philosophical, religious-ethical, and cultural development of our people, the late 19th century and the beginning of the 20th century stand out for their ideological and conceptual diversity. During this multifaceted process, the ideas and philosophy of Jadidism, along with the ideology of enlightenment, emerged as a response to the need for unity and the struggle for freedom among oppressed nations under colonial rule.

In this regard, the words of our nation's leader are of great significance:

"At a time when our country is entering a new and higher stage of development, we need highly qualified specialists who are not only well-versed in Western scientific achievements but also raised in the spirit of national values, just as our Jadid ancestors envisioned." [2]

The National Ideology and Goals Established by the Jadids

The national ideology and ideological goals formulated by the Jadids were primarily expressed through a worldview that called for humanitarianism, the awakening of national consciousness, and education. They sought to address urgent societal issues by promoting enlightenment and social progress.

As Q. Nazarov emphasizes:

"Studying various socio-political changes taking place in life, analyzing national philosophy, and approaching the people's necessary ideological renewal from the perspective of global development, our great Jadid scholars—Mahmudkhoja Behbudi, Muhammad Sharif Sufizoda, Saidrasul Azizi, Hamza Hakimzoda Niyoziy, Munavvarqori, Abdulla Avloni, Is’hoqkhon Ibrat, Cho’lpon,

Fitrat, and Abdulla Qodiriy—achieved great successes in effectively implementing many measures."

The core of the Jadid ideology was not based on revolution but on gradual reform and modernization through knowledge and education, aiming for progress without violent upheavals. The reason for this approach was that Turkestan had significantly lagged behind in its development, even compared to its earliest stages. As a result, it struggled to compete in the socio-economic sphere with more advanced countries, ultimately becoming vulnerable to colonial domination.

The Role of the Jadids in National Progress

Understanding the dire situation of Turkestan, nationalist and progressive Jadids recognized that the only way to elevate the region to the ranks of developed nations was to renew public consciousness and promote science and education. They firmly believed that Turkestan could only be freed from backwardness, disunity, and illiteracy through enlightenment.

Realizing this, the Jadids initially focused their efforts on establishing new-method schools and improving their content and structure. Their ideas of enlightenment were deeply reflected in their intellectual legacy. To enhance the school system, they created textbooks, addressed the social and moral ills affecting society in their works, and sought solutions to eradicate them.

Today, the core aspects of Jadid philosophy—responsiveness to the demands of the time, the renewal of public consciousness and life, strengthening the role of education and science, and fostering a new generation with a modern worldview—have become our most pressing responsibility and an essential task for society.

Conclusion

In the current era of building New Uzbekistan, a critical duty for scholars and specialists is to objectively analyze, study, and convey to the public the philosophical foundations of Jadidism, which played a key role in the struggle for national progress and in shaping the ideological and practical sources of our independence.

References

1. Mirziyoyev, Sh. M. (2023, December 23). Ma’naviyat hayotimizda yangi kuch, yangi harakatga aylanishi kerak. Speech by President Sh. Mirziyoyev at the expanded meeting of the Republican Council for Spirituality and Enlightenment. Yangi O‘zbekiston newspaper, No. 267 (1056).

2. Nazarov, Q. (2024, January 16). Jadid falsafasi. Yangi O‘zbekiston newspaper, No. 11 (1072).

3. Uzokov, B., & Mahmudova, U. (2024). JADIDLAR MEROSI VA JADIDCHILIK HARAKATIGA YANGICHA YONDASHUV–DAVR TALABI. *INNOVATION IN THE MODERN EDUCATION SYSTEM*, *4*(37), 254-257

4. Узоков, Б. (2022). HISTORICAL WORLDVIEW AS A CRITERION OF NATIONAL IDENTITY. In *КУЛЬТУРНОЕ НАСЛЕДИЕ И НАРОДНОЕ ИСКУССТВО: СОХРАНЕНИЕ И АКТУАЛИЗАЦИЯ В ЦЕЛЯХ УСТОЙЧИВОГО РАЗВИТИЯ ОБЩЕСТВА* (pp. 308-314).

5. Uzokov, B. (2022). RESPONSIBILITY OF PARENTS AND CHILDREN IN FORMING A HEALTHY FAMILY ENVIRONMENT. *Scientific progress*, *3*(6), 27-30.
6. Botir, U., & Ibodullaevich, K. K. (2022). Causes of Corruption, Socio-Political Consequences. *Eurasian Journal of Humanities and Social Sciences*, *8*, 37-40.
7. Abdurashidovich, T. M., & Botir, U. (2020). YOUTH EDUCATION IS A KEY FACTOR OF THE COUNTRY'S WELL-BEING. *International Journal of Discourse on Innovation, Integration and Education*, *1*(5), 338-342.

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MAHALLA – A BRIDGE OF TRUST BETWEEN THE PEOPLE AND THE STATE

Abstract*: This article explores the concept of mahalla, its essence, significance, and role as a bridge of trust between the people and the state. It highlights mahalla as a space that teaches individuals to be part of society, fostering tolerance and patriotism. The article also discusses the importance of mahalla and its seven pillars in building New Uzbekistan and laying the foundation for the Third Renaissance.*

Keywords: *Mahalla, mahalla seven pillars, significance, people and state, New Uzbekistan, Development Strategy, tolerance and patriotism, human dignity and value, family harmony, children's upbringing, national traditions and customs.*

Since the dawn of humanity, there has been a place that has served as the cradle of spiritual growth, with a history spanning thousands of years. This place has witnessed all stages of world development and embodies both the distant past and the processes of modern civilization – this place is the mahalla.

The mahalla is a bridge of trust between the people and the state, a space that teaches individuals to be part of society while instilling in them a spirit of tolerance and patriotism. Our country is home to many mahallas, each bearing a unique name that narrates history. These names reflect our nation's long and glorious past, as well as its socio-political, economic, and cultural heritage.

The term mahalla is derived from the Arabic language and means place, location, or dwelling. It can be defined as a socio-territorial unit that includes a specific area of a city where residents form a community and practice self-governance. In this regard, the mahalla has long served as a guardian of national traditions and customs, preserving them for centuries. It has been a cradle of goodness and upbringing, a center of good neighborliness and unity for our people.

For the first time in the history of our country, thanks to independence, the concept of mahalla was incorporated into our Constitution, firmly establishing its role and status in governance, as well as its significance in building New Uzbekistan and laying the foundation for the Third Renaissance.

The importance of mahallas, as centers of great cultural values, has been prioritized by our country's leadership. Strengthening the influence of our mahallas, which embody the unique culture of the East, and using them as a means to contribute to the development of our nation, is our duty. In his speeches, our President has emphasized: “From the very first days of our work, we have been organizing everything within the mahalla, together with our people. We have developed this system step by step.”

Additionally, new resources and opportunities are being provided. This means both authority and responsibility. The statement by our President that "Mahallas are the foundation of our state" is not made without reason. Mahallas are truly becoming a reliable space that alleviates people's concerns and serves as a source of trust.

On September 26, 2023, during a meeting led by the President of the Republic of Uzbekistan, Shavkat Mirziyoyev, focused on strengthening the Mahalla-Based Work System and launching the Mahalla "Seven" Initiative, key tasks were outlined. These include further improving support for mahallas, ensuring the effective organization of individuals responsible for mahalla-based work, fostering collaboration among them, and creating the necessary conditions for the functioning of self-governing bodies. Additionally, efforts will be made to assist them in exercising their legally established powers.

To ensure the implementation of these tasks, the Presidential Decree of December 21, 2023, titled "On Measures to Radically Enhance the Role of the Mahalla Institution in Society and Ensure Its Functioning as the Primary Level in Solving Population Issues," was issued. This decree outlines several objectives, including:

Ensuring the improvement and well-being of mahallas through initiatives like "Prosperous Mahalla," "Prosperous Street," and "Prosperous Household," while increasing community involvement and responsibility;

Coordinating and directing the efforts of state bodies and organizations within mahallas to ensure timely and effective resolution of local issues;

Enhancing the financial capabilities of mahallas, ensuring targeted and efficient allocation of budgetary funds and other financial resources for low-income families;

Improving the material and technical support of mahallas by centralizing fund distribution;

Integrating modern information and communication technologies into the sector;

Enhancing the qualifications of mahalla officials and developing their modern management skills.

These measures are designed to strengthen mahallas as essential institutions for social development and governance.

Of course, such well-defined goals and tasks will yield positive results. This is because the mahalla is the first place where our people turn for trust and support. Therefore, to serve the people even more effectively, the number of mahalla employees has now been expanded from the "Five" system to the "Seven" system.

In this newly established system, the social worker is responsible for assisting individuals and families who are in difficult situations or at risk of falling into hardship. They will provide professional social services through a comprehensive approach based on the needs of the community.

Meanwhile, the tax inspector will play an active role in managing tax-related affairs within the mahalla, assisting entrepreneurs with tax services and ensuring proper financial oversight.

Ultimately, the essence of the decisions and decrees being implemented is to improve the living conditions of our people and to create opportunities for the personal development of every individual.

As our esteemed President has emphasized:

"Times are changing rapidly. We must turn the mahalla into a real institution that effectively solves problems at the local level. We will continue to gain experience and make improvements. Life itself compels us to do so. If we want to find solutions to today's challenges, our only path is mahalla, mahalla, mahalla, and once again, mahalla. The more we elevate the status of the mahalla system, the more people will trust us, and the more they will be satisfied with our work."

References:

1. See: The Constitution of the Republic of Uzbekistan. Tashkent: "Uzbekistan" Publishing House, 2023.
2. Decree of the President of the Republic of Uzbekistan, December 21, 2023, No. PF – 209.
3. Speech of the President of the Republic of Uzbekistan, Shavkat Mirziyoyev, at the meeting held on September 26, 2023.
4. Abdurashidovich, T. M., & Botir, U. (2020). YOUTH EDUCATION IS A KEY FACTOR OF THE COUNTRY'S WELL-BEING. International Journal of Discourse on Innovation, Integration and Education, 1(5), 338-342.
5. Botir, U., & Ibodullaevich, K. K. (2022). Causes of Corruption, Socio-Political Consequences. Eurasian Journal of Humanities and Social Sciences, 8, 37-40.
6. Uzokov, B., & Mahmudova, U. (2024). JADIDLAR MEROSI VA JADIDCHILIK HARAKATIGA YANGICHA YONDASHUV–DAVR TALABI. INNOVATION IN THE MODERN EDUCATION SYSTEM, 4(37), 254-257.
7. УЗОҚОВ, Б. (2023). БУНЁДКОРЛИК, ЯРАТУВЧАНЛИК, ҲАР ДОИМ ЎҚИШ ВА ИЗЛАНИШДА МУЖАССАМДИР. *Лучшие интеллектуальные исследования*, *11*(5), 10-15.
8. Узоқов, Б. (2022). ГЛОБАЛЛАШУВ ЖАРАЁНЛАРИНИНГ ЎЗИГА ХОС ХУСУСИЯТЛАРИ. *TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI*, *2*(12), 347-350.
9. Узоков, Б. (2022). АЛИШЕР НАВОИЙНИ АНГЛАШ ФАЛСАФАСИ. *RESEARCH AND EDUCATION*, 262.
10. Узоқов, Б., & Хидиров, Х. И. (2022). КОРРУПЦИЯНИНГ КЕЛИБ ЧИҚИШИ, МАЗМУН-МОҲИЯТИ, УНГА ҚАРШИ КУРАШИШНИНГ ДОЛЗАРБ МАСАЛАЛАРИ. *Экономика и социум*, (9 (100)), 654-657.
11. Узоков, Б. (2022). HISTORICAL WORLDVIEW AS A CRITERION OF NATIONAL IDENTITY. In *КУЛЬТУРНОЕ НАСЛЕДИЕ И НАРОДНОЕ ИСКУССТВО: СОХРАНЕНИЕ И АКТУАЛИЗАЦИЯ В ЦЕЛЯХ УСТОЙЧИВОГО РАЗВИТИЯ ОБЩЕСТВА* (pp. 308-314).

12. Uzokov, B. (2022). RESPONSIBILITY OF PARENTS AND CHILDREN IN FORMING A HEALTHY FAMILY ENVIRONMENT. *Scientific progress*, *3*(6), 27-30.
13. Узоков, Б., & Маманазаров, С. И. (2019). НАВОЙОНИНГСКАЯ СЕССИЯ-ФИЛОСОФИЯ КАРАШЛАРИ. *Актуальные научные исследования в современном мире*, (1-1), 141-144.
14. Узоков, Б., & Маманазаров, С. И. (2019). ЗНАЧЕНИЕ В НАСТОЯЩЕЕ ВРЕМЯ СОЦИАЛЬНО-ФИЛОСОФСКИХ УЧЕНИЙ ОДНОГО ИЗ МЫСЛИТЕЛЕЙ ЦЕНТРАЛЬНОЙ АЗИИ, В ЧАСТНОСТИ АБУ НАСР ФАРАБИ О СПРАВЕДЛИВОМ ОБЩЕСТВЕ. *Актуальные научные исследования в современном мире*, (1-1), 137-140.
15. Узоқов, Б. (2023). ЁШЛАР МАЪНАВИЯТИНИ ЮКСАЛТИРИШ-ДОЛЗАРБ ВАЗИФА СИФАТИДА. *Экономика и социум*, (1-2 (104)), 525-528.

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ME’MORIY YODGORLIKLARNING KOMPOZITSION YECHIMLARINI ARAB XATTOTLIGIDAGI “MUFRODAT” MODULI ASOSIDA TAHLIL ETISH

Annotatsiya: *Ushbu maqolada ota – bobolarimizning arab tili va yozuvini o‘zlashtiribgina qolmay, me’morchilik va xalq amaliy san’atning barcha jabhalarida husnixatdan foydalanishganligi shu bilan birga xattotlik qonun-qoidalari me’moriy obidalarni ta’mirlashda, qayta tiklashda muhim ahamiyat kasb etishi bayon etilgan.*
Kalit so‘zlar: *arab tili, arxitektura, san’at, ellips, mufradot, uyg‘unlik, ravoq.*

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ANALYSIS OF COMPOSITION SOLUTIONS OF ARCHITECTURAL MONUMENTS BASED ON THE "MUFRODAT" MODULE IN ARABIC CALLIGRAPHY.

Abstract: *The article tells how our ancestors not only mastered the Arabic language and writing, but also used calligraphy in all aspects of architecture and folk art, and how the rules and regulations of calligraphy play an important role in the repair and restoration of architectural monuments.*
Keywords: *Arabic, architecture, art, ellipse, monotony, harmony, portico.*

Kirish.

Olamning birligi g‘oyasiga asoslangan holda san’atning barcha turlari, jumladan, arxitekturaning ham dunyo tuzilishi zaminida yotgan fundamental qonunlarga asoslanishi, o‘zida turli diniy, falsafiy ma’no-mazmunlarni ifodalashi, binolarning kompozitsion tuzilishida matematikani hamda geometirik uyg‘unlashtirish (garmoniya) qonunlarining qo‘llanilishi uni ob’ektiv san’at tomon yo‘naltiradi. Bu arxitekturani shakl yaratishdagi eklektik yo‘nalishga, modda shakllantirish yo‘nalishga emas, balki tabiatdagi uyg‘unlik qonunlari aks etgan, idrok etish qonunlariga hamohang bo‘lgan yo‘nalishga tomon yo‘naltiradi [8]. Doimiy harakatda va o‘zgarishda bo‘lgan cheksiz va benihoya olamning birligi, butunligi undagi hukmron fundamental qonunlar Allohning irodasi tufaylidir. Har qanday qonuniyatning zaminida matematik munosabatlar yotadi.

Alloh tomonidan insonning qalbi va ruhiga, ma’naviy dunyosiga singdirilgan go‘zallik g‘oyasining global estetik va genetik dasturining moddiy hayotida namoyon bo‘lishi, uni arxitektor tomonidan foydalanishi mumkin bo‘lgan obyektiv tabiat qonuniyatlaridan, tamoyillaridan ajratib bo‘lmaydi. Bu qonuniyatlar me’moriy obektning fazoviy tuzilishida, uning obrazida, eksterer va intererlarida obyekt bilan bir butunlikda, yaxlit holda namoyon bo‘ladi. Shakl yaratishdagi bu yo‘lning eng e’tibor beriladigan tomoni shundaki, bunda hozirda bizga ma’lum bo‘lgan qonuniyatlar, tamoyillar dastlabki, bino va inshootlar qurilishi boshlangan davridan ancha vaqt o‘tgach yuzaga chiqa boshlagan, agar odamlar bino va inshootlar tuzilishida yuqorida aytilgan qonuniyatlar va turli tamoyillar bo‘lishi mumkinligini oldindan bilmagan bo‘lsa, u holda arxitektura shakllarida bunday xususiyatlar qanday qilib yuzaga chiqish mumkin, degan savol tug‘iladi. Bu jiddiy e’tiborga loyiq bo‘lgan murakkab masaladir. Bu masalada umuman Allohning go‘zallik g‘oyasi va uning inson ruhiyati, ijodiy faoliyati orqali arxitektura shakllarda yuzaga chiqishi jarayoniga e’tibor qaratishimiz kerak. Shu nuqtada diniy tushunchalar bilan aniq fanlar tushunchalari uchrashadi.

Asosiy qism.

Arxitekturani san’at darajasiga ko‘taradigan qonuniyatlar odamlarni qadimdan qiziqtirib kelgan. Shu sababli, arxitektura inshootlari tuzilishi asosidagi matematik va geometrik qonuniyatlar, uyg‘unlik, mutanosiblik, bo‘yicha ko‘plab tadqiqot ishlari olib borishgan.

Gumbazlar shaklini chizishda ellips yoyidan foydalanish qoidasiga asoslangan. Ellips yoyidan yasash qoidasi esa IX asrda yashab ijod etgan matematik al-Xasan ibn Muso ibn Shokir va Ibn Sinnan (Ibn Sino emas) tomonidan bayon qilingan. Al-Xasan ellipsni uning ikki nuqta fokusiga biriktirilgan va uzunligi ellipsning katta o‘qiga teng bo‘lgan ipni tarang tortib qalam yoki chiziq yordamida chizishni taklif qilgan. Ibn Sinan esa ellipsni uning katta o‘qiga teng qilib chizilgan aylanani bir necha tik bo‘laklarga qirqishni va har bir qirqimni teng to‘rtga bo‘lishdan hosil bo‘lgan nuqtalarni o‘zaro birlashtirish natijasida chizishni taklif qilgan.

M.S. Bulatov o‘zining arxitekturada handasaviy uyg‘unlik haqidagi mashhur asarida ravoq, toq va gumbazlar yasalishini tadqiq etishda aynan shu Ibn Sinnan ko‘rsatgan uslubni asos qilib oladi va undan keng foydalanadi.

Biroq L.I. Rempelning fikricha, ravoq chizishdagi bu ikki uslub bir-birini hech qachon almashtirmagan, aksincha ular bir vaqtning o‘zida bunday foydalanishda bo‘lib kelgan Arxitektura doktori P.Sh. Zohidov esa ravoq chizishning ellips uslubini amalda qo‘llash ancha murakkabligini e’tiborga olib, amalda asosan pargor uslubi keng qo‘lanilgan, degan fikrni bildirgan.

O‘rta Osiyo me’morchiligida ravoq, toq va gumbazlar shaklini kuzatish shuni ko‘rsatadiki yopiladigan xona yoki zal qanchalik katta bo‘lsa toq yoki gumbaz yoyining tikligi ham shunchalik katta bo‘lgan. Aynan shu narsa Mirzo Ulug‘bek boshliq Samarqand “akademiyasi”ning etuk ilmiy xodimi G‘iyosiddin Jamshid Koshiyning “Hisob kaliti” 9 bobi me’morchilikda handasasiga bag‘ishlangan bo‘lib, unda toq va gumbazlar shaklini chizishga doir besh xil uslubni taklif qilgan

ravoqlar chizish usullarida ko‘rishimiz munkin. Bu esa toq va gumbazli qurilmalar shaklini ishlashda nafaqat badiiy uyg‘unlik, mutanasiblik va go‘zallik talablari, balki mustahkamlik va qurilmaviy talablar ham e’tiborga olinganligi isbotidir [7]. Mashhur olimlar B.N.Zasipkin, L.I.Rempel, G.A.Pugachenkova P.Sh.Zoxidov, K.S.Kryukov, V.L.Voroninalar Markaziy Osiyo obidalariga xos o‘nlab gumbaz tuzilishini o‘rganib chiqib, G‘iyosidin Jamshid Koshiyning ko‘rsatgan usulni to‘g‘riligini tasdiqlaganlar.

O‘rta Osiyo me’morchiligida gumbazli qurilmalar arxitekturaviy shakllar uyg‘unligi va yaxlitligiga katta tasir ko‘rsatib kelgan. K.S.Kryukovning aniqlashicha, gumbazning geometrik shakli ularni 4:6, 4:8, 3:5, 7:12 nisbatli to‘g‘ri burchaklar ichiga chizishdan kelib chiqadi.

Me’morchilikda matematik asoslarini o‘rganish zarur. Buni o‘rganmaslik faqat tasodifiy natijalarni kutish mumkin. Lekin biz nazarda tutayotgan modul turi va geometrik ishlanish tizimi arxitektura va xattotlikning ob’ektiv qonunlaridir.

Arxitektura va xattotlikning qonunlarini o‘rganar ekanman, ular orasidagi uzviy bog‘liqliklarni tahlil qilib bu ikki sohani qonuniyatlar me’moriy obyektning fazoviy tuzilishida, uning obrazida, eksterer va intererlarida obyekt bilan bir butunlikda, yaxlit holda namoyon bo‘lganligini aytib o‘tishim zarur.

Respublikamizdagi me’moriy yodgorliklarning o‘ziga xosligini ulardagi kompozitsion echimlarning zaminida yotgan qonun-qoidalar ta’minlaydi. Me’moriy bezaklarni o‘rganish arab xattotligidagi “Mufradot” vazni usulini va me’moriy yodgorliklarning kompozitsion echimlarini hal etishda ham qo‘llanilganligini ko‘rsatdi. Bu esa me’moriy yodgorliklarimizni ta’mirlashda ularni “Mufradot” vazni asosida tahlil etilishi, buzilgan yoki butunlay yo‘qolgan qismlarini ushbu ilm qonun-qoidalari asosida tiklanishi zarurligini ko‘rsatadi [10].

Arab xattotligining qonun-qoidalari turi geometrik shakllarga asoslangan bo‘lib, yozuvida to‘g‘ri va doiraviy chiziqlar qo‘llaniladi.

Xat turlarining shaklini chizishda ellips yoyidan foydalanish qoidasiga asoslangan, geometrik shakl asosida nisbatli to‘g‘ri burchaklar ichiga chizishdan kelib chiqadi. Arxitekturada qo‘llanilgan nisbatlarning arab xatotligida qo‘llanilgan nisbatlar bilan hamohangligini ko‘rishimiz mumkin.

K.S.Kryukov fikricha O‘rta osiyo me’morchiligi ravoq, toq va gumbazli qurilmalar o‘lchamlari (kengligi va balandligi) ning mutanosib munosabatlardaligini ta’kidlagan.

Arab xattotligida xat turlarini oson o‘qish va ularning ma’lum xat turiga ajratish usullari mavjuddir. Ularning o‘zaro farqlanishlari ufqiy satr chizig‘iga nisbatan yirik, uzun hamda yotiqlig‘iga qarab aniqlanadi. Bu esa K.S.Kryukovning kenglik va balandlik nisbatlarning aynisidir. Islom san’atining barcha sohalari orasida Islom dini geometriyasi bugungi kunda kam o‘rganilgan sohalardan biri bo‘lib qolmoqda.

Ehtimol, har birimiz bir necha bor masjid devorlaridagi naqshlarga boqib, ustalarning nozik ishlariga qoyil qolganmiz. Tirik mavjudotlarni tasvirlashni taqiqlovchi Islom dini qonuniyati me’morchilik, xattotlik va bezak kabi sohalarning

rivojlanishiga turtki bo‘lgandir. Ushbu san’at turi predmetning shaklini rad etib, uning mohiyati, maqsadiga qaratilgan.

Islom me’morchiligi, shubhasiz, inson qo‘li bilan yaratilgan eng go‘zal shakllardan biri simmetriyadir. U islom tarixi davomida musulmon madaniyatlari ichida rivojlangan. Ruhiy mohiyatdan ilhomlangan. Islom san’atining har bir asarida muhim omil va arxitektura-bu katta yoki kichik bo‘ladigan sirtning mavhum bezagidir [9].

Islom me’moriy dizayni va qurilishi turli dunyoviy va diniy uslublarni birlashtiradi. Bu butun Islom dini tarixini qamrab oladi. Islom me’moriy xususiyatlarining asosan masjidlar, maqbaralar, qal’alar va saroylarda, islom me’morchiligining evolyusiyasini ko‘rishimiz mumkin.

Xulosa.

Arab xattotligining qonun-qoidalari va vujudga kelish tarixi o‘rganish va tahlil qilishda “Mufradot” moduliga asoslangan mukammal yozish usuli. Bu usul batafsil o‘ylangan qonun-qoidalarga asoslangan. Qadimgi qo‘lyozmalarda, me’moriy yodgorliklarga yozilgan arab yozuvlarida ushbu qonun-qoidalarga qat’iy rioya qilingan.

Hozirgi kunda me’moriy yodgorliklarni, ulardagi arabcha yozuvlarni ta’mirlashda arab xattotligi qonun-qoidalarining buzilishi, mufradot ilmini to‘liq tushunib etmaslik hollari sezilmoqda. Bunday noxush hollar me’moriy yodgorliklar mohiyatining buzilishiga, arab xattotligi usulining sekin-asta o‘zgarib ketishi kabi jiddiy oqibatlarga olib kelishi mumkin. Shu sababli me’moriy yodgorliklar yozuvlarini ta’mirlovchi ustalar arab xattotligining mufradot ilmi nazariyasini mukammal bilishlari lozim.

Adabiyotlar ro‘yxati

1. Аҳрорв Ҳафиз Каримович. Хаттотлик санъати ва арабча ёзув турлари. Самарқанд 2014.й. 3-10.б.
2. Шайх Козим ал –Арзайий. “Дурусул – хаттил – арабий – ал – Хаттун - Насхи”. 1834.
3. Квернен, Элизабет (2009). «Введение в арабскую, османскую и персидскую каллиграфию: стиль». Каллиграфия Калам.
4. Масъудали Хакимжон. “Хатти Муъаллими” Тошкент 1991.
5. Абдурашид (Раимхўжа) Шоюнусов. “Араб хаттотлик санъати”. Тошкент 1990-2006.
6. Khalikov, S.R. (2021). History of the development and emergence of the rules of Arabic calligraphy. ISJ Theoretical & Applied Science, 11 (103), 1134-1138.
7. Ўралов А.С. Меъморий шаклларни уйғунлаштириш ва безак.–Самарканд. 2003, 260 б.
8. Муҳаммаджонов Қ.Ҳ. Объектив архитектура санъати ҳақида. – Тошкент. 2019. 72 б.
9. CopplestoneTrewin, World architecture, Chiarivel book.1968.
10. Халиков С. Р. Архитектура бўйича фалсафа доктори (PhD) диссертатсия автореферати. - Тошкент – 2022

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CHIZIQLI DASTURLASH MASALALARINI SAMARALI YECHISHDA YANGI TEXNOLOGIYALARDAN FOYDALANISH

Annotatsiya. *Ushbu maqolada chiziqli dasturlash masalalarining qo‘llanish sohalari, ularni samarali yechishda yangi texnologiyalardan foydalanish va yangicha yondashuv haqida so‘z yuritilgan.*

Kalit so‘zlar: *chiziqli funktsiya, cheklanishlar tizimi, optimal yechim, sun’iy intellekt, avtomatik optimallashtirish metodlari, neyron tarmoq, predikator va korrektor*

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USING NEW TECHNOLOGIES TO EFFICIENTLY SOLVING LINEAR PROGRAMMING PROBLEMS

Abstract. *This article discusses the application areas of linear programming problems, the use of new technologies and a new approach to their effective solution.*

Keywords: *linear function, constraint system, optimal solution, artificial intelligence, automatic optimization methods, neural network, predictor and corrector*

Iqtisodiy masalalarni hal etishda chiziqli dasturlash uslublari muhim ahamiyat kasb etadi. Bunday masalalarni yechish uchun dastlab ularning iqtisodiy-matematik modeli tuziladi, so‘ngra optimal yechim topishda chiziqli dasturlash uslublaridan biri qo‘llaniladi.

Iqtisodiy masalalarda uchraydigan miqdorlar orasidagi bog‘lanish chiziqli funktsiya ko‘rinishida ifodalangan va bu miqdorlarga qo‘yilgan shartlar – cheklanishlar tizimi ham chiziqli bo‘lsa, bunday masalalarni chiziqli dasturlash masalalari deyish mumkin.

Chiziqli dasturlash masalasi birinchi marta 1930-yilda Rossiya matematigi A.N.Tolstoy tomonidan qo‘yildi. 1939-yilda esa Rossiya matematigi L.V.Kantorovich chiziqli dasturlash masalasini yechishning umumiy uslubini tavsiya etdi va u chiziqli dasturlash usulining asoschisi sifatida tan olingan. Uning 1939-yilda chop etilgan “Ishlab chiqarishni tashkil etish va rejalashtirish” monografiyasida chiziqli dasturlash usulining dastlabki tushunchalari keltirilgan. L.V.Kantorovich tomonidan ilgari surilgan g‘oya o‘z vaqtida e’tiborsiz qolgan.

Chiziqli dasturlashning boshlanishi 1940-yillarga to‘g‘ri keladi. **Amerika olimi Jorj Dantsig** 1949-yilda chiziqli dasturlash masalasini yechishning sodda uslubi - simpleks usul algoritmini ishlab chiqdi. Bu algoritm, chiziqli dasturlash masalalarini samarali tarzda yechish uchun ishlab chiqilgan bo‘lib, bugungi kunda ko‘plab sanoat tarmoqlarida qo‘llaniladi. Dantzig bu algoritmni dastlab AQSH armiyasi uchun ta’minot zanjirlarini optimallashtirishga mo‘ljallagan.

1960-yillarda kompyuter texnologiyalarining rivojlanishi va uning matematik modellarni yechishda qo‘llanilishi chiziqli dasturlash masalalarining yechimini yanada samarali va tezroq amalga oshirish imkonini berdi. Ayniqsa, iqtisodiyot va sanoatni optimallashtirishda chiziqli dasturlashning ahamiyati oshdi..

1980-yillardan boshlab chiziqli dasturlash masalalarini yechish jarayoni yanada kengayib, ko‘plab sohalarda qo‘llanila boshlandi. Masalan:

- iqtisodiyotda resurslarni taqsimlash, ishlab chiqarish quvvatlarini optimallashtirish, ta’minot zanjirlarini boshqarish va boshqa sohalarda chiziqli dasturlashning qo‘llanilishi kengaydi;
- logistikada, transport tarmoqlarining optimallashtirilishi, yo‘nalishlarni tanlash va yuklarni taqsimlashda chiziqli dasturlashdan foydalanildi;
- tibbiyot va biotexnologiya sohasida ham resurslarni boshqarish va optimallashtirishda chiziqli dasturlash texnikalaridan foydalanildi.

Bugungi kunda chiziqli dasturlash masalalarini yechishga yangicha yondashuvlar mavjud. Yangi metodlar va algoritmlar, masalan, interior point method va barrier metodlari chiziqli dasturlash masalalarini yanada samarali va tezroq yechishga imkon yaratdi. Shuningdek, yangi texnologiyalar, jumladan, sun’iy intellekt va avtomatik optimallashtirish metodlari chiziqli dasturlashni yangi sohalarga olib keldi, masalan, mashinani o‘rganish va murakkab tizimlarni boshqarish.

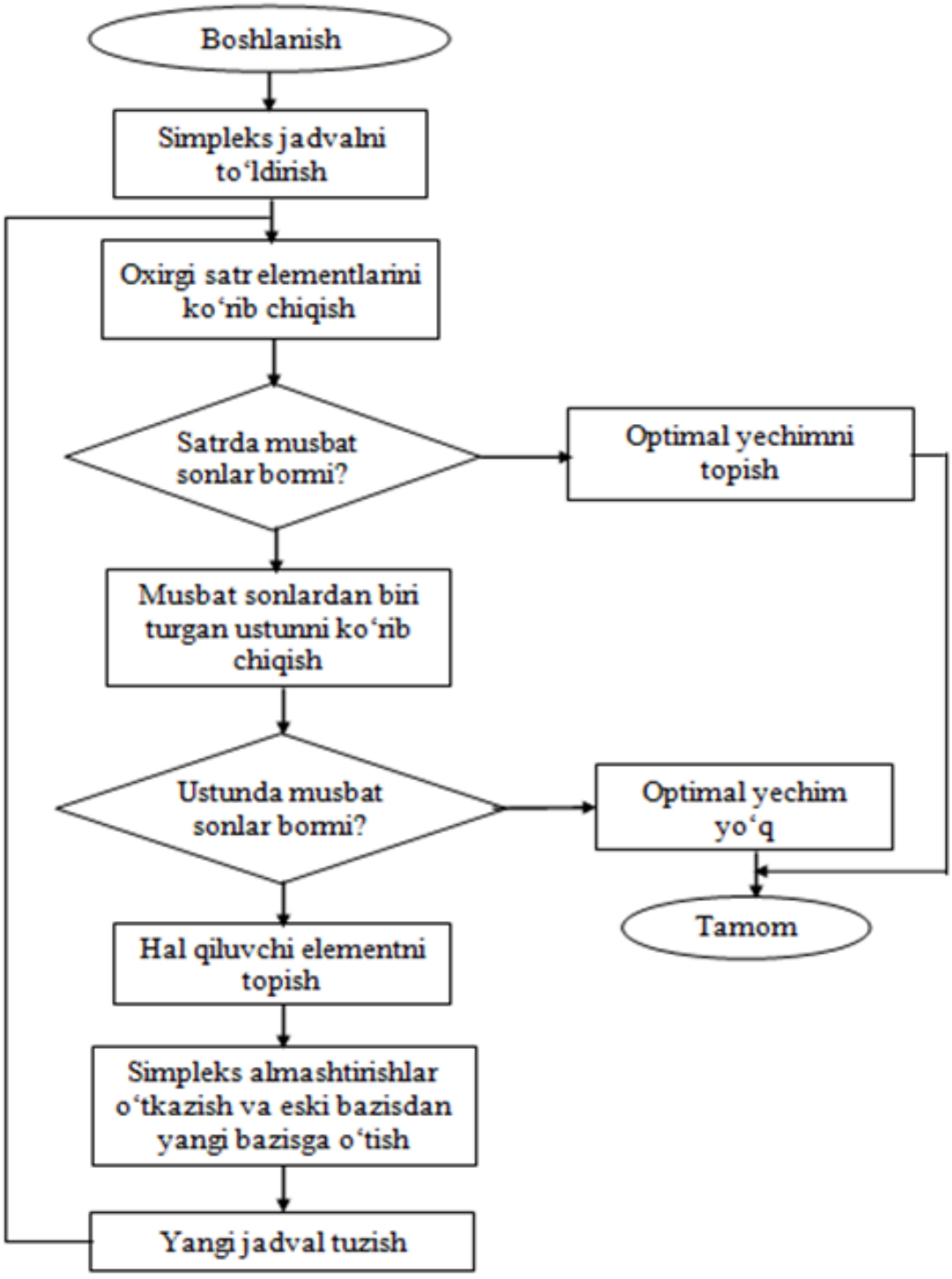
Bizga ma’lumki, chiziqli dasturlash masalasi qavariq ko‘pburchak ichidagi chiziqli funktsiyaning minimal va maksimal qiymatlarini topishdir. Bu masalani yechishning klassik simpleks usuli ma’lum bo‘lib, uning murakkabligi o‘lchamning oshishi bilan eksponent ravishda ortadi. Simpleks usul algoritmi blok-sxemasi 1-rasmda keltirilgan.

Qavariq ko‘pburchak tekisligida panjara hosil bo‘ladi – bu qabul qiluvchi maydon hisoblanadi. Bunda maqsad funktsiyaning minimal yoki maksimal qiymatini aniqlaydigan va unga asoslangan tegishli argumentning koordinatalarini beradigan neyron tarmoq yordamga keladi. Janubiy Ural davlat universiteti olimlari Leonid Sokolinskiy va Nikolay Olxovskiy bunday maydonni qurish va uning tugun

nuqtalarining koordinatalarini tartib raqami bo‘yicha aniqlash algoritmlarini taqdim etdilar. Ular superkompyuterda hisoblash eksperimentini o‘tkazdilar.

Chelyabinsklik olimlar sun’iy intellektni "sof matematikaga" "implantatsiya qilish" yo‘llarini qidirmoqdalar, bu yechim izlashni sezilarli darajada tezlashtiradi.

Neyron tarmoqlar simpleks usulini takomillashtirishga yordam beradi. L. Sokolinskiy va I. Sokolinskayalar apeks usulini ishlab chiqishdi. U naqshlarni ishlab chiqadi - neyron tarmoqlar uchun o‘quv ma’lumotlar to‘plamini, uning vizual tasviri asosida chiziqli dasturlash muammosiga yechim topishga qodir.



1- rasm. Simpleks usul algoritmi blok-sxemasi

Apeks usulida predikator va korrektordan foydalaniladi: birinchisi mavjud sohaning ma’lum bir nuqtasining koordinatalarini hisoblab chiqadi va korrektor esa chiziqli dasturlash muammolarining aniq yechimiga yaqinlashadigan iteratsiyalarni quradi.

Adabiyotlar

1. S.Xaydarova. Chiziqli dasturlash masalalarini yechishda EHM dan foydalanish. O‘quv qo‘llanma. T:”Ziyo chashmasi”, 1999
2. Остап Давыдов. Искусственный интеллект ускоряет решение задач линейного программирования - Южно-Уральский государственный университет, Челябинск, 2023 https://www.susu.ru/ru/news/2023/08/20/iskusstvennyy-intellekt-uskoryaet-reshenie-zadach-lineynogo-programmirovaniya

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6-7 YOSHLI BOLALARDA TABIAT VA ILM FAN MARKAZLARIDA EKOLOGIK MADANIYATNI SHAKILLANTIRISH

Annotation: *Mazkur maqolada 6-7 yoshli bolalarni tabiat bilan tanishtirish hamda ularda ekologik madaniyatni shakillantirishda tabiat va ilm-fan markazlarida tashkil etiladigan oddiy tajribalarni tashkil etish yo'llari haqida so'z boradi.*

Kalit so'zlar: *Tabiat, ilm- fan, markazlar, kuzatish, predmet, yovvoyi, jonsiz, o'simliklar, hayvon, tarbiyachi*

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SHAPING ECOLOGICAL CULTURE IN NATURE AND SCIENCE CENTERS IN CHILDREN 6-7 YEARS OLD

Annotation :*This article talks about ways to introduce children 6-7 years old to nature and organize simple experiments in natural and scientific centers to develop an ecological culture in them.*

Keywords: *nature, science, centers, observation, object, wild, inanimate, plants, animal, educator*

Tajriba- maxsus tashkil etilgan sharoitda kuzatishdir. Bolalar predmet va hodisalar o'rtasidagi aloqa hamda munosabatlarning sabablarini aniqlash uchun oddiy tajribalardan foydalaniladi. Tabiat va ilm fan markazlarida oddiy tajribalarni tashkil etish. Maktabgacha yoshdagi bolalarni tabiat bialan tanishtirishning amaliy metodi bolalar hayotida muhim o'rin tutadi. Ta'limning amaliy metodi tarbiyachiga bolalarning turli-tuman amaliy faoliyatlarini tashkil etish, yangi bilim, ko'nikma va malakalarni egallab olishiga yordam beradi. Ta'limning amaliy metodlari orqali bolalar narsa buyumlarning o'ziga tanish bo'lmagan xususiyatlarini bilib oladilar.Amaliy metodni quyidagi turlarga ajratish mumkin. Bolalar predmet va

hodisalar o‘rtasidagi aloqa hamda munosabatlarining sabablarini aniqlashlari uchun oddiy tajribalardan foydalaniladi. Maktabgacha ta’lim muassasalarida Tabiat va ilm –fan markazlarida turli xil tajrbalar tashkil etiladi va bu tajribalarga tarbiyachi rahbarliq qiladi. Tajriba maxsus tashkil etilgan sharoitda o‘tkaziladigan kuzatishdir.

Tajribalardan o’yin, mehnat yoki maxsus mashg’ulotlar jarayonida paydo bo’lgan bilim vazifalarni hal qilish usuli sifatida foydalaniladi.

Maktabgacha yoshdagi bolalar bilan siz "yovvoyi va jonsiz tabiatning turli xil ob'ektlari bilan oddiy tajribalar o‘tkazishingiz mumkin. Maxsus tashkil etilgan eksperimental vaziyatlar, oddiy kuzatishlardan farqli o‘laroq, o‘simliklar, hayvonlarning individual xususiyatlarini, tomonlarini, xususiyatlarini, ularning hayotiy faoliyatini yanada aniqroq ko‘rish imkonini beradi. Tajribalar orqali siz ularning atrof-muhit bilan aloqasini aniq ko‘rsata olasiz. Tajribalar bolalarni taqqoslash, solishtirishga undaydi, shuning uchun ularda kuzatish, idrok va fikrlash rivojlanadi.

Tajriba shartining muhokamasi tarbiyachi rahbarligi ostida o‘tadi. Tajribaning hamma shartlari tenglashtirilishi va faqat ulardan bittasi tajribaning natijasiga ta`sir etadigani alohida ajratilishi, bolalarga kursatilish hamda ular tomonidan tushunilishi lozim. Uzoq, muddatli qiyoslanadigan kuzatishda natijalar kechiktirilganligi tufayli tajribaning ayrim alohida xarakterli bosqichlari rasmiy jadvallarda qayt qilish lozim.

Tajribalarni tashkil etishda bir qator talablar qo‘yiladi. Bolalarda oddiy izlanuvchanlik qobiliyatini oshirish ularning tabiat bilan tanishishidagi mustaqilligini, fikr doirasini oshiradi va aktiv bo‘lishni ta’minlaydi. Bunday qobiliyat bolalarda tabiat hodisalarini tushunishga, uning sodir bo‘lish sabablarini bilishga imkon beradi. Bolalarda izlanuvchanlik qobiliyatini hosil qilish ma’lum sistema asosida amalga oshiriladi. U bolalarni tabiatda bo‘ladigan voqea-hodisalarni kurish, tahlil qilish asosida turli faoliyatlari davridan boshlanadi. SHundan keyin bolalarda fikrlash qobiliyati shakllanadi, turli muammolar paydo bo‘ladi. Bolalar buni fikr qilib, tabiatda sodir bo‘ladigan o‘zgarishlar, uning sabablari va bir-biri bilan bogliq ekanligini echishga ntiladilar. Ular ko‘rib, kuzatib, u yoki bu voqeyani sodir bo‘lish sabablari xulosalar chiqaradilar. Izlanuvchanlik qobiliyatini oshirishning navbatdagi yo‘li bolalar chiqargan taxminiy xulosalarni to’g‘ri muhokama qilish va uni tekshirish usullarini tanlashdan iborat. Shuni aytish

kerakki, izlanuvchanlik qobiliyatini oshirishni o‘rganishda xulosalarni tekshirish katta rol o‘ynaydi.

Fan va tabiat markazi "Toshning xususiyatlari" Maqsad: toshlarning xususiyatlarini, tashqi ko‘rinishining xususiyatlarini, tabiatdagi va inson hayotidagi toshlarning afzalliklarini o‘rganish. Jihozlar va materiallar: qum, suv, qum, gil, tosh, qum havzasi, ishchi taxtasi. Faoliyatni olib borilishi: 1. Bolalar materiallar markazini o‘rganadilar 2. Tajribalarning namunalarini sxema bo‘yicha o‘rganing 3. Tabiiy ilmiy va ijodiy vazifalarni bolalar bajarishi. 4. Bolalar topilmalari **1-tajriba**. Rang va shaklni aniqlash. Bolalar toshlar (kulrang, jigarrang, oq, qizil, ko‘k va boshqalar) qanday rangdagi kuzatuvlarini baham ko‘radi. Xulosa: toshlar rang va shakli bo‘yicha farq qiladi (tarbiyachi nishon belgisi va diagramani ko‘rsatadi)

2-tajriba.tarbiyachi: «Hammasi bir xil bo‘lgan toshlarmi?» - deb so‘raydi. Eng katta toshni toping va ko‘rsating, eng kichik, o‘rta. Toshning kattaligi haqida kim xulosa chiqaradi? Marokalar bilan sirli o‘yin. Xulosa: toshlar turli darajada bo‘ladi. Keyingi tajriba uchun juda nozik barmoqlar kerak.

3-tajriba. Yerning tabiatini aniqlash. Endi har bir toshni silkitib turamiz. Toshning yuzasi bir xil yoki farqli? Qaysi biri? (Bolalar sheriklari kashfiyotlari). Tarbiyachi bolalarga eng og‘ir toshni va eng qo‘pollarini ko‘rsatishni so‘raydi. Xulosa: tosh silliq va qo‘pol bo‘lishi mumkin.

4-tajriba. Toshlarni magnit oynada tekshirish. Toshning yuzasini yaxshiroq ko‘rish uchun lupani ishlatamiz. (Bolalar o‘zlarining toshlariga qarashadi). Tarbiyachi: bolalar siz qiziqarli nimani ko‘rdingiz? (chuqurlar, yo‘laklar, rasmlar, gullar, naqshlar va h.k.). Barakalla, bolalar juda e’tiborlisiz. Bolalar, sizni bir daqiqaga tarozi bo‘lishga taklif etaman. Tarozi bilan nima qilishadi. Ha, to‘g‘ri tarozida og‘irlik o‘lchanadi.

5-tajriba. Og‘irlik ta’rifi. Bolalar o‘z qo‘llaridagi toshlarni eng og‘iri va engilini ajratadilar. Xulosa: toshlar og‘irligiga qarab turli xil bo‘ladi: engil, og‘ir. Bolalar, endi kaftlarni stolga qo‘yib, tezda yonoqlarga qo‘yinglar. Stol qanday, yonoqlarchi? Biz terimiz orqali haroratni tezda aniqlashimiz mumkin.

6-tajriba. Haroratni aniqlash. Endi biz juda qiziq, juda murakkab tajribaga o‘tkazamiz. Toshlar orasida siz eng issiq va sovuq toshlarni topishingiz kerak. Bolalar, qanday qilib va nima qilasiz? (Bolalar narsalarni qilish yo‘llarini taklif qilishadi, ular tajribani boshdan kechiradilar.) Ustoz sizni issiq va sovuq toshni ko‘rsatishingizni va sovuq toshni isitishingizni taklif qiladi.) Nafas olish gimnastikasi. Bolalar barcha toshlarni olib, qo‘llarining kaftiga qo‘yadilar, burunlarda nafas oladilar, og‘zidan nafas oladilar, lablar trubka shaklida (3 marta). Xulosa: toshlar issiq va sovuq bo‘lishi mumkin. Tarbiyachi: "Kani, bolalar, aytingchi toshni suvga solsak nima buladi ?" deb so‘raydi .(Bolalar javobi.) Nima uchun shunday deb o‘ylaysiz? (Bolalarning argumentlari.) Va haqiqatni bilish uchun nima qilish kerak- haqiqat? (Bolalar takliflari).

7-tajriba. Bolalar bankaga suv solib unga bir toshni ehtiyotkorlik bilan joylashtiradilar. Uni kuzatishadi.Tajriba natijasida toshning rangi o‘zgaradi, tosh atrofida doirachalar xosil bo’ladi, yaltiroq holatga keladi. Qo‘shimcha qism: Tajriba natijalarini baham ko‘ring. Tarbiyachi qo‘shimcha hodisalarga e’tiborni

qaratadi - suvlar atrofida aylanib yurgan, toshning rangi o‘zgargan, yanada yorqinroq bo‘ldi. Xulosa: toshlar suvda cho‘kib ketadi, chunki ular og‘ir va zich. (Bolalar toshni olib, qog‘oz sochiq bilan artadilar.) Mis tog‘ining bekasi bolalarga bir kataklardan iborat bo‘lgan quti sovg‘a qiladi va o‘z guruhlarida toshlar to‘plamini yaratishni so‘raydi. Qo‘shimcha qism: bolalarni o‘z guruhida toshlar to‘plamini yaratishga taklif qiling. E’tiborga molik jihatlar: 1. Hayot va ilmni bir biriga bog‘lash qobiliyati; 2. Diqqat, fikrlash va nutqni rivojlantirish; 3. Hayot xavfsizligi Fan va tabiat markazi Qumda magnit Maqsad: magnit tushunchasini bilish asosida magnit xususiyatlari va magnit bilan bog‘liq bo‘lgan fizika qonuni haqida elementar tushunchalarni bilishi. Magnit bilan bog‘liq elementar tajribalarni o‘tkazishi mumkin. Jihoz va materiallar: turli formadagi magnit, quruq qum to‘ldirilgan idishlar, rasm namunalari. Faoliyatning borishi: 1. Bolalar magnit bilan turli tajribalar ko‘rsatishadi. 2."Qumli manzaralar" videosini ko‘rish. Qumli stol ustida magnitlar yordamida rasm chizish (qumga stolning tagidan magnit bilan boshqarish mumkin bo‘lgan predmet qo‘yiladi);

4. Bolalar bir-birlariga bajargan ishlarini ko‘rsatishadi. Qo‘shimcha qism: tarbiyachibolalarga o‘z ijod namunalarini turli Qo‘shimcha qism predmetlar bilan bezatishlari mumkinligini taklif etishi mumkin. E’tiborga molik jihati: texnika xavfsizligi qoidalariga rioya etishi; hayot, san’at va ilmni bir-biri bilan bog‘lash; fikrlashni, nutqni, tasavvurni va mayda motorikani rivojlantirish.

Foydalanilgan adabiyotlar

1. Yusupova P.A. Maktabgacha yoshdagi bolalarga ekologik tarbiya berish. T.: O‘qituvchi. 1995.
2. Sh.A.Sodiqova,M.A.Rasulxojayeva bolalarni tabiat bilan tanishtirish metodikasi.T.:Fan va texnologiya 2013.
3. Djabborova X.D. Maktabgacha yoshdagi bolalarga ekologik ta’lim –tarbiya berishning o‘ziga xosligi. T.: O‘qituvchi. 2000.
4. CONTENTS AND INDICATORS OF PRESCHOOL PREPARATION OF CHILDREN.GU Kholboyeva - YOUTH, SCIENCE, EDUCATION: TOPICAL ISSUES , 2023
5. REQUIREMENTS FOR TEACHERS IN PRESCHOOL EDUCATIONAL ORGANIZATIONS.GU Kholboyeva, L Umurova - “TRENDS OF MODERN SCIENCE AND PRACTICE”, 2023
6. COMPLEX PREPARATION OF THE CHILDREN OF THE SCHOOL PREPARATION GROUP FOR SCHOOL EDUCATION AS A SOCIAL-PEDAGOGICAL PROBLEM GU Kholboyeva - World of Scientific news in Science, 2024
7. Maktabga tayyorlov guruhi bolalarining maktab ta’limiga tayyorgarligini baholash mexanizmlarini takomillashtirishning pedagogik shart-sharoitlari Г Холбоева. Общество и инновации 3 (4/S), 455-459

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GEOGRAFIYA FANLARINI O`QITISHDA TALABALARNING HUQUQIY BILIMLARINI SHAKLLANTIRISH VA RIVOJLANTIRISH

Annotatsiya. *Maqolada Vatanimizning kelgusi istiqboli uchun bilimli, ma'naviy yetuk avlodlarni tarbiyalash, olib borilayotgan islohotlarning asosiy maqsadi ekanligi, shu sababdan geografiya fanlarini o'qitilishi talabalarning hudud haqidagi tasavvurlarini kengayishiga, yurtimizdagi geografik jarayonlar, me'moriy obidalar, arxeologik ob'yektlar, voqea va hodisalar, tabiat haqidagi bilimlarini boyitishga xizmat qilishi bilan bir qatorda, ularning konstitutsiyaviy bilimlarini oshishiga ham xizmat qilishiga oid ma'lumotlar va geografiya fanlari bilan huquqiy fanlar orasida uzviy bog'liqlik borligini ilmiy jihatdan asoslashga harakat qildik.*

Tayanch tushunchalar. *O'lkashunoslik, monumental san'at yodgorliklari, adabiy traditsiya, YUNESKO tashkiloti, Demografiya asoslari.*

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FORMATION AND DEVELOPMENT OF STUDENTS' LEGAL KNOWLEDGE IN TEACHING GEOGRAPHY

Abstract :*The article emphasizes that the education of an educated, spiritually mature generation for the future of our Homeland is the main goal of the ongoing reforms, therefore, teaching geographical disciplines not only helps to expand students' understanding of the area, but also enriches their knowledge of geographical processes, architectural monuments, archaeological sites, events and phenomena, nature in our country, we they tried to scientifically substantiate that there is an inextricable link between geographical sciences and legal sciences, with information, which also serves to enhance their constitutional knowledge.*

Keywords. *Local history, monumental art monuments, literary tradition, UNESCO organization, Fundamentals of demography.*

Respublikamizda ta’lim sohasida juda ko‘p islohotlar va talimga oid turli yangiliklar yaratilmoqda. Vatanimizning kelgusi istiqboli uchun hissa qo‘shadigan bilimli, ma’naviy yetuk, teran fikrlay oladigan avlodlarni tarbiyalash olib borilayotgan islohotlarning asosiy maqsadidir. Bunday yoshlarni tarbiyalash Oliy talimda faoliyat olib borayotgan proffessor-o‘qituvchilar zimmasiga katta mas’uliyat yuklaydi. Har bir o‘qituvchi ushbu mas’uliyatli vazifani bajarar ekan, o‘z fanini o‘qitish jarayonida talabalarni zamon bilan hamnafas bo‘lib yashashlari uchun yetarli shart-sharoitlar yaratib berishga harakat qiladi, hamda ta’lim-tarbiya jarayonida yuqori sifat samaradorlikka erishishni asosiy maqsad qilib qo‘yadi. Hozirgi davrda Respublikamiz hududidagi barcha Oliy ta’limda yo‘nalishlarida o‘qitilayotgan o‘quv fanlari o‘zaro bir-biri bilan bog‘liqlikda, integratsiya tarzida o‘qitilmoqda. Bu borada, geografiya fanlari orasida O‘lkashunoslik va O‘zbekiston iqtisodiy va ijtimoiy geografiyasi fanlarini o‘qitilishi talabalarning hudud haqidagi tasavvurlarini kengayishiga, yurtimizdagi geografik jarayonlar, me’moriy obidalar, arxeologik ob’ektlar, tarixiy shahristonlar, monumental san’at yodgorliklari voqea va hodisalarni, tabiat haqidagi bilimlarini boyitishga xizmat qilishi bilan bir qatorda ularning konstitutsiyaviy bilimlarini oshishiga ham xizmat qiladi. Sababi, Mamlakatimiz hududida istiqomat qilayotgan har bir fuqaro avvalo vatan oldidagi burchi, tabiat oldidagi burch va majburiyatlarini bilishlari hamda ularga amal qilishlari kerak bo‘ladi. Ushbu majburiyatlar va burchning nafaqat ijtimoiy-iqtisodiy fanlar, balki geografiya ta’limida ham amalga oshirilishi maqsadga muvofiq bo‘ladi. Ma’lumki Oliy talimda tahsil olayotgan barcha talabalar Respublikamiz maydoni, uning chegaralari, yer osti va yer usti boyliklari, tabiati, ularni muhofaza qilish va ulardan oqilona foydalanish haqidagi ilk ma’lumotlarni talim olgan umumtalim maktablarida O‘zbekiston iqtisodiy va ijtimoiy geografiyasi (8-sinf geografiyasi) fanida o‘rganadilar. Tabiatni muhofaza qilish va tabiatdan foydalanish prinsiplari ham O‘zbekiston Respublikasi Konstitutsiyasida o‘z aksini topgan. Davlat tashkilotlarining bu sohadagi faoliyati ham Konstitutsiyada belgilangan.

Navoiy Davlat Universitetining Geografiya va iqtisodiy bilim asoslari talim yo‘nalishi III-kurs talabalariga O‘lkashunoslik fani Geografiya kafedrasi o‘qituvchilari tomonidan o‘qitiladi. Fan mavzularini o‘qitish jarayonida “O‘zbekiston hududida faoliyat yuritayotgan muzeylar ” mavzusini o‘qitishda talabalarga mamlakatimiz Konstitutsiyada belgilab qo‘yilgan moddalardan foydalangan holda mavzuni o‘qitish samaraliroq bo‘ladi. Chunki O‘zbekiston hududida yashayotgan har bir shaxs avvalo vatan oldidagi burchi va majburiyatlarini bilishlari hamda ularga amal qilishlari kerak bo‘ladi.

O‘lka yoki joyning san’atini hamda xalq hunarmandchiligini o‘rganish umumiy o‘lkashunoslikni ajralmas tarkibiy qismi hisoblanadi. San’at yodgorliklarida mamlakatning zamonaviy va qadimiy tarixi aks etgan bo‘ladi.O‘zbekistonning har bir o‘lkasi o‘zbek adabiyoti tarixi bilan chambarchars bog‘langan. Har bir o‘lka yoki joy o‘z adabiy traditsiyasiga, yodgorliklariga va muzeylariga ega.

Hozirgacha yetib kelgan tarixiy yodgorliklar va yozma manbalar diyorimizda uzoq moziyda, ayniqsa, o‘rta asrlarda ilm-fan, madaniyat gullab-yashnaganidan darak beradi.“Madaniy meros ob’ektlarini muhofaza qilish va ulardan foydalanish to‘g‘risida”gi Qonun asosida mamlakatimizda ko‘plab madaniy meros ob’ektlari davlat muhofazasiga olindi. Jahon sivilizatsiyasida katta o‘rin tutgan me’moriy obidalar, arxeologik ob’ektlar, tarixiy shahristonlar, monumental san’at yodgorliklarini o‘rganish, hisobga olish, asrab-avaylash, ularni kelajak avlodga yetkazishga yo‘naltirilgan ishlar belgilandi.Tarixiy, madaniy va ma’naviy merosimizni o‘rganish, ilmiy xulosalar berish bo‘yicha bugungi kunda nafaqat O‘zbekiston olimlari shug‘ullanayotgani, balki bunga xorijlik ekspertlar katta qiziqish bildirayotgani ham diqqatga sazovor. Jumladan, ular tashkil qilinayotgan ko‘plab ilmiy ekspeditsiyalarda ishtirok etishmoqda.Xalqaro tashkilotlar tomonidan tarixiy obidalarni saqlab qolishga oid qator normativ-huquqiy hujjatlar qabul qilingan. Jumladan, Samarqand, Buxoro, Xiva shaharlari va Respublikamizning boshqa hududlaridagi bir qancha madaniy meros ob’ektlari YuNESKO tashkiloti tomonidan ro‘yxatga olinib, muhofaza qilinadi.

Sharq mutafakkirlarining dunyo tamadduniga qo‘shgan salmoqli hissasining jahon miqyosida tan olinishi ko‘p narsani anglatadi. Farovon zaminimizda yashab o‘tgan jahonga mashhur allomalarimiz o‘zlarining chuqur dunyoqarashi, izlanishlari, bebaho ixtirolari bilan tarixda o‘chmas iz qoldirishgan.Ya’ni Buyuk Ipak yo‘lida joylashgan, Sharq va G‘arbni mustahkam bog‘lab turgan, qadim va betakror yurtimiz azaldan taniqli ilm-fan namoyondalari bilan dovruq qozongan. Ularning tarix, adabiyot, san’at, falsafa, tibbiyot, matematika, kimyo, astronomiya, me’morchilik, dehqonchilik, pedagogika kabi sohalardagi asarlari nafaqat xalqimizning, balki butun insoniyatning bebaho boyligidir. Prezidentimiz tomonidan aytib o‘tilganidek,”Bunday boy merosga ega bo‘lgan xalq dunyoda kamdan-kam topiladi”. Buyuk ajdodlarimizning ulkan ilmiy kashfiyotlari yana ming yillar davomida farzandlarimizning barkamol avlod sifatida voyaga yetishida muhim ma’no-mazmun kasb etadi.

Bugungi kunda mamlakatimiz hududidagi 7000 dan ortiq madaniy meros durdonalari, minglab arxeologik ob’ektlar va topilmalar, qazilmalar buni yaqqol isbotlab beradi.Ular qadim tarixdagi madaniy hayot, ajdodlarimiz turmush tarzini o‘rganishda beqiyos ahamiyatga ega.Istiqlolning dastlabki yillaridan boshlab yurtimizda ana shu yodgorliklarni qayta tiklash, ta’mirlash, restavratsiya qilish, arxeologik izlanishlar olib borish ishlarini qo‘llab-quvvatlash, yangi muzeylar barpo etishga katta e’tibor qaratilyapti.Buning uchun mamlakatimizda zarur tashkiliy-huquqiy poydevor yaratildi. Eng avvalo, Konstitutsiyamizning 49-moddasida fuqarolar O‘zbekiston xalqining tarixiy, ma’naviy va madaniy merosini avaylab asrashga majburligi, madaniyat yodgorliklari davlat muhofazasida ekanligi belgilab qo‘yilgan.

Tarixiy yodgorliklar, me’moriy obidalar, adabiyot, tasviriy va amaliy san’at asarlari, arxeologik topilmalar, milliy va xalqaro ahamiyatga ega bo‘lgan majmualar Davlat tomonidan muxofaza etiladi.O‘zbekistonda yodgorliklarni muhofaza etish, asosan, XX-asrning 20-yillaridan boshlangan.Hozir O‘zbekiston

Respublikasi Madaniyat ishlari vazirligi huzuridagi Madaniy meros ob'ektlarini muhofaza qilish va ulardan foydalanish ilmiy ishlab chiqarish Bosh boshqarmasi shug'ullanmoqda. Respublika hududida va chet mamlakatlarda saqlanayotgan noyob qo'lyozmalar, madaniy, tarixiy yodgorliklar, hunarmandchilik, xalq og'zaki ijodi namunalari, san'at va badiiy asarlar, teatr musiqa, qadimgi davlatchilik tarixiga oid hujjatlar, qadimgi cholg'u asboblarini yig'ish, saklash va boshqalar bilan shug'ullanish maqsadida «Oltin meros» xalqaro xayriya jamg'armasi tuzilgan (1999 y. 12 okt.).Vazirlar Mahkamasining 4.10.2019 yildagi 846-son qarori bilan Moddiy madaniy merosning ko'chmas mulk ob'ektlari milliy ro'yxati tasdiqlangan.Respublikada moddiy merosning ko'chmas mulk ob'ektlari jami soni 8208 ta bo'lib, shundan 4748 ta arxeologiya yodgorliklari, 2 250 ta arxitektura yodgorliklari, 678 ta monumental san'at yodgorliklari, 532 ta diqqatga sazovor joylar.Mazkur ob'yektlarning 7123 tasi davlat mulki va 353 tasi xususiy mulk hisoblanadi.

Tabiatni muhofaza qilishga qaratilgan qonunlarni buzgan shaxslar ma'muriy, moddiy va jinoiy javobgarlikka tortilishi alohida ta'kidlab o'tilgan. Xususan, O'zbekiston Respublikasi Konstitutsiyasining 3-moddasida Respublikamizning chegarasi va xududi daxlsiz va bo'linmasligi ta'kidlab o'tilgan.

Ma'lumki, mamlakatimizdagi demografik holat, uning aholisi, urbanizatsiya darajasi, Respublikamiz hududida istiqomat qilayotgan millat va elatlar haqidagi ma'lumotlar Oliy talimda ham boshqa ayrim fanlar qatori Demografiya asoslari fanida o'qitiladi.

Bizning mamlakatimizda, 130 dan ortiq millat va elat vakillari yashaydi. Konstitutsiyamizning 18-moddasida "O'zbekiston Respublikasida barcha fuqarolar bir xil huquq va erkinliklarga ega bo'lib, jinsi, irqi, millati, tili, dini, ijtimoiy kelib chiqishi, e'tiqodi, shaxsi va ijtimoiy mavqeidan qat'iy nazar, qonun oldida tengdirlar" deyilgan.

Respublikamiz Konstitutsiyasida tabiatdan foydalanish va tabiiy resurslardan foydalanish masalalariga ham to'xtalib o'tilgan. Tabiatni muhofaza qilish va undan oqilona foydalanish, avvalo, tabiat qonunlarini tadqiq qilish va ularga qat'iy amal qilishni taqozo etadi. Geografiya fanining o'qitilishida tabiat bilan jamiyatning uzviy aloqalari, ular o'rtasidagi nomutanosibliklar, tabiiy boyliklarning insonlar hayotidagi ahamiyati, tabiatdan noto'g'ri foydalanishning salbiy oqibatlari ham chuqur o'rganiladi. Bu holatlar ham Konstitutsiyamizda qonuniy kuchga keltirilgan. Jumladan, Konstitutsiyaning 50 moddasida fuqarolar atrof, tabiiy muhitga ehtiyotkorona munosabatda bo'lishga majbur ekanliklari ta'kidlab o'tilgan.

Tabiiy resurslar-insonlarning yashashi uchun asosiy vosita hisoblanib, inson o'zi uchun zarur bo'lgan barcha ne'matlarini tabiatdan oladi va tabiiy resurslarsiz o'z faoliyatini amalga oshira olmaydi. Bu borada Respublikamiz o'z taraqqiyoti va istiqbolini oldindan uzoq muddatga mo'ljallay oladigan va tabiiy resurslardan o'zi belgilagan maqsadi yo'lida foydalanish imkoniga ega bo'lgan jamiyatga aylanmoqda va tabiatdan oqilona foydalanmoqda deb xulosa chiqarishimiz mumkin. Buning yaqqol misoli sifatida Konstitutsiyamizning 55-moddasida "Er, yer osti boyliklari, suv, o'simlik va hayvonot dunyosi hamda boshqa tabiiy zaxiralar

umummilliy boylikdir, ulardan oqilona foydalanish zarur va ular davlat muhofazasidir" deb ta'kidlanganligini keltirishimiz mumkin. Bundan ko'rinib turibdiki, ushbu moddada keltirilgan tabiat unsurlari cheklanganligini va shuning uchun ulardan oqilona foydalanish masalalari ham qonun bilan mustahkamlab qo'yilgan.

Demak geografiya darslarini tashkil etishda Respublikamiz haqida ma'lumot berilishi bilan birga ushbu ma'lumotlarning qonuniy kuchga kiritilgan holatini ham ta'kidlab o'tilishi o'quvchilarning tayanch bilimlarga ega bo'lishiga olib keladi. Xulosa o'rnida shuni aytish mumkinki, Oliy ta'lim muassalarida tahsil olayotgan talabalar o'quv fanlari bilan integratsiya tarzida Konstitutsiyaviy bilimlarni egallashi tabiiy va iqtisodiy, ijtimoiy, siyosiy jarayonlarga baho berishi, ularning dunyoqarashlarini kengayishiga yordam berar ekan. Zero, ona Vatanimiz o'z mustaqilligini qo'lga kiritgach, ona tuprog'imizda yashayotgan, erkinlik havosidan nafas olayotgan yoshlarimizni har tomonlama yetuk, sog'lom fikrli, yuksak ma'naviyatli, Konstitutsiyaviy bilimlarga ega qilib tarbiyalash har birimizning burchimizdir.

Foydalanilgan adabiyotlar:

1. O'zbekiston Respublikasi Konstitutsiyasi. 2018 yil.
2. Umumiy o'rta ta'lim maktablari geografiya darsliklari.
3. G'ulomov P., Hasanov I., - O'rta Osiyo tabiiy geografiyasi. – T.: Universitet. 2002 y.
4. Ishmuhamedov R, Abduqodirov A., Pardaev A.,-Ta'limda innovatsion texnologiyalar. (ta'lim muassasalari pedagog-o'qituvchilari uchun amaliy tavsiyalar). T.: Iste'dod. 2008.-8-b.
5.Maktab o'lkashunosligi (ma'ruzalar matni). Tuzuvchi Z.S. Saidkarimova T., 1999.
6.O'zbekistonda geografiya ta'limi metodikasi va toponimika: tarixi, muammolari va istiqbollari 26-27 aprel, 2019 yil 44 bet.
7. O'zbekiston Respublikasi Entsiklopediyasi. T. O'qituvchi 1997 y.
8. Asanov G., M.Nabixonov, I.Safarov. O'zbekiston iqtisodiy va ijtimoiy geografiyasi. T.: «O'qituvchi», 1994 y.
9. Axmedov E.A. O'zbekiston shaharlari. Toshkent, «O'zbekiston» 2007
10. SoliyevA.S.O`zbekiston geografiyasi Toshkent 2014
11. Komilova, N., Makhmudov, B., & Latipov, N. (2023). Study of crimes in the city of Kokand using GIS technologies and sociological questionnaires. Visnyk of VN Karazin Kharkiv National University, series" Geology. Geography. Ecology", (59), 125-139.
12. Latipov, N. F., & Komilova, N. K. (2022). INDICATORS OF URBAN ENVIRONMENT ASSESSMENT AND CRITERIA FOR THEIR SELECTION. Экономика и социум, (11-1 (102)), 129-134.
13. Mukhammedova, N. J., & Koziyeva, M. S. (2024). ECONOMIC-SOCIAL GEOGRAPHICAL DESCRIPTION OF NAVBAHAR DISTRICT. World of Scientific news in Science, 2(1), 619-623.

14. Khudoyberdieva, I. Analyzing of Influential Factors for the Development of Livestock and their Significance in Navoi Region.
15. Xudoyberdiyeva, I. (2024). Navoiy viloyati qishloq xo‘jalik tarmoqlarini joylashtirishda iqtisodiy va ijtimoiy geografik omillarning o‘rni. Tabiiy fanlar, 3(2), 315-318.

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RESEARCH ON THE ROLE AND STRATEGY OF BIG DATA SCIENCE IN THE INTELLIGENT TRANSFORMATION OF ENTERPRISE MANAGEMENT

Abstract: *With the rapid development of information technology, the intelligent transformation of enterprise management has become a key factor in enhancing competitiveness. As a core driving force, big data science provides enterprises with data support to optimize decision-making, business processes, product innovation, and business model transformation. This study aims to explore the role and strategies of big data science in intelligent transformation, providing theoretical guidance for enterprise practices. By combining theoretical analysis with practical applications, this research reviews relevant theories of big data science and analyzes its mechanisms in intelligent transformation, including data-driven decision-making, process optimization, product and service innovation, and business model transformation. Based on this analysis, four key strategies are proposed: data strategic planning, data platform development, data talent cultivation, and data security management, offering feasible recommendations for enterprises. The study demonstrates that big data science not only improves enterprise management efficiency but also promotes management model innovation, playing a crucial role in intelligent transformation. The novelty of this research lies in systematically analyzing the mechanisms of big data science and constructing a transformation strategy framework to provide practical guidance for enterprises. Future research can further explore the integration of multiple technologies and industry adaptability to drive the deep development of enterprise intelligent transformation.*

Keywords*: Big Data Science, Enterprise Management, Intelligent Transformation, Data-Driven Decision-Making, Business Process Optimization, Business Model Innovation*

Introduction

With the rapid development of information technology and intensified global competition, the intelligent transformation of enterprise management has become an irreversible trend. Intelligent transformation is not only a crucial means for enterprises to improve operational efficiency and reduce costs but also a key factor in maintaining competitiveness in a complex and ever-changing market environment. [1] In this context, big data science, as the core driving force of next-generation information technology, has gradually become an essential support for

enterprises to achieve intelligent transformation. By collecting, storing, analyzing, and applying massive amounts of data, big data science helps enterprises extract value from data, optimize decision-making processes, and drive business innovation, thereby enabling the transition from traditional to intelligent management models.

This study aims to explore the role and strategies of big data science in the intelligent transformation of enterprise management to provide theoretical guidance and practical references for enterprises. Specifically, the research objectives include: (1) analyzing the core mechanisms of big data science in the intelligent transformation of enterprise management; (2) proposing a strategic framework for intelligent transformation based on big data science; and (3) offering actionable recommendations for enterprises to effectively utilize big data science in intelligent transformation. This research not only enriches the theoretical framework of intelligent enterprise management transformation but also provides a scientific basis for enterprises to apply big data science in practice, demonstrating significant theoretical and practical value.

To achieve these research objectives, this study adopts a combination of theoretical analysis and logical reasoning. By reviewing relevant theories on intelligent enterprise management transformation and big data science, a theoretical framework is constructed. This is followed by an analysis of the specific mechanisms through which big data science facilitates intelligent transformation in enterprise management. Finally, based on theoretical analysis and practical summaries, strategic recommendations for big data-driven intelligent transformation are proposed. The research approach transitions from theoretical exploration to practical application, striving to establish a close connection between theory and practice to provide feasible solutions for enterprise intelligent transformation. Through this study, we aim to offer new perspectives and tools for enterprise managers, helping them take more solid steps on the path to intelligent transformation.

Mechanisms of Big Data Science in the Intelligent Transformation of Enterprise Management

Big data science plays a central role in the intelligent transformation of enterprise management. Its mechanisms primarily manifest in four aspects: data-driven decision-making, business process optimization, product and service innovation, and business model transformation. These mechanisms collectively form the technological foundation and practical pathway for intelligent transformation, providing enterprises with strong momentum for efficient operations and continuous innovation.

One of the core functions of big data science in enterprise intelligent transformation is data-driven decision-making. Traditional enterprise decision-making often relies on managerial experience and intuition, whereas big data science enables enterprises to collect, analyze, and extract insights from vast amounts of data, thereby providing more scientific and precise decision support. For example, in supply chain management, enterprises can analyze historical sales data,

market trends, and supplier data to forecast future demand and optimize inventory management, reducing operational costs while improving customer satisfaction. In marketing, enterprises can leverage big data to analyze user behavior and precisely target customer segments, formulating personalized marketing strategies to enhance marketing effectiveness.[2] Data-driven decision-making not only enhances the scientific accuracy of decision-making but also significantly improves market responsiveness and competitiveness.

Big data science also plays a crucial role in optimizing business processes. Enterprises often face issues such as process redundancy and inefficiency, which big data can address through real-time monitoring and analysis of business process data. For instance, in the manufacturing sector, real-time data collection and analysis of production lines can identify bottlenecks and optimize production planning, thereby improving efficiency. In the financial sector, banks can use big data analytics to monitor customer transactions in real time, identifying anomalous transactions and enhancing risk control. By leveraging big data-driven business process optimization, enterprises can significantly improve operational efficiency, reduce costs, and deliver higher-quality services to customers.

In a highly competitive market, enterprises need continuous innovation to meet customer demands. Big data science facilitates in-depth understanding of customer needs, driving iterative upgrades of products and services.[3] For example, in the retail industry, enterprises can analyze consumer purchasing behavior data to identify potential market demands and develop new or improved products accordingly. In the internet sector, companies can leverage big data to analyze user preferences and behaviors, offering personalized recommendations to enhance user experience. Big data-driven product and service innovation enables enterprises to gain a competitive edge, strengthen customer loyalty, and create long-term value.

Big data science also fosters business model transformation. Traditional business models often struggle to adapt to rapidly changing market environments, whereas big data provides new business opportunities and competitive advantages. In the sharing economy, for example, companies use big data to achieve precise resource matching and efficient utilization, constructing entirely new business models. In intelligent manufacturing, enterprises leverage big data analytics to enable intelligent production and personalized customization, facilitating the transition from traditional manufacturing to service-oriented manufacturing. Big data-driven business model innovation not only creates new revenue streams but also reshapes industry competition, establishing sustainable competitive advantages for enterprises.

In summary, big data science comprehensively promotes the intelligent transformation of enterprise management through the mechanisms of data-driven decision-making, business process optimization, product and service innovation and business model change. These mechanisms are interrelated and mutually reinforcing, and together constitute the core driving force of enterprise intelligent transformation. In the future, with the continuous development of big data

technology and the expansion of application scenarios, its role in the intelligent transformation of enterprise management will be further deepened, creating greater value for enterprises.

Strategies for Big Data-Driven Intelligent Transformation in Enterprise Management

Big data science plays a pivotal role in driving the intelligent transformation of enterprise management. To maximize the value of data and achieve intelligent transformation objectives, enterprises need to formulate scientifically sound strategies. These strategies mainly include data strategic planning, data platform development, data talent cultivation, and data security and privacy protection. These interrelated strategies collectively form the implementation framework for enterprise intelligent transformation.

Data strategic planning serves as the foundation for intelligent transformation. Enterprises must formulate data strategies aligned with their overall business strategies, clearly defining the central role of data in business development and embedding data-driven concepts into corporate culture and operational processes. [4] The core of data strategic planning lies in establishing a comprehensive data governance system that ensures data accuracy, consistency, and usability. For example, enterprises can enhance overall data value by standardizing data processes, defining data ownership and responsibilities, and implementing data quality management mechanisms. Only through rigorous data strategic planning can enterprises lay a solid foundation for intelligent transformation and ensure the effective application of data in decision-making, operations, and innovation.

Data platform development is a critical step in realizing the value of data. Enterprises must build unified data platforms to eliminate data silos, facilitating data integration and sharing. A unified data platform not only enhances data accessibility and usability but also enables real-time data analysis and decision-making support. In terms of technology selection, enterprises should choose appropriate big data technologies and tools based on their business needs, such as distributed storage systems (e.g., Hadoop), real-time data processing frameworks (e.g., Spark), and data visualization tools (e.g., Tableau). By establishing a robust data platform, enterprises can achieve efficient data management and deep data mining, thus providing technical support for intelligent transformation.

Data talent cultivation is the core driving force behind enterprise intelligent transformation. The application of big data science requires professionals with data literacy and analytical capabilities. Enterprises should cultivate and retain data talent through internal training, external recruitment, and industry-academia collaborations. For instance, businesses can offer data analytics courses to enhance employees' data skills, while simultaneously establishing talent incentive mechanisms through performance evaluations, career development pathways, and reward systems to motivate data professionals. Data talent not only serves as users of technical tools but also as discoverers and innovators of data value. Their capabilities directly determine the depth and breadth of enterprise intelligent transformation.[5] Data security and privacy protection are indispensable aspects of

enterprise intelligent transformation. As data value increases, so do data security and privacy risks. Enterprises must establish comprehensive data security management systems that define data usage permissions and processes to prevent data breaches and misuse. Additionally, businesses should strengthen data security measures by adopting encryption technologies, access controls, and security audits to ensure data security. Moreover, enterprises must comply with relevant laws and regulations, respecting user privacy and adhering to legal and regulatory principles during data collection and usage. Only by ensuring data security and privacy can enterprises gain user trust and achieve sustainable data utilization.

In summary, the strategies for big data-driven intelligent transformation in enterprise management encompass data strategic planning, data platform development, data talent cultivation, and data security and privacy protection. These strategies complement each other and collectively form the implementation pathway for intelligent transformation. Through scientific strategic planning and effective resource allocation, enterprises can fully leverage the value of big data science, driving management innovation and enhancing business capabilities, ultimately achieving sustainable development in intelligent transformation.

Conclusion

This study explores the role and strategies of big data science in the intelligent transformation of enterprise management, systematically analyzing the core mechanisms of big data science, including data-driven decision-making, business process optimization, product and service innovation, and business model transformation. Furthermore, it proposes key strategies such as data strategic planning, data platform development, data talent cultivation, and data security and privacy protection. The findings indicate that big data science is not only a technological enabler of enterprise intelligent transformation but also a core driving force for management innovation and business upgrading. By leveraging data-driven decision-making, enterprises can enhance the scientific accuracy and precision of their decisions; by optimizing business processes, enterprises can significantly improve operational efficiency; by fostering product and service innovation, enterprises can better meet customer demands; and by transforming business models, enterprises can establish new competitive advantages. These research findings provide both theoretical foundations and practical guidance for enterprise intelligent transformation, demonstrating significant theoretical and practical value.

However, this study has certain limitations. First, it is primarily based on theoretical analysis and logical reasoning, lacking large-scale empirical data support. Future research could further validate the universality of the study's conclusions through case studies or empirical analysis. Second, this study focuses mainly on the application of big data science in enterprise management without fully considering the synergy between big data science and emerging technologies such as artificial intelligence and the Internet of Things. Future research could explore the impact of multi-technology integration on enterprise intelligent transformation. Additionally, this study does not delve into the differentiated needs of enterprises

of varying industries and scales in their intelligent transformation processes. Future research could incorporate industry characteristics and enterprise scale to propose more targeted strategic recommendations.

Looking ahead, the application of big data science in enterprise intelligent transformation will become more extensive and in-depth. With continuous advancements in data collection, storage, and analysis technologies, enterprises will be able to extract data value more efficiently, driving sustained innovation in management models. Meanwhile, as data security and privacy protection technologies mature, enterprises will be able to further unlock the potential of data while ensuring security compliance.

Future research could focus on the following areas:

1. Exploring the integration of big data science with emerging technologies such as artificial intelligence and blockchain.

2. Investigating data-driven corporate culture transformation and organizational structure optimization.

3. Analyzing the pathways and risk control strategies for enterprise intelligent transformation in a globalized context. Through continuous research advancements, hope to provide more comprehensive and in-depth theoretical guidance for enterprise intelligent transformation, assisting enterprises in achieving high-quality development in the digital era.

References

1. Eboigbe, E. O., Farayola, O. A., Olatoye, F. O., et al. Business intelligence transformation through AI and data analytics // Engineering Science Technology Journal. — 2023. — Vol. 4, No. 5. — P. 285-307.
2. Udeh, C. A., Orieno, O. H., Daraojimba, O. D., et al. Big data analytics: a review of its transformative role in modern business intelligence // Computer Science IT Research Journal. — 2024. — Vol. 5, No. 1. — P. 219-236.
3. Antwi, B. O., Avickson, E. K. Integrating SAP, AI, and Data Analytics for Advanced Enterprise Management // International Journal of Research Publication and Reviews. — 2024. — Vol. 5, No. 10. — P. 621-636.
4. Paramesha, M., Rane, N. L., Rane, J. Big data analytics, artificial intelligence, machine learning, internet of things, and blockchain for enhanced business intelligence // Partners Universal Multidisciplinary Research Journal. — 2024. — Vol. 1, No. 2. — P. 110-133.
5. Sahoo, S. Big data analytics in manufacturing: a bibliometric analysis of research in the field of business management // International Journal of Production Research. — 2022. — Vol. 60, No. 22. — P. 6793-6821.

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CHINA-CENTRAL ASIA TRANSPORT AND COMMUNICATION COOPERATION

Abstract: *The article examines the dynamics of cooperation between China and the Central Asian states in the field of transport and communication. Key infrastructure projects, economic and geopolitical aspects of cooperation, as well as prospects for further development of regional logistics are analyzed.*

Keywords: *Central Asia, transport and communication sphere, infrastructure projects, economy, geopolitics, regional logistics, cooperation, development.*

One of the main directions of practical cooperation between China and the Central Asian states is to develop the transport and communication sphere. The development of transport infrastructure in Central Asia plays an important role in international trade and economic integration of the region. China, as part of the Belt and Road Initiative (BRI), is actively investing in the construction of railway and road routes, logistics centers and communication systems. This article analyzes the current state of transport and communication cooperation between China and the Central Asian states, identifies the main achievements and problems, and discusses the prospects for further cooperation. The main directions of the foreign policy of the Republic of Uzbekistan are the further development of political, trade, economic, investment, transport and communication ties with the People's Republic of China

The parties share the same or similar positions on a number of important international and regional issues, and jointly strive for peace, stability and prosperity. China and Uzbekistan maintain close ties within the UN, SCO and other multilateral structures, protect common interests, and make a positive contribution to global security and progress.

Over the past decade, the People's Republic of China has developed into a powerful world power, achieved grandiose scientific, technological and innovative progress, and created a unique ecosystem for economic and business development. The country has acquired a completely new look, the welfare of the people is steadily growing, and a solid intellectual foundation is being formed for the further development of the PRC. Today, China occupies a leading position in world politics and governance as a responsible participant in key international processes.

The idea of creating a Regional Center for the Development of Transport and Communication Connectivity in Central Asia under the auspices of the United Nations is an initiative of strategic importance for the entire region. It implies that

Central Asia cannot be considered solely as a transit zone connecting Europe and Asia. The region should become a strong actor in interregional trade and economic processes and participate in shaping повесткиthe agenda in this direction.

Global development and security initiatives make a significant contribution to addressing global challenges and accelerating the transition to a more sustainable and inclusive future. China is actively involved in supporting the economic growth of developing countries by expanding trade and investment cooperation and implementing infrastructure connectivity projects. Uzbekistan, as a friendly neighbor and comprehensive strategic partner of China, is sincerely pleased with these successes. The development of multifaceted relations with China has been and remains one of the main priorities of Uzbekistan's foreign policy. InChina , they say: if you want to get rich, you must first build roads. Since the foundation of the Chinese Academy of Sciences The People's Republic of China, the Chinese people have opened numerous roads and bridges, turned China into a major transport power, and are accelerating this construction every day. Transport developmenthas becomean innovator of China's modernization.

1. Economic cooperation and infrastructure projects: In recent years, China has been actively financing and implementing a number of major infrastructure projects in Central Asia:

Railway corridors: China-Kazakhstan-Europe, China-Kyrgyzstan-Uzbekistan and others.

Automobile routes: construction of expressways and modernization of existing roads.

Logistics hubs: creation of transport and logistics centers in Kazakhstan, Uzbekistan and Tajikistan.

These projects help to reduce cargo delivery time, increase trade turnover and strengthen economic ties between the countries of the region.

2. Geopolitical aspects of interaction The Chinese strategy of economic influence in Central Asia is of interest not only in the region, but also among global players such as Russia, the EU and the United States. The main aspects of geopolitical interaction are: Competition for transport routes and sales markets. Impact on the energy security of the region. Deepening integration processes within the Shanghai Cooperation Organization (SCO).

3. Problems and challengesof cooperation-despite the active development of the transport and communication sector, there are certain problems: The debt dependence of some countries in the region on China. Differences in the regulatory framework and standards of transport logistics. Environmental and social risks associated with the implementation of infrastructure projects.

4. Prospects and opportunities-in the future, cooperation between China and Central Asia in the transport and communication sphere can be strengthened by: Developing digital technologies in logistics. Strengthening regional coordination and regulatory harmonization. Expansion of multimodal transport and increasing the capacity of transport hubs.

China plays a key role in the development of Central Asia's transport infrastructure, creating new logistics opportunities and strengthening economic ties. Despite the existing challenges, the potential for further cooperation remains significant, which opens up prospects for the sustainable development of the region's transport and communication sector.

"China-Central Asia Transport and Communication Cooperation" can look like this: Transport and communication cooperation between China and Central Asian countries is an essential element of economic and geopolitical relations in the region. In recent decades, China has been actively developing infrastructure and transport corridors aimed at integrating Central Asia into the global economy. The "One Belt, One Road" project has become a key mechanism for stimulating mutual trade, improving transport accessibility and improving regional security.

The main areas of transport cooperation are the construction and modernization of roads and railways, the development of logistics hubs and port facilities, as well as the strengthening of energy and information infrastructure. In turn, Central Asian countries gain access to Chinese markets, increase trade volumes, and strengthen economic cooperation with neighboring regions.

However, this cooperation also faces a number of challenges, including political instability, environmental problems, and the need to coordinate the interests of different States. Despite this, the overall trend in the development of transport and communication links between China and Central Asia remains positive, which contributes to deepening economic integration and strengthening China's influence in the region.

In the long term, given the growing volume of trade and investment, China-Central Asia transport and communication cooperation will play a key role in ensuring the stability and sustainable development of the region, as well as in shaping new global economic and political ties . focus on key aspects of cooperation and possible challenges.

References:

1. Кулынтай Г. Ж. , Тайшанова С.Т Интересы мировых держав в транспортно-коммуникационном потенциале стран центральной азии
2. Е.В. Савкович, А.Г. Данков. Развитие транспорта в китае и центральной азии в контексте формирования трансъевразийских транспортных коридоров
3. Ибрагимова, С., & Абдулазизов, Ф. (2025). Развитие корпоративного управления в Узбекистане на основе современных мировых стандартов. *YASHIL IQTISODIYOT VA TARAQQIYOT*, *3*(1).
4. Khusainov Ravshan Rakhimovich Evolution of privatization and deputy of state in the industrial sector of uzbekistan World Economics & Finance Bulletin (WEFB) Available Online at: https://www.scholarexpress.net Vol. 21, April 2023 ISSN: 2749-3628 In Volume 21 of the "World Economics & Finance Bulletin " Scholar Express Journals, Berlin Germany, April, 2023.
5. Baxadirxodjaevna, Y. G. (2022). Improvement of corporate governance in a service company using a system of performance indicators. *Gospodarka i Innowacje.*, *30*, 24-29.

6. Baxadirxodjaevna, Y. G. (2022). The role of competitive potential in strengthening the economic potential of the enterprise.
7. https://old.gov.uz/ru/news/view/28647
8. https://kongress-servis.uz/ru/novosti/zheleznaq-doroga-kitaj-krgzstan-uzbekistan-mozhet-statx-odnim-iz-vazhnh-zvenxev-koridora-vostok-zapad--kspert
9. https://www.scania.com/ru/ru/home/about-scania/sustainability/transport-and-the-agenda-2030.html

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TECHNIQUES FOR USING CRITICAL THINKING DEVELOPMENT TECHNOLOGY

Annotation*: The article examines the use of critical thinking development methods in English lessons. It emphasizes the importance of critical thinking, which is defined as the ability to analyze information, ask new questions, build arguments, and make independent decisions. The article presents various methods, such as the "Thought Poster," "Aquarium," "Gallery Walk," and "Mosaic" exercises, aimed at developing students' ability to think critically, collaborate, and engage in productive discussions. The suggested methods encourage active participation, improve students' communicative competence, and promote lifelong learning. These approaches also make lessons more interactive, engaging, and effective in developing students' cognitive abilities.*

Key words: *critical thinking, cognitive, stimulate, evocation, stimulus, adapt, analyze*

Critical thinking is the ability to analyze information from a logical and personal-psychological approach, so that the results can be applied to both standard and non-standard situations, questions, and problems. Critical thinking is the ability to ask new questions, develop various arguments, and make independent, thoughtful decisions.

The use of critical thinking technology in English lessons allows:

- A significant increase in speaking practice time for each student.
- Ensures that all group participants master the material.
- Solves various educational and developmental tasks.

The teacher, in turn, becomes the organizer of independent educational, cognitive, communicative, and creative activities for the students. This provides opportunities to improve the learning process, develop students' communicative competence, and foster the holistic development of their personalities.

Critical thinking technology provides the opportunity to:

- Increase the effectiveness of information perception and interest in the material and learning process.
- Develop the ability to think critically and work in collaboration with others.
- Improve the quality of student education.
- Stimulate the desire and ability to become a lifelong learner.

Critical thinking technology in English lessons involves a modular lesson consisting of three stages:

1. **Evocation Stage**: The teacher analyzes previously covered material with the students and gives them the opportunity to formulate personally meaningful goals. It is recommended to combine individual and group work.

2. **Realization of Meaning Stage**: At this stage, the teacher provides students with material to reflect on. The organization of work can vary, such as storytelling, lectures, individual, pair, or group reading, or watching video material.

3. **Reflection Stage**: At the end of the lesson, the teacher and students compare the new material with what they knew about the topic before. Students draw conclusions on the lesson topic, systematize, and evaluate their new knowledge.

The suggested techniques and exercises are suitable for all subjects where the teacher uses critical thinking development technologies.

Critical Thinking Technique: "Thought Poster"

Create a silent conversation. This exercise will help unite the class and stimulate the learning process and interaction in the classroom.

This critical thinking technique will undoubtedly be liked by every teacher. The exercise must be performed in complete silence. Such work is relevant in any lesson, and silence and writing are special tools that can help students study the subject more thoroughly. During a large paper "discussion," students should write interesting thoughts and questions on a large poster.

This process slows down thinking and gives students the chance to focus on the ideas of others. This technique helps create a visual record of the students' opinions and questions, which can be discussed in future lessons. This strategy activates the participation of students who are not inclined to engage in verbal discussions. Moreover, it teaches talkative students to listen to the ideas of others. After participating in such activities several times, students feel more comfortable, confident, and bold.

Procedure:

1. **Choose a for "discussion" and set a task**: A stimulus can be material that students need to analyze, such as questions, quotes, historical documents, excerpts from works, poetic pieces, or images. Various tests or practical exercises can be adapted for this type of work, depending on the subject and topic you are studying.

2. **Divide the class into groups and distribute posters**: This should be a group activity. You can give each group its own topic or assign the same topic to all. Each group needs an A4 or A3 sheet of paper, depending on the expected result. Attach the stimulus in the center of the sheet.

3. **Prepare students**: Inform them in advance that the exercise will be performed in complete silence. All communication should be in writing. Let students know they will have the chance to discuss the material with partners and the class later. Provide clear instructions to avoid questions during the exercise.

4. **Writing comments**: Each group should have colored markers or pens. Encourage students to write questions in black ink and answers in red to visually

track the group's thought process. The group silently reads the text or examines images and writes questions, comments, or remarks on the material.

5. **Sharing with other groups**: Posters are passed from desk to desk or groups move while leaving their posters at the desks. This activity is also carried out in complete silence. Students look at the posters of other groups, add their own thoughts, and comment on what has been written.

6. **Return to their own posters**: At the end of the exercise, the groups return to their own posters and review the new comments and questions made by their classmates. They can then discuss the new insights in the group and decide if their perspective has changed.

7. **Class discussion**: Analyze the work and ask the students what they learned after the exercise. Ask if they enjoyed working with a partner and what they thought about the comments from other groups. Discuss the main points from the poster and what the groups understood from it. Make your own conclusions based on your observation of the students' work.

"Aquarium" Exercise: This strategy helps students develop the ability to think critically and engage in productive discussions. The "Aquarium" method can be used in the process of studying any current topic. The discussion occurs among students sitting in a circle ("the fish in the aquarium"), while the rest of the class observes and listens carefully to the conversation. This exercise teaches students to consider others' points of view and reflect on their own thoughts after receiving new information. It is especially useful when it is necessary to engage the whole class in a discussion and encourage productive communication.

Procedure:

1. **Choose a discussion topic**: Almost any topic is suitable for this exercise, whether it's a conflict, historical event, or literary issue. The goal is to explore the problem from different perspectives.

2. **Prepare the classroom**: Arrange the desks in a circle to create an "aquarium." Around the circle, there should be enough space for the other students to observe the discussion. 6-12 chairs are optimal for the discussion.

3. **Prepare for the discussion**: Allow students some time to think about the topic or the information they will discuss. This helps them to better engage in the exercise.

4. **Discuss the norms and rules of the exercise**: There are different ways to structure the discussion. For example, some teachers prefer a 15-minute discussion among the "fish" in the aquarium, after which the speakers and listeners switch roles. However, you can adjust the rules according to the situation.

5. **Group the students**: Divide the class into groups, with representatives sitting in the circle. Any member of a group can touch the speaker's shoulder and take their place, ensuring everyone has the opportunity to speak.

6. **Survey**: After the discussion, ask students to reflect on the conversation. What did they learn? How do they think the discussion could be improved next time?

7.

"Gallery Walk" Exercise

This technique encourages students to analyze and collaborate with others. Students walk around the classroom and examine texts, images, or documents placed on the walls. It teaches systematic analysis and helps students reconsider conclusions drawn by others.

Procedure:

1. **Choose the material for review**: Prepare fragments of texts, quotes, images, or documents that students will analyze. You can divide the class into groups, with each group examining a different fragment.
2. **Place the material in the classroom**: Arrange the documents on the walls at a similar height and distance, allowing students to walk around and view each piece. Materials can also be placed on desks.
3. **Study the material**: Depending on the goal of the exercise, students may be asked to take notes, answer questions, or identify similarities and differences between the materials.
4. **Summarize the findings**: After reviewing the materials, analyze the class's activity. Ask students to share their findings either orally or in writing. Their conclusions can form the basis for further analysis.

"Mosaic" Exercise: This technique turns students into experts on a particular topic. Students work in groups to analyze specific materials and then share their knowledge with the class, improving their collaboration skills. The end goal is for each group to present its analysis to the class.

Procedure:

1. **Choose the material for study**: This can include fragments of documents, images, diagrams, or a set of questions. Divide the class into expert groups, each responsible for analyzing a specific piece of information.
2. **Work in groups**: Each group focuses on understanding the material assigned to them. It’s important that every member of the group comprehends the topic.
3. **Teach the class**: Once the expert groups are ready, they will take turns presenting their findings to the rest of the class, with the listeners taking notes.
4. **Reflect on the new information**: After all groups have presented their findings, pose more complex questions that require the class to synthesize all the information they have learned.

The outlined techniques help cultivate critical thinking and teamwork skills. By integrating these methods into English lessons, educators can deepen students' understanding and enhance their learning experience.

Literature

1. Ratto, M. (2009). "Critical Making: Conceptual and Material Studies in Technology and Social Life." The Information Society, 27(4), 252-260.
2. Ratto, M., & Boler, M. (Eds.). (2014). DIY Citizenship: Critical Making and Social Media. MIT Press.

3. Scheuer, O., Loll, F., Pinkwart, N., & McLaren, B. M. (2010). "Computer-Supported Argumentation: A Review of the State of the Art." International Journal of Computer-Supported Collaborative Learning, 5(1), 43-102.
4. Kunsch, D. W., Schnarr, K., & van Tyle, R. (2014). "The Use of Argument Mapping to Enhance Critical Thinking Skills in Business Education." Journal of Education for Business, 89(8), 403-410.
5. McLaren, B. M., Scheuer, O., & Mikšátko, J. (2010). "Supporting Collaborative Learning and E-Discussions Using Artificial Intelligence Techniques." International Journal of Artificial Intelligence in Education, 20(1), 1-46.
6. Park, E., & Kim, P. (2016). "A Case Study Exploring Student Engagement with Stanford Mobile Inquiry-based Learning Environment (SMILE)." GLOKALde, 2(3), 1-17.
7. Ruef, K. (2015). "The Private Eye: (5X) Looking/Thinking by Analogy." Microscopy Today, 23(3), 50-55.
8. Twardy, C. R. (2004). "Argument Maps Improve Critical Thinking." Teaching Philosophy, 27(2), 95-116.
9. Nussbaum, E. M. (2011). "Argumentation, Dialogue Theory, and Probability Modeling: An Alternative Framework for Argumentation Research in Education." Educational Psychologist, 46(2), 84-106.
10. Pinkwart, N., & McLaren, B. M. (2010). "The LASAD Project: Learning to Argue: Generalized Support Across Domains." IEEE Transactions on Learning Technologies, 3(2), 128-129

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KOMPLEKS SONLAR MAVZUSINI O‘QITISH METODIKASI

Annotatsiya. *Ushbu maqolada kompleks sonlar mavzusini o‘qitishning samarali usullari va metodik yondashuvlari ko‘rib chiqiladi. Maqolada kompleks sonlarning mohiyati, ularning matematikadagi o‘rni va amaliy ahamiyati haqida tushunchalar berilgan.*

Kalit so‘zlar: *kompleks sonlar, matematika o‘qitish metodikasi, didaktik materiallar, pedagogik texnologiyalar, amaliy mashqlar, o‘quv jarayoni.*

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METHODOLOGY FOR TEACHING THE TOPIC OF COMPLEX NUMBERS

Annotation. *This article examines effective methods and methodological approaches for teaching the topic of complex numbers. The article provides insights into the essence of complex numbers, their role in mathematics, and their practical significance.*

Keywords: *complex numbers, mathematics teaching methodology, didactic materials, pedagogical technologies, practical exercises, learning process.*

Kirish.

Kompleks sonlar matematikaning muhim tushunchalaridan biri bo‘lib, ularni o‘qitishda samarali metodik yondashuvlar qo‘llanilishi talab etiladi. Ushbu maqolada kompleks sonlar mavzusini o‘qitishning metodik jihatlari, darslarda qo‘llaniladigan usullar va o‘quvchilarga mavzuni yaxshilab o‘zlashtirishga yordam beradigan tavsiyalar keltirilgan.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

1. Mavzuning ahamiyati va o‘rni

Kompleks sonlar matematikada, fizikada, muhandislikda va boshqa fanlarda keng qo‘llaniladi. Ular haqiqiy sonlar to‘plamini kengaytirib, kvadrat ildizlarni manfiy sonlardan ham olish imkonini beradi. Kompleks sonlarni o‘qitish orqali o‘quvchilarning matematik fikrlash qobiliyati oshadi, ular murakkab masalalarni yechishda yangi usullarni o‘rganadilar.

2. Darsni boshlash: motivatsiya va kirish

Darsni boshlashda kompleks sonlarning qanday zaruriyatdan kelib chiqqanligi haqida gapirish kerak. Misol uchun, kvadrat tenglamalarni yechishda diskriminant manfiy bo‘lganda haqiqiy yechimlar topilmaydi. Bu holatda kompleks sonlar yordamida tenglamani yechish mumkinligi tushuntiriladi.

Misollar:

$x^2 + 1 = 0$ tenglamani yechish.

Haqiqiy sonlar to‘plamida bu tenglamaning yechimi yo‘q, lekin kompleks sonlar yordamida $x = i$ va $x = -i$ yechimlari mavjud.

MUHOKAMA VA NATIJALAR

3. Kompleks sonlarning ta’rifi va ko‘rinishlari

Kompleks sonlar $z = a + bi$ ko‘rinishida ifodalanadi, bu yerda a va b haqiqiy sonlar, i esa $i^2 = -1$ shartni qanoatlantiradigan mavhum birlikdir.

Kompleks sonlarning ko‘rinishlari:

Algebraik ko‘rinishi: $z = a + bi$

Trigonometrik ko‘rinishi: $z = r \cdot (\cos\varphi + i \cdot \sin\varphi)$

Ko‘rsatkichli ko‘rinish: $z = r \cdot e^{i\varphi}$

Bu ko‘rinishlarni o‘quvchilarga tushuntirishda ularning har birining qulayliklari va qo‘llanilishi haqida gapirish kerak.

4. Kompleks sonlar ustida amallar

Kompleks sonlar ustida quyidagi amallarni bajarish mumkin:

Qo‘shish va ayirish: $(a + bi) \pm (c + di) = (a \pm c) + (b \pm d)i$

Ko‘paytirish: $(a + bi)(c + di) = (ac - bd) + (ad + bc)i$

Bo‘lish: $\frac{a+bi}{c+di} = \frac{ac+bd}{c^2+d^2} + \frac{bc-ad}{c^2+d^2}i$

Kompleks sonni natural darajaga ko‘tarish

$z = r(\cos\varphi + i\sin\varphi)$ kompleks son uchun $\forall n \in \mathbb{N}$ soni uchun Muavr formulasi: $z^n = r^n(\cos\varphi + i \cdot \sin\varphi)^n = r^n\big(\cos(n\varphi) + i \cdot \sin(n\varphi)\big)$

Misol: $z = 3(\cos 15° + i \cdot \sin 15°)$ kompleks sonning 4-darajasini toping:

$$z^4 = 3^4\big(\cos(4 \cdot 15°) + i \cdot \sin(4 \cdot 15°)\big) = 81 \cdot (cos60° + i \cdot sin60°) =$$

$$= 81 \cdot \left(\frac{1}{2} + i\frac{\sqrt{3}}{2}\right) = \frac{81}{2}\left(1 + \sqrt{3}i\right).$$

Javob: $\frac{81}{2}\left(1 + \sqrt{3}i\right)$

Bu amallarni misollar orqali tushuntirish va o‘quvchilarga mustaqil ravishda mashqlar bajarishga imkon berish kerak.

5. Kompleks sonlarning geometrik talqini

Kompleks sonlarni kompleks tekislikda (Argand diagrammasi) tasvirlash orqali ularning geometrik ma’nosini tushuntirish mumkin. Kompleks son $z = a + bi$ nuqta sifatida $(a ; b)$ koordinatalarida joylashadi.

Modul va argument:

Modul: $|z| = \sqrt{a^2 + b^2}$

Argument: $\varphi = \arctan\left(\frac{b}{a}\right)$

Bu tushunchalarni geometrik misollar orqali tushuntirish o‘quvchilarning mavzuni yaxshilab tushunishiga yordam beradi.

6. Kompleks sonlarning qo‘llanilishi

Kompleks sonlarning amaliy qo‘llanilishi haqida gapirish kerak. Misol uchun, elektrotexnikada o‘zgaruvchan tok zanjirlarini tahlil qilishda, fizikada to‘lqinlar nazariyasida kompleks sonlar keng qo‘llaniladi.

7. Darsni yakunlash va mustahkamlash

Dars oxirida o‘quvchilarga quyidagi savollar berish orqali bilimlarini mustahkamlash mumkin:

- Kompleks son nima?
- Kompleks sonlarni qanday ko‘rinishlarda ifodalash mumkin?
- Kompleks sonlar ustida qanday amallarni bajarish mumkin?

Shuningdek, mustaqil ishlash uchun mashqlar va masalalar berish kerak.

8. Qo‘shimcha tavsiyalar

Vizual vositalardan foydalanish: Kompleks sonlarni geometrik talqin qilishda diagrammalar va grafiklardan foydalanish.

- Interfaol usullar: Darsda interfaol usullar, jumladan, kompyuter dasturlari va onlayn resurslardan foydalanish.
- Amaliy mashqlar: O‘quvchilarga kompleks sonlar bilan bog‘liq amaliy masalalarni yechishga imkon berish.

XULOSA

Kompleks sonlar mavzusini o‘qitishda metodik yondashuvlar, vizual vositalar va amaliy misollardan foydalanish o‘quvchilarning mavzuni yaxshilab tushunishiga yordam beradi. Darslarda mavzuning nazariy jihatlarini amaliy misollar bilan bog‘lab berish, o‘quvchilarning bilimlarini mustahkamlash va ularning qiziqishini uyg‘otish muhimdir.

REFERENCES

1. Z.Zaparov, R.Jo‘raqulov – “O‘qitishda tajribalar: Soddalik va qiziqarlilik” Academic research in educational sciences volume 2 | ISSUE 2 | 2021, 700-706 betlar.
2. БА Кулматова, ДА Буранова, ЗА Запаров.-Способы защиты от интернет-мошенничества, Научно-методический журнал Academy 2019 г 78-80 ст.
3. З.Запаров., Б.Эгамбердиева «Адаптивная система обучения» Перспективы развития науки и образования в современных экологических условиях с. Соленое займище, 18–19 мая 2017 года. 1054-1056 ст.
4. Matematika o‘qitish metodikasi. T.: O‘qituvchi, 2020.
5. Kompleks sonlar va ularning qo‘llanilishi. T.: Fan, 2019.
6. Matematik analiz asoslari. T.: O‘zbekiston, 2018.
7.https://staff.tiiame.uz/storage/users/685/presentations/V8uMRRlQFjSP4jwaowgABvKIJf010XE4JlBr01Bq.pdf
8. https://goaravetisyan.ru/uz/kak-reshit-uravnenie-s-pomoshchyu-obratnoi-matricy-lineinye-uravneniya/

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ИСПОЛЬЗОВАНИЕ ЛИНГВОКУЛЬТУРОЛОГИЧЕСКОГО ПОДХОДА В ОБУЧЕНИИ ИНОСТРАННОМУ ЯЗЫКУ

Аннотация: *Обучение иностранному языку не может ограничиваться только развитием речевых умений на изучаемом языке. Необходимо учитывать взаимосвязь и взаимодействие культуры и языка в его функционировании. Иностранный язык должен рассматриваться как средство, способствующее международному общению, познанию культуры страны изучаемого языка. Следовательно, возрастают требования к уровню владения иностранными языками, что обусловливает необходимость постоянного поиска новых эффективных средств обучения и методов преподавания дисциплины «Иностранный язык».*

Ключевые слова: *межкультурная компетенция, диалог культур, методы обучения, межкультурное образование, интеграция.*

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USING A LINGUOCULTURAL APPROACH IN TEACHING A FOREIGN LANGUAGE

Abstract: *Teaching a foreign language cannot be limited to developing speech skills in the language being studied. It is necessary to take into account the relationship and interaction of culture and language in its functioning. A foreign language should be considered as a means of promoting international communication, learning the culture of the country of the language being studied. Consequently, the requirements for the level of proficiency in foreign languages are increasing, which necessitates a constant search for new effective teaching tools and methods of teaching the discipline "Foreign Language".*

Key words: *intercultural competence, dialogue of cultures, teaching methods, intercultural education, integration.*

Введение. Современное общество предполагает установление политических, социальных, культурных, языковых и других связей между различными мировыми сообществами, что ведет к информационному обмену, усилению взаимодействия и взаимовлияния представителей различных национальностей в самых различных сферах социальной, культурной жизни, в т.ч. и образовательной.

Наблюдающаяся интенсивная интеграция европейских стран и глобализация мировых политических и социально-экономических процессов создали ситуацию языкового и культурного разнообразия на всех уровнях межнациональных контактов и сотрудничества. В современных условиях, в процессе изучения иностранного языка в диалог вступают не просто изучаемые языки, а также культуры, национальные особенности, традиции, обычаи, ментальности.

Гуманизация образования подразумевает, что язык используется не только как средство коммуникации, но и как система отображения национальной культуры и национального менталитета. В области теории обучения иностранному языку данная тенденция проявляется в признании того факта, что овладение иностранным языком есть, прежде всего, приобщение к иной культуре, овладение новым социокультурным содержанием. Подтверждают этот факт и слова Р. Полнуера, «мы, как учителя иностранного языка, должны быть заинтересованы в изучении культуры (в социальном смысле этого слова) не потому, что мы хотим обучать культуре другой страны, а потому что мы обязаны это сделать. Если мы будем обучать языку и одновременно не обучать культуре, в которой он действует, то мы будем обучать лишенным смысла символам, которым студенты приписывают неправильное значение» [1].

Например, М. Беннетт пишет, что многие студенты (и некоторые преподаватели) рассматривают язык только как средство коммуникации, как метод, используемый людьми для называния объектов и идей окружающего физического и социального мира [2]. Данная точка зрения представляет язык набором слов, связанных вместе правилами, а его изучение видится достаточно рутинным, утомительным процессом изучения слов и правил, их замещением для получения того же значения, только другим инструментом.

Следует отметить, что данный вопрос является одним из самых сложных и спорных не только в языкознании, но и в языковедении, лексикологии, морфологии и синтаксисе. Вопрос взаимосвязи языка и культуры находится на пересечении ряда наук – лингвистики, философии, психологии и др., что является причиной отсутствия единого подхода к ее решению.

Основная часть. Современная практика обучения иностранному языку в вузе показывает отсутствие ориентации студентов на межкультурное образование и воспитание в связи с недостаточным объемом имеющихся у них знаний в различных областях культуры. Как следствие игнорирования лингвокультурологического образования наблюдается нетерпимость к

проявлениям особенностей культур других национальностей и этнических групп, так называемый языковой шовинизм, который, в свою очередь, приводит к нежеланию считаться с любыми другими мнениями кроме своего собственного, что неизбежно создает конфликты в повседневной жизни.

Все вышесказанное подтверждает целесообразность использования лингвокультурологического и коммуникативно-культурологического подходов в процессе обучения иностранному языку, что является современным методом образования, т.к. способствует развитию и взаимодействию различных компетенций, в их числе и межкультурной.

Понятие межкультурной, или кросс-культурной, компетенции в отечественной и зарубежной литературе возникло несколько десятилетий назад [3]. Ранее рассматривалось понятие только коммуникативной компетенции. В современной методике обучения иностранному языку существует большое разнообразие подходов к понятию коммуникативной компетенции. Наиболее распространенной является трехуровневая модель, которая подтверждает единство коммуникативной и межкультурной компетенций. Модель включает в себя следующие умения:

- оперировать энциклопедическими (когнитивными) значениями, отражающими устройство реального мира и различных предметных областей, включая область профессиональной деятельности человека (энциклопедическая компетенция (по В.В. Богданову) или когнитивная (в трактовке Э. Хэтч)) [5];
- пользоваться арсеналом разноуровневых средств языка для достижения прагматических целей (лингвистическая компетенция);
- устанавливать речевой или текстовый контакт с партнером, поддерживать его или прерывать, соблюдая при этом правила и конвенции общения, принятые в данном социуме (интерактивная компетенция) [5].

Наличие таких знаний способствует пониманию набора культурных ссылок, присущих языковому социуму, т.е. культурной информации, известной большому количеству населения. А также студенты, изучающие иностранный язык, должны овладеть умением интерпретации «некоторых физических и психологических знаков, определяющих социальную принадлежность в рамках культуры изучаемого языка», что называют «семиологическим консенсусом» [6, с. 15].

Одним из важных компонентов межкультурной компетенции, который влияет на формирование коммуникативной компетенции, является мировоззрение, или некоторый набор распространенных в данном обществе в данный момент идей, представлений, верований, суждений и убеждений.

Заключение. Многие существующие подходы к обучению иностранному языку не основываются на соизучении культур, их взаимодействии и взаимовлиянии, а охватывают материал, касающийся только культуры страны изучаемого языка и непосредственно самого изучаемого языка. Огромный пласт информации о культуре родной страны и страны изучаемого языка незаслуженно отходит на второй план. В связи с

этим возникает необходимость создать соответствующие педагогические условия для реализации лингвокультурологического подхода в обучении иностранному языку и организовать этот процесс, основываясь на принципах соизучения культур.

Использованные источники:

1. Апресян Ю.Д. Образ человека по данным языка: попытка системного описания // Вопросы языкознания. — 1995. — № 1.
2. Выготский Л.С. Мышление и речь. — М., 1996.
3. Абдуваҳобова Д. Э. Познавательные мотивы подростка в процессе обучения. Молодой учёный. 2015-7.-614
4. Эргашев У.Э. Формирование умений и навыков в учебной работе. Молодой учёный.762-769.2014.
5. Эргашев У.Э. Мотивы учения в подростковом возрасте. Молодой учёный.2015 -7.-702
6. Кадырова М.К. Психологические особенности обучения в процессе образования. Молодой учёный. 2014. 912-914
7. Кадырова М.К. Основные принципы медиации по разрешению конфликта. Ученый 21 века.
8. Абдувахобова Д.Э. Использование ИКТ в образовании – важный фактор развития информационного общества. Экономика и социум. 386-388. 2023
9. Калдыкозова С.Е. Формирование у учащихся представлений об изучение языка. Gospodarka I innowacje. 44,122-128, 2024
10. Ким Н.В. Психологичекие закономерности процесса обучения. Экономика и социум. 879-882,2023.

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ИСПОЛЬЗОВАНИЕ ИННОВАЦИОННЫХ МЕТОДОВ ОБУЧЕНИЯ НА ПРАКТИЧЕСКИХ ЗАНЯТИЯХ ПО ЛАТИНСКОМУ ЯЗЫКУ

Аннотация*: в статье рассматриваются инновационные технологии обучения студентов, которые дают наиболее выраженный эффект и коэффициент усвоения нового материала студентами, а также формирует профессиональные навыки. Используя инновационные технологии, можно расширить спектр применяемых методов обучения.*

Ключевые слова: *инновационные технологии, знания и умения, критическое мышление, педагогика сотрудничества, профессиональная деятельность.*

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USING INNOVATIVE TEACHING METHODS IN PRACTICAL CLASSES IN LATIN LANGUAGE

Abstract: *the article examines innovative technologies for teaching students, which provide the most pronounced effect and coefficient of assimilation of new material by students, and also form professional skills. Using innovative technologies, it is possible to expand the range of applied teaching methods.*

Keywords: *innovative technologies, knowledge and skills, critical thinking, pedagogy of cooperation, professional activity.*

В педагогической литературе есть много примеров инновационных технологий обучения студентов, но, на мой взгляд, далеко не все из них могут применяться на практических занятиях по латинскому языку. В современных условиях модернизации образования изменяются цели и задачи, стоящие перед преподавателем. Акцент переносится с «усвоения знаний» на формирование «компетентностей». Внедряются инновационные педагогические технологии, предусматривающие учёт и развитие индивидуальных особенностей студентов. Современные образовательные технологии можно рассматривать, как ключевое условие повышения качества образования, снижения нагрузки на студентов, более эффективного использования учебного времени. Говоря об использовании инновационных методов обучении, стоит обратить внимание на развитие критического мышления студентов и организацию самостоятельной работы на

практических занятиях по латинскому языку. Имеется ввиду совокупность методов, приёмов и средств, которые не только повышают качество образования, но и помогают формированию профессиональных и общекультурных компетенций студентов-медиков.

Критическое мышление как творческое, аналитическое мышление помогает студентам решать в обучении такие задачи: определение приоритетов; - принятие индивидуальной ответственности; - повышение уровня работы с информацией.

Самостоятельная работа студентов неразрывно связана с развитием критического мышления. Организация самостоятельной работы студентов предполагает партнёрское участие преподавателя при планировании занятия и оценке результатов. Проблема в преподавании и изучении латинского языка обусловлены тем, что из языка науки, культуры, юриспруденции и теологии он превратился в сугубо профессиональный язык медицинских работников. Это сузило его возможности, как для развития, так и для преподавания, а также уменьшило интерес к изучению этого замечательного и богатого языка. Поэтому считаем, что применение инновационных методов обучения на практических занятиях по предмету «Основы латинского языка с медицинской терминологией» позволит улучшить преподавание и восприятие его студентами-медиками.

Хотя стоит отметить, что латинский язык является фундаментом таких современных языков, как португальский, испанский, итальянский, румынский, французский. И знания латыни облегчит студентам изучение этих языков.

Примеры применения инновационных технологий на практических занятиях по латинскому языку. Для повышения качества образования необходимым условием является применение активных инновационных технологий обучения, которые позволяют донести до студентов – необходимый объём знаний и умений.

Инновационные методы не могут полностью заменить традиционные, но как показывает мой опыт, увеличивает интерес студентов к обучению, а так же расширяет объём запоминаемой ими информации. Существует несколько групп инновационных методов обучения. К ним можно отнести:- проблемное обучение;
- технологию развития «критического мышления»;- информационно-коммуникационные технологии;- проектные методы в обучении;- технология использования в обучении игровых методов;- обучение в сотрудничестве (командная и групповая работа).

Метод проблемного обучения. Этот метод способствует максимальному развитию творческого мышления, приучает студентов вдумываться в сущность явлений и искать взаимосвязь между ними. Проблемное обучение требует от студентов определённых интеллектуальных способностей, усилий мысли, заставляет бороться с трудностями. Основа проблемного обучения – система готовых знаний и умений, усвоенных в

результате, как на практических занятиях по латинскому языку, так и самостоятельно.

Для успешного использования проблемного обучения нужно чётко понимать требования к этому методу обучения:- проблема должна быть понятно и чётко сформулирована;- проблема должна иметь определённую сложность;

- проблема должна быть интересна студентам;- для поиска решения проблемы должно быть достаточно учебного материала. Из собственной практики могу привести пример подобного обучения. Например: студентам даётся задание по теме: «Рецепт» с ошибками. Задача – найти и исправить ошибки, проанализировать ответы.

Метод технологии развития «критического мышления».

Целью развития «критического мышления» являются формирования культуры чтения и стимуляция самостоятельной творческой деятельности. Конструктивную основу «технологии критического мышления» составляет базовая модель трёх стадий организации учебного процесса: «Вызов – осмысление – размышление». На этапе «Вызова» из памяти вызываются и актуализируются имеющиеся знания и представления об изучаемой теме. Ситуацию вызова создаёт педагог умело заданным вопросом. На стадии «Осмысление» происходит ознакомление с новой информацией и её систематизация. Студенты получают возможность осмыслить полученную информацию, а также возможность формулировать вопросы по мере соотнесения старой и новой информации. На этапе «Размышление» студенты закрепляют новые знания и включают их в новые понятия. К методам «критического мышления» студентов можно отнести следующие приёмы:

- Приём «Задавания вопросов». Преподаватель задаёт вопрос, предлагает обдумать ответ и обсудить его. Вопрос должен быть таким, чтобы ответ предполагал размышление и анализ. Частое задавание вопросов перетекает в дискуссию, где студенты сами учатся задавать вопросы и правильно их формулировать. Этот приём я использую на практических занятиях по разделу: «Морфология».

К методам «критического мышления» можно отнести «Мозговой штурм», «Кластер» и другие. Мозговой штурм – один из наиболее популярных методов стимулирования творческой активности, позволяет найти решение сложных проблем путём применения специальных правил обсуждения. Широко используются на занятиях для поиска нетрадиционных решений самых разнообразных задач. Метод мозгового штурма был разработан Алексом Осборном в 1953 году. Метод основан на допущении, что одним из основных препятствий для рождения новых идей является «боязнь оценки»: студенты часто не высказывают вслух своё мнение, опасаясь встретить скептическое отношение со стороны преподавателя и других студентов. Целью применения мозгового штурма является исключение оценочного компонента во время практических занятий по латинскому языку. Классическая техника мозгового штурма, предложенная Осборном,

основывается на двух основных принципах: -«отсрочка вынесения приговора идеи»; - «из количества рождается качество». Этот подход предполагает применение нескольких правил. Во время проведения занятий критика любых ошибок студентов – исключается. Студенты, работающие в интерактивных группах, должны быть уверены, что их будут оценивать по их работе. Вопросов должно быть много: каждому студенту предоставляется возможность, как задать, так и ответить на максимальное количество вопросов. На завершающем этапе производится отбор лучших ответов. В последние годы получил широкое распространение «электронный мозговой штурм» (online brainstorming) использующий интернет технологии. Он позволяет устранить «боязнь оценки», так как обеспечивает анонимность, даёт возможность решить ряд проблем традиционного мозгового штурма.

Метод информационно-коммуникационных технологий.

Внедрение этого метода могут быть определены, как технологии, используемые для доступа, сбора, манипуляции, презентации или сообщения информации. Информационно-коммуникационные технологии (далее ИКТ) включает в себя, как технические средства, так и программные. Основным средством ИКТ для информационной среды любой системы образования является персональный компьютер и возможностями установленного на нём программного обеспечения. В настоящее время существует множество мнений о том, использовать ли компьютер в обучении латинскому языку или не использовать. Мнение одних – компьютер может заменить преподавателя, другие считают, что компьютер не способен подать материал, так как делает это преподаватель. Не следует забывать, что компьютер обладает многими преимуществами: в нём сочетается видео-аудио информация, текстовая информация, а также компьютер предоставляет огромные возможности тестирования уровня владения латинским языком или темой с участием преподавателя, что сократит время проверки результатов.

Тесты возможны самые различные: подстановочные, выборочные, шаблонные. Я использую на практических занятиях тесты: - с использованием множественного выбора (с единственным либо несколькими вариантами правильных ответов); - с пропусками (с различными возможностями оказания поддержки пользователю); - лингвистические игры (кроссворды). Так, например, электронный вариант теста даёт студентам возможность перемещать объекты в пределах документа, расставляя их на нужные места, удалять их, группировать, в соответствии с заданием, вставлять необходимое и т.д.

Таким образом, для преподавателя применение компьютера обеспечивает возможность постоянного совершенствования учебных материалов, а также внедрение новых организационных форм обучения. Есть и другие виды ИКТ. Например – телевидение, но наше училище такими возможностями не обладает. На практических занятиях по латинскому языку основным методом ИКТ являются презентации. Они различаются по видам речевой деятельности (при обучении чтению, письму, говорению), по

аспектам речи (при обучении лексики, грамматики или фонетики), по видам опор (содержательная, смысловая, иллюстрационная). Я использую на практических занятиях по латинскому языку презентации, которые упрощают применение различных видов языковых и речевых упражнений. Презентации позволяют студентам раскрыть свои способности к творчеству, благодаря компьютеру, внедрение ИКТ значительно разнообразило процесс восприятия и отработки информации, с последующим анализом и сортировкой.

Метод обучения в сотрудничестве (командная и групповая работа)

Этот метод ещё пока недостаточно распространён в педагогической практике, вследствие определённых профессиональных и психологических трудностей, как со стороны преподавателя, так и со стороны студентов. Групповая работа студентов стимулирует тесное общение студентов друг с другом, что приводит к формированию навыков социального поведения, усвоению технологий совместной работы. Отличительной чертой преподавателя, который использует этот метод, является то, что он мало говорит, но много слушает и наблюдает. Внедрение данного метода обучения «в сотрудничестве» командная и групповая работа в учебный процесс имеет значение, как для преподавателя, так и для студента. Для преподавателя важно обнаружить скрытые таланты и способности своих студентов. Как подсказывает моя практика, студенты объединяются в группы по пять - шесть человек и в каждой группе должен быть хорошо подготовленный студент. Всем даётся одно задание, при этом оговаривается роль каждого. Каждый студент отвечает не только за результат своей работы, но и за результат всей группы, поэтому слабые студенты стараются выяснить у сильных то, что им не понятно, а сильные студенты стремятся, чтобы слабые разобрались в задании. И от этого выигрывает вся группа, потому что совместными усилиями ликвидируются пробелы в знаниях. Задание должно быть не большим по объёму, но чётко сформулированным. Студентам надо дать некоторое время для притирки внутри группы. В мою задачу входит контроль за работой групп и консультативной помощью в случае необходимости. А также, не обращать внимание на шум, возникающий в процессе работы и улаживать возникающие конфликты, в случае необходимости, как показывает практика – этот метод студенты воспринимают с большим интересом и он помогает раскрыть их творческие способности. Были опробованы ещё несколько методов инновационного обучения, как на уровне группы студентов, так и на межгрупповом уровне. Прежде всего это: «Брейн-ринг», «Занимательная викторина». Для викторины я подбирала темы: «Занимательная анатомия с использованием терминоэлементов», «Крылатые латинские выражения».

Выводы:

1. Применение методов инновационных технологий позволяет расширить возможности преподавателя, а также увеличить интерес к изучаемому предмету со стороны студентов.

2. Использование инновационных методов не заменяет старых классических методов преподавания предмета, а только дополняет и расширяет этот процесс.

3. Инновационные методы позволяют создать условия для более полного раскрытия возможностей студентов.

Можно сделать вывод, что информационные технологии и в дальнейшем будут совершенствоваться, будут появляться новые технологии, новые возможности ИКТ, что потребует от преподавателя постоянно быть в мейнстриме педагогической науки.

Использованные источники:

1.Валк Е.В Игровые технологии в преподавании латинского языка в ССУЗЕ – 2010

2.Владимирова.Л.П Интернет на уроках иностранного языка. ИЯШ. 2012 №3.

3.Городкова.Ю.И Элементы латинского языка и основ медицинской терминологии. Учебник. Изд.2-е доп. М.Медицина 2007.

4.Лебедева.М.Б Технология развития критического мышления: Учебно-методическая разработка темы для преподавателей/СЗПМУ им.Мечникова 2011

5.Чернявский.М.Н Латинский язык и основы медицинской терминологии Учебник.- М.:ЗАО «ШИКО» 2007

6.Шумакова.Н.В Инновационные технологии в системе профессиональной подготовке студентов. Молодой учёный №5 май 2013

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ИСТОРИЯ РАЗВИТИЕ УЗБЕКСКОЙ ЛИТЕРАТУРЫ

Аннотация. *В статье рассматриваются особенности развития, а также жанровые и тематические разнообразия узбекской литературы на протяжении XIII - XX веков. Национальная литература отличается от литературы других народов, во-первых, своими традициями, национальными чертами героев, своеобразностью изображаемой жизни. В этой связи в произведениях узбекских писателей должен быть изображен узбекский дух, узбекский образ жизни, узбекский характер и важные темы, и идеи узбекского народа. В творчестве поэтов XII-XV веков узбекского народа начинают появляться мотивы недовольства социальным строем. Гражданский пафос характерен для литературы XVII - XIX веков. Современная литература, XX-XXI вв, хотя еще не нашла должного воплощения в отечественной литературе, но довольно богата жанровой и тематической разнообразностью. Литература — это самый лучший способ пробудить наши чувства и сделать мир более чутким. Литературы помогает нам наблюдать за вещами вокруг нас — обостряя нашу способность слушать и слышать, обонять, пробовать на вкус и осязать.*

Литература углубляет наше мышление, принося больше осознания наших собственных ценностей и мировоззрения, а также ценностей и мировоззрения других людей во всем мире и на протяжении всей истории. Поскольку литература наглядно иллюстрирует концепции, мы можем наблюдать различные ценности и мировоззрения в действии. Литература позволяет нам исследовать последствия различных ценностей и мировоззрений и дает нам прекрасную возможность более внимательно рассмотреть наши собственные предположения о мире и сравнить их с другими.

Ключевые слова: *узбекская литература, узбекский дух, узбекский образ жизни, узбекский характер, духовное развитие общества, памятники древнетюркской письменности, способность пробудить чувства, различные ценности и мировоззрения, вкус и осязание, литература и глобализация, национальные традиции, культурное наследие.*

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THE HISTORY AND DEVELOPMENT OF UZBEK LITERATURE

Annotation. *The article examines the development features, as well as the genre and thematic diversity of Uzbek literature during the 13th - 20th centuries. National literature differs from the literature of other nations, firstly, in its traditions, the national characteristics of the heroes, and the originality of the life depicted. In this regard, the works of Uzbek writers should depict the Uzbek spirit, the Uzbek way of life, the Uzbek character and important themes and ideas of the Uzbek people. In the works of poets of the 12th-15th centuries of the Uzbek people, motives of dissatisfaction with the social system begin to appear. Civic pathos is characteristic of the literature of the 17th - 19th centuries. Modern literature, XX-XXI centuries, although it has not yet found proper embodiment in domestic literature, is quite rich in genre and thematic diversity.*

Literature is the best way to awaken our senses and make the world more empathetic. Literature helps us observe things around us - sharpening our ability to listen and hear, smell, taste and touch.

Literature deepens our thinking, bringing greater awareness of our own values and worldviews, as well as the values and worldviews of others around the world and throughout history. Because literature clearly illustrates concepts, we can see different values and worldviews in action.

Literature allows us to explore the consequences of different values and worldviews and provides us with an excellent opportunity to look more closely at our own assumptions about the world and compare them with others.

Key words: *Uzbek literature, Uzbek spirit, Uzbek way of life, Uzbek character, spiritual development of society, monuments of ancient Turkic writing, the ability to awaken feelings, different values and worldviews, taste and touch, literature and globalization, national traditions, cultural heritage.*

Основная часть. На протяжении нескольких веков литература тюркских народов, которые населяли территорию Центральной Азии, была единой, и она писалась на языке тюрки, или как принято говорить, на чагатайском (староузбекском) языке. На ее страницах создавались такие художественные образы, в которых отражалось духовное развитие общества на протяжении столетий, и в них воплощался национальный характер тюркского народа.
Отсюда следует, что та древняя тюркская литература, которая относится к самым первым памятникам древнетюркской письменности, принадлежит практически всем тюркским народам и является неотъемлемой частью узбекской литературы.[1]

Еще с древних времен узбекскому народу, имеющему древнюю культуру, были известны в переводе на родной язык замечательные литературные произведения Востока, которые стали достоянием культуры и истории Узбекистана. С переводом очень тесно связана история узбекской науки и культуры.

Литература обогатилась за счет перевода новыми мотивами, сюжетами, художественными образами. Вот почему изучение проблем, связанных с историей перевода, поможет восстановить конкретные пути развития узбекской литературы, ее взаимосвязей с литературами и культурой других народов.

В своей книге Дж. Шарипов осветил историю перевода не только художественных произведений, но и философских, исторических, географических, медицинских, религиозных книг, словарей, а также дипломатических документов и публицистических сочинений.[6]

Узбекская литература - это совокупность письменных и устных произведений на узбекском языке, основоположником которого стал Алишер Навои, выдающийся литератор и просветитель, философ и лингвист, историк, живописец, композитор и покровитель учёных. Алишер Навои является родоначальником литературы многих азиатских народов, а за ним Лутфи, Машраб, Нодира, Фуркат и другие.

С точки зрения Ф.Хамраева, 15 век стал временем расцвета узбекской литературы. Она все больше освобождается от религиозных мотивов и становится подлинно художественной. Это было время расцвета романтико-философской и нравственно-просветительской литературы. Наиболее яркими представителями, которой являются Юсуф Хас Хаджиб Баласагуни и Махмуд Кашгари. Именно их произведения сыграли решающую роль в формировании светской литературы последующего периода, который характеризуется наивысшим подъемом узбекской светской литературы. Именно в это время жил и творил гениальный поэт и мыслитель Алишер Навои.

В XVII веке узбекская литература приобрела новые черты. Она уже не была сосредоточена в Герате или Самарканде. Основными литературными центрами становятся Ферганская долина, выдвинувшая поэтов Низами, Гульхани, Надиру, Увейси и др. и в XIX веке - Харезм, где выдвинулись поэты Мунис, Зийрак, Агахи. Процесс развития литературы в эту эпоху подготовил дальнейшую демократизацию литературы, и становление демократического направления можно отнести ко второй половине XIX века. В этот период творили замечательные узбекские писатели, наиболее яркими из которых были Мукими, Фуркат, Завки, Аваз Отар-оглы. Они сыграли исключительную роль в становлении всей последующей узбекской литературы новейшего периода. Их произведения были во многом новаторскими и послужили основой для формирования нового демократического направления отечественной литературы. Они впервые создали остросатирические и юмористические произведения, пользовавшиеся популярностью, и не потерявшие своей актуальности и по сей день Следующее столетие – история узбекской литературы нового времени. Она охватывает практически весь XX век. Для данного этапа характерны взлеты и падения, творческие поиски и зарождение новых жанров узбекской литературы. 20—30-х гг. XX века узбекская литература стала многожанровой. Появляются роман и повесть. Самые популярными были «Минувшие дни» «Скорпион из алтаря» Абдуллы

Кадыри, «Священная кровь» Айбека. Драматургия стала неотъемлемой частью литературы, когда широкий размах получило театральное искусство. Появились политическая сатира, фельетон, памфлет, а также военная литература. Интерес писателей в годы войны был обращен и к исторической тематике. Хамид Алимджан создал стихотворную историческую драму «Муканна» о борьбе народа против арабских завоевателей во 2-й половине 8 в. Перу Айбека принадлежит роман «Ветер золотой долины» о жизни кишлака в первые послевоенные годы. О жизни в колхозе написаны роман «Огни Кошчинара» и остроконфликтная повесть «Птичка-невеличка» Каххара. Своеобразную дилогию о тружениках села составляют повесть «Победители» и роман «Сильнее бури» Рашидова. Большое место в литературе продолжает занимать историческая советская тема, которую развивали Хамид Гулям в романе «Светоч», Мирза Калон Исмаили в романе «Фергана до рассвета», Джуманияз Шарипов в романе «Хорезм».[2]

По словам Худойберганова Н. «…было время, когда в Узбекистане за весь год не публиковался ни один роман, появлялось лишь несколько повестей да десятка полтора-два рассказов – на этом «урожай» прозы исчерпывался. Однако с начала 70-х годов положение резко изменилось: ежегодно печатается примерно по пять – десять романов, двадцать – тридцать повестей, около полусотни рассказов. Нынче нет недостатка в количественном росте узбекской прозы. Это, несомненно, положительный факт. Однако, как говорится, количество должно перерастать в качество» [3].

Узбекская литература – бессмертное создание творческого гения узбекского народа, художественная история его жизни, ярчайшее воплощение его свободолюбивых стремлений и чаяний, любви к родине. Под “узбекской литературой” мы понимаем литературу узбекского народа, написанную, в первую очередь, на узбекском языке.

В этом этапе также можно выделить три исторических периода:

1. Литература 20-50-х годов XX в. Наиболее крупными представителями этого периода являются Абдурауф Фитрат, Хамза, Абдулла Кодыри, Гафур Гулям, Айбек, Хамид Алимжан. Именно их творчество стало связующим звеном между классической узбекской литературой и литературой нового времени. Они сумели не только создать достойные произведения, отвечающие требованиям нового времени, но и не растеряли того лучшего, что было достигнуто ранее в отечественной литературе. Именно их произведения заложили основу узбекской литературы нового времени.

2. Литература 60-90-х годов XX в. Ключевой период в истории узбекской литературы. Он был не менее сложным и ответственным, чем предыдущий, так как заметно возросло мастерство писателей, которые стали создавать произведения, отвечающие всем требованиям современного литературного процесса. Узбекская литература не затерялась в мощном потоке развития мировой литературы, скорее наоборот: неповторимость и своеобразие ее стало очевидным. Саид Ахмад, Аскад Мухтар, Адыл Якубов, Примкул Кадыров, Эркин Вахидов, Абдулла Арипов и многие другие обрели не только

широкую известность и признание, но создали произведения, достойные современной эпохи.

3. Литература постсоветского времени. Для литературы настоящего периода характерно как жанровое, так и тематическое разнообразие. Однако современность еще не нашла должного воплощения в отечественной литературе. Рождение новых писателей и достойных произведений еще ждет своего часа. Рассматривать узбекскую литературу мы стремились не в отрыве от общего мирового литературного процесса, а в связи с ним. Особенно такие вопросы как взаимосвязь литературы разных народов и их жанровое обогащение. [4]

Как литература способствует социальной глобализации?

Литература помогает нам лучше понять нашу жизнь, себя и мир вокруг нас. Встречи с литературой развивают концепции отождествления, мироощущения и сопереживания. В нашем сильно хаотичном мире такие играют огромное значение.

Глобализация литературы оказала положительное влияние на межкультурное взаимодействие, способствовала культурному разнообразию и тем самым улучшила понимание различных культур. Глобализация может усилить межкультурное понимание и коммуникацию. Феномен литературных произведений, писателей и идей, которые пересекали национальные границы, стали доступными, необходимыми, заметными в мировом масштабе «глобализацией литературы». Читатели всех кросс-культур могут встроиться в некоторые романы, демонстрируя универсальные темы. Человеческий опыт может передать литература, показывает, как произведения всех жанров говорят с читателями из многих культур и языков.

Рассматривая все тонкости и трудности перевода литературы из одной культуры в другую, кросс-культурные и литературные проекты становятся просветляющими и поучительными. Чтение литературы из других народностей развивает многоязычие и укрепляет языковые способности.

Разнообразие литературы возросло из-за глобализации, поощряющее принятие и почтение к другим культурам. Чтение произведений коренных народов имеет важное значение для сохранения традиций и культурного разнообразия. Межкультурная литература может быть продвинута и усилена с помощью онлайн- приложений. Интернет- приложения способствуют культурному обогащению и сохранению культурных традиций и истории народов, сохраняя и поддерживая мир во всем мире. Литература является мощным оружием для изучения влияния глобализации на общество и человеческий опыт. Глобализация укрепляет развитие более толерантного общества в мире, в котором литература становится мостом между народами и их культурами.[7]

Итог. Значительный потенциал, богатейшие культурные традиции, положение на стыке культур – все эти факторы дают основания ожидать появления новых интересных произведений синтетического характера в узбекской литературе и культуре в целом. Глубокое погружение в литературу

разных культур позволяет нам расширить свои возможности оценки и обсуждения самого произведения, лучше понять, что оно говорит нам о мире, наших собственных убеждениях и ценностях, также и убеждениях, и ценностях других. Литература, она для всех, независимо от вашей будущей специальности или карьеры. Изучение литературы проверяет ваш творческий ум, вдохновляя на инновации и перемены. Литература помогает нам использовать письменный язык как практический, повседневный инструмент, который просвещает, обучает и вдохновляет тех, кто взаимодействует с ним. Исходя из выше сказанного можно сделать вывод, что знакомство с литературными произведениями, написанными людьми из разных культур, точек зрения и исторических периодов, расширяет наше понимание о других людях и наше общее мировоззрение.

Изучение литературы также тренирует наши навыки критического мышления, которые могут быть использованы во всех аспектах нашей жизни и в любой работе. Опыт изучения и обсуждения литературы готовит учащихся и студентов к самостоятельному критическому мышлению в таких областях, как кино, новости и социальные сети, вызывая новые разговоры и поднимая проницательные вопросы.[5]

Использованые источники:

1. Пропп В. Я. Фольклор и действительность. М.: Наука, 1976
2. Нагишкин Д. Д. Сказки и жизнь. М., 1957
3. Мирзаев Т. Узбек фольклорининг эпик жанрлари. Узбек халк ижоди буйича тадкикотлар"га ёзган суз боши. Тошкент: Фан, 1981.
4.Худайберганов. *Н.* Исследование современной узбекской прозы / Н. Худайберганов // Вопросы литературы. - 1984 - №9.
5. Особенности передачи художественного образа. *Абдулхакимова Гулчехра Тургуновна*. "Экономика и социум" №9(124) 2024 www.iupr.ru.
6. Дж. Шарипов, Из истории перевода в Узбекистане. Под редакцией Г. Салямова, «Наука» УзССР, Ташкент, 1965, 482 стр. (на узбекском языке).

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ВАРИАЦИИ ИНФРАОРБИТАЛЬНОГО ОТВЕРСТИЯ У ЧЕЛОВЕЧЕСКИХ ЧЕРЕПОВ: ИССЛЕДОВАНИЕ ИЗ САМАРКАНДА

Аннотация: *Инфраорбитальное отверстие (ИО) играет критическую роль в медицинских областях, особенно в хирургии, анестезиологии и челюстно-лицевых вмешательствах. Целью данного исследования является анатомическая оценка размеров ИО (длина и ширина) на обеих сторонах черепа (левой и правой). Наша работа сосредоточена на установлении среднего размера.Эти анатомические знания могут помочь снизить риск осложнений во время хирургических и анестезиологических вмешательств.*

Ключевые слова: *Инфраорбитальное отверстие, анатомическая вариация, морфология черепа, правосторонняя-левосторонняя асимметрия, эллиптическая форма,челюстно-лицевая хирургия, анестезирующие техники, анатомическая оценка, Узбекистан.*

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VARIATIONS OF THE INFRAORBITAL FORAMEN IN HUMAN SKULLS: A STUDY FROM SAMARKAND

Abstract: *The infraorbital foramen (IO) plays a critical role in medical fields, especially in surgery, anesthesiology and maxillofacial interventions. The aim of this study is to anatomically evaluate the IO dimensions (length and width) on both sides of the skull (left and right). Our work focuses on establishing the average IO size for each side and analyzing the most common shape. This anatomical knowledge can help to reduce the risk of complications during surgical and anesthetic interventions.*

Keywords: *Infraorbital foramen, anatomical variation, skull morphology, foramen dimensions, right-left asymmetry, elliptical shape, maxillofacial surgery, anesthetic techniques, anatomical evaluation, Uzbekistan.*

Введение. Инфраорбитальное отверстие (ИО) является важной анатомической особенностью, расположенной на передней поверхности верхней челюсти, чуть ниже инфраорбитального края. Это отверстие служит проходом для инфраорбитального нерва и сосудов, которые являются продолжениями максимального ветви тройничного нерва (CN V2). Эти нейроваскулярные структуры необходимы для сенсорной иннервации

нижнего века, верхней губы и части носовой полости, что делает точное расположение и размеры ИО высоко актуальными для различных медицинских приложений, включая хирургические и анестезионные процедуры. В челюстно-лицевой хирургии точные знания о размерах ИО имеют жизненно важное значение для предотвращения повреждения нервов и обеспечения эффективной местной анестезии. Аналогично, в стоматологической хирургии, особенно во время вмешательств в верхнюю челюсть, предотвращение повреждения инфраорбитального нерва является приоритетом. Исследования показали вариативность в размере и форме ИО среди людей, подчеркивая необходимость детального анатомического знания. Наиболее часто ИО имеет эллиптическую форму, что требует отдельных измерений для его длины и ширины, чтобы обеспечить правильную характеристику. Данное исследование сосредоточено на определении средних размеров (длина и ширина) ИО на обеих сторонах черепа. Мы предполагаем, что хотя могут быть небольшие асимметрии в размере между двумя сторонами, общая форма остается преимущественно эллиптической.

Методы. В выборку вошли как мужские, так и женские экземпляры из различных возрастных групп. Всего было проанализировано 29 черепов с целью измерения длины и ширины ИО на правой и левой сторонах. Критерии включения для черепов:

1. Четко видимое инфраорбитальное отверстие без значительных повреждений или деформаций.
2. Оба боковые стороны черепа (правой и левой) целы для сравнения.

Измерения проводились с использованием цифровых штангенциркулей с точностью 0.01 мм. Записывались размеры, включая максимальную ширину (поперечный диаметр) и длину (вертикальный диаметр) ИО. Данные затем усреднялись для получения средних значений для правой и левой сторон.

Форма ИО оценивалась визуально и классифицировалась как эллиптическая, круглая или неправильная. Однако для целей этого исследования только эллиптические отверстия были включены в расчет средних значений ширины и длины, поскольку это наиболее распространенная форма.

Результаты. Анализ 29 черепов выявил следующие результаты:

1. Размеры правой стороны:

- Средняя ширина: 0.41 см. Средняя длина: 0.28 см

2. Размеры левой стороны:

- Средняя ширина: 0.28 см. Средняя длина: 0.27 см

3. **Форма инфраорбитального отверстия:** Большинство наблюдаемых отверстий (примерно 84%) имели эллиптическую форму, что подтверждает необходимость измерения как длины, так и ширины, а не предположения о круглой структуре. Меньшая доля (12%) отверстий была круглой, и оставшиеся 4% имели неправильные формы.

4. **Сравнение между правой и левой сторонами:** Хотя размеры ИО немного варьировались между правой и левой сторонами, различия были

минимальными, без значительной статистической вариации ($p > 0.15$). Это указывает на то, что обе стороны демонстрируют почти симметрию, хотя существуют незначительные индивидуальные различия. Правая сторона, как правило, была чуть больше в среднем, что также отмечалось в других анатомических исследованиях. Инфраорбитальное отверстие является критической анатомической особенностью с значительными клиническими последствиями. Наши результаты, которые показывают средние размеры IOF, подчеркивают необходимость точно измерять как длину, так и ширину, поскольку большинство отверстий были обнаружены в эллиптической форме. В этом исследовании средняя ширина составила 0.41 см, а средняя длина — 0.28 см на правой стороне, в то время как на левой стороне размеры составили 0.28 см в ширину и 0.27 см в длину. Эти измерения больше, чем те, которые были сообщены в предыдущих исследованиях, которые часто полагались на предположение о круглом строении.Хотя размеры немного варьировались между правой и левой сторонами, различия были минимальными и статистически незначительными ($p > 0.15$). Примечательно, что правая сторона имела тенденцию быть чуть больше в среднем, что соответствует другим анатомическим исследованиям, которые также наблюдали небольшие асимметрии. Понимание точных размеров и формы инфраорбитального отверстия необходимо для успешного блокады инфраорбитального нерва, где точное размещение иглы является жизненно важным для эффективной анестезии. Данные, представленные в нашем исследовании, могут помочь челюстно-лицевым хирургам, стоматологам и анестезиологам лучше визуализировать анатомическую изменчивость структур черепа, тем самым минимизируя риски и улучшая результаты для пациентов.

Заключение. Данное исследование предоставило новые сведения о размерах и форме инфраорбитального отверстия (ИО) у человеческих черепов, показывая, что отверстие преимущественно эллиптическое, с размерами, большими, чем ранее сообщалось. В заключение, точные анатомические знания об инфраорбитальном отверстии необходимы для эффективной хирургической и анестезионной практики. Это исследование предлагает надежную справку о среднем размере и форме ИО в изучаемой популяции, предоставляя полезный инструмент для медицинских специалистов, стремящихся повысить безопасность пациентов и улучшить результаты хирургии.

Использованные источники:

1. Курбанова, Л. М., Хидиров, З. Э., & Абдураимов, З. А. (2021). КЛИНИКО-ЭПИДЕМИОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ТЕЧЕНИЯ БРУЦЕЛЛЁЗА В ВОЗРАСТНОМ АСПЕКТЕ В САМАРКАНДСКОЙ ОБЛАСТИ. *Достижения науки и образования*, (1 (73)), 61-68.
2. Курбаниязов, З., Давлатов, С., Абдураимов, З., & Усаров, Ш. (2016). Современная концепция лечения больных с гигантскими послеоперационными вентральными грыжами. *Журнал проблемы биологии и медицины*, (1 (86)), 113-122.

3. Нурмухамедова, Ф. Б., Хамракулова, Н. О., & Абдураимов, З. А. (2024). ФУНКЦИОНАЛЬНЫЕ РЕЗУЛЬТАТЫ ОССИКУЛОПЛАСТИКИ ПРИ ХРОНИЧЕСКОМ СРЕДНЕМ ОТИТЕ. *Miasto Przyszłości*, *48*, 1021-1027.
4. Абдураимов, З. А., Лутфуллаев, Х. З., & Альков, Р. А. (2024). ВАРИАЦИИ ИНФРАОРБИТАЛЬНОГО ОТВЕРСТИЯ У ЧЕЛОВЕЧЕСКИХ ЧЕРЕПОВ: ИССЛЕДОВАНИЕ ИЗ УЗБЕКИСТАНА. *Central Asian Journal of Multidisciplinary Research and Management Studies*, *1*(15), 38-41.
5. Abduraimovich, A. Z., & Erkinovich, H. Z. (2023). MORPHOFUNCTIONAL CHARACTERISTICS OF THE SMALL INTESTINE DURING EXPERIMENTAL CHOLECYSTECTOMY AND ANTIHYPOXANT THERAPY IN ACUTE SMALL INTESTINAL OBSTRUCTION. *Journal of Universal Science Research*, *1*(10), 222-229.

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ЖАРАЁНИДА МУХАНДИСЛИК ВА КОМПЬЮТЕР ТАЪЛИМ ГРАФИКАСИНИНГ ЎРНИ

Аннотация. *Ушбу мақолада техника олий ўқув юртларида мухандислик ва компьютер графика ўқитиш масалалари ва ёндашувлари кўрилмоқда. Талабаларни зарур ваколатларга эга бўлиши учун мативацияларни ошириш, чизмаларни саводли ўқиш ва бажариш имкониятини бериши, шунингдек, компьютер графика дастурларидан фойдаланиб машғулотлар ўтказишнинг асосий методлари келтирилмоқда.*

Калитли сўзлар. *Мухандислик графикаси, техникавий таълим, проекциялаш методлари, уч ўлчовли моделлаш, график моделлаш, геометрик моделлаш, мантиқий фикрлаш, яққол тасвир, ортогонал проекциялаш, лойихалаш фаолияти, компьютер технологиялари, электрон дарслик, интерфаол доска.*

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THE ROLE OF ENGINEERING AND COMPUTER GRAPHICS IN THE EDUCATIONAL PROCESS

Abstract. *This article examines the issues and approaches to teaching engineering and computer graphics in higher technical educational institutions. Increasing students' motivation to obtain the necessary competencies that allow them to read and draw drawings correctly. And also provides the main methods of conducting classes using computer graphics programs.*

Key words: *Engineering graphics, technical education, projection methods, three-dimensional modeling, graphic modeling, geometric modeling, logical thinking, visual representation, orthogonal projections, project activities, computer technology, electronic textbook, interactive board.*

Машинасозлик ишлаб чиқаришининг хар қандай лойихасини яратиш чизмасиз тасаввур қилиб бўлмайди.

Чизма- бу техник таълим йўналишлари бакалаврлари учун тушунарли бўлган техник фикрни етказиш усулидир. Олий техника ўқув юртларининг ўқув дастурларида техника таълим йўналишлари талабалари машина деталлари, техникавий механика, назарий механика, машина механизмлар

назарияси, метрология, стандартлаштириш ва сертификатлаштириш каби фанлар билан биргаликда мухандислик графикасини ўрганишлари лозим. Аммо мухандислик техника таълим йўналишига асос солувчи фанлар орасида “Мухандислик графикаси” алохида ўрин тутади. Мухандислик графикасиз лойихалар ва конструкциялаш сохасида ваколатли мутахассис бўлиши мумкин эмас. Хар қандай одам, хатто техника мутахассислигидан узоқ бўлса хам, хаётда чизмаларга дуч келиши мумкин. Булар қурилаётган уй ёки котежнинг чизмаларини, таъмирлаш режаси ёки хонага қимматбахо мебелларни жойлаштириш, корхонада нафақат техголог ва лойихачилар билиши керак бўлган қисмларнинг чизмалари, балки токар, пайвандчи, назоратчи, менежер савдо ва таъминот бўлимидан, катта мижозга малакали маслахат бериш зарурият бўлади.

Мухандислик графикасининг асосий вазифаси анъанавий равишда проекциялаш усуллари ва йиғиш бирликларини лойихалаш қоидаларини ўрганиш бўлганлиги сабабли, курс анча вақт талаб қиладиган чизма ваграфик ишларни қўлда бажариш услубига қаратилган. Ўқув жараёнига компьютернинг киритилиши бу муаммони анча соддалаштирди. Замонавий шароитда лойихалаш ғояси ўзгарганда, аввал техника объектларини уч ўлчовли моделлаштириш табора кўпроқ қўлланилмоқда, сўнгра кўринишлар, қирқим ва кесимларни зарур турлари, бўлимлари, бўлимларнинг кейинчалик автоматлаштирилган лойихалаш, йиғма бирликларни шаклланиши ва бошқалар, автоматлаштирилмаган лойихалаш усуллари самарасиз хисобланади.

Шундай қилиб, олий техника ўқув юртларини битирувчилари чизма ва лойиха хужжатларини яратишда ва уч ўлчовли график моделлаштириш муаммоларини хал қилишга имкон берадиган график тизимларга эса фойдаланувчилар сифатида бўлишлари керак.

Бу эса мухандислик графикасини ўқитишда янги таркибий қисм компьютер графикасини пайдо бўлишига олиб келди. Компьютер графикасини ўрганишнинг мохияти геометрик моделлаштириш асосида интегралашган модел яратишдир. Унинг вазифаларига чизма дастурларини аниқ пакетлари билан ишлаш кўникмаларини шакллантириш киради, чизмаларни компьютерда бажариш усулларини, график лойиха хужжатларини автоматлаштирилган ишлаб чиқиш усулларини, график маълумотлар базаларидан фойдаланилган холда чизмаларни компьютер ёрдамида лойихалаш усулларини ўрганиш ва амалий ишлаб чиқиш киради.

Хозирги вақтда мухандислик ва компьютер графикасини ўқитиш ва унинг олий даражадаги мутахассисни тайёрлашдаги роли муаммосига икки хил ёндашув мавжуд.

Биринчи ёндашув энг кенг тарқалган – бу компьютер графикасини алохида мавзу сифатида ўрганишдир. Бундай ёндашув билан компьютер графикаси қалам ва чизма тахтаси ўрнига “электрон кулман” ёрдамида чизмалар ясаш техникасини ўрганишга бағишланган фан сифатида қаралади [1].

Шу билан бирга, талабалар курс ва диплом лойихаларини бажаришда график компьютер технологиялардан фойдаланиш учун етарли билимга эга бўлмайдилар ва келажакда улар қўшимча равишда корхонада ихтисослаштирилган лойихалаш курсларида қатнашишлари керак.

Бундай ёндашув асосли эмас, чунки умуман компьютер графикаси билан ягона контексда кўриб чиқилиши керак [2]. Компьютерда яратилган, аммо лойихалашда хатолар билан чизилган кўринишлар, чизмани нотўғри тушунишга ва охири оқибат ишлаб чиқаришда буюмларни нотўғри йиғилишига олиб келади. Компьютерда ишлаш талабалар нафақат график пакетни (AutoCAD ва бошқаларни) дастурларини ўрганишлари, аммо лекин ўрганиш жараёнида тушуниш ва тўғри якуний натижага эришишда мухандислик графикасини ўрганишни давом эттириш керак. Ўқув жараёни мавзуларини самарали тушуниш учун параллел равишда, чизмаларни қўлда ва компьютерда бажаришни оқилона бирлаштирган холда ташкил этилиши лозим. Шу билан бирга самарали ўрганиш учун ажратилган соатлар сонини камайиши ва педагогик вазифаларни хал қилишда ютқазмаслик истаги билан боғлиқ бир қатор қийинчиликларни енгиб ўтиш керак, яъни талабаларнинг фазовий ва мантиқий фикрлашни талаб даражасида ривожлантира олиши керак. Аксарият талабалар мактабда чизмачилиги сабабли қоғозга қалам билан ишлашни истамаслигини рағбатлантирадилар ва кўпчилик ўқувчилар қоғозга қисқа ўлчамдаги кесмани тўғри чиза олади. Бундай холда, график мухаррирда ишлаш хам ёрдам бериши мумкин.

Охир оқибат, талаба учун компьютер қалам ва ўлчагич билан бир хил воситага айланиши керак. Шу билан бирга, мухандислик графикасида талабалар қалам билан чизмаларни қуриш усулларини, қоидаларини ўзлаштирадилар ва компьютер графикасида улар бир вақтнинг ўзида дастурнинг асосий техникаси ва интерфейсини, яъни иш мухитини сақлаш, чизма форматини аниқлаш, приметивлар билан ишлаш, чизмаларни тахрирлаш, объектни боғлаш, блоклар, қатламлар, матнлар ва бошқалар билан ишлашни ўзлаштирадилар. Шу билан бирга, чизма чизишнинг хар қандай босқичида талаба буюмнинг яққол тасвирини кўриши мумкин, бу ўқув жараёнида жуда мухимдир.

Таълим жараёнида ахборот технологиялардан фойдаланганда мухандислик графикасининг анъанавийтопшириқларини янги мазмунда амалга оширилади. Масалан, уч ўлчовли яққол тасвиридан “ўқ” деталининг 2D тасвирини қуриш осон.

Топшириқни амалга ошириш босқичма-босқич харакатлар ва тушунтиришлар билан тегишли методик кўрсатмалар яратишни талаб қилади. Ишлаб чиқариш жараёнида компьютерда чизмаларни бажариш учун график вазифаларни бажариш бўйича кўрсатмалар тўплами мавжуд.

Бу топшириқларнинг барчаси қўлда чизма каби - чизиқ бўйича бажарилади, чизма чизиш техникаси ишлаб чиқариш пайтида формат бўйича жойлаштирилган усуллари, масштабда детал бажариш қоидалари хисобга олинади. Шу билан бирга, сиз хар доим график топшириқ бажарилишининг

тўғрилигини текширишингиз ва чизмани ўз вақтида тўғрилашингиз мумкин. Худди шу усулдан фойдаланиб, ўқитувчи топшириқ шартида кўрсатилган деталнинг геометрик моделини яратади ва кейин уч ўлчовли модел ёрдамида автоматик равишдаунинг ортогонал проекцияларини қуради. Талаба ўз ечимини масалага қиёслаган холда ўз хатоларини мустақил аниқлаб, ечимнинг тўғрилигини тахлил қила олади.

Бу топшириқларни бажаришда талабаларнинг йўл қўядиган хатолари модел шаклининг заиф ифодаланиши билан боғлиқ ва мухандислик графикасининг график масалаларини ечиш бунда ёрдам бериши мумкин. Бундай машқлар проекцион масалаларни ечиш учун тайёргарлик босқичидир. Шунингдек, улар талабага ўқув материалининг қайси қисми талабалар томонидан ўзлаштирилмаганлигини аниқлашга ёрдам беради ва детал шаклини тушунишдаги қийинчиликларни зудлик билан бартараф этади.

Келажакда техника йўналишидаги бакалавр чизма чизиш ва қўлда ишлаш учун компьютер технологияларда хам тенг жараёнда малакали бўлиши керак. Бундан ташқари, фазовий тасаввур, албатда, конструкторлар ва лойихачилар фаолиятида, шунингдек ишлаб чиқаришда чизмани ўқиётганда, қоғоз варағида текис тасвирларни бажаришда кўпроқ ривожланади. Чизмаларни тўғри ўқишни ва қоғозда бажаришни билмаган одам буни компьютерда тўғри бажара олмайди. Асосий билимлар қалам тўлиқ қиёсли намуналар, макетлар ва моделлар ёрдамида бажарилиши керак. Компьютер технологияларни жорий этиш оқилона чегараларда бўлиши керак. Компьютер графикаси компьютернинг хусусиятлари ва имкониятларини ўрганишга эмас, балки график масалаларни хал қилиш қоидалари ва техникасини ўрганишга қаратилган бўлиши керак.

Шу билан бирга, мухандислик графикаси дарсларида компьютер технологияларнинг жорий этилиши бизга таълимни ривожлантириш ғоясини амалга ошириш, дарс тушунарлигини ошириш, иш вақтини йўқотишни минимал даражага камайтириш, аудиторияда хам, уй вазифасини тайёрлашда хам мустақил иш хажмини ошириш, дарсни янада жонли ва қизиқарли қилиш имконини беради. Компьютер дастурлари билан ишлаш конструкторлик ва ижодий фикрлашни, фазовий тасаввурни ривожлантиради, график мухаррирлар билан ишлаш, маълумотларга мазмунли эгалик қилиш ва кейинчалик уни қайта ишлаш қобилиятларини шакллантиришга ёрдам беради. Амалиёт шуни кўрсатдики, компьютер графикасидан фойдаланиш ўқитиш сифати ва самарадорлигини оширади, ўқув фаолиятини ривожлантиради. Шу билан бирга, бу талабаларнинг билим олишлари учун самарали рағбатлантиришдур. Ўқув йилининг бошида мультимедиали тақдимот билан ишлашни билмаган, компьютер экранида чизган детал чизмасини ўлчагич билан ўлчаган ва машғулот охирида айнан шу талабалар ўзлари оддий йиғиш чизмасини чизишда эркин бўлган талабаларни кузатиш қизиқарли эди.

Улар учун аудиториядаги компьютер – бу мавзуни ранг баранг ва қизиқарли тарзда тақдим этиш, дарс билан бирга дидактик материаллар

тайёрлаш, керакли конструкцияларни чексиз кўп марта такрорлаш талабалар учун график топшириқлар ва тестларни ишлаб чиқишга имкон берадиган кенг шароитларга эга воситадир. Мухандислик графикасини ўқитишда компьютер технологияларидан фойдаланиш талабаларнинг кўплаб билим эхтиёжларини тўлдириш имконини беради.

ОТМларда мухандислик ва компьютер графикаси дарсида компьютер технологиялардан фойдаланиш учун етарли моддий база яратилган, чизма дастурлари тўплами билан жихозланган интерфаол доскали компьютер аудиториялари мавжуд. Компьютерда ишлаш кўникмасига эга бўлган талаба исталган дарсда компьютер технологиялардан фойдаланиш методикасидан фойдаланиши мумкин.

Дарсда электрон дасрликлар, қўлланмалар, амалий ишлар тўпламларидан фойдаланган холда мухандислик графикаси бўйича дарсга асосланган тематик режалаштиришишлаб чиқилган бўлиб, бу дарсга тайёргарлик пайтида вақтни тежашга, дарснинг турли босқичларида замонавий технологиялардан фойдаланган холда дарс йўналишини оптимал равишда тузишга имкон беради.

Хулоса, асосий натижа талабаларнинг “Мухандислик графика” фанини ўрганишга мотивациясини ошириш, шунингдек материални яхши тушуниш ва уни амалда қўллаш қобилияти, индивидуал қобилиятларни такомиллаштириш ва билиш фаолиятини ривожлантириш, мантиқий фикрлаш ва фазовий тасаввурни ривожлантиришдир.

Использованные источники:

1. Азимов А.Т., Мирзараимова В.Т. Мухандислик ва компьютер графикаси фанидан ўқув услубий мажмуа. Тошкент, 2024, 213 бет
2. Покровская М.В. Инженерная графика: понорамный взгляд (научно-педагогическое исследование) /М.В.Покровская. -М.: Изд-во “Исследовательский центр проблем качества подготовки специалистов”. 1999. -137 с.

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МУЛЬТИМОДАЛЬНЫЕ ПЕРЕВОЗКИ В УЗБЕКИСТАНЕ КАК ИНСТРУМЕНТ ИНТЕГРАЦИИ В МИРОВУЮ ЭКОНОМИКУ

Аннотация: *в статье исследуется стратегическая роль мультимодальных перевозок для интеграции Республики Узбекистан в мировую экономику, обусловленная уникальным географическим положением страны, связывающим Европу и Азию. Проанализированы актуальные проблемы транспортно-логистической инфраструктуры, нормативно-правовой базы и таможенного регулирования, оказывающие влияние на эффективность мультимодальных перевозок. Определены перспективы развития и интеграции Узбекистана в международные транспортные коридоры, включая инициативу "Новый Шелковый путь". Предложены рекомендации по цифровизации логистических процессов и совершенствованию инфраструктуры с целью повышения транзитного потенциала страны.*

Ключевые слова: *мультимодальные перевозки, Узбекистан, Центральная Азия, транспортные коридоры, логистика, инфраструктура, Новый Шелковый путь, международная интеграция, транзит, таможенное регулирование, цифровизация, ЗСТ, ВТО.*

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MULTIMODAL TRANSPORTATION IN UZBEKISTAN AS AN INSTRUMENT FOR INTEGRATION INTO THE GLOBAL ECONOMY

Abstract: *this article explores the strategic role of multimodal transportation in integrating the Republic of Uzbekistan into the global economy, leveraging the nation's unique geographical position as a bridge between Europe and Asia. It analyzes current challenges within the transport and logistics infrastructure, regulatory framework, and customs administration that impact the efficiency of multimodal transportation. The study identifies prospects for the development and*

integration of Uzbekistan into international transportation corridors, including the "New Silk Road" initiative. Recommendations are proposed to digitize logistics processes and enhance infrastructure to improve the country's transit potential.

***Keywords**: Multimodal Transportation, Uzbekistan, Central Asia, Transport Corridors, Logistics, Infrastructure, New Silk Road, International Integration, Transit, Customs Regulation, Digitalization, FTA, WTO.*

Введение

Республика Узбекистан, географически расположенная в сердце Центральной Азии, обладает стратегическим положением, выступая в качестве естественного моста между Европой и Азией. В условиях динамичного роста объемов внешней торговли, перед страной остро встает необходимость оптимизации транспортных издержек и повышения общей эффективности логистических цепочек. Активное участие Узбекистана в ключевых международных транспортных коридорах, таких как "Север-Юг", "Запад-Восток" и Транскаспийский международный транспортный маршрут (ТМТМ), открывает значительные перспективы для дальнейшего экономического развития. Государственная политика Республики Узбекистан последовательно направлена на всестороннее развитие транспортно-логистической отрасли, что подчеркивает особую важность мультимодальных перевозок как инструмента диверсификации транспортных маршрутов и снижения зависимости от отдельных географических направлений.

В научной литературе последних лет наблюдается повышенный интерес к вопросам развития транспортно-логистической системы Узбекистана и ее воздействию на внешнеэкономическую деятельность страны. В частности, широко рассматривались вопросы мультимодальных перевозок, как эффективного инструмента внешнеэкономической интеграции [1, 2]. Проблемы и особенности организации логистики в Узбекистане, а также пути их решения, анализировались Бабаходжаевым Г.Н. [3]. Мухамедова З.Г. и Ибрагимова Г.Р. [4] в своих исследованиях оценивали состояние рынка транспортно-грузовых услуг Узбекистана, уделяя внимание рациональному размещению грузовых объектов и важности взаимодействия различных видов транспорта. Вопросы таможенного транзита и развития информационных систем в данной сфере были изучены Мухторовым И.М., Хамраевым М.М. и Саидовым А.А. [5]. Особенности развития автотранспортных услуг в Узбекистане и их влияние на экономику страны были проанализированы в работе Мирзаева К.Д. и Ишонкуловой Ф.А. [6]. Инновационные принципы развития логистики в Узбекистане рассмотрены Кенжаевой Б. О., Солаевым С. С. [7].

Несмотря на значительное количество исследований, посвященных отдельным аспектам транспортно-логистической системы Узбекистана, комплексный анализ состояния и перспектив развития мультимодальных перевозок в контексте интеграции страны в мировую экономику,

представляется важным и своевременным. Данная статья призвана восполнить существующий пробел и предоставить всестороннюю оценку текущего состояния и перспектив развития мультимодальных перевозок в Узбекистане.

Цель исследования: Комплексный анализ состояния и перспектив развития мультимодальных перевозок в Узбекистане как инструмента интеграции в мировую экономику.

Задачи исследования:

1. Охарактеризовать текущее состояние транспортно-логистической инфраструктуры Узбекистана, пригодной для мультимодальных перевозок.
2. Проанализировать нормативно-правовую базу, регулирующую мультимодальные перевозки в Узбекистане, включая международные соглашения.
3. Выявить основные проблемы и барьеры, сдерживающие развитие мультимодальных перевозок в Узбекистане.
4. Оценить потенциал Узбекистана в качестве транзитного хаба для мультимодальных перевозок.
5. Разработать рекомендации по развитию мультимодальных перевозок в Узбекистане.

Материалы и методы

В исследовании использовались данные государственных статистических органов Республики Узбекистан, министерств транспорта и инвестиций, промышленности и торговли, национальной железнодорожной компании «Узбекистон темир йуллари», международных организаций (таких как ВТО, ЮНКТАД, Всемирный банк и др.), таможенных органов, а также информация с сайтов логистических компаний и научные публикации.

Был выполнен анализ мультимодальных перевозок как сложной системы, включающей различные элементы и взаимосвязи, что позволило обеспечить всестороннюю оценку текущего состояния и перспектив развития мультимодальных перевозок в Узбекистане, выявить существующие проблемы и разработать обоснованные рекомендации для их решения.

Результаты исследования

Транспортно-логистическая инфраструктура Узбекистана характеризуется наличием развитой сети различных видов транспорта, включая железнодорожный, автомобильный и воздушный.

Железнодорожный транспорт. Общая протяженность железнодорожных путей в Узбекистане составляет 4 258 км, из которых 727 км электрифицированы [8]. В последние годы активно реализуются проекты по модернизации и расширению железнодорожной сети, что способствует развитию мультимодальных транспортно-логистических хабов [7].

Автомобильный транспорт. Протяженность автомобильных дорог в стране достигает 184 000 км, включая 3 979 км международных автомобильных дорог [8]. Через территорию Узбекистана пролегают 20

международных транспортных коридоров, связывающих Евросоюз, Кавказ, Турцию, Иран, Афганистан, Пакистан, Россию и Китай [8].

Воздушный транспорт. В Узбекистане функционируют 53 аэропорта, из которых 33 оснащены асфальтированными взлетно-посадочными полосами, а 20 – неасфальтированными [8].

Логистические центры. В стране создано и успешно функционируют 5 международных логистических центров: «Навои», «Ангрен», «Ташкент», «Термиз» и «Поп», обеспечивающие эффективную обработку и распределение грузопотоков [9].

Таможенная инфраструктура. В сфере таможенной инфраструктуры, ключевыми проблемами являются недостаточная координация и управление материальными потоками на всех этапах логистической цепочки. Для решения данных проблем необходима имплементация современных логистических подходов и технологий [3].

Конкурентные преимущества Узбекистана, как транзитного хаба, в сравнении с другими странами региона включают:

- Развитую железнодорожную сеть, что обеспечивает эффективное сообщение как внутри страны, так и с соседними государствами.
- Наличие высокоскоростного железнодорожного сообщения – железнодорожная линия между Ташкентом и Самаркандом, с курсирующими поездами "Afrosiyob", повышает привлекательность транзитных маршрутов через Узбекистан.
- Участие Узбекистана в международных, таких как Ашхабадское соглашение и программа ТРАСЕКА, что укрепляет его позиции в международной транспортной системе.
- Создание сети мультимодальных транспортно-логистических центров в Навои, Ангрене, Самарканде, Наманганской области, Термезе.

В целом, Узбекистан, расположенный в центре Центральной Азии и граничащий с рядом государств (Казахстан, Кыргызстан, Таджикистан, Афганистан и Туркменистан), занимает стратегически выгодное географическое положение. Компенсируя отсутствие прямого выхода к морю, страна обладает разветвленной сетью сухопутных транспортных путей [10], что делает ее важным звеном в региональных и межрегиональных транспортных коридорах.

Обсуждение

Анализ показывает, что Узбекистан обладает значительным потенциалом для становления в качестве ключевого транзитного хаба, учитывая его стратегическое географическое положение и имеющуюся транспортную инфраструктуру. Однако, для полной реализации данного потенциала, необходимо решение ряда проблем. В транспортно-логистической системе:

1. Наблюдается недостаточная пропускная способность и качество дорожного покрытия, что оказывает негативное влияние на эффективность мультимодальных перевозок [8].

2. Правовое регулирование мультимодальных грузоперевозок в Узбекистане имеет ряд особенностей [11], требующих дальнейшего совершенствования для обеспечения полноценной интеграции в международные транспортные коридоры.

3. Недостаточный уровень внедрения инновационных решений, в частности в сфере контейнерных перевозок [2, 12], ограничивает потенциал мультимодальных перевозок.

4. Ощущается дефицит квалифицированных специалистов в области логистики и мультимодальных перевозок [13], что также замедляет развитие сектора.

Проведенный анализ выявил ряд ключевых проблем, сдерживающих развитие мультимодальных перевозок в Узбекистане. Для устранения указанных барьеров и полной реализации транзитного потенциала страны, необходим комплексный подход, включающий ряд мер в различных сферах. Основные направления и конкретные рекомендации по развитию мультимодальных перевозок в Узбекистане представлены в Таблице 1.

Таблица 1.

Рекомендации по развитию мультимодальных перевозок в Узбекистане

Тип мер	Рекомендации
Инфраструктурные меры	Модернизация железнодорожной инфраструктуры (увеличение пропускной способности, электрификация, строительство новых линий, включая проект "Китай — Кыргызстан — Узбекистан") Развитие сети автомобильных дорог (реконструкция и строительство международных автомагистралей, улучшение качества дорожного покрытия) Создание современных логистических центров (с использованием ГЧП) в стратегически важных локациях Модернизация пограничных пунктов пропуска (внедрение "единого окна", увеличение пропускной способности) Развитие "сухих портов" для консолидации и распределения грузов
Нормативно-правовые меры	Совершенствование законодательства в сфере мультимодальных перевозок (приведение к международным стандартам) Упрощение таможенных процедур (электронное декларирование, предварительное информирование) Разработка механизмов страхования ответственности участников мультимодальных перевозок Присоединение к ключевым международным конвенциям для гармонизации транспортных процедур
Тарифные меры	- Оптимизация тарифов на железнодорожные перевозки (конкурентоспособные и прозрачные тарифные политики) Внедрение гибких тарифных систем для мультимодальных перевозок (скидки и льготы)
Технологические меры	- Разработка и внедрение электронного документооборота (ЭДО) с ЭЦП

	Внедрение систем отслеживания грузов (GPS, RFID) Создание интегрированных цифровых платформ для взаимодействия участников логистического процесса - Развитие единой цифровой платформы для логистики (E-logistika) Интеграция с международными системами электронного обмена данными Обучение и повышение квалификации персонала в области цифровых технологий Содействие развитию инновационных решений и стартапов в сфере логистики Обеспечение кибербезопасности и защиты данных Мониторинг и анализ Big Data для оптимизации логистики Сотрудничество с международными организациями по стандартизации цифровых процессов
Кадровые меры	Разработка специализированных образовательных программ в вузах и учебных центрах Повышение квалификации действующих кадров (тренинги, семинары) Создание центров компетенций для обмена опытом и лучшими практиками (включая международное сотрудничество)
Институциональные меры	Усиление координации между государственными органами (межведомственные рабочие группы) Создание специализированного агентства по мультимодальным перевозкам Развитие государственно-частного партнерства (ГЧП) Активное участие в международных транспортных и логистических объединениях
Меры по стимулированию транзита	Разработка специальных транзитных тарифов Создание благоприятных условий для иностранных инвесторов (стабильная правовая среда, налоговые льготы) Маркетинговое продвижение транзитного потенциала Узбекистана (международные форумы, выставки) Развитие рынка логистических услуг (поддержка 3PL и 4PL операторов)

Предложенные меры охватывают широкий спектр направлений, от модернизации физической инфраструктуры до совершенствования нормативно-правовой базы и внедрения цифровых технологий.

Выводы

Мультимодальные перевозки играют ключевую роль в процессе интеграции Узбекистана в мировую экономику и в реализации транзитного потенциала страны. Стратегическое географическое положение Узбекистана, развитая транспортная инфраструктура и активное участие в международных транспортных коридорах создают уникальные возможности для трансформации страны в ведущий региональный логистический хаб.

Для полной реализации имеющегося потенциала необходимо последовательное решение ряда задач, включая дальнейшую модернизацию транспортной инфраструктуры, совершенствование нормативно-правовой базы, активное внедрение цифровых технологий и обеспечение подготовки квалифицированных кадров для отрасли. Комплексный подход к развитию мультимодальных перевозок позволит не только укрепить позиции Узбекистана на международной арене, но и обеспечить устойчивый экономический рост, привлечение инвестиций и создание новых рабочих мест.

В перспективе, успешная реализация предложенных мер способна обеспечить долгосрочное развитие транспортно-логистической системы страны, повысить ее конкурентоспособность и углубить интеграцию в глобальные цепочки поставок. Дальнейшие научные исследования могут быть сфокусированы на более детальном изучении конкретных аспектов внедрения цифровых технологий в логистике, анализе передового международного опыта, а также на разработке эффективных механизмов государственно-частного партнерства в сфере мультимодальных перевозок.

Использованные источники:

1. Арифджанова Н. З. Актуальные направления развития транспортно-логистической системы в Республике Узбекистан // Экономика и социум. – 2022. – №. 3-2 (94). – С. 427-432.
2. Арифджанова Н. З. Инновационные направления развития контейнерных перевозок в Узбекистане // Проблемы современной науки и образования. – 2022. – №. 3 (172). – С. 15-19.
3. Бабаходжаев Г. Н. Логистика в Узбекистане: проблемы, возможности решения // Экономика и социум. – 2024. – №. 4-1 (119). – С. 775-781.
4. Мухамедова З. Г., Ибрагимова Г. Р. К вопросу формирования грузовой инфраструктуры Республики Узбекистан // Известия Транссиба. – 2022. – №. 1 (49). – С. 57-67.
5. Мухторов И. М., Хамраев М. М., Саидов А. А. Совершенствование алгоритма контроля таможенного транзита информационной системы «E-Tranzit» Республики Узбекистан // Таможенная политика России на Дальнем Востоке. – 2023. – №. 4 (105). – С. 25-33.
6. Мирзаев К. Д., Ишонкулова Ф. А. Особенности развития автотранспортных услуг в Узбекистане // Journal of marketing, business and management. – 2022. – Т. 1. – №. 1. – С. 71-75.
7. Кенжаева Б. О., Солаев С. С. Инновационные принципы развития логистики в Узбекистане // Проблемы науки. – 2019. – №. 12 (48). – С. 29-30.
8. Холмаматов Д. Х. Состояние и анализ развития инфраструктуры транспортных услуг в Узбекистане // Экономика и социум. – 2023. – №. 12 (115)-2. – С. 1034-1044.
9. Холмаматов Д. Х. Проблемы и решения организации международных транспортных коридоров и логистических центров в Узбекистане // Экономика и социум. – 2023. – №. 12 (115)-2. – С. 1028-1033.

10. Бакиева И. А., Файзиев Ш. Ш. Перспективы развития транзитно-транспортного потенциала Республики Узбекистан // «Халқаро молия ва ҳисоб» илмий электрон журнали. 2017. № 2. URL: https://interfinance.tsue.uz/wp-content/uploads/2022/11/Перспективы-развития-транзитно-транспортного-потенциала-Республики-Узбекистан-.pdf (дата обращения: 07.03.2025).
11. Исмаилова Р. Некоторые особенности правового регулирования мультимодальных грузоперевозок в Узбекистане // Review of law sciences. – 2018. – №. 4. – С. 46-50.
12. Солиев Т. С., Мехмонбоев У. М., Яхшикулова М. Т. Предложения по внедрению контрейлерных систем перевозок в транспортно-логистическую систему Узбекистана // Мировая наука. – 2021. – №. 7 (52). – С. 84-88.
13. Президент Республики Узбекистан. О мерах по кардинальному совершенствованию системы подготовки кадров в сфере транспорта: Постановление Президента Республики Узбекистан от 4 мая 2020 г. № ПП-4703 // Национальная база данных законодательства Республики Узбекистан. URL: https://lex.uz/ru/docs/4805176 (дата обращения: 7 марта 2025 г.).

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ТЕХНОЛОГИЯ ЭКСПЛУАТАЦИИ МЕСТОРОЖДЕНИЙ ГАЗОКОНДЕНСАТНОГО ТИПА

Аннотация:*В отличие от чисто газовых месторождений газоконденсатные разрабатываются для получения не только газа, но и высокомолекулярных компонентов газового конденсата, ценнейшего сырья нефтехимического производства. Нередко конденсат является основным целевым сырьем. Поэтому режимы разработки газоконденсатных месторождений следует оценивать как способы добычи и газа, и особенно конденсата.*

Ключевые слова: *конденсат, газ, месторождения, сырья, разработка, добыча газа, скважина, пласт, порода, забой, продуктивний пласт, дебит, углеводород, залеж, жидкая фаза.*

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TECHNOLOGY OF EXPLOITATION OF GAS CONDENSATE DEPOSITS

Abstract:*Unlike pure gas fields, gas condensate fields are developed to produce not only gas, but also high-molecular components of gas condensate, the most valuable raw materials of petrochemical production. Condensate is often the main target raw material. Therefore, the modes of development of gas condensate fields should be evaluated as methods of extraction of both gas and condensate.*

Keywords: *condensate, gas, deposits, raw materials, development, gas production, well, reservoir, rock, face, productive reservoir, flow rate, hydrocarbon, deposit, liquid phase.*

Газоконденсатные залежи в их начальном — на момент открытия — состоянии характеризуются высокими пластовыми давлениями, достигающими обычно нескольких десятков мегапаскалей. Встречаются залежи с относительно низкими (8—10) и очень высокими (до 150— 180 МПа) начальными пластовыми давлениями. Основные запасы углеводородов в залежах газоконденсатного типа приурочены к объектам с начальными пластовыми давлениями 30 — 60 МПа. В отечественной газопромысловой практике разработка газоконденсатных месторождений осуществлялась до недавнего

времени на режи ме использования только естественной энергии пласта. Такой режим («истощения») требует для своей реализации минимальных капитальных вложений и относительно умеренных текущих материальных и финансовых затрат. В истории разработки газоконденсатного месторождения, как и при разработке чисто газового, происходит последовательная смена нескольких характерных периодов: освоения и пробной эксплуатации; нарастающей, максимальной, падающей добычи; завершающий период. В отличие от разработки чисто газовой залежи в данном случае приходится иметь дело с продукцией, постоянно изменяющей свой состав. Это связано с явлениями ретроградной конденсации пластовой углеводородной смеси при снижении пластового давления. Высокомолекулярные углеводородные компоненты смеси после снижения давления в залежи ниже давления начала конденсации $p_{нк}$ переходят в жидкую фазу, которая остается неподвижной практически на всем протяжении разработки месторождения в силу низкой фазовой насыщенности (не более 12—15% объема пор), намного меньшей порога гидродинамической подвижности (40 — 60 %).

Отбор углеводородов из газоконденсатного пласта на режиме истощения сопровождается массообменными явлениями в углеводороднасыщенном поровом пространстве коллектора, которые соответствуют процессу дифференциальной конденсации смеси. В области высоких давлений (обычно выше 15 —20 МПа) состав отбираемой из пласта продукции скважин изменяется практически таким же образом, как при контактной конденсации смеси. Процесс контактной конденсации отличается от процесса дифференциальной конденсации тем, что снижение давления в системе проводится путем изотермического увеличения объема системы. Этот процесс исследуют либо расчетным путем, используя данные о константах межфазного равновесия составляющих смесь индивидуальных углеводородных компонентов, либо на сосуде фазовых равновесий с раздвижными поршнями. Следует отметить, что процесс контактной конденсации в газопромысловой практике не встречается, но иногда используется при исследовании межфазного массообмена в силу простоты и достаточно высокой степени соответствия пластовым явлениям, особенно для повышенных пластовых давлений.

Г.С. Степанова и В.Н. Шустеф подробно изучали особенности процесса дифференциальной конденсации вуктыльской пластовой смеси, выполняя одновременно для сравнения расчеты по контактной конденсации [47]. По данным этих исследователей, граничное давление, ниже которого расчетные составы газовой фазы для дифференциального и для контактного процессов несколько различаются, равно приблизительно 20 Мпа.

В качестве примера разработки на режиме истощения можно рассмотреть эксплуатацию запасов углеводородов Вуктыльского газоконденсатного месторождения. История разработки этого месторождения (Республика Коми) началась с открытия в середине 60-х

годов крупнейших в европейской части России залежей углеводородов в пермско-каменноугольных карбонатных отложениях. Месторождение приурочено к брахиантиклинали субмеридионального простирания площадью более 250 км^2 и амплитудой свыше 1500м (по подошве ангидритовой пачки кунгурского яруса). Складка располагается в осевой части Верхнепечорской впадины Предуральского Краевого прогиба (Тимано-Печорская нефтегазоносная провинция). Западное крыло складки крутое (до 70 —90°), свод узкий гребневидный; в при-осевой части складки это крыло нарушено надвигом, падающим на восток под углом 65 — 70°. Амплитуда вертикального смещения около 600м. Восточное крыло складки относительно пологое (20 — 25°).

В геологическом разрезе присутствуют ордовикско-силурийские, каменноугольные, пермские и триасовые отложения, перекрытые четвертичными. Установлены две газоконденсатные залежи. Основная залежь приурочена к органогенным известнякам и образовавшимся по ним вторичным доломитам визейско-артинского возраста. Продуктивная толща по вертикали составляет около 800м; она перекрыта 50—100-метровой дачкой трещиноватых аргиллитов верхнеартинского подъяруса и гипсово-ангидритовой толщей кунгурского яруса, являющейся хорошей покрышкой. Открытая пористость коллекторов изменяется от 5 — 6 до 22 — 28%, проницаемость колеблется от 10^{-15}— 10^{-16} до (4 — 8)10^{-12} м^3. Залежь массивная, сводовая, тектонически ограниченная. Глубина залегания кровли резервуара 2100—3300м. Имеется нефтяная оторочка.

Пластовая газоконденсатная смесь характеризовалась следующим начальным усредненным составом, % (молярные доли): метан 74,6; этан 8,9; пропан 3,8; бутаны 1,8; пентан плюс вышекипящие 6,4; азот 4,5. Конденсат имел начальную плотность около 0,745 г/см^3, содержание в нем метановых углеводородов составляло, % (молярные доли), 71; ароматических 11,9; нафтеновых 17,1. В конденсате было от 0,5 до 1,2% парафина, от 0,02 до 0,09 % серы. Нефть нефтяной оторочки легкая (плотность 0,826 — 0,841 г/см^3), высокопарафинистая (4,0 — 8,1%), содержание серы в ней от 0,15 до 0,22%.

Начальные запасы газа на Вуктыльском месторождении составляли 429,5 млрд. м^3, конденсата 141,6 млн. т, Начальная характеристика пластовой системы оценивалась следующими средними величинами: пластовое давление 36,3 МПа, температура 62 °С, давление начала конденсации пластовой углеводородной смеси 32,4МПа, конденсатогазовый фактор 360 г/см^3.

Разработка Вуктыльского НГКМ была начата в 1968г. Генеральный план расстановки скважин на месторождении формировался в соответствии с принципами, обоснованными в проектах ОПЭ и разработки. Бурение эксплуатационных скважин было начато в 1968г. Залежь разбурива-

лась без отступлений от генерального плана, не считая необходимых уточнений, связанных с рельефом местности и выдачей резервных точек взамен ликвидированных скважин.

Совмещение ОПЭ с разведкой позволило из 44 разведочных скважин использовать 28, т.е. 21 скважину перевести в эксплуатационные, шесть — в контрольно-наблюдательные и одну — в пьезометрические.

Темпы ввода скважин в эксплуатацию резко отставали от проектных, в то же время объемы добычи газа и конденсата соответствовали проекту.

Первые четыре года разрабатывался только северный купол, в котором сосредоточена основная доля запасов газа и конденсата. Южный купол введен в разработку в 1973г. Среднесуточные дебиты поддерживались на максимально возможном уровне. При этом большинство скважин (около 80 %) работало одновременно по лифтовым трубам и затрубному пространству и при максимально допустимых депрессиях, составляющих от 6 до 8 МПа. Диапазон дебитов в тот период был очень большой — от 200 до 2000 тыс. м^3/сут. По 15 скважинам среднегодовой дебит был более 1000 тыс. м^3/сут, по 40 скважинам от 500 до 1000 тыс. м^3/сут.

Учитывая большой этаж газоносности и сложное строение месторождения, для наблюдения за поведением пластового давления по залежи результаты всех замеров приводили к средневзвешенной по запасам плоскости с отметкой минус 3025 м. Распределение давления по скважинам до начала разработки месторождения определялось положением скважин на структуре и отметкой вскрытых интервалов. Среднее начальное пластовое давление на средневзвешенной плоскости составило 36,3 МПа.

Эксплуатационное бурение позволило к началу 80-х годов довести фонд действующих скважин до полутора сотен. Тем не менее, поскольку бурение отставало от проектных объемов отбора газа, скважины работали с относительно большими депрессиями. К этому периоду времени на месторождении были достигнуты максимальные отборы газа — 18—19 млрд. м^3 в год. *С* 1982—1983гг. начался период падающей добычи (рис.1).

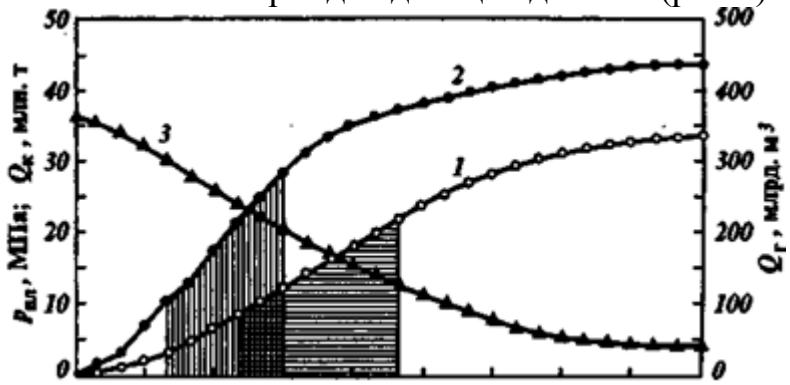

Рис. 1. Динамика некоторых технологических показателей при разработке Вуктыльского НГКМ: 1 — накопленная добыча газа, млрд. м^3; 2 — то же конденсата, млн. т; 3 — средневзвешенное пластовое давление, МПа. Вертикальной штриховкой обозначен период максимальных годо¬вых отборов конденсата, горизонтальной — газа

Освоение запасов углеводородов такого сложного глубокозалегающего месторождения, как Вуктыльское, с высоким начальным пластовым давле¬нием, значительным содержанием конденсата в пластовой смеси, большим этажом газоносности, низкопроницаемыми трещиноватыми коллекторами потребовало постановки целого ряда новых технико-технологических за¬дач. В проектах ОПЭ и разработки месторождения были обоснованы, а затем, с конца 60-х годов, реализованы на практике следующие решения.

Использованная литература

1. Самадов, А. Х. (2021). ОБОСНОВАНИЕ ТЕХНОЛОГИИ ИЗГОТОВЛЕНИЯ ПРОДУКЦИИ ПУТЕМ ТЕРМИЧЕСКОЙ ОБРАБОТКИ ДИАБАЗОВ. *Universum: технические науки*, (11-2 (92)), 25-27
2. Номозов, Б. Ю., Самадов, А. Х., & Юлдашев, Ж. Б. (2022). ПРОИЗВОДСТВО ОТКРЫТЫХ ПЛАСТОВ И ПОВЫШЕНИЕ КАЧЕСТВА СОГЛАСНО РЕКОМЕНДАЦИЯМ. *Экономика и социум*, (11-2 (102)), 575-578.
3. Самадов, А. Х., & Ахадова, Г. (2023). ПРИЧИНЫ ВОЗНИКНОВЕНИЯ СЛОЖНОСТЕЙ ПРИ ПРОВЕДЕНИИ БУРОВЫХ РАБОТ НЕФТЕГАЗОВЫХ МЕСТОРОЖДЕНИЙ. *Новости образования: исследование в XXI веке*, *1*(7), 577-582.
4. Мирзаев, Э. С., & Самадов, А. Х. (2023). ТЕХНОЛОГИЧЕСКИЕ ОСНОВЫ БУРЕНИЯ РАПАЛЬНЫХ ОТЛОЖЕНИЙ В СЛОЖНЫХ УСЛОВИЯХ. *Universum: технические науки*, (2-3 (107)), 64-66.
5. Мирзаев, Э. С., & Самадов, А. Х. (2022). ОБОСНОВАНИЕ ПРИМЕНЕНИЯ ОБЛЕГЧЕННОЙ БУРОВОЙ СМЕСИ, ИСПОЛЬЗУЕМОЙ ПРИ БУРЕНИИ ПЛАСТЕЙ НИЗКОГО ДАВЛЕНИЯ. *Экономика и социум*, (2-2 (93)), 764-768.
6. Samadov A.X., Kasimova A.Y., Umedullayev A.G. USE OF GEONAVIGATION SYSTEM IN CONTROLLING AND FAST CONTROL OF HORIZONTAL WELLS' STEM TRAJECTORY // Экономика и социум. 2024. №3-1 (118). URL: https://cyberleninka.ru/article/n/use-of-geonavigation-system-in-controlling-and-fast-control-of-horizontal-wells-stem-trajectory (дата обращения: 11.11.2024).
7. Самадов А. Х., Бойқобилова М. М., Мажидова Ю. С. ТЕХНОЛОГИЯ ВОЗДЕЙСТВИЯ ПАРОВОГО ТЕПЛА И ГОРЯЧЕЙ ВОДЫ НА ПЛАСТ ЧЕРЕЗ НАГНЕТАТЕЛЬНУЮ СКВАЖИНУ // Экономика и социум. 2023. №10 (113)-1. URL: https://cyberleninka.ru/article/n/tehnologiya-vozdeystviya-parovogo-tepla-i-goryachey-vody-na-plast-cherez-nagnetatelnuyu-skvazhinu (дата обращения: 11.11.2024).
8. Самадов, А. Х., & Ахадова, Г. (2022). ОЧИСТКА, ОПРЕДЕЛЕНИЕ И УТИЛИЗАЦИЯ ОТХОДОВ БУРЕНИЯ. *Экономика и социум*, (6-1 (97)), 855-858.
9. Nomozov B.Yu., Samadov A.X., Yuldashev J.B., Boyqobilova M.M. ISM TURDAGI QATTIQ QOTISHMALI BURG`ILAR // Экономика и социум. 2023.

№9 (112). URL: https://cyberleninka.ru/article/n/ism-turdagi-qattiq-qotishmali-burg-ilar (дата обращения: 11.11.2024).
10. Samadov A.X., Ashurov Sh.M., Bekmuratov J.A. BURG`ILASH MINORASINI MONTAJ VA DEMONTAJ QILISH TEXNOLOGIYASINI ASOSLASH // Экономика и социум. 2024. №5-1 (120). URL: https://cyberleninka.ru/article/n/burg-ilash-minorasini-montaj-va-demontaj-qilish-texnologiyasini-asoslash (дата обращения: 11.11.2024).
11. Samadov, A. X., Ahadova, G., & Shukrullayev, D. D. (2023). PDC TURDAGI INNOVATSION BURGILARNING QOLLASHNI ASOSLASH. Экономика и социум, (5-2 (108)), 340-346.

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ОЦЕНКА ЭФФЕКТИВНОСТИ ГИСТЕРОРЕЗЕКТОСКОПИИ В ЛЕЧЕНИИ СУБМУКОЗНОЙ МИОМЫ МАТКИ

Аннотация:*Показаниями к проведению гистерорезектоскопии у пациенток были маточные кровотечения и нарушения репродуктивной функции, включая бесплодие и невынашивание беременности. Диагностическая гистероскопия, проведенная перед операцией, позволила уточнить диагноз и определить объем хирургического вмешательства.*

Ключевые слова*. Миома матки, субмукозная, гистерорезектоскопия, хирургическое вмешательство.*

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EVALUATION OF THE EFFICIENCY OF HYSTERORESECTOSCOPY IN THE TREATMENT OF SUBMUCOUS UTERINE FIBROIDS

Abstract:*Indications for hysteroresectoscopy in patients were uterine bleeding and reproductive dysfunction, including infertility and miscarriage. Diagnostic hysteroscopy performed before the operation allowed us to clarify the diagnosis and determine the scope of surgical intervention.*

Keywords. *Uterine fibroids, submucous, hysteroresectoscopy, surgical intervention.*

Актуальность. Миома — наиболее распространённая доброкачественная опухоль в женской половой системе, которая клинически проявляется у 25% пациенток [1]. Она возникает из мышечных волокон и состоит из клеток гладкой мускулатуры, связанных с соединительной фиброзной тканью в различных количествах. Заболеваемость выше у женщин в возрасте 30–40 лет [2].

Как правило, миомы не вызывают симптомов; их обнаруживают с помощью УЗИ, и они не требуют хирургического вмешательства. Однако, когда они вызывают симптомы, чаще всего во время менструации, они могут вызывать аномальные маточные кровотечения, боль, давление в области таза и бесплодие [3].

Расположение миомы имеет решающее значение для возникновения симптомов. Субмукозная миома может вызывать более выраженные симптомы, такие как аномальное маточное кровотечение (АМК), длительные и обильные менструации, требующие хирургического вмешательства. Она также может быть причиной бесплодия, действуя как барьер для

сперматозоидов или внутриматочная спираль, препятствуя прикреплению яйцеклетки и делая беременность или сохранение беременности невозможными [4].

В 80–90% случаев при миоме матки выполняется гистерэктомия — сопровождающаяся значительной хирургической травмой, значительной кровопотерей и потерей репродуктивной функции [5].

После такой операции у 20–30% женщин могут наблюдаться психоэмоциональные расстройства, изменения в работе нейроэндокринной системы и нарушения мочеиспускания, что существенно ухудшает качество жизни.

Одним из методов лечения, позволяющим сохранить орган, является трансцервикальная гистерорезектоскопическая миомэктомия. Эта методика применяется при субмукозной локализации узлов.

Преимущества гистерорезектоскопии перед традиционной хирургией:

- *меньшая травматичность;*
- снижение интраоперационной кровопотери;
- *сокращение времени операции;* отсутствие осложнений, связанных с доступом к брюшной полости;
- экономичность.

Цель исследования: оценить результаты трансцервикальной гистерорезектоскопическая миомэктомии больных с субмукозной миомой матки.

Материал и методы исследования.

В рамках данного исследования были проанализированы результаты лечения 90 женщин, страдающих от субмукозной миомы матки. Возраст пациенток варьировался от 35 до 60 лет, и все они проходили лечение в отделении оперативной гинекологии Перинатального центра в период с 2022 по 2023 год. Средний возраст женщин составил 40±4,3 лет и года.

40 из 90 больных жаловались на обильные и продолжительные менструации, которые сопровождались слабостью и общим недомоганием. У 46,7% женщин были отмечены ациклические кровянистые выделения из половых путей. У 5,6% пациенток была диагностирована тяжёлая степень анемии.

Анализ репродуктивной функции показал, что 36 (40,0%) женщины страдали бесплодием. Из них 12 (33,4%) имели первичное бесплодие, а 17 (47,2%)— вторичное. У 7 (19,4%) пациенток в анамнезе было невынашивание беременности. Женщины с невынашиванием беременности в прошлом имели от 1 до 3 самопроизвольных выкидышей на сроках беременности от 5 до 13–14 недель. У 17 (47,2%) женщин в анамнезе было от 1 до 3 медицинских абортов.

Перед проведением операции трансцервикальной миомэктомии пациенткам было проведено комплексное обследование, включающее сбор анамнеза, общеклинические исследования и УЗИ малого таза. Диагностическая гистероскопия выполнялась перед проведением

гистероскопии. Показаниями к гистероскопии были маточные кровотечения, а также нарушения репродуктивной функции, такие как бесплодие и невынашивание беременности.

Перед операцией пациенткам проводится гистероскопия, которая помогает выявить миоматозный узел в полости матки, определить его размер, расположение и тип. Эта информация является ключевой для выбора наиболее эффективного метода лечения.

После тщательного обследования назначается трансцервикальная миомэктомия. Её цель — восстановить менструальный цикл и репродуктивную функцию.

Если у пациентки наблюдается выраженная анемия (уровень гемоглобина ниже 70 г/л), то перед операцией проводится специальная подготовка. В таких случаях используется препарат диферилин в дозировке 3,75 мг №2 внутримышечно, который комбинируется с антианемической терапией.

В случае отсутствия предоперационной гормональной подготовки плановую трансцервикальную миомэктомию проводят в первую фазу менструального цикла.

Гистерорезектоскопия осуществляется в операционной под регионарной спинальной или внутривенной анестезией. Выбор вида анестезии зависит от размера и типа субмукозного узла.

При миомах размером до 2 см и относящихся к 0–1 типам, используется внутривенная анестезия. В остальных случаях предпочтение отдаётся регионарной спинальной анестезии.

Для проведения гистерорезектоскопии применяется комплект эндоскопического оборудования «KarlStorz». Он включает в себя биполярный резектоскоп, эндомат и оптическую систему с видеокамерой и монитором.

Трансцервикальная миомэктомия выполняется по стандартной методике. Сначала цервикальный канал расширяется с помощью расширителей Гегара, после чего резектоскоп вводится в полость матки. Миоматозный узел удаляется с помощью электропетли, а затем извлекается из матки.

Для профилактики воспалительных осложнений пациенткам однократно вводится антибиотик широкого спектра действия. Чтобы избежать осложнений, связанных с избытком жидкости в сосудистом русле, постоянно контролируется баланс вводимой и выводимой жидкости.

После операции изучается гистологическое строение опухоли. На третьи сутки проводится УЗИ матки.

Через месяц после миомэктомии осуществляется контрольная гистероскопия, во время которой проверяется состояние полости матки, особенно на наличие внутриматочных синехий.

Результаты исследования и обсуждение. В ходе операции было удалено от одного до трёх узлов. Их размер составлял от 1,0 до 5,0 см.

У 22 пациенток были выявлены подслизистые узлы 0 типа, у 37 — I типа и у 27 — II типа.

Все узлы 0 типа были удалены за одну операцию.

Однако у 8 пациенток с миомой I типа и у 11 с миоматозным узлом II типа операция проводилась в два этапа с перерывом в один месяц.

В процессе операции у двух пациенток была выявлена жидкостная перегрузка сосудистого русла. В этих случаях операция была приостановлена, и было проведено консервативное лечение, которое привело к положительному результату. Врачи рекомендовали провести второй этап лечения.

Послеоперационный период протекал без кровотечений и воспалительных осложнений.

Гистологическое исследование опухоли подтвердило, что у всех пациенток была миома матки. Соскоб эндометрия не выявил никаких патологических изменений.

Основным критерием эффективности лечения было восстановление менструального цикла и прекращение маточных кровотечений.

У 80% пациенток (94,1%) после трансцервикальной миомэктомии менструальный цикл нормализовался. У пяти пациенток после операции продолжали наблюдаться нарушения менструального цикла. У одной из них менструации были обильными из-за оставшейся части миомы, которая располагалась глубоко в мышечном слое. Этой пациентке была проведена тотальная гистерэктомия.

У четырёх пациенток нарушения менструального цикла были вызваны сочетанием миомы матки с аденомиозом.

Через месяц после операции при контрольной гистероскопии не было обнаружено внутриматочных синехий.

У двух пациенток через два года после операции при повторной гистероскопии был выявлен рецидив подслизистой миомы матки.

В литературе данные о влиянии миомэктомии на частоту наступления беременности варьируются от 20,1% до 73% [9].

В нашем исследовании у пяти из 23 пациенток с бесплодием, или 21,7%, после операции наступила самостоятельная беременность, которая завершилась своевременными родами.

Ещё пяти пациенткам по показаниям была проведена программа ЭКО. У трёх из них беременность не наступила. У одной пациентки беременность после ЭКО закончилась самопроизвольным выкидышем на сроке 14 недель. Одна пациентка на данный момент находится под наблюдением гинеколога на сроке беременности 34 недели.

У остальных 13 пациенток отсутствие беременности объясняется сочетанием с другими причинами бесплодия (мужским, трубно-перитонеальным факторами, эндометриозом).

Таким образом, гистерорезектоскопия, применяемая для лечения субмукозной миомы матки, является предпочтительным методом для восстановления менструальной и репродуктивной функции женщины.

В 94,1% случаев трансцервикальная миомэктомия даёт положительный клинический эффект в отношении восстановления менструальной функции и прекращения маточных кровотечений.

У 21,7% пациенток без других причин бесплодия было отмечено восстановление репродуктивной функции. Частота осложнений составила 2,3%.

Вывод. Преимуществами гистерорезектоскопии являются сохранение органа, снижение травматичности операции, уменьшение спаечного процесса в послеоперационном периоде, что повышает вероятность наступления беременности.

Использованные источники:

1. Кузнецова И.В., Евсюкова Л.В. Миома матки и фертильность // Гинекология. – 2016. -№18(3). – С. 23-29. doi: 10.26442/2079-5696_18.3.23-29

2. Пестрикова Т.Ю., Юрасова Е.А., Юрасов И.В., Чирков А.В. Рациональный выбор тактики ведения пациенток с миомой матки. Обзор литературы // Гинекология. – 2017. -№19(5). – С. 15-19.

3. Carranza-Mamane B., Havelock J., Hemmings R. Reproductive endocrinology and infertility committee special contributor. The management of uterine fibroids in women with otherwise unexplained infertility // J Obstet Gynaecol Can. – 2015. -№37(3). – С. 277-285. doi: 10.1016/S1701- 2163(15)30318-2.

4. Segars J.H., Parrott E.C., Nagel J.D., Guo X.C., Gao X., Birnbaum L.S. et al. Proceedings from the Third National Institutes of Health International Congress on Advances in Uterine Leiomyoma Research: comprehensive review, conference summary and future recommendations // Hum Reprod Update. – 2014. - №20(3. – P.- 309-333. doi: 10.1093/ humupd/dmt058.

5. Baranowski W. Ulipristal acetate before high complexity endoscopic (hysteroscopic, laparoscopic) myomectomy - a mini-review // Prz Menopauzalny. – 2016. - №15(4). – P. 202-204. doi: 10.5114/pm.2016.65664.

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ГЕОЭКОЛОГИЧЕСКОЕ СОСТОЯНИЕ ПРИРОДНОГО ПАРКА АМАНКУТАН И МЕРЫ ПО ЕГО ОХРАНЕ

Аннотация. *В статье представлена информация о современном состоянии охраняемых природных ландшафтов Узбекистана, в частности природного парка «Аманкутан», их геоэкологических проблемах, усиливающемся расширении антропогенных ландшафтов, флоре и фауне природного парка «Аманкутан», его истории и современном состоянии. Приведена информация об усиливающемся антропогенном воздействии на парк, мерах, принимаемых для сохранения экосистемы в естественном состоянии, и перспективных предложениях по решению проблемы.*

Ключевые слова. *Национальный природный парк Аманкутан, охрана, антропогенные и природные ландшафты, окружающая среда, флора и фауна, сосна, домашний скот, туристический поток.*

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GEOECOLOGICAL STATE OF THE AMANKUTAN NATURAL PARK AND MEASURES FOR ITS PROTECTION

Abstract. *The article presents information on the current state of protected natural landscapes of Uzbekistan, in particular the Amankutan natural park, their geoecological problems, the increasing expansion of anthropogenic landscapes, the flora and fauna of the Amankutan natural park, its history and current state. Information is provided on the increasing anthropogenic impact on the park, measures taken to preserve the ecosystem in its natural state, and promising proposals for solving the problem.*

Key words. *Amankutan national natural park, protection, anthropogenic and natural landscapes, environment, flora and fauna, pine, livestock, tourist flow.*

Актуальность. Проблема взаимодействия и воздействия человечества на природную среду привлекает внимание стран всего мира, особенно в последние десятилетия. Общеизвестно, что сегодня воздействие человеческого общества на природу увеличивается и расширяется. На Земле

естественные ландшафты все чаще заменяются новыми типами ландшафтов, измененными под влиянием человека, — антропогенными ландшафтами.

Охрана природных ландшафтов и рациональное использование природных ресурсов являются сложными, междисциплинарными проблемами. Он имеет очень глубокие экономические, социальные, политические и образовательные аспекты. Как и во многих странах мира, охрана и защита природы в Узбекистане становится важной государственной задачей. Сохранение природы и охрана ее компонентов требуют сохранения природно-географических комплексов в отдельных регионах в их первозданном состоянии и установления для них особого режима охраны. Аналогично, особо охраняемые природные территории, находящиеся под особым режимом, представляют собой природные географические объекты, защищенные путем изоляции от хозяйственного освоения. Особо охраняемые природные географические объекты и акватории служат эталоном естественного состояния природных комплексов (ландшафтов). Особо охраняемые природные территории являются важнейшим средством сохранения биоразнообразия в стране.

Особенно в последние годы все более очевидными становятся различные антропогенные воздействия на уникальную природу и природные ресурсы нашей страны, и последствия уже начали ощущаться. Стоит упомянуть несколько наиболее влиятельных из этих антропогенных процессов. В частности, за счет использования земель для ведения сельского хозяйства; через промышленное производство; выпасом скота на пастбищах; за счет создания новых видов химических веществ, а также широкого использования этих и других существующих в экономике, особенно в сельском хозяйстве; также посредством различных конструкций; за счет расширения урбанизации в результате быстрого роста населения; В результате нерационального использования природных ресурсов и рекреационного природопользования, а также под воздействием аналогичных антропогенных факторов природа нашей страны значительно загрязнена, состояние природных ресурсов ухудшилось, природа стала нуждаться в охране.

Необходимо улучшить управление охраняемыми природными территориями и действующее законодательство для сохранения существующих видов и экосистем в естественной среде и гарантировать эффективное использование природных ресурсов для местного населения. В этом направлении и у нас в стране проводится большая и эффективная работа. Многочисленные особо охраняемые природные территории, созданные в нашей республике, свидетельствуют о том, что охрана природы базируется на широкой научной основе. Однако мы считаем, что было бы полезно ввести некоторые новшества в систему некоторых заповедников, которые гарантировали бы отсутствие негативного антропогенного воздействия на деятельность таких охраняемых природных объектов, а также не допустили бы ситуаций, связанных с их необоснованной эксплуатацией.

Ведь охраняемые геокомплексы в их естественном состоянии считаются генофондом нашей планеты. Кроме того, большое значение имеют природные объекты как интереснейшие объекты бурно развивающегося туризма. В последние годы увеличивается площадь и количество особо охраняемых природных территорий.

Основная часть. «Национальный природный парк Аманкутан» расположен у подножия гор Ургутского района в юго-восточной части Самаркандской области, на высоте примерно 1000-2500 метров над уровнем моря. Ургутский район граничит с Кашкадарьинской областью с одной стороны и с соседней Республикой Таджикистан с другой. Поскольку район расположен преимущественно в горной местности, его биоразнообразие очень богато.

На данной территории зафиксировано присутствие бурых медведей, белохвостых оленей, соколов, орлов, сапсанов, ястребов и других видов животных, а также около 20 редких видов растений, таких как сирень старинная, тюльпан великолепный, тюльпан Фостер, очиток мелкоцветковый, платан Эчисона, которые занесены в «Красную книгу» Республики Узбекистан как редкие и исчезающие виды. Кроме того, более 50 видов растений, произрастающих в этих регионах, используются в народной и современной медицине.

На этой территории находятся такие исторические памятники, как пещера Аманкутан, где обнаружены древнейшие памятники в истории человечества, и родник Ният, а также питомники Аманкутанского лесного хозяйства, где впервые в Средней Азии выращиваются акклиматизированные крымская сосна, белая береза, акация и другие редкие и ценные деревья. Здесь также находятся объекты природного и историко-культурного наследия, такие как леса, сформированные террасным способом около двухсот лет назад, и перевал Тахти Карача Бегум, расположенный на пересечении Великого Шелкового пути на участке Юлсой лесного департамента Омонкуттон.

Вопрос защиты этих природных и культурных ресурсов, их разумного использования без причинения вреда, их приумножения и оставления их в качестве непреходящего наследия будущим поколениям становится сегодня актуальным.

Общая площадь «Национального природного парка Аманкутан» составляет 1500 гектаров. Из них 1000 га — заповедная зона, 400 га — рекреационные зоны и 100 га — сельскохозяйственные зоны. Район расположен на высоте 1600-1800 м над уровнем моря. Природный парк расположен в части «Зарафшанских горных хребтов» в Ургутском районе Самаркандской области, то есть с восточной стороны перевала «Тахти Карача» (трасса М-39). Основную его часть составляют леса и горы, а также разнообразные природные ландшафты. На территории национального парка расположена детская летняя база отдыха «Бахора».

На территории нынешнего природного парка в 1878 году был заложен лесной массив площадью 950 гектаров, насчитывающий 1 миллион деревьев произрастающих в российских лесах пород деревьев. Было привезено и высажено 300 000 саженцев. Саженец крымской сосны был впервые посажен в Средней Азии в Оманкутане и, благодаря успешному опыту, был распространен в других регионах республики.

В национальном природном парке Аманкутан произрастает более 1300 видов растений. Из них более 60 различных видов являются лекарственными растениями; Растут оленья трава, горный базилик, рябина, аврук, зверобой, бессмертник, андиз, дикий курак, наматак, горный лук, горный чай, тмин, барбарис, горькая кучала (дикий имбирь), четыре вида горной вишни, дикая груша, красная (боярышник) и много других лекарственных растений.

Флора: основные деревья и кустарники: акация, айлант, горький миндаль, Крымская сосна, можжевельник зарафшанский, дуб, ясень, фисташка, крушина, клен, боярышник белый, абрикос, яблоня, клен, брусника, платан и другие деревья и кустарники.

Есть также горные тюльпаны (тюльпаны Королькова), ирисы (ириски), пирамидальные цветы (розы), одуванчики (адуванчики), крокусы (желтые и оранжевые сорта), дикие лилии, маргаритки и десятки других видов цветов. Существует 101 вид растений, которые нуждаются в защите.

Фауна: выявлено 126 видов позвоночных животных.

В том числе 11 видов класса млекопитающих (волк, лисица, шакал (шакал среднеазиатский), кролик, еж, дикобраз, дикобраз и др.);

Класс птиц: 104 вида, класс рептилий 8 видов, водный и наземный класс 2 вида;

9 видов редких животных и птиц занесены в «Красную книгу» Республики Узбекистан и «Красную книгу» Республики Узбекистан.

Из птиц: орел, ястреб, ястреб, перепелятник, куропатка, гиена (два вида), соловей, чайка, птица-носорог, сокол, дятел, дятел, черная птица, скунс, перепелятник, майна, пестрый дятел и другие птицы.

Среди пресмыкающихся встречаются: кобра, гюрза, гремучая змея (погремучая змея), олачипор, колвор, жёлтый змей, ящерица и другие.

После начала деятельности природного парка одним из первых был прекращен выпас скота на этой территории, границы поселка и Ургутского лесничества были оцеплены металлическим забором (из сетки и кольев), установлены предупреждающие и запрещающие знаки, на главной дороге, ведущей на территорию, построен контрольно-пропускной пункт (КПП), ведется постоянный контроль. Благодаря недопущению на территорию скота в настоящее время на территории природного парка начался естественный процесс воспроизводства деревьев, насчитывающий 3 миллиона деревьев. Рядом с зерном проросли новые саженцы деревьев.

Природа «Национального природного парка Аманкутан» неизменно привлекает иностранных и отечественных туристов. Национальный парк является прекрасным местом для развития экотуризма благодаря своему

расположению между древними городами Самарканд и Шахрисабз и своей природной красоте.

Выводы. В большинстве развитых стран мира уделяется большое внимание искусственному расширению лесных площадей, и эта проблема также является необходимостью времени. Леса не только обеспечивают зеленью и чистым воздухом, но и смягчают климат, сохраняют экосистему в естественном состоянии, способствуют восстановлению здоровья местных жителей, а при правильном и эффективном использовании возможностей экотуризма являются важным фактором увеличения потока туристов.

«Национальный природный парк «Аманкутан», находящийся в ведении Министерства экологии, охраны окружающей среды и изменения климата, ответственной организации, входит в состав охраняемых природных территорий Республики Узбекистан, и если не будут немедленно приняты соответствующие меры, не будут установлены строгие ограничения на территории национального парка, в частности, необходимость снижения вредного воздействия отдыхающих на природные ландшафты, невырубки растений и загрязнения водных ресурсов, ограничения выпаса скота является актуальным вопросом. Если эти меры не будут приняты своевременно. Неизбежно, что мы будем отделены от парка, который является зелеными легкими Самаркандской области и домом для уникальных животных.

Использованные источники:

1. Алибеков Л.А., Нишонов С.А. Охрана природы и рациональное использование природных ресурсов. Ташкент., «Учитель». 1983.
2. Абдулкасимов А.А. Лесные ландшафты Средней Азии и их характеристика. «Уникальные ландшафты Узбекистана», научный сборник. Самарканд, 1993 год.
3. Равшанов А. Лесные ландшафты Зерафшанской долины и их охрана. Научный сборник «Уникальные ландшафты Узбекистана». Самарканд, 1993 год.
4. Алибеков Л.А. Человек и природа, учебник Самарканд, издательство Сам.СУ. 2020, 400 стр.
5/ Abdulkasimov A.A. Barerny effect and formation of landscape intermountain basins of Central Asia. Geography and natural resources. - Novosibirsk, 1990. No. 3 - pp. 103-110.
6. Abdulkasimov A.A. Jurakulov X. The pattern of differentiation of the landscapes of the Zarafshan ridge and adjacent plains. Monograph. Samarqand-2014. 140 b.
7. Baratov P.B. Natural resources of Zarafxhan valley. Tashkent. Science, 1977-s. 14-19.
8. Eshkuvvatov B.B., Yarashev K.S. Scientific and Practical Measures of Analysis of Plains and Landscapes // Journal Natural and Science. Volume 18, Number 3. USA. March 25, 2020. ISSN: 1545-0740; 60-62 p.

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ИННОВАЦИОННЫЕ ТЕХНОЛОГИИ В РАБОТЕ СОЦИАЛЬНОГО РАБОТНИКА С ПОЖИЛЫМИ ЛЮДЬМИ

Аннотация: *В данной статье рассматриваются вопросы внедрения инноваций в социальное обслуживание граждан пожилого возраста и инвалидов в отделении социального обслуживания на дому граждан пожилого возраста и инвалидов. Целью статьи является представить направления социальной работы для обеспечения доступа граждан пожилого возраста к информационным и образовательным ресурсам, формирования условий для досуга пожилых людей. Статья разработана на основе существующих теоретических изданий о социальной работе и нормативно-правовых актов об основах социальной работы.*

Ключевые слова: *Социальная работа, организация социальной работы, внедрение новых технологий в социальную работу, пожилые люди.*

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INNOVATIVE TECHNOLOGIES IN WORK OF SOCIAL WORKER WITH ELDERLY PEOPLE

Abstract: *This article deals with the introduction of innovations in social services for elderly and disabled citizens in the department of social services at home for elderly and disabled citizens. The purpose of the article is to present the directions of social work to provide elderly citizens with access to information and educational resources, formation of conditions for leisure of elderly people. The article is developed on the basis of existing theoretical publications on social work and normative-legal acts on the basics of social work.*

Key words*: Social work, organization of social work, introduction of new technologies in social work, elderly people.*

Для качественной социальной работы с пожилыми людьми необходимо усвоение инновационных технологий социальной работы с данной группой населения. Национальные проекты, объявленные Президентом Российской Федерации, выдвигают перед обществом ряд серьёзных задач, главной из

которых является увеличение продолжительности, уровня и качества жизни, улучшения социального благополучия пожилых граждан, формирования условий для активного долголетия. У пожилых людей в современном мире появляются новые социальные потребности, что обуславливает необходимость внедрения инноваций в социальную сферу как ведущий инструмент повышения качества их жизни. В настоящее время по данным на 01.02.2025 года, на территории Большереченского района проживает пожилых людей от 60 лет - 5351 человек, а долгожителей старше 80 лет - 321 человек. На социальном обслуживании состоит 1056 человек пожилых граждан. В 1995 году начался мой трудовой путь в должности социального работника в отделении социального обслуживания на дому граждан пожилого возраста и инвалидов в комплексном центре социального обслуживания населения Большереченского района. Моя работа заключается в предоставлении гражданам социальных услуг таких как: социально-бытовые; правовые, социально-медицинские; социально-психологические. Улучшение социально-экономического положения пожилых граждан и инвалидов, повышение их социального статуса, активизация роли в жизни – приоритет социальной работы в интересах пожилых людей, предмет постоянной заботы социальных работников комплексного центра. Работа с гражданами пожилого возраста в отделении социального обслуживания на дому граждан пожилого возраста и инвалидов № 4 на территории р.п. Большеречье мною организована в соответствии плана мероприятий по повышению качества жизни граждан пожилого возраста на 2022 – 2025 годы, который направлен на решение следующих задач:

- обеспечение доступа граждан пожилого возраста к информационным и образовательным ресурсам;
- вовлечение пожилых людей в активную общественную деятельность;
- формирование условий для досуга пожилых людей.

Мною определены 4 направления работы с гражданами пожилого возраста: образовательное, добровольческое, патриотическое, культурно-досуговое и спортивно-оздоровительное. План носит межведомственный характер. К реализации плана мероприятий привлекаются практически все структурные подразделения: администрация Большереченского района, областные и федеральные структуры (налоговая инспекция, управление Пенсионного фонда в р.п. Большеречье, УМВД России по Большереченскому району Омской области и др.). Образовательное направление с гражданами пожилого возраста представлено вовлечением их в работу "Школа активного долголетия", которая действует при БУ "КЦСОН Большереченского района" на базе отделения социального обслуживания на дому граждан пожилого возраста и инвалидов с 2022 года. Обучение в Школе проходит по территориальному принципу на базе комплексного центра в онлайн - формате, что позволяет пожилым гражданам получать знания по месту жительства. Дополнительное образование получили уже более 130 вовлечённых пожилых жителей р.п. Большеречья. Образовательный процесс организован по 5

направлениям: финансовая грамотность, компьютерная грамотность, школа здорового образа жизни, правовая грамотность, школа безопасной жизнедеятельности, досуг. С 2023 года по просьбе клиентов расширили перечень организаций и подразделений района, привлечённых к проведению занятий: отделения Сбербанка, нотариуса, специалистов кадастровой палаты и другие структуры. В рамках курса занятий по обучению финансовой грамотности пожилые граждане р.п. Большеречья узнали о налогах и их уплате, о правилах пользования банкоматами и электронными устройствами; о структуре оплаты за жилищно-коммунальные услуги; о мерах социальной поддержки жителей села по оплате за жилищно-коммунальные услуги. В качестве волонтёров привлекали учителей и библиотекарей школ, которые преподавали основы компьютерной грамотности. Курсы занятий по обучению компьютерной грамотности проходят по двум уровням: "Начинающий пользователь" и "Уверенный пользователь". Пожилые люди, находящиеся на моём социальном обслуживании, по-прежнему, хотят быть в курсе всех событий, происходящих в мире, общаться с друзьями, расширять социальные контакты. Учитывая интересы обслуживаемых граждан, процесс обучения в Школе включает курс - "информационное пространство". Граждане пожилого возраста узнают об интересных сайтах для пожилых людей, как правильно совершать интернет-покупки. Пожилые люди, посещающие "Школу активного долголетия" каждый год являются участниками районных и областных чемпионатов "Азбука интернета". Курс занятий по получению знаний здорового образа жизни включал в себя лекции на темы: "Профилактика болезней людей пожилого возраста", "Правила аптечки. Применение лекарственных средств и средств народной медицины", "Мониторинг состояния здоровья и факторы, влияющие на активное долголетие", "Психологические особенности пожилых людей". На курсах по правовой грамотности пожилые люди узнали много нового об изменениях в законодательстве, о том, что должен знать потребитель, о компенсации расходов на уплату взносов на капитальный ремонт, овладели основами гражданского законодательства. Дополнительные знания, полученные по финансовой безопасности, помогли пожилым людям избежать мошенничества. Были организованы встречи с главным участковым полиции р.п. Большеречья. Пожилые люди изучили актуальные темы по "Пенсионному всеобучу":

- виды пенсий назначенных в РФ, страховая пенсия – порядок перерасчёта и что нужно знать о накопительной пенсии;
- правопреемство пенсионных накоплений, управление средствами пенсионных накоплений;
- перерасчёт пенсий, связанной с заменой периодов работы на не страховые периоды, назначение компенсационной выплаты по уходу;
- ежемесячная денежная выплата федеральным льготникам.

Курс занятий по активному долголетию уже посетили более 50 вовлечённых мною пожилых людей. Они получили знания по укреплению здоровья. Курс

включал в себя лекции на тему здорового питания для определённых возрастных групп, как сохранить хорошее самочувствие, а также посетили занятия по адаптивной физической культуре на базе отделения социальной реабилитации граждан с ограниченными возможностями здоровья и пожилого возраста. В течение курса "Школы активного долголетия" слушатели имели возможность овладеть новыми знаниями, проявить свои творческие способности, участвовать в спортивных и досуговых мероприятиях. К проведению мероприятий мною были привлечены специалисты администрации Большереченского района, Бюджетного учреждения здравоохранения Омской области "Большереченская центральная районная больница", бюджетного учреждения культуры Большереченского муниципального района Омской области, муниципального казенного учреждения Большереченского муниципального района "Центр по делам молодёжи, физической культуры и спорта" Большереченского муниципального района. В связи с растущей потребностью посещения пожилыми людьми Школы "третьего возраста", организованной на постоянной основе в 2024 году, обучение граждан, состоящих на моём обслуживании, продолжается по следующим направлениям: финансовая и экономическая грамотность, информационное пространство, культура и искусство, активное долголетие. В программу обучения в 2025 году включен новый курс – "Культура и искусство для пожилых". Он будет проходить на базе Большереченской районной библиотеки. Граждане старшего поколения, состоящие на моём обслуживании, являются активными участниками волонтёрского движения. На базе отделения действует добровольческое движение, основная цель которого является оказание помощи нуждающимся жителям Большереченского района. Деятельность осуществляют пока 10 граждан пожилого возраста, которые вовлечены мною в социально-значимую работу по оказанию услуг нуждающимся гражданам. Волонтёры оказывают помощь одиноким пожилым жителям, инвалидам, оказавшимся в трудной жизненной ситуации. В результате волонтёрского движения для одиноких пожилых людей и инвалидов организовывалось добровольцами сопровождение к объектам социального назначения; несложные работы по дому; покупка продуктов; лекарств; оказание сезонных работ; помощь во взаимодействии с жилищно-коммунальными службами и т. д. Пожилые волонтёры активно участвовали в организации и проведении благотворительных акций по сбору вещей, экологических десантах, посещали нуждающихся в помощи граждан по месту жительства. За два года волонтёры оказали помощь более 50 жителям р.п. Большеречья. Активно взаимодействуют волонтёры с образовательным учреждением в вопросах патриотического воспитания молодёжи. Граждане старшего поколения проводят уроки мужества, круглые столы, встречи со школьниками. Тематические мероприятия "Герои в наших сердцах". Волонтёры совместно со школьниками принимали активное участие в посадке деревьев на аллее памяти, ежегодно участвуют во Всероссийской акции "Бессмертный полк".

Однако одной из самых главных задач является организация содержательного досуга и проведение спортивно-оздоровительных мероприятий. Для этого в нашем отделении, при содействии других специалистов организован и действует клуб "Иван да Мария" по следующим направлениям: рукоделие, кулинария, ЗОЖ, песенное и танцевальное творчество, в котором находят занятия по душе более 75 граждан пожилого возраста и инвалидов. Смысл и содержание клубной деятельности заключается в общении и информационном обмене, что обеспечивает организованный и содержательно-полезный досуг каждому участнику клуба. Итогами работы клуба служат организация и проведение выставок декоративно - прикладного искусства и серии мастер-классов "Формула рукоделия". На заседаниях члены клуба общаются, делятся секретами рукоделия, шьют, вяжут, показывают своё мастерство, рассказывают о народно-прикладном творчестве, изготавливают сувениры для своих родных, друзей, близких, вяжут носки и рукавицы для участников СВО. Граждане пожилого возраста, состоящие на моём обслуживании, вносят огромный вклад в пропаганду здорового образа жизни и развитие физической культуры. Их неиссякаемая энергия и задор – пример для молодёжи. Активисты посещают плавательный бассейн, систематически проводят "дни здоровья" и спортивные мероприятия "Здоровое тело – здоровый дух", "Весёлые старты для пожилых", "Сильные духом, крепкие закалкой!", "Спартакиада ветеранов" и т. д. Направление туризм является уникальным средством реабилитации и социализации, даёт возможность полноценного общения и интеграции пожилых людей в обществе. Бюджетное учреждение "Комплексный центр социального обслуживания населения Большереченского района" организовывает экскурсии для пожилых граждан в Омский государственный историко-культурный музей-заповедник "Старина Сибирская".

Как результат инновационной деятельности в работе социального работника с пожилыми людьми - улучшение качества социального обслуживания, сохранение и продление социальной активности и долголетия пожилых людей, увеличение клиентской востребованности КЦСОН по социальному обслуживанию, повышение имиджа организации и статуса отрасли в целом.

Использованные источники:

1. Научно-популярный журнал «Социальная работа» номера – 1,3,4,5,6,9-2019 г.
2. Профессиональный научно-практический журнал "Работник социальной службы" № 2 (192) 2022 г.
3. Профессиональный научно-практический журнал "Работник социальной службы" № 6 (208) 2023 г.
4. Профессиональный научно-практический журнал "Работник социальной службы" № 4(218) 2024 г.

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АЖДОДЛАР МЕРОСИДАУСТОЗ-ШОГИРД МУНОСАБАТИ МАЗМУНИ

Аннотация*: мазкур мақолада аждодларимизнинг энг қадимги бебаҳо ёдгорлиги ”Авесто” ва қадимги пандномалар мазмунидаги бўлажак мутахассисларда касбий тафаккурни ривожлантириш масалалари устоз-шогирд тизими асосда таҳлил қилинган.*

Калит сўзлар*: миллий мерос, қадрият, “Авесто”, касбий тафаккур, устоз-шогирд, фаолият, баркамол шахс.*

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CONTENT OF THE MENTOR-STUDENT RELATIONSHIP IN THE ANCESTORS' LEGACY

Abstract: *in this article, based on the mentor-student system, the issues of developing the professional thinking of future specialists are analyzed in the context of the most ancient invaluable monument of our ancestors "Avesta" and ancient edifications.*

Key words: *national heritage, values, Avesta, professional thinking, mentor-student, activity, comprehensively developed personality.*

Бўлажак ўқитувчи шахсини шакллантириш муаммоси ҳар қайси кишилик жамиятининг эҳтиёжлари ва талабларидан келиб чиққан ҳолда ҳал қилинади. Шу боисдан ҳозирги даврда қабул қилиниши мўлжалланган янги “Таълим тўғрисида”ги қонун ва ушбу қонун асосида қабул қилинадиган меъёрий хужжатларда касб танлаш мотивлари, касбий тайёргарлик, касбий лаёқат ва касбий маҳорат билан чекланиб қолмасликни, балки бўлғуси педагогик кадрларда касбий тафаккурни таркиб топтириш мутлақо зарурий шарт эканлиги таъкидланади.

Аждодларимиз меросида ҳам устоз-шогирд муносабатлари асосида мураббийлик, ўқитувчилик касбининг ўзига хос этнопедагогик фазилатлари, хусусиятлари, хислатлари, қобилиятлари иш услублари маҳоратга эришишнинг йўллари, шахслараро муомала маданияти юзасидан халқнинг менталитетига турли таълимотлар, қарашлар талқини ўз ифодасини топган.

Ҳақиқатдан ҳам буюк тарихий-маънавий илдизларга эга бўлган давлатчилигимиз анъаналарини давом эттириш, демократик тамойилларга

асосланган давлатни барпо этиш жараёни, жумладан жамият аъзолари ҳисобланмиш ёшларни ҳар томонлама етук, баркамол инсон бўлиб етишишларида аждодлар анъанаси ва ўтмиш қадриятлари муҳим восита бўлиб хизмат қилади. Дунёдаги энг қадимий ва ноёб билимлар хазинаси бўлган маданий меросимиз «Авесто»да инсоният тараққиёти, ривожи учун зарур барча илмлар мажмуаси, соҳалар, қонун-қоидалар, ахлоқий-ижтимоий меъёрлар ўз аксини топган. Шунингдек, асарда ахлоқий баркамоллик асосида, «комил инсон»ни вояга етказиш йўлида «эзгу фикр», «эзгу калом», «эзгу амал» ғояларининг зикр этилиши зардуштийларнинг маънавий-маърифий олами моҳиятини ташкил этади.

Задуштийлик таълимотига кўра ҳар бир маздопарастнинг руҳан ва хулқан комиллиги, унинг яхшиликка юз тутиб, рост йўлни танлаб, дунёвий билимларни ўрганиб, ўз касбини эъзозлаган ҳолда Аҳурамазда фарзларини нечоғлиқ адо этиши билан белгиланган. Зероки, қўш ҳайдаб, дон эккан, чорвани парваришлаб, чўлда боғ яратган, ернинг захини қочириб, шўрини ювиб зироат эккан зардуштий-нинг равони пок, хулқи хуш, амали чин бўлади.

Биз ушбу мақоламизда бўлажак ўқитувчилар касбий тафаккурини шакллантиришда “Авесто” матнларидаги устоз-шогирд тизими ҳамда устозларнинг бурч ва масъулиятлари ҳақидаги қарашлар мазмунини ёритишга ҳаракат қилдик.

“Авесто”даги маънавий-ахлоқий тарбиянинг асосини поктийнат, ҳалол, қалбан соф, маънан етук зардуштийларни тарбиялаш ва вояга етказиш масаласи ташкил қилиб, бу масалани амалга ошириш эса устоз ва мураббийлар зиммасига юклатилган. «Авесто»да устозлар ҳақида сўз кетганда энг аввало барча устозларнинг устози , мутлақ илоҳ Ахура Мазда мадҳ этилади : «-сен ашаҳ-Ҳақиқат сўзи ва Эзгу ният таълимоти билан, сенга пайвандлик ва унс боғлаган зотларга илк мураббий, устозсан», ёки «-сен ҳақиқатда, бутун мавжудотга Ашаҳ-Ҳақиқатнинг манфаати ва дуружнинг зиёнкорлиги хусусида сабоқ бергансан, тарбия қилгансан.[1] Булардан кўриниб турибдики Яздон оламни, дунёдаги барча билимларни яратувчи, Зардушт эса бу билимларни инсонларга етказиб уларни маърифатли келажакка ҳидоят этувчи ҳисобланади: «-Мазда таълим берди ва Зардушт хабар келтирди», ёки «-Мазда таълим бериб, Зардушт сўйлаган радларга олқишлар, хушнудлик ва офаринлар бўлсин». [1]

Гоҳлар ва Яштларда Зардушт Яздон ишини давом эттиргувчи, инсонларни ҳалолликка, пок ахлоққа, комилликка ундагувчи устозлар раҳнамоси сифатида кўрсатилади. Ўз навбатида Зардушт таълимотини келажак авлодга етказиш, дунёга эзгулик нурларини таратиш, инсониятни аниқ ахлоқий мезонлар асосида баркамоллаштириш жамиятдаги устозлар ва муаллимлар зиммасига юклатилган. Устоз-муаллимлар Яздон фарзларини дилига жой айлаган, ўз фаолиятида қўллаган, ватанининг гуллаб яшнаши, фаровонлиги йўлида ҳалол меҳнат қилиб, уни душманлардан ҳимоя қила оладиган, жасур, пок, билимдон шогирдларни тарбиялашлари шарт бўлган.

Ҳозирги кунда мамлакатимизда қабул қилинган «Таълим тўғрисидаги» қонун, «Кадрлар тайёрлаш миллий дастури» асосини ҳар томонлама етук, баркамол шахсни тарбиялаш масаласи ташкил қилар экан, аждодларимизнинг 3000-йил илгари бу аъмолга етишнинг йўллари, қоидаларини ишлаб чиқиб, давлат ва жамият тузилишининг негизига асос қилиб қўйганлари таҳсинга сазавордир : «-менга баркамол ва диногоҳ, ватансевар ва анжуманаро, аҳил, эзгу андишали, зулматдан, тангликдан қутқарувчи фарзандлар бағишла. Токи улар манзил, шаҳар, ўлка ва унинг ном ҳамда овозасини кўтарсинлар»[2]

“Авесто”да Зардуштийлик динининг асослари билан бир қаторда чорвани кўпайтириб, боғлар яратиш (аграномия), чўлга сув чиқазиб ернинг шўрини ювиб, захини қочириб ишлов бериш (мелиорация), осмон жисмлари, уларнинг ҳаракатини кузатиш ва шу асосда кун, йил, вақт ҳисобини олиб бориш (астрономия), дарёлар, тоғлар, вилоятлар, кишварлар таснифи (география), табиатни, атроф-муҳитни муҳофоза қилиш (экология, гигиена), юртни, халқни, чорвани душманлар, қароқчилар ва девлардан ҳимоя қилиш (ҳарбий билим), оиланинг тузилиши, оила ва жамиятда эркак-аёл масъулиятлари, вазифалари, бурчлари (ахлоқшунослик, социология) каби билимлар мажмуаси юксак маҳорат билан баён қилинганлиги обиданинг улкан адабий-маърифий, қомусий қимматга эга эканлигини кўрсатади. Шу билимларни умумлаштириб, бойитиб келажак авлодга етказиш устозлар ва муаллимлар учун юксак масъулият, бурч эканлигининг таъкидланиши диққатга сазовордир. Айни пайтда шу билимларни мактаб, мадрасаларда ўқитиш йўналишлари, усуллари ва услубларини ишлаб чиқиш (педагогика, дидактика) доно муаллимлар, устозлар вазифаси ҳисобланган.

Адабиётлар:

1. “Авесто”.Тарихий-адабий ёдгорлик. А. Маҳкам таржимаси –Т.: Шарқ нашриёти- матбаа концерни. 2001
2. Абдуллаев К. Ф. Мыслители востока о педагогической профессии //Культура мира и ненасилия подрастающего поколения: ракурсы интерпретации и педагогические условия развития. – 2020. – С. 117-120.
3. Абдуллаев К. Ф. Истоки образование у зороастрийцев //European Social Science Journal. – 2012. – №. 10-1. – С. 337-342.
4. Абдкллаев, К. (2013). Початкова освита у зороастрийцев (российскую мовою). *Исследования в области сравнительного образования* , (1). https://doi.org/10.31499/2306-5532.1.2012.18664
5. Зороастрийские тексты. -Санкт-Петербург: «Нева», «Лесной сад». 1998.
6. Ҳомидов Ҳ. «Авесто» файзлари. -Т.: А.Қодирий номидаги Халқ мероси нашриёти. 2001.

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ТЕХНОЛОГИИ И АВТОМАТИЗАЦИЯ В УПРАВЛЕНИИ

Аннотация: *В современном мире технологии и автоматизация становятся неотъемлемой частью управления в различных сферах деятельности. Эта статья рассматривает влияние современных технологий на процессы управления, а также преимущества и вызовы, связанные с их внедрением. Особое внимание уделяется таким аспектам, как использование искусственного интеллекта, больших данных и облачных технологий для оптимизации бизнес-процессов. В заключение подчеркиваются ключевые тенденции и перспективы развития автоматизации в управлении.*

Ключевые слова: *технологии, автоматизация, управление, искусственный интеллект, большие данные, бизнес-процессы, облачные технологии.*

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TECHNOLOGY AND AUTOMATION IN MANAGEMENT

Abstract*: In the modern world, technology and automation are becoming an integral part of management in various fields of activity. This article examines the impact of modern technologies on management processes, as well as the benefits and challenges associated with their implementation. Particular attention is paid to such aspects as the use of artificial intelligence, big data and cloud technologies to optimize business processes. In conclusion, key trends and prospects for the development of automation in management are emphasized.*

Keywords: *technology, automation, management, artificial intelligence, big data, business processes, cloud technologies.*

Технологии и автоматизация играют ключевую роль в современном управлении, обеспечивая эффективность, точность и скорость обработки информации. В условиях стремительного развития цифровых решений компании все чаще обращаются к автоматизации рутинных процессов, что позволяет освободить время для стратегического планирования и принятия более обоснованных решений. Внедрение систем управления проектами, CRM и ERP-систем помогает упростить взаимодействие между отделами, улучшить управление ресурсами и повысить уровень обслуживания клиентов.

Актуальность технологий в управлении также проявляется в использовании аналитики больших данных, что позволяет организациям получать ценные инсайты о поведении клиентов и тенденциях рынка. Искусственный интеллект и машинное обучение открывают новые горизонты для предсказательной аналитики, позволяя компаниям более точно прогнозировать спрос и оптимизировать запасы.

Кроме того, удаленные команды и гибридные модели работы требуют новых подходов к управлению, где технологии становятся связующим звеном. Виртуальные платформы для совместной работы, видеоконференции и облачные решения обеспечивают необходимую гибкость и доступность информации в любое время и в любом месте.

Таким образом, интеграция технологий и автоматизация процессов не только повышает операционную эффективность, но и способствует инновациям, позволяя компаниям адаптироваться к быстро меняющимся условиям рынка и оставаться конкурентоспособными.

В управлении активно применяются различные технологии автоматизации, которые способствуют повышению эффективности и оптимизации процессов. Одной из ключевых технологий являются системы управления проектами, такие как Trello, Asana и Microsoft Project, которые помогают организовать задачи, отслеживать прогресс и улучшать командное взаимодействие. Также широко используются CRM-системы (например, Salesforce, HubSpot), позволяющие автоматизировать управление взаимоотношениями с клиентами, отслеживать продажи и анализировать поведение клиентов. ERP-системы (например, SAP, Oracle) интегрируют все ключевые бизнес-процессы в единую платформу, что способствует более эффективному управлению ресурсами и финансами. Кроме того, инструменты для аналитики больших данных, такие как Tableau и Power BI, позволяют собирать и анализировать большие объемы информации, предоставляя ценные инсайты для принятия решений. Искусственный интеллект и машинное обучение также находят применение в управлении, позволяя автоматизировать рутинные задачи и предсказывать тенденции на основе исторических данных. Виртуальные платформы для совместной работы (например, Slack, Zoom) обеспечивают эффективное взаимодействие между удаленными командами. Все эти технологии помогают компаниям адаптироваться к изменяющимся условиям рынка и повышать свою конкурентоспособность.

В последние годы в Узбекистане наблюдается активное внедрение технологий и автоматизации в управление, что способствует модернизации различных секторов экономики и повышению эффективности бизнес-процессов. Государственные органы и частные компании начинают использовать современные информационные технологии для оптимизации управления, повышения прозрачности и улучшения качества услуг.

Одним из значительных шагов стало внедрение электронных систем управления, таких как электронные государственные услуги, которые

позволяют гражданам получать необходимые документы и услуги через интернет. Это не только упрощает процесс взаимодействия с государственными органами, но и снижает коррупционные риски.

В сфере бизнеса активно применяются CRM-системы для управления взаимоотношениями с клиентами, что позволяет компаниям лучше понимать потребности своих клиентов и адаптировать свои предложения. ERP-системы помогают интегрировать различные бизнес-процессы, что способствует более эффективному управлению ресурсами и сокращению затрат.

Кроме того, растет интерес к аналитике данных и искусственному интеллекту. Компании начинают использовать аналитические инструменты для обработки больших объемов информации, что позволяет принимать более обоснованные решения и предсказывать рыночные тенденции.

Важным аспектом является также развитие платформ для удаленной работы и совместного взаимодействия, что особенно актуально в условиях глобальных изменений и пандемии. Эти технологии помогают поддерживать связь между командами и обеспечивают гибкость в управлении проектами.

Таким образом, технологии и автоматизация в управлении в Узбекистане становятся важными факторами развития, способствуя повышению конкурентоспособности как государственных учреждений, так и частного сектора.

Используемые источники:

1. Yuryevich A. A. FROM THE HISTORY OF THE DEVELOPMENT OF ACCOUNTING.
2. Yuryevich A. A. et al. THE ROLE OF GREEN ECONOMY IN SUSTAINABLE DEVELOPMENT: CHALLENGES AND OPPORTUNITIES FOR UZBEKISTAN //JOURNAL OF ECONOMY, TOURISM AND SERVICE. – 2024. – Т. 3. – №. 6. – С. 412-416.
3. Yuryevich A. A. et al. Standardization and Certification of International Quality Systems in Uzbekistan //JOURNAL OF EDUCATION, ETHICS AND VALUE. – 2024. – Т. 3. – №. 6. – С. 42-46.
4. Saidahmedova D. S., Valixanova M. QURILISH KORXONALARIDA SIFAT MENEJMENTI TIZIMINI JORIY QILISH-DAVR TALABI. Экономика и социум,(5-2 (108)), 330-334. Yahyoyevna, OF, & Alexandrovich, AA (2024). THE ROLE OF FINANCIAL MANAGEMENT IN IMPROVING THE FINANCIAL CONDITION OF ENTERPRISES //JOURNAL OF EDUCATION, ETHICS AND VALUE. – 2023. – Т. 3. – №. 1. – С. 44-47.
5. Yuryevich A. A. et al. THE ESSENCE AND STAGES OF THE DEVELOPMENT OF THE PROCESSES OF DEVELOPING CONCEPTS OF THE QUALITY MANAGEMENT SYSTEM //JOURNAL OF EDUCATION, ETHICS AND VALUE. – 2024. – Т. 3. – №. 5. – С. 204-207.
6. Yurievich A. A. et al. ESSENCE AND STAGES OF DEVELOPMENT PROCESSES FOR DEVELOPMENT OF QUALITY MANAGEMENT SYSTEM CONCEPTS //JOURNAL OF ECONOMY, TOURISM AND SERVICE. – 2024. – Т. 3. – №. 4. – С. 143-146.

7. Valixanova M. K., Averin A. Y. KORXONALARDA SIFATNI BOSHQARISH TIZIMLARINI JORIY ETISHNING XORIJIY TAJRIBALARI //Экономика и социум. – 2024. – №. 2 (117)-1. – С. 762-765.
8. Saidahmedova D. S., Valixanova M. QURILISH KORXONALARIDA SIFAT MENEJMENTI TIZIMINI JORIY QILISH-DAVR TALABI //Экономика и социум. – 2023. – №. 5-2 (108). – С. 330-334.

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АНАЛИЗ ВЛИЯНИЯ СИСТЕМЫ СБАЛАНСИРОВАННЫХ ПОКАЗАТЕЛЕЙ НА ФИНАНСОВУЮ УСТОЙЧИВОСТЬ ПРЕДПРИЯТИЙ

Аннотация:*В условиях нестабильной экономической среды финансовая устойчивость предприятий становится ключевым фактором их долгосрочного успеха. Система сбалансированных показателей (BSC) является одним из наиболее эффективных инструментов стратегического управления, позволяющим учитывать как финансовые, так и нефинансовые аспекты деятельности компании. В данной статье проводится анализ влияния BSC на финансовую устойчивость предприятий, рассматриваются основные компоненты системы и их роль в обеспечении стабильности бизнеса.*

Ключевые слова: *система сбалансированных показателей, финансовая устойчивость, бизнес-процесс, эффективность, планирование.*

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ANALYSIS OF THE IMPACT OF THE BALANCED SCORECARD SYSTEM ON THE FINANCIAL STABILITY OF ENTERPRISES

Abstract:*In an unstable economic environment, the financial stability of enterprises becomes a key factor in their long-term success. The balanced scorecard (BSC) is one of the most effective strategic management tools, allowing to take into account both financial and non-financial aspects of the company's activities. This article analyzes the impact of the BSC on the financial stability of enterprises, considers the main components of the system and their role in ensuring business stability.*

Keywords: *balanced scorecard, financial stability, business process, efficiency, planning.*

Введение

Финансовая устойчивость предприятия — это его способность поддерживать оптимальную структуру капитала, обеспечивать

платежеспособность и генерировать прибыль в долгосрочной перспективе. В современных условиях, характеризующихся высокой конкуренцией и изменчивостью рынков, достижение финансовой устойчивости требует комплексного подхода к управлению. Система сбалансированных показателей, предложенная Капланом и Нортоном в 1992 году, позволяет интегрировать финансовые и нефинансовые показатели, что делает её эффективным инструментом для повышения устойчивости бизнеса.

Методы исследования:

1. Анализ литературы. Изучение научных статей, книг и публикаций по теме реинжиниринга бизнес-процессов и инновационных технологий.

2. Сравнительный анализ. Сравнение традиционных подходов к реинжинирингу с подходами, основанными на использовании инновационных технологий.

3. Описательный метод. Подробное описание технологий.

4. Анализ кейсов. Рассмотрение примеров использования инновационных технологий в реальных бизнес-процессах.

5. Системный подход. Рассмотрение реинжиниринга бизнес-процессов как системы, в которой инновационные технологии играют ключевую роль.

6. Критический анализ. Оценка выводов и ограничений, связанных с внедрением инновационных технологий.

7. Метод обобщения. Формулирование выводов на основе проведенного анализа.

Теоретические основы системы сбалансированных показателей.

1. Понятие и структура BSC:

Система сбалансированных показателей представляет собой методологию стратегического управления, включающую четыре основные перспективы, такие как:

1) Финансовая перспектива. Показатели, отражающие финансовые результаты деятельности компании, например, рентабельность, ликвидность, прибыльность.

2) Перспектива клиентов. Показатели, которые связаны с удовлетворённостью клиентов и рыночной долей.

3) Внутренние бизнес-процессы. Показатели эффективности ключевых процессов компании.

4) Перспектива обучения и роста. Показатели, отражающие развитие персонала, инновации, а также организационную структуру.

2. Преимущества BSC:

—Комплексный подход к управлению предприятием.

—Возможность координации стратегических целей и операционной деятельности.

—Учёт и финансовых, и нефинансовых факторов.

—Повышение прозрачности, законности и управляемости бизнеса.

Влияние BSC на финансовую устойчивость предприятий.

Финансовая перспектива и управление капиталом. BSC позволяет компаниям более эффективно управлять структурой капитала, оптимизировать затраты и повышать рентабельность. Например, использование финансовых показателей в рамках BSC помогает выявить узкие места в управлении денежными потоками и снизить риски неплатежеспособности.

Перспектива клиентов и рыночная устойчивость. Удовлетворённость клиентов и удержание рыночной доли напрямую влияют на финансовую устойчивость. BSC помогает компаниям фокусироваться на ключевых потребностях клиентов, что способствует увеличению доходов и снижению зависимости от внешних факторов.

Внутренние бизнес-процессы и операционная эффективность. Оптимизация внутренних процессов, таких как производство, логистика и управление запасами, позволяет снизить издержки и повысить рентабельность. BSC обеспечивает контроль за ключевыми показателями эффективности процессов, что способствует повышению финансовой устойчивости.

Перспектива обучения и роста: инновации и развитие персонала. Инвестиции в развитие персонала и внедрение инноваций способствуют созданию устойчивой конкурентной преимущества. BSC помогает компаниям отслеживать прогресс в области обучения и инноваций, что положительно влияет на долгосрочную финансовую устойчивость.

Преимущества использования системы сбалансированных показателей:

—Комплексный подход к управлению.

—Возможность интеграции стратегических и операционных целей.

—Повышение прозрачности и управляемости бизнеса.

Недостатки рассматриваемой системы:

—Сложность внедрения и настройки системы.

—Необходимость регулярного обновления показателей.

—Зависимость от квалификации персонала.

Риски, связанные с внедрением BSC: недостаточная связь с реальными процессами; сопротивление со стороны сотрудников; нехватка данных; акцент на краткосрочных результатах; высокая стоимость внедрения.

Заключение

Система сбалансированных показателей является мощным инструментом для повышения финансовой устойчивости предприятий. Она позволяет компаниям не только контролировать финансовые показатели, но и учитывать ключевые нефинансовые аспекты, такие как удовлетворённость клиентов, эффективность процессов и развитие персонала. Успешное внедрение BSC требует тщательного планирования, вовлечения всех уровней управления и регулярного мониторинга показателей. В условиях нестабильной экономической среды BSC может стать важным элементом стратегии, направленной на обеспечение долгосрочной устойчивости бизнеса.

Использованные источники:

1. Сидоров А.В., Козлов В.П. (2021). Управление бизнес-процессами: от теории к практике. М.: Дело.
2. Каплан Р.С., Нортон Д.П. (2003). Сбалансированная система показателей. От стратегии к действию. М.: Олимп-Бизнес.
3. Губарев В.Г., Коваленко А.В. (2018). Реинжиниринг бизнес-процессов: теория и практика. М.: Инфра-М.
4. Иванов И.Н., Петров П.В. (2020). Стратегическое управление и финансовая устойчивость предприятий. М.: Экономика.
5. Тарасов И.В. (2019). Большие данные: анализ и применение. М.: Издательский дом Высшей школы экономики.

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АРТ-ПЕДАГОГИЧЕСКИЕ ТЕХНОЛОГИИ В ЭСТЕТИЧЕСКОМ ВОСПИТАНИЕ МЛАДШИХ ШКОЛЬНИКОВ

Аннотация: *В статье рассматривается роль арт-педагогических технологий в эстетическом воспитание школьников. художественно-эстетических эмоций – переживания, сопереживания, сложных чувств при восприятии произведений искусства, прекрасного. Выявлению невидимых внутренних механизмов таких реакций, их усилению и вовлечению школьниковв творчески- активную деятельность во многом способствуют технологии арт-педагогики.*

Ключевые слова: *эстетическое воспитание, переживание, восприятие, впечатления, детализация, артпед технологии,*

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ART-EDUCATIONAL TECHNOLOGIES IN AESTHETIC EDUCATION OF JUNIOR SCHOOLCHILDREN

Abstract: *The article examines the role of art-pedagogical technologies in the aesthetic education of schoolchildren. artistic and aesthetic emotions - experiences, empathy, complex feelings when perceiving works of art and beauty. The identification of invisible internal mechanisms of such reactions, their strengthening and the involvement of schoolchildren in creative and active activities is largely facilitated by art pedagogy technologies.*

Key words*: aesthetic education, experience, perception, impressions, detailing, artped technology,*

В основе эстетического воспитания средствами разных искусств лежит ценностное постижение прекрасного, формирование ценностного сознания на основе многогранных и глубоких эмоциональных реакций личности, что подтверждается исследованиями Л.С. Выготского, Б.Г. Ананьева, Б.М. Неменского [1,2,3] и др.

Содержание трудов указанных авторов, практический опыт соискателя показывает, что **ценность**, как бы она не котировалась в обществе,

невозможно навязать или «привить» - ее можно только **прожить.** Если взрослый человек воспринимает и оценивает произведения искусства, опираясь, помимо эмоций, на предыдущих опыт и знания, то ребенку, для того, чтобы дойти до такого понимания, необходимо переживать и творить. По мнению Б.М. Неменского переживание должно осознаваться как основной метод обучения в искусстве.

Взаимодействие ребенка и любого вида искусства прежде всего начинается с восприятия, поэтому очень важно уделять особое внимание именно процессу восприятия художественного произведения

Характерным и адекватным эстетической сущности искусства является метод сопереживания. А.А. Мелик-Пашаев также акцентирует внимание на данном методе, считая его наиболее значимым данного метода в педагогике искусства. Он отмечает, что если сознательной деятельности по правилам, работе с терминами, понятиями, знаками предшествует эмоционально-чувственный опыт ребенка, то и сама история искусства и само искусство откроется детям не как совокупность знаний, внешних факторов и объективных взаимосвязей, а как сокровищница множественности духовных содержаний. Важно, чтобы ученик почувствовал состояние сопереживания, которые вызывают, как правило, обнаружение аналогий в личностном внутреннем опыте, познавая и развивая свою душу, испытал ощущение сопричастности к культурному наследию человечества, развивая тем самым свой духовный опыт [4].

Каждый метод эстетического воспитания и развития детей включает в себя комплекс методических средств и приемов, с помощью которых можно уточнить и детализировать процесс восприятия и переживания каждого ребенка и составить наиболее полную картину эстетического и эмоционально-психологического развития школьников.

Роль такого средства может выполнять арт-педагогика, арт-педагогические технологии, которые не только способствуют эстетическому и творческому развитию дошкольников, но и помогают решить детям многие проблемы социально-психологического, эмоционального характера.

Под педагогической технологией понимается компонент педагогического мастерства, так как он представляет собой профессиональный выбор педагогом способа воздействия на ребенка с целью формирования у него отношения к миру, сочетая свободу личностного проявления и социокультурные нормы (В.И. Загвязинский, А.Ф. Закирова, 2008) [6].

В.П.Беспалько определяет педагогическую технологию как совокупность средств и методов воспроизведения теоретически обоснованных процессов воспитания и обучения, позволяющих успешно реализовывать поставленные образовательные цели [5, с. 78].

В арт-педагогической технологии не ставятся приоритетными задачи обучения какому-либо виду искусства (рисованию, лепке, музицированию, литературному творчеству и т.д.). Гораздо важнее решение задач

эмоционально-познавательного развития личности, развития ее чувственно-эмоциональной сферы (процессов восприятия, ощущений), развития умения выражать свои чувства и мысли (самореализация**).**

Составляющая термина «арт» акцентирует на использовании в любом преподаваемом предмете элементов живописи, музыки, пения, танца, театра, литературы, прикладного творчества [7,8].

Технологии, способствующие выполнению вышеуказанных задач:

Изображение своего настроения.

Задание – изобразить свое настроение путем рисования различных геометрических фигур, узоров, пятен. Краски выбираются школьником. На следующем занятии задание можно усложнить – попросить нарисовать свое настроение в начале и в конце урока.

. Педагог предлагает ребенку выбрать по желанию цвет краски и на белом листе бумаги нарисовать цветовые линии, пятна, круги, узоры, выражающие его настроение в данный момент. Очень интересно поделить листок на две части, на одной нарисовать свое настроение до начала занятия, на другой – после того, как оно закончился.

Графическая музыка.

Технология заключается в произвольном рисовании линий и фигур с закрытыми глазами под звучащую музыку, после чего по просьбе учителя школьники находят в этих бессвязных линиях фигуры и обводят их карандашами или фломастерами разного цвета, поясняя, что или кто у них получился – кукла, заяц, собачка, птица и др. Ребенку предлагают под музыку, закрыв глаза, проводить на бумаге линии в соответствии с восприятием мелодии. Затем найти в этих линиях образы и обвести их карандашами разного цвета (рыбка, черепаха, птица и др.).

Работа с бумагой (коллаж). Эта технология требует довольно высокого уровня проявления творческих способностей, включает в себя способность оперировать образами, определять их соответствие замыслу. Коллажи составляются на определенную тему. Для этого школьники собирают вырезки из журналов, фотографии школьных событий, связанных с праздниками, выступлениями, концертами, инсценировками, экскурсиями. Особую ценность представляют небольшие пояснения детей или описание изображенных событий.

Театральные игры.

Занятие театрально-игровой деятельностью предоставляет ребенку широкие возможности в создании собственного чувственно-эмоционального опыта общения с миром. Средствами театра можно не только моделировать любые жизненные ситуации, но, что особенно важно, в уже смоделированные вносить, по собственному желанию, любые коррективы, т.е. «свободно играть» с моделью. Даже простейший сценический этюд предоставляет ничем не ограниченные возможности для овладения различными вариантами жизненного поведения (овладение которыми в

реальной жизни может вызвать у данного ребенка значительные затруднения).

Главное педагогическое условие - не вмешиваться в свободное проявление детского творчества, не ждать быстрого результата. Игра должна быть выстроена таким образом, чтобы дети были максимально увлечены ею. Ознакомление с требованиями сценического (и жизненного) общения целесообразно начинать с таких упражнений и этюдов, в которых можно обойтись без слов.

Таким образом, применяемые арт- технологии обеспечивают реализацию индивидуальных возможностей учащихся, позволяют раскрыть творческий потенциал, повысить уровень предметной подготовленности, способствуют формированию общей культуры личности, стремления к самообучению, саморазвитию и самовоспитанию.

Использованные источники:

1. Выготский Л.С. Психология искусства. – М.: АСТ, 2019. 1998. – 480 с.
2. Ананьев Б.Г. Психология чувственного познания. – М.: Наука, 2001. – 279 с. (Серия «Памятники психологической мысли»).
3. Гулбоев А.Т.Развитие теории и практики применения артпедагогики и арттерапии в Узбекистане - Экономика и социум, 2023; № 4. 523-526 с
4. Неменский Б.М. Педагогика искусства. М.: Просвещение, 2012. – 240 с.
5. Педагогика искусства и творческие способности / А.А. Мелик-Пашаев. – Москва: Знание, 1981. – 96 с. – (Новое в жизни, науке, технике; № 1.)
6. Беспалько В.П. Слагаемые педагогической технологии. М.: Педагогика, 1989. 192с.
7. 4. Natalya Yuryevna Sergeyeva, Art-pedagogika i art-terapiya: k voprosu o razgranichenii ponyatiy. 10.03.2016.
8. Savluchinskaya N.V., Pavlova M.S. Teoriya i metodika primeneniya art-pedagogicheskix texnologiy v rabote s detmi // Sovremenniye problemi nauki i obrazovaniY. – 2016. – № 3.;
9. Yo‘ldoshev J.G’, Usmonov S.A. Zamonaviy pedagogik texnologiyalarni amaliyotga joriy qilish. T.,”Fan va texnologiya”, 2008,132 bet.

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УПРАВЛЕНИЕ ФИНАНСОВЫМИ ПОТОКАМИ ОРГАНИЗАЦИИ: КЛЮЧ К УСТОЙЧИВОСТИ И РОСТУ

Аннотация:*Управление финансовыми потоками организации является важным элементом обеспечения ее финансовой устойчивости и конкурентоспособности. В статье рассматриваются ключевые аспекты управления денежными средствами, включая планирование, контроль и оптимизацию финансовых потоков. Особое внимание уделено стратегическому подходу к управлению финансами, использованию современных технологий для автоматизации процессов, а также вопросам балансирования дебиторской и кредиторской задолженности. Материал будет полезен для руководителей компаний, финансовых менеджеров и специалистов, занимающихся вопросами финансового менеджмента.*

Ключевые слова :

Управление финансовыми потоками, денежные средства, бюджетирование, дебиторская задолженность, кредиторская задолженность, финансовая устойчивость, оптимизация, автоматизация, ERP-системы, ликвидность.

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MANAGING ORGANIZATIONAL CASH FLOWS: THE KEY TO STABILITY AND GROWTH

Abstract:*Managing an organization's cash flows is a critical element in ensuring its financial stability and competitiveness. The article explores key aspects of cash flow management, including planning, control, and optimization of financial flows. Special attention is given to the strategic approach to financial management, the use of modern technologies for process automation, and the balancing of accounts receivable and payable. The material will be useful for company executives, financial managers, and professionals involved in financial management.*

Keywords: *Cash flow management, funds, budgeting, accounts receivable, accounts payable, financial stability, optimization, automation, ERP systems, liquidity.*

В современном мире бизнеса, где экономическая нестабильность и высокая конкуренция стали нормой, управление финансовыми потоками превратилось в один из ключевых элементов успеха любой организации. Финансовые потоки — это кровеносная система компании, и от того, насколько эффективно они управляются, зависит не только текущая жизнеспособность бизнеса, но и его способность к долгосрочному развитию.

Финансовые потоки представляют собой движение денежных средств, связанное с операционной, инвестиционной и финансовой деятельностью организации. Их управление — это не просто контроль за поступлением и расходованием денег, а сложный процесс, требующий стратегического подхода, глубокого анализа и использования современных технологий.

Почему управление финансовыми потоками так важно?

Представьте себе компанию, которая успешно продает свои товары или услуги, но при этом сталкивается с постоянными задержками платежей от клиентов. На бумаге такая организация может выглядеть прибыльной, но в реальности она оказывается на грани банкротства из-за нехватки денежных средств для покрытия текущих расходов. Именно такие ситуации и призвано предотвращать эффективное управление финансовыми потоками.

Стратегический подход к управлению финансовыми потоками

Управление финансовыми потоками — это не просто технический процесс, а часть общей финансовой стратегии компании. Оно начинается с глубокого анализа текущей ситуации: какие средства поступают, куда и когда они расходуются, какие существуют риски и возможности. На основе этого анализа строится прогноз движения денежных средств, который позволяет компании планировать свои действия на месяцы и даже годы вперед.

Одним из ключевых инструментов такого планирования является бюджетирование. Бюджет движения денежных средств — это не просто финансовый план, а своего рода дорожная карта, которая помогает компании избежать «денежных ям» и своевременно реагировать на изменения в экономической среде. Например, если прогноз показывает, что в определенный период компания столкнется с нехваткой средств, руководство может заранее принять меры: ускорить сбор дебиторской задолженности,

пересмотреть условия с поставщиками или привлечь краткосрочное финансирование.

Дебиторская и кредиторская задолженность: баланс интересов

Одной из самых сложных задач в управлении финансовыми потоками является нахождение баланса между дебиторской и кредиторской задолженностью. С одной стороны, компании выгодно как можно быстрее получать оплату от своих клиентов, чтобы иметь свободные средства для текущих нужд. С другой стороны, слишком жесткие условия оплаты могут отпугнуть потенциальных покупателей.

Аналогичная ситуация складывается и с кредиторской задолженностью. Задержка выплат поставщикам может временно улучшить финансовое положение компании, но в долгосрочной перспективе это может привести к потере доверия партнеров и ухудшению условий сотрудничества. Поэтому эффективное управление финансовыми потоками предполагает поиск «золотой середины», которая позволяет поддерживать хорошие отношения с контрагентами, не ставя под угрозу финансовую устойчивость компании.

Роль технологий в управлении финансовыми потоками

Современные технологии играют все более важную роль в управлении финансовыми потоками. Автоматизация процессов, использование ERP-систем и специализированного программного обеспечения позволяют не только сократить время на обработку данных, но и повысить точность прогнозов. Например, с помощью искусственного интеллекта и машинного обучения компании могут анализировать большие объемы данных, выявлять закономерности и принимать более обоснованные решения.

Кроме того, технологии помогают минимизировать человеческий фактор, который часто становится причиной ошибок в управлении финансами. Автоматизированные системы могут отслеживать сроки платежей, напоминать о предстоящих обязательствах и даже предлагать оптимальные варианты распределения денежных средств.

Заключение

Управление финансовыми потоками — это не просто техническая задача, а важный элемент стратегического управления компанией. Оно требует не только глубоких знаний в области финансов, но и способности мыслить на перспективу, учитывая как внутренние, так и внешние факторы. В условиях современной экономики, где изменения происходят с невероятной скоростью, эффективное управление финансовыми потоками становится ключевым фактором выживания и успеха.

Компании, которые уделяют должное внимание этому аспекту своей деятельности, не только избегают финансовых трудностей, но и создают прочную основу для будущего роста. Ведь, как говорил известный экономист Питер Друкер, «управление — это делать правильные вещи, а лидерство — делать вещи правильно». Управление финансовыми потоками — это именно та область, где эти два принципа сливаются воедино.

Использованные источники:

1. Бланк И.А. Управление денежными потоками. – К.: Ника-Центр, 2018.
2. Ковалев В.В. Финансовый менеджмент: теория и практика. – М.: Проспект, 2020.
3. Бригхэм Ю., Хьюстон Дж. Финансовый менеджмент. – СПб.: Питер, 2019.
4. Савчук В.П. Управление финансами предприятия. – М.: Бином, 2017.
5. Гурбанмурадов, Г. Б. Процесс принятия управленческого решения / Г. Б. Гурбанмурадов // Молодой ученый. – 2022. – № 13(408). – С. 40-42. – EDN AKVUDW.

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ТЕКИС – МУТАНОСИБ ҲАРАКАТ УСУЛИ

Аннотация. *Маколада текис – параллел ҳаракат усулининг моҳияти ва чизма геометрия фанининг баъзи масалаларини ечиш таҳлили келтирилган.*

Калит сўзлар. *Текис параллел, ўқ, тўғри чизиқ, фронтал проекция, нуқта, учбурчак, перпендикуляр вазият, айлантириш туркуми, геометрик элемент.*

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SMOOTH – A BALANCED MOTION METHOD

Abstract. *The article presents the essence of the method of rectilinear motion and the analysis of the solution of some problems of descriptive geometry.*

Keywords. *Plane-parallelism, axis, line, frontal projection, point, triangle, perpendicular position, scroll row, geometric element.*

Чизма геометрияда текис-параллел ҳаракат усули – бир хил йўналишда ва бир хил масофада текисликдаги геометрик шаклларни ҳаракатлантириш усулидир. Бу усул турли лойиҳалаш ишларида, конструкция чизмаларини тузишда ва механикада жуда муҳим.

Чизма геометрияда текис-параллел ҳаракат қоидалари

1. Ҳар бир нуқта бир хил масофага ва бир хил йўналишда кўчади – бу ҳаракат шаклни бузмасдан, унинг мутаносиблигини сақлаб қолади.

2. Проексиялар ўзгармайди – текис-параллел ҳаракатда объектнинг фронтал, горизонтал ва профиль проекциялари бир хил қолади.

3. Ҳажм ва форма ўзгармайди – бу усул объектларнинг аниқ ва тўғри жойлашишини таъминлашда ишлатилади.

Чизма геометрияда қўлланилиши

Кинематикада – механизмларнинг ҳаракат моделларини тушунтиришда.

Конструкция чизишда – бир хил элементларни турли жойларга кўчиришда.

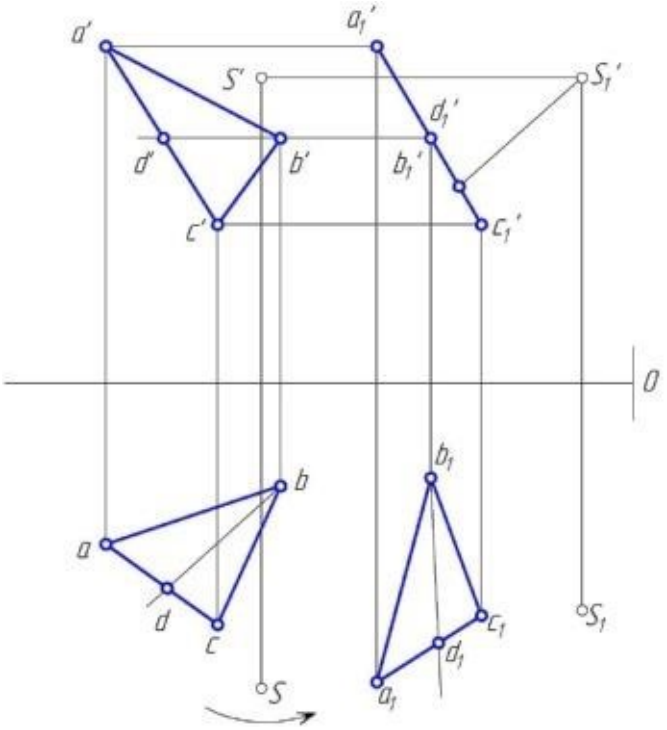
Муҳандислик ва дизайнда – текисликдаги шаклларни уйғун жойлаштиришда.

Бу усул фазовий фикрлашни ривожлантириш ва муҳандисликда аниқликни таъминлаш учун жуда муҳим.

Чизма геометрияда ўлчовли ва вазиятга оид масалаларни ечиш учун проекциялар қайта қуриш йўли билан талаб қилинган натижаларга эришиш мумкин. Аммо, баъзи ҳолларда геометрик элементларни айлантириш туркумига тегишли текис – параллел кўчириш усулининг моҳияти ва масалалар ечиш йўли билан услубияти таҳлил қилинади.

Текис параллел ҳаракат усулининг асосий моҳияти шундан иборатки, фазода ўз вазиятини ўзгартирувчи геометрик объектнинг ҳамма нуқталари, проекциялар текисликларидан бирортасига параллел бўлган текисликлар бўйича ҳаракат қилади. Объектнинг нуқталари қайси проекциялар текислигига параллел равишда ҳаракат қилса, унинг шу текисликдаги тўғри бурчакли проекцияси ўзининг ўлчамлари ва шаклини ўзгартирмайди, фақат проекциялар ўқига нисбатан ўз вазиятини ўзгартиради. Геометрик объект нуқталарининг бошқа текисликдаги проекцияси, проекциялар ўқига параллел бўлган тўғри чизиқлар бўйича силжийди (бу тўғри чизиқлар ҳаракат текисликларининг изларидир). Бу усулнинг афзаллиги шундан иборатки, у чизмаларнинг бир – бири устига тушмаслигига имкон яратиб беради. Қуйида шу усулга оид мисолларни кўриб чиқамиз.

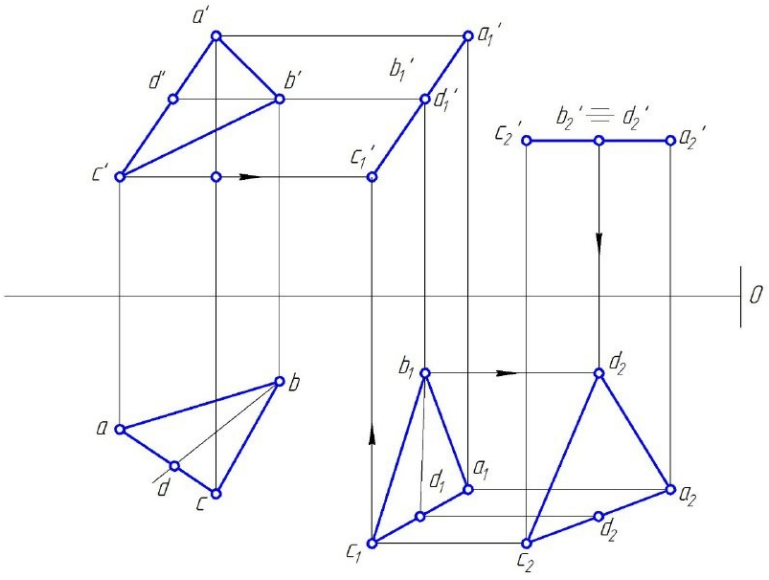
Ихтиёрий S нуқтадан учбурчак ABC текислигига қадар бўлган энг қисқа масофа аниқлансин (1 – чизма).



1 – чизма

Δ ABC текисликни фронтал проекциялар текислигига проекцияловчи вазиятга келгунча бурамиз. Бунинг учун учбурчак текислигида унинг $bd, b'd'$ горизонтал ўтказилади ва горинтозалнинг горинтозал проекцияси OX проекция ўқига перпендикуляр вазиятга келтирилиб, учбурчакнинг горинтозал проекцияси чизманинг бўш ерига кўчирилади. Бунда $b_1d_1 \perp OX$ ва $\Delta\, a_1\, b_1c_1 = \Delta\, a\, b\, c$. Бунинг натижасида учбурчакнинг янги вазиятдаги фронтал проекцияси $\Delta\, a_1'\, b_1'\, c_1'$ тўғри чизиқ кесмаси кўринишига келиб қолади. Шундан кейин s, s' нинг янги проекцияси s_1' ни ясаймиз, бунда $b_1s_1 = b\, s$ ва $s_1'\, c_1' = s'\, c'$ масофаларнинг тенглиги сақлаб қолинади. s_1' бўйича фронтал проекцияси s_1'' топилади ва ундан a_1'' c_1'' га перпендикуляр тушириб, изланган қисқа масофа $s_1''\, e_1''$ аниқланади.

Ихтиёрий вазиятдаги ABC учбурчакнинг ҳақиқий кўриниши ясалсин (2 – чизма). Бу масалани ечиш учун берилган учбурчак икки марта текис параллел ҳаракатлантирилиб, горизонтал проекциялар текислигига параллел вазиятга келтирилган. Аввал учбурчакни, масалан, горизонтал проекциялар текислигига параллел силжитиб, учбурчак текислигини фронтал проекциялар текислигига перпендикуляр вазиятга келтирамиз. Бунинг учун унинг $b\ d, b'\ d'$ горизонталидан фойдаланилади.



2 – чизма

Шундан кейин учбурчак фронтал проекциялар текислигига параллел силжитилади, бунда унинг ҳар бир нуқтаси OX проекция ўқига параллел бўлган тўғри чизиқлар бўйича ҳаракатланади. Унинг фронтал проекцияси $a_1' c_1'$ проекциялар ўқига параллел бўлган $a_2' c_2'$ вазиятга келтирилади. Натижада учбурчак горизонтал проекциялар текислигига параллел жойлашиб, унинг янги горизонтал проекцияси берилган учбурчакнинг ҳақиқий кўринишига тенг бўлади, яъни $[a_2\ b_2\ c_2]' = |ABC|$.

Адабиётлар

1. Собитов Э. Чизма геометрия қисқа курси. –Т.: Ўқитувчи, 1993. С.75.
2. Муродов Ш ва бошқалар. Чизма геметрия курси. –Т.: Ўқитувчи, 1988. 76-82.
3. Муродов Ш.К., Тошимов Н.Э. “График тасвирлаш асослари (графика тарихи)”, “Навруз нашриёти”., Тошкент 2013 й.
4. Отажонов Р.К. “Геометрик ясаш методлари” – Т. Ўқитувчи, 1965 й.

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ВЛИЯНИЕ ВНУТРИУТРОБНОГО ОТРАВЛЕНИЯ МАЛЫМИ ДОЗАМИ ХЛОРПИРИФОСА НА ПОСТНАТАЛЬНОЕ РАЗВИТИЕ ПОТОМСТВА

Аннотация: *В статье представлены результаты исследования гипоталамо-гипофизарной нейросекреторной системы (ГГНС) у потомства крыс, антенатально отравленных фосфорорганическим пестицидом хлорпирифос. Показано, что воздействие хлорпирифоса на потомство крыс в период беременности вызывает различные дозозависимые эффекты на морфофункциональное становление ГГНС.*

Ключевые слова: *Пренатальный стресс, хлорпирифос, онтогенез, гипоталамо-гипофизарная нейросекреторная система, вазопрессин, окситоцин.*

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EFFECT OF INTRAUTERINE POISONING WITH SMALL DOSES OF CHLORPYRIFOS ON POSTNATAL THE DEVELOPMENT OF OFFSPRING

Abstract: *The article presents the results of a study of the hypothalamic-pituitary neurosecretory system in the offspring of rats antenatally poisoned with the organophosphate pesticide chlorpyrifos. It has been shown that the effect of chlorpyrifos on the offspring of rats during pregnancy causes various dose-dependent effects on the morphofunctional formation of HHNSS.*

Key words: *Prenatal stress, chlorpyrifos, ontogenesis, hypothalamic-pituitary neurosecretory system, vasopressin, oxytocin.*

Введение. При хроническом воздействии стрессовых факторов длительная активация регуляторных систем может привести к их дезадаптации и иметь отдалённые последствия [1,3]. Воздействие стресса в период беременности или в раннем детстве может иметь более серьезные последствия [7,8], поскольку оно может изменить развитие регуляторных систем мозга и привести к долгосрочным последствиям для здоровья

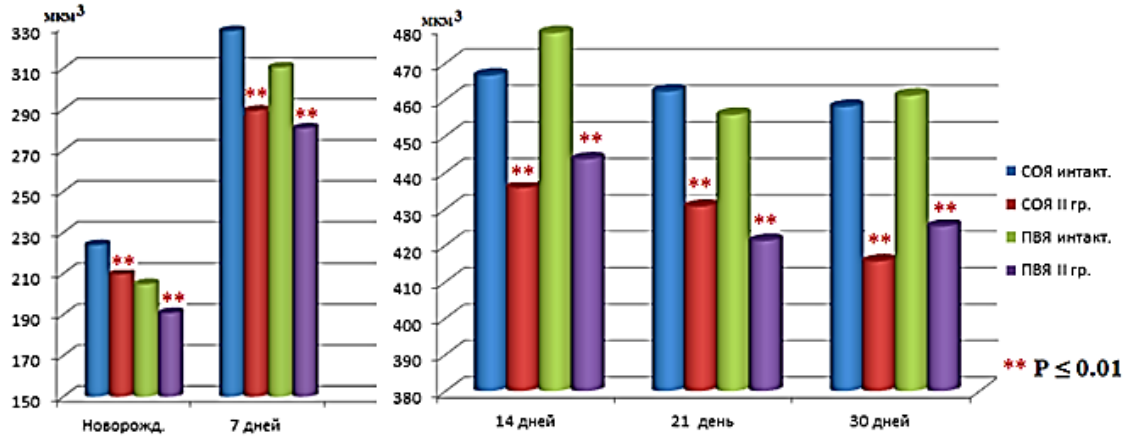
потомства [2,4]. Хорошо известно, что стрессы в раннем возрасте могут привести к изменениям в физиологии и метаболизме, которые, в свою очередь, определяют риск развития заболеваний во взрослом возрасте [5,6].

Цель исследования: изучение морфофункциональных изменений и особенностей формирования ГГНС у потомства животных, принятых в соответствии с международными стандартами фосфорорганического препарата хлорпирифос.

Материалы и методы: Исследование проведено на самках-крыс и их потомстве в разные периоды постнатального развития. Животные были разделены на 3 группы. Первую группу составили интактные животные. Во 2-й и 3-й группах крыс травили хлорпирифосом в течение всего периода беременности в дозах 1/50 и 1/100 $ЛД_{50}$ соответственно. Животных забивали на 1-е, 7-е, 14-е, 21-е, 28-е сутки после рождения. Кусочки мозга, включая гипоталамус с гипофизом, фиксировали в жидкости Буэна или по Карнуа. После проводки в спиртах кусочки заливали в парафин и готовили срезы толщиной 5-7 мкм. Срезы окрашивали одним из следующих методов: 1) крезил-фиолетом по Нисслю; 2) паральдегидфуксином (ПАФ) по Гомори-Габу; 3) хромовоквасцовым гематоксилином. Исследование гипоталамо-гипофизарной нейросекреторной системы проводилось на уровне ядер гипоталамуса (СОЯ и ПВЯ), срединного возвышения и задней доли гипофиза.

Результаты исследования: Наиболее значимые изменения в ГГНС наблюдались у потомства животных, подвергавшихся воздействию хлорпирифоса на протяжении всей беременности (в сериях 2 и 3 экспериментов), особенно при введении хлорпирифоса в дозе 1/50 $ЛД_{50}$.

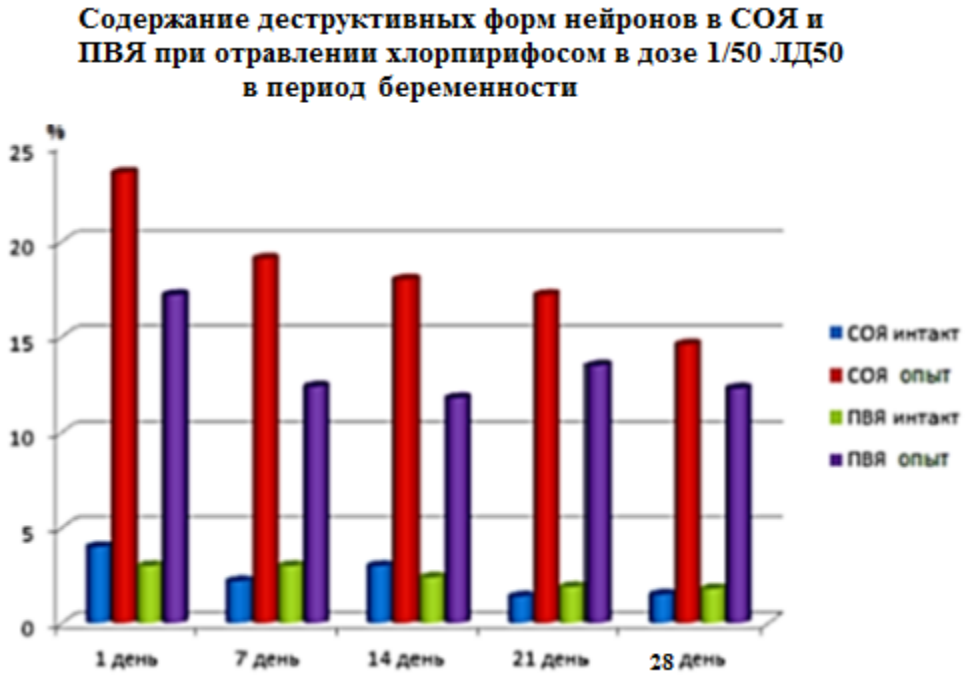
Помимо наличия в гипоталамо-гипофизарной системе в группе крыс нами отмечены пре- и постнатальная гибель, явления общей гипотрофии и более позднее наблюдение за крысами. Вероятно, в этих явлениях процессы деструкции и распада ГГНС у крыс не играли никакой роли.



Динамика роста объёмов ядер нейронов СОЯ и ПВЯ при отравлении хлорпирифосом на протяжении всего периода беременности в дозе 1/50 $ЛД_{50}$

	Новорожденный	7 дней	14 дней	21 день	30 дней
Контроль	5,9 ± 0,3	14,4 ± 0,3	21,6 ± 0,5	28,1 ± 0,5	40,5 ± 0,6
2 группа	4,7 ± 0,4	11,3 ± 0,6	16,7 ± 0,7	22,4 ± 0,7	32,2 ± 0,9
Группа 3	5,2 ± 0,3	13,2 ± 0,4	18,7 ± 0,6	24,8 ± 0,6	35,7 ± 0,7

Таблица 2. Динамика прироста массы тела у крысят



Обсуждение: Таким образом, химические соединения с одной стороны нарушают деятельность регуляторных систем организма, вызывают различные изменения обменных процессов, тканевого и клеточного метаболизма во время беременности, и также косвенно воздействуя, могут оказывать отрицательное влияние на плод. С другой стороны, химические вещества могут непосредственно накапливаться, депонироваться в органах плода, проходя через плаценту (2; 6). Сочетание таких воздействий в системе мать-плод лежит в основе патогенетического механизма перинатальной системы.

Для плода, если его регуляторные принципы несовершенны, такой метаболический фон может быть причиной аномального развития органов и систем организма, не выявляемого общепринятыми методами изучения эмбриотоксичности, но способного развиваться в постнатальном периоде. Эти изменения сопровождаются длительными, иногда стойкими, нарушениями нейроэндокринных и нейрохимических признаков реактивности (6;7). Одним из важнейших факторов устранения последствий

пренатального стресса может быть функция надпочечников матери (4;12). Повышенный гормональный фон матери может способствовать патологическому формированию рецепторов, которые в перинатальном периоде являются незрелыми, пластичными, а, следовательно, наиболее уязвимыми (2;3;). По мнению Карабаева А.Г. (2022) и других авторов (1;8;), нейроэндокринные нарушения являются важной и ответственной частью стресса.

Выводы: I. Отравление самок крыс хлорпирифосом в разные периоды беременности и лактации вызывает различные дозо - и времязависимые изменения морфофункциональных характеристик оси ГГНС.

1. Долгосрочное, более сильное воздействие пестицида хлорпирифоса (1/50 LD_{50}) приводит к задержке развития ГГНС, разрежению клеточных полей и цереброваскулярным нарушениям, чем при более низкой дозе (1/100 LD_{50}).

2. Реакция нейронов СОЯ на токсическое действие хлорпирифоса выражена сильнее, чем реакция нейронов ПВЯ, что может свидетельствовать о большей чувствительности компонентов СОЯ или о большей устойчивости нейронов ПВЯ к действию этого препарата. Длительное применение малых доз хлорпирифоса (1/100 и 1/50 LD_{50}) в организм беременных самок не вызывает фазовых изменений состояния ГГНС потомства, обязательных для половозрелых животных.

3. Реакция нейронов СОЯ на токсическое действие хлорпирифоса выражена сильнее, чем реакция нейронов ПВЯ, что может свидетельствовать о большей чувствительности компонентов СОЯ или о большей устойчивости нейронов ПВЯ к действию этого препарата.

4. Длительное применение малых доз хлорпирифоса (1/100 и 1/50 LD_{50}) в организм беременных самок не вызывает фазовых изменений ГГНС потомства, обязательных для половозрелых животных.

Использованные источники:

1. Гончаров, Н. В., Белинская, Д. А. Органофосфат-индуцированная патология. Институт физиологии им. И.П. Павлова РАН Конференция: Интегративная Физиология. Санкт-Петербург, 2023

2. Джуманиязов Ш.А., Нуримов П.Б. Гипоталамо-гипофизарная нейросекреторная система у потомства крыс, при воздействии фосфорорганических пестицидов. Ethiopian International Multidis-ciplinary Research Conferences. Vol. 2 No. 1 (2023) pp. 3-6

3. Джуманиязов Ш. А. (2024). Нарушение постнатального роста и развития потомства крыс, вызванные химическим стрессом у матери. Биология и интегративная медицина, (3 (68)), 275-281.

4. Ленчер, О.С., & Криштоп, В.В. (2017). Морфологические основы организации стволовых ниш нейрональных стволовых клеток головного мозга. " Молодые ученые - развитию " (с. 26-33).

5. Atanazarovich, D. S., & Gadaevich, K. A. (2022). Hypothalamic-Pituitary

Neurosecretory System in Fetuses and Offspring of Animals Poisoned with Chlorpyrifos During Pregnancy. Central Asian Journal of Medical and Natural Science, 3(6), 274-280.

6. Djumaniyazov Sh. A. Delay of Postnatal Growth and Development of Rat Offspring Caused by Mother's Chemical Stress // American Journal of Medicine and Medical Sciences. 2024; 14(6): 1670-1672

7. Slotkin T. A. et al. (2021). Paternal cannabis exposure prior to mating, but not Δ9-tetrahydrocannabinol, elicits deficits in dopamine-ergic synaptic activity in the offspring. Toxicol. Sci., 184(2), 252-264.

8. Zhang B, et al. Reconstruction of the hypothalamo-neurohypophysial system and functional dissection of magnocellular oxytocin neurons in the brain. Neuron. 2021; 109:331-346.

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ОПОСРЕДОВАННОЕ ДЕЙСТВИЕ ХЛОРПИРИФОСА НА ГИПОТАЛАМО-ГИПОФИЗАРНУЮ НЕЙРОСЕКРЕТОРНУЮ СИСТЕМУ ПОТОМСТВА КРЫС

Аннотация: *В статье п*редставлены результаты влияния фосфорорганического пестицида хлорпирифоса на гипоталамо-гипофизарную нейросекреторную систему (ГГНС) потомства крыс при отравлении в период беременности и лактации. Во всех сериях экспериментов наблюдались дозозависимые изменения в оси ГГНС потомства, характеризующиеся угнетением или некоторой активацией развития и функционирования этой системы.

Ключевые слова: Пренатальный стресс, хлорпирифос, онтогенез, гипоталамо-гипофизарная нейросекреторная система, вазопрессин, окситоцин.

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INDIRECT EFFECT OF CHLORPYRIFOS ON HYPOTHALAMIC-PITUITARY NEUROSECRETORY SYSTEM OF RAT OFFSPRING

Abstract: *The article presents the results of the effect of the organophosphate pesticide chlorpyrifos on the hypothalamic-pituitary neurosecretory system (HPNS) of rat offspring during poisoning during pregnancy and lactation. In all series of experiments, dose-dependent changes in the HPA axis of the offspring were observed, characterized by suppression or some activation of the development and functioning of this system.*

Key words: *Prenatal stress, chlorpyrifos, ontogenesis, hypothalamic-pituitary neurosecretory system, vasopressin, oxytocin.*

Введение. Роль нейроэндокринной системы в поддержании гомеостаза, в обеспечении адаптационных процессов и компенсации нарушенных функций организма считается бесспорной [1,3]. В последнее время особый интерес исследователей вызывает изучение нейроэндокринной системы в онтогенетическом плане [8], особенно в раннем онтогенезе [2,4], когда

формирование структуры и функции многих органов еще не завершено [5], а сама система подвержена влиянию многочисленных внешних и внутренних факторов [6,7].

Цель исследования: Изучение морфофункциональных изменений и особенностей формирования гипоталамо-гипофизарно-нейросекреторной системы у потомства крыс, подвергшихся воздействию хлорпирифоса внутриутробно и в период лактации.

Материалы и методы: Исследование проведено на потомстве крыс в разные периоды постнатального развития. Животные были разделены на 2 группы. Первую группу составили интактные животные. Во 2 и 3 группах крыс травили хлорпирифосом в течение всего периода беременности в дозе 1/50 и 1/100 $ЛД_{50}$, соответственно. В группах 4 и 5 крысы были отравлены хлорпирифосом в период лактации в дозе 1/50 и 1/100 $ЛД_{50}$, соответственно. Животных декапитировали на 1, 7, 14, 21 и 28-е сутки после рождения. Изменения морфофункционального состояния нейросек-реторных клеток (НСК) супраоптического и паравентрикулярного ядер определяли содержание отдельных типов нейросекреторных клеток [8]. Наряду с этим учитывали содержание нейросекрета в гипоталамо-гипофизарном тракте и задней доле гипофиза.

Результаты исследования. Наиболее выраженные деструктивные изменения в гипоталамо-нейрогипофизарной системе наблюдались у потомства животных, отравленных хлорпирифосом в период беременности (во 2-й и 3-й сериях экспериментов), особенно при использовании хлорпирифоса в дозе 1/50 $ЛД_{50}$ (Рис.1). Наиболее выраженные изменения в виде дезорганизации и угнетения нейросекреторных процессов, расстройств кровообращения и повышенной гибели нейронов наблюдались у новорожденных крыс. Эти наблюдения подтверждают положение о том, что наиболее уязвимыми являются те органы и системы, которые находятся на этапе формирования своей структуры и функции.

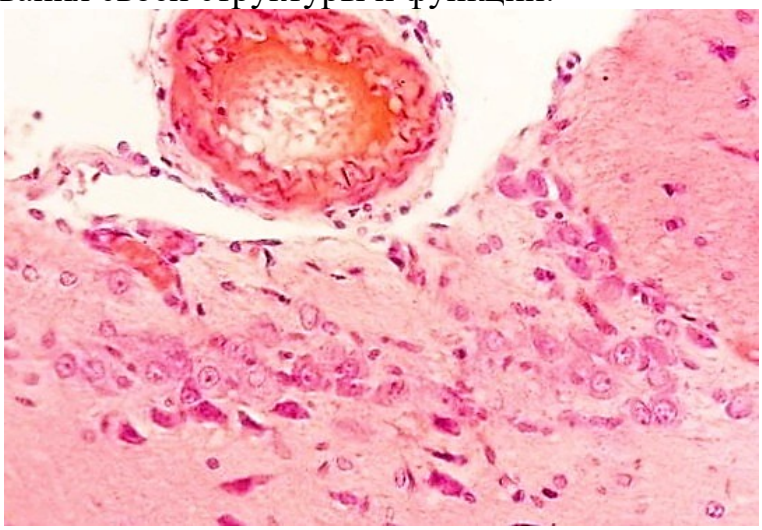

Рис.1 Деструктивные нейроны в СОЯ 14-дневного крысёнка при отравлении в дозе 1/50 $ЛД_{50}$.

В то же время прекращение отравления не приводит к полному восстановлению морфофункционального состояния ГГНС у крыс первого месяца жизни. У них сохраняется выраженная задержка роста и развития нейронов крупноклеточных ядер гипоталамуса, а у 21- и 28-дневных крыс наблюдаются признаки напряженного функционирования ГГНС с признаками истощения компенсаторных механизмов. Помимо нарушений в гипоталамо-гипофизарной системе у крыс этой опытной группы отмечена высокая пре- и постнатальная смертность, явления общей гипотрофии и более позднее прозревание крысят. Вероятно, в этих явлениях существенную роль играли процессы деструкции и распада ГГНС у крыс.

При изучении онтогенеза нейроэндокринной системы крысят, подвергшихся воздействию пестицида хлорпирифоса через молоко матери (4-я и 5-я серии) экспериментов наблюдается несколько иная картина. Так, в 4-й серии экспериментов, где лактирующие самки крыс получали хлорпирифос в дозе, равной 1/50 $ЛД_{50}$ наряду с деструктивными изменениями в крупноклеточных ядрах гипоталамуса у новорожденных крыс наблюдаются и признаки активной нейрональной деятельности. У новорожденных крыс этой группы отмечаются разнонаправленные реакции нейросекреторных ядер гипоталамуса. Если в СОЯ наблюдается торможение роста и развития нейронов, то в ПВЯ — активный рост клеток, ускоренное выведение нейросекрета из нейроцитов. Продолжающееся отравление лактирующих крыс вызывает усиление процессов деструкции и дистрофии в обоих исследованных ядрах у 7-дневных крысят. К концу 2-й недели жизни у крысят еще сохраняются признаки задержки роста и развития гипоталамо-нейрогипофизарной системы в целом. Так же, как и в предыдущих группах экспериментов, у 21- и 28-дневных крысят наблюдалась картина более активного морфофункционального состояния ГГНС по сравнению с контролем, с признаками истощения резервных возможностей к 28-м суткам.

При отравлении самок крыс меньшей дозой хлорпирифоса (1/100 $ЛД_{50}$) в 5-й серии отмечена более выраженная активация ростовой и синтетической активности крупноклеточных нейронов гипоталамуса, чем при отравлении хлорпирифосом в дозе 1/50 $ЛД_{50}$ (4-я серия). При этом деструктивные изменения в нейронах были выражены в меньшей степени при использовании меньшей дозы хлорпирифоса. Так же, как и при использовании большей дозы пестицида, у 7-дневных крысят наблюдалось замедление роста нейронов и синтетических процессов в них, которое было более выражено в СОЯ. Но, в отличие от крыс предыдущей группы, к концу 2-й недели постнатального развития морфометрические показатели крыс этой опытной группы приближались к показателям интактных животных, что свидетельствует о меньшем поражении крупноклеточных структур гипоталамуса при отравлении хлорпирифосом в дозе 1/100 $ЛД_{50}$. У 21- и 28-дневных крыс, как и в других опытных группах, отмечена высокая функциональная активность НСК. В то же время анализ процентного соотношения разных типов нейронов не выявляет увеличения клеточных элементов III и IV типов,

свидетельствующего об истощении резервных возможностей изученных крупноклеточных ядер гипоталамуса. У 28-дневных крыс наблюдается выраженная дезинтеграция ГГНС, проявляющаяся в высокой функциональной активности СОЯ и умеренной - ПВЯ, с параллельной задержкой выведения нейросекреторного вещества из нейрогипофиза. Это свидетельствует об избыточном синтезе нейрогормонов, над реальной потребностью в них [4, 5, 6].

Заключение. Анализ возможных причин изменений, наблюдаемых в системе ГГН у потомства крыс, отравленных малыми дозами (I/100 $ЛД_{50}$) хлорпирифоса, мы обращаем внимание на следующие факторы, которые могут лежать в основе патогенетических механизмов нарушения морфофункционального состояния этой системы:

I) прямое действие хлорпирифоса на холинергические системы мозга;

2) нарушение формирования нейроэндокринной системы потомства под влиянием изменённого гормонального статуса отравленных самок;

3) нарушение качественного и количественного состава грудного молока;

4) сочетание выше перечисленных факторов.

Использованные источники:

1. Гудошников В.И. Роль белков и гормонов стресса в биорегуляции онтогенеза. Проблемы эндокринологии, 2015. 4. С.49-53

2. Джуманиязов Ш. А. Гипоталамо-гипофизарная нейросекреторная система у потомства животных, при интоксикации хлорпирифосом в период беременности. // Сб. мат. 77-й Междунар. научно-практ. конф. Самарканд – 2023, стр. 91

3. Джуманиязов Ш. А. (2024). Нарушение постнатального роста и развития потомства крыс, вызванные химическим стрессом у матери. Биология и интегративная медицина, 3 (68), 275-281.

4. Карабаев А.Г., Ким Д.В. "Изучение развития и становления нейросекреторной функции ГГНС у плодов и потомства животных, отравленных хлорпирифосом в течение беременности. // Журнал Вестник врача.-2022,- № 3 (106), 2022, стр. 46-51.

5. Atanazarovich, D. S., & Gadaevich, K. A. (2022). Hypothalamic-Pituitary Neurosecretory System in Fetuses and Offspring of Animals Poisoned with Chlorpyrifos During Pregnancy. //Central Asian J. of Medical and Natural Science, 3(6), 274-280.

6. Djumaniyazov Sh. A. Delay of Postnatal Growth and Development of Rat Offspring Caused by Mother's Chemical Stress // American Journal of Medicine and Medical Sciences. 2024; 14(6): 1670-1672 doi:10.5923/ j.ajmms.20241406.43

7. Dzhumaniyazov Sh. A. Indirect effects of chlorpyrifos on the hypothalamic-pituitary neurosecretory System of rat offspring//Journal of Science in Volume: 2 Issue: 11 Year: 2024 Medicine and Life p. 204-208

8. Поленов А.Л., Константинова М.С., Гарлов П.Е. Гипоталамо-гипофизарный нейроэндокринный комплекс // Нейроэндокринология. СПБ., 1994. т.2.- с. 139-286.

УДК-37

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ИСПОЛЬЗОВАНИЕ МЕТОДА РЕШЕНИЯ ЗАДАЧ ПО СТРОИТЕЛЬСТВУ НА УРОКАХ ФИЗИКИ

Аннотация: *Методика решения задач в области строительства по физике в основном представляет собой установленную процедуру, помогающую студентам освоить физику. Физические проблемы в строительстве часто возникают из областей механики, термодинамики, электричества и оптики. В статье изложены методология и основные этапы решения подобных задач.*

Ключевые слова: *механика, скорость, термодинамика, электромагнетизм, оптика, электролиз, температура, сила, материя.*

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USING THE METHOD OF SOLVING CONSTRUCTION PROBLEMS IN PHYSICS LESSONS

Abstract: *The methodology for solving problems in the field of construction in physics is mainly an established procedure that helps students master physics. Physical problems in construction often arise from the fields of mechanics, thermodynamics, electricity and optics. The article presents the methodology and main stages of solving such problems.*

Key words: *mechanics, speed, thermodynamics, electromagnetism, optics, electrolysis, temperature, force, matter.*

Учет будущей специализации студентов при преподавании фундаментальных наук является одним из актуальных вопросов методики преподавания физики. Это можно сделать несколькими способами.

Например: 1) Обеспечить углубленную подготовку будущих специалистов по важнейшим направлениям физики. Важно обратить внимание будущих энергетиков на кафедру электричества и магнетизма, а внимание инженеров-химиков — на кафедры молекулярной физики, атомной физики, электролиза и химического действия света.

2) В процессе обучения физике излагать элементы будущей специальности, не выходя за рамки рабочей программы и т.д.

В процессе решения задач по физике у учащихся расширяется логическое мышление, и развиваются творческие способности. Они приобретают более широкое понимание фундаментальной природы физических явлений и более глубокое понимание практического применения законов физики. Они ознакомятся с функциями, конструкцией и принципами работы многих физических измерительных приборов, приобретут навыки и квалификацию для работы с ними. Эти проблемы также воспитывают у студентов трудолюбие, смелость, силу воли и характер.

Задачи по строительству должны отвечать всем требованиям, предъявляемым к решению задач по физике. В то же время их можно использовать и для следующих целей:

1). Ознакомить учащихся со строительными материалами и их физическими свойствами, принципами работы строительной техники, механизмов, техническими показателями, правилами безопасности в строительстве;

2). Преподавание основ экономики строительства;

3). Направлять студентов к своей профессии и влюблять их в нее;

4). Показ связи физики с природой, жизнью, промышленностью и т. д.

При решении задач важно обращать внимание на уровень сложности, то есть следует выбирать и решать задачи в порядке возрастания сложности. Прежде всего, необходимо внимательно прочитать задачу и определить, какие физические явления или законы следует в ней использовать. Важно четко определить информацию, указанную в задаче (например, силу, скорость, температуру и т. д.), и информацию, требуемую для решения задачи (например, изменение температуры, направление силы и т. д.). Необходимо определить физические законы и концепции (например, законы Ньютона, законы термодинамики, законы электромагнитного поля), которые следует использовать для решения задачи.

Затем необходимо правильно выбрать основную формулу или закон в физической задаче, связанной со строительством. Например:

а) Второй закон Ньютона или законы равновесия используются для расчета сил и моментов в строительстве.

б) Термодинамика, законы сохранения энергии, закон Ома и законы Кирхгофа используются для теплопередачи и сохранения энергии.

в) Каждый физический закон и формула используется для получения конкретных результатов в соответствии с условиями задачи и выражается с помощью математических формул. Задача решается с использованием формул, определенных выше. Это можно сделать с помощью алгебры, тригонометрии и дифференциальных уравнений.

г) После решения задачи результаты должны быть проверены, а решение задачи должно быть логически правильным.

Студент должен уметь объяснить физический смысл результата решенной физической задачи и его практическое значение в строительстве. Поскольку вопросы строительства часто связаны с проектированием, материалами или технологиями, важно понимать, как решения могут быть применены в процессе строительства и как полученные результаты используются на практике.

Примеры решения задач.

Задача 1. Экскаватор копает глубокую яму $h = 4м$ и вынимает грунт. Если диаметр экскаватора равен $d = 0{,}5м$, а плотность грунта равна $\rho = 200\frac{кг}{м^3}$, то какую полезную работу совершает устройство при извлечении грунта?

Решение: Чтобы выкопать и удалить почву, $A = \frac{mgh}{2}$ (1) необходимо выполнить работу. Здесь m — масса почвы. Если объем вынутого грунта равен V,

$$m = \rho \cdot V = \rho \cdot s \cdot h \quad (2)$$

Подставляя (2) в (1) и учитывая $s = \frac{\pi d^2}{4}$, получаем

$$A = \frac{\rho \cdot \pi \cdot d^2 \cdot g \cdot h^2}{8} = 2000\frac{кг}{м^3} \cdot 3{,}14 \cdot (0{,}5)^2 \cdot 9{,}8\frac{м}{с^2}(\frac{4м^2}{8}) = 31 \cdot 10^3 Ж = 31кЖ$$

Задача 2. Какая нагрузка σ создается на фундамент кирпичной стены высотой $h = 20м$? Плотность кирпича $\rho = 1800\frac{кг}{м^3}$.

Решение. Согласно определению напряжения $\sigma = \frac{F}{S}$ (1)

Здесь $F = mg = \rho Shg$ (2)

в данном случае S— лицевая сторона основания стены. Если мы подставим (2) в (1),

$$\sigma = \frac{\rho Shg}{S} = \rho gh = 1800\frac{кг}{м^3} \cdot 9{,}8\frac{m}{s^2} \cdot 20м = 3{,}5 \cdot 10^5 Па$$

Задача 3. Если давление p (предел прочности), которое может выдержать бетонная колонна, составляет 10 МПа, то какова должна быть ее максимальная высота h? Рассмотрим плотность бетона $\rho = 2200\frac{кг}{м^3}$.

Решение. Согласно определению давления $p = \frac{F}{S}$ (1)

Здесь F — сила, действующая на поверхность, S- поверхность (поверхность основания колонны). Из (1):

$$F = p \cdot S \quad (2)$$

С другой стороны, сила F, действующая на бетонную колонну, состоит из силы тяжести:

$$F = mg \quad (3)$$

Здесь m — масса столба, которую можно выразить через плотность и объем столба:

$$m = \rho \cdot V = \rho Sh \quad (4)$$

Если подставить (4) в (3), то получим $F = \rho Shg$. Приравниваем (2) и (5):

$\rho Shg = p \cdot S$, из этого: $h = \frac{p}{\rho g} = \frac{10 \cdot 10^6\, Па}{2200 \frac{кг}{м^3} \cdot 10 \frac{м}{с^2}} = 455 м$

В заключение студент должен понять значимость решаемой проблемы в области строительства и то, как эти знания можно применить в будущих проектах. Таким образом, методология решения задач на построение в физике требует подхода с разных сторон, и для того, чтобы он был эффективен на практике, важно тщательно продумывать каждый шаг и подходить к нему четко и логично.

Использованная литература:

1. Исроилов А.А. Задачи по физике в контексте строительства. Ташкент: Узбекистан, 1993.

3. Джураева, Н. М. (2023). Использование инновационных технологий в преподавании физики. Экономика и общество, (3-2 (106)), 152-154.

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ТЕХНОЛОГИЯ ФОРМИРОВАНИЯ ПОТОКОВ ФОСФОРИТОВЫХ РУД И ИХ КАЧЕСТВА ПРИ ОСВОЕНИИ КАРЬЕРА «ДЖЕРОЙ ЮЖНЫЙ» ДЖЕРОЙ-САРДАРИНСКОГО МЕСТОРОЖДЕНИЯ

Аннотация:*В научной статье использованы анализ, теоретическое освещение исследований, проведенных в мировой практике разработки пластовых месторождений, аналитическое исследование технологических схем, а также методы корреляционного анализа и математической статистики результатов исследований, аналитические и графоаналитические исследования, статистическая обработка результатов, научные обобщения.*

Ключевые слова: *технология, фрезерный комбайн, пласт, карьер, фосфорит, рудной масса, пустой порода.*

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THE TECHNOLOGY FOR FORMING PHOSPHORITE FLOWS AND THEIR QUALITY DURING THE DEVELOPMENT OF THE JEROY-SARDARA «JANUBIAN JEROY» DEPOSIT

Abstract:*The scientific paper uses methods of analysis, theoretical coverage of research conducted in the world practice of formation deposits development, analytical research of technological schemes, as well as methods of correlation analysis and mathematical statistics of research results, analytical and graphoanalytical studies, statistical processing of results, and scientific generalizations.*

Keywords: *technology, milling combine, formation, quarry, phosphorite, ore mass, bare rock.*

Введение с указанием цели исследования

Сегодня в мире проводятся научные исследования для удовлетворения требований повышения качества добываемой рудной массы, которые подразумевают селективную добычу руды и формирование рудных потоков

определенного качества на основе оперативного контроля свойств добываемых пород.

Требования к качеству рудных потоков и технологии их формирования при разработке фосфоритового карьера «Джерой Южный» определяются:

- особенностями геологического строения Джерой-Сардаринского месторождения фосфоритов;
- особенностями технологии добычи рудной массы и с применениям фрезерных комбайнов.

Послойно-порционная технология выемки с применение фрезерных комбайнов при освоении карьера «Джерой Южный» Джерой-Сардаринского месторождения фосфоритов обусловливает перемешивание кондиционной, некондиционной руды и пустой породы. Под горно технической системой при освоении сложноструктурного пластового фосфоритового месторождения Джерой-Сардаря понимается взаимодействие функционирующих на осваиваемом участке, технологических процессов, вскрывающих, транспортных выработок, добычного забоя вовзаимосвязи с участком недр. [1].

На основе известной методики установлено [2] параметры горнотехнической системы и ее определяющие факторы при выемки руды комбайном при освоения сложноструктурного месторождения фосфоритов на примере Джерой-Сардаринского месторождения (рис. 1).

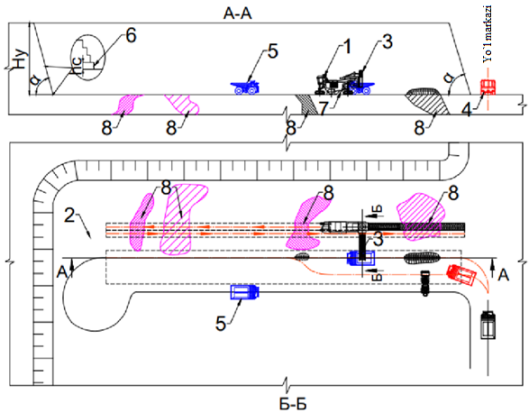
Рисунок. 1. Структура горнотехнической системы освоения сложноструктурного месторождения фосфоритов на примере Джерой-Сардаринского месторождения

Методология исследования.

Анализ исследований и практического опыта применения безвзрывных технологий в процессе разработки Джерой-Сардаринского месторождения выявил, что карьерные фрезерные комбайны являются наиболее предпочтительным выбором. [1,2].

Например, при разработке карьера «Джерой Южный» на Джерой-Сардаринском месторождении длина фронта добычи варьируется от 200 до 600 метров. Мы создали новую типовую принципиальную схему работы

фрезерного комбайна для разработки пластовых месторождений. Она представлена на рисунке 2. [3].



1 - фрезерный комбайн; 2 - рабочий горизонт; 3 - разгрузочная консоль; 4 - автосамосвал под погрузкой; 5 - груженый автосамосвал; 6 - мощность слоя фрезерования; 7 - порожний автосамосвал, подготовленный к погрузке; 8 - рудная масса с различным содержанием полезного компонента.

Рисунок 2. Типовая принципиальная технологическая схема работы фрезерного комбайна [4].

При разработке фосфопласта Джерой-Сардаинского месторождения горизонтальными слоями, ширина рабочего органа фрезерных комбайнов, используемых для добычи, становится одним из ключевых факторов, влияющих на потери и разубоживание. Это соотношение определяется шириной выемочной полосы на границе между фосфоритовой рудой и некондиционными породами.

На основе проведённого моделирования была разработана методика, которая позволяет рассчитать последовательность параметров выемки и потерь руды.

$$P_{f.m} = \frac{\sum l_{r.y} * 100\%}{B}, \% \qquad (1)$$

В – ширина выемочного полосе, м;

$l_{r.y}$ – Общая длина потерянной руды в начальном и последнем выемочном полосе, м.

Использованные источники:

1. Швабенланд Е.Е. О потенциале фрезерных комбайнов непрерывного действия при разработке месторождений открытым способом // Рациональное освоение недр, 2014. – № 1. – С. 54-60.

2. Ермекбоев, У.Б., Гиязов О.М., Истамов З. В. Методика установления параметров горнотехнической системы комбайновой выемки руды для условий Джерой-Сардаринского месторождения фосфоритов // The journal of

academic research in educational sciences. –2023. –Vol 4, Issue 5. – C. 705-709. ISSN – 2181-1385 (SJIF 2024: 6.897).
3. Хакимов Ш.И., Ермекбоев У.Б., Таджиев Ш.Т. Обоснование рациональной технологической схемы, открытой разработки месторождений фосфоритов с пологопадающими пластами малой мощности //Монография. – ISBN 978-9943-8178-6-9. – НАВОИЙ, 2022. – 132 с.
4. Назаров З.С., Ермекбоев У.Б., Джуманиязов Д.Д. Обоснования оптималного угла пересечения выемочной полосы фрезерования определяющая разубоживания и потери для месторождения Джерой-Сардара // Электронное научно-практическое периодическое международное издание «Экономика и социум». – Выпуск №5 (120) chact 2. Россия, г. Саратов. – май, 2024. - С. 1175-1179.

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МОДЕЛИРОВАНИЕ БИЗНЕС-ПРОЦЕССОВ КАК ЭТАП РЕИНЖИНИРИНГА В АГРОСЕКТОРЕ

Аннотация:*Во времена глобализации и усиления конкуренции в агропромышленном комплексе особую актуальность приобретает оптимизация бизнес-процессов. Реинжиниринг, как метод радикального пересмотра и перепроектирования процессов, становится основным инструментом повышения эффективности предприятий агросектора. В данной статье рассматривается роль моделирования бизнес-процессов как одного из ключевых этапов реинжиниринга, анализируются современные подходы к моделированию и их применение в агропромышленной сфере. Особое внимание уделено особенностям агросектора, таким как сезонность, зависимость от природных факторов и необходимость учета экологических аспектов.*

Ключевые слова: *моделирование, реинжиниринг, бизнес-процесс, агросектор, эффективность.*

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MODELLING BUSINESS PROCESSES AS A STAGE OF REENGINEERING IN THE AGRICULTURAL SECTOR

Abstract:*In times of globalization and increased competition in the agro-industrial complex, optimization of business processes is becoming especially relevant. Reengineering, as a method of radical revision and redesign of processes, is becoming the main tool for increasing the efficiency of enterprises in the agricultural sector. This article examines the role of business process modeling as one of the key stages of reengineering, analyzes modern approaches to modeling and their application in the agro-industrial sector. Particular attention is paid to the specific features of the agricultural sector, such as seasonality, dependence on natural factors and the need to take into account environmental aspects.*

Keywords: *modeling, reengineering, business process, agricultural sector, efficiency.*

Введение

В настоящее время агросектор сталкивается с множеством проблем, например, растущие требования к качеству продукции, необходимость снижения издержек и повышения устойчивости к внешним факторам. В этих условиях реинжиниринг бизнес-процессов становится необходимым инструментом для достижения конкурентных преимуществ. Моделирование бизнес-процессов, как этап реинжиниринга, позволяет не только визуализировать текущие процессы, но и выявить узкие места, оптимизировать распределение ресурсов и разработать с последующим внедрением новые, более эффективные процессы.

Методы исследования:

8. Анализ литературы. Изучение научных статей, книг и публикаций по теме реинжиниринга бизнес-процессов и их моделирования.
9. Сравнительный анализ. Сравнение классических подходов к реинжинирингу с подходами, которые базируются на использовании моделирования бизнес-процессов.
10. Описательный метод. Описание технологий и методологии.
11. Системный подход. Рассмотрение реинжиниринга бизнес-процессов как системы, в которой моделирование играют важную роль.
12. Метод обобщения. Формулирование выводов на основе проведенного анализа.

Моделирование бизнес-процессов — это процесс создания формализованных описаний (моделей) бизнес-процессов, которые отражают их структуру, взаимосвязи и динамику. Основные цели моделирования:

1. Анализ текущих процессов;
2. Выявление проблем и узких мест;
3. Разработка и тестирование новых процессов;
4. Документирование и стандартизация.

Для моделирования бизнес-процессов используются различные методологии, например, IDEF, BPMN, ARIS, а также иные. Каждая из которых имеет свои преимущества и недостатки, что делает выбор методологии важным этапом в процессе моделирования.

Особенности агросектора и их влияние на моделирование бизнес-процессов.

Агросектор имеет определенные особенности, принимать во внимание которые крайне важно при моделировании бизнес-процессов. Ниже представлены основные особенности рассматриваемого сектора экономики.

Неравномерность производства. Процессы в агросекторе зачастую находятся в зависимости от времени года. Это требует учета временных факторов при моделировании.

Зависимость от природных условий. Погодные условия, состояние почвы, а также иные природные факторы влияют на производственные процессы, делая их менее предсказуемыми.

Экологические аспекты. Современное сельское хозяйство должно учитывать экологические нормы и стандарты, что требует интеграции экологических аспектов в бизнес-процессы.

Логистика. Агросектор включает сложные цепочки поставок, начиная от производства сырья и заканчивая доставкой продукции потребителю. Из-за этого появляется необходимость детального моделирования логистических процессов.

Этапы моделирования бизнес-процессов в агросекторе.

Процесс моделирования бизнес-процессов в агросекторе можно разделить на несколько этапов:

1. Анализ текущих процессов. Сбор информации о существующих процессах, их документирование и анализ.
2. Идентификация проблем. Выявление узких мест, неэффективных операций и ресурсных ограничений.
3. Разработка новых процессов. Создание моделей оптимизированных процессов с учетом специфики агросектора.
4. Тестирование и внедрение. Тестирование новых процессов на практике и их последующее внедрение.
5. Мониторинг и улучшение. Регулярное отслеживание эффективности процессов и их корректировка при необходимости.

Преимущества и недостатки моделирования бизнес-процессов в агросекторе.

Моделирование бизнес-процессов в агросекторе имеет следующие преимущества:

— Повышение прозрачности и актуальности процессов;
— Сокращение уровня издержек;
— Улучшение качества продукции;
— Повышение устойчивости к внешним факторам.

Однако при таком способе также существуют недостатки:

— Повышается сложность процессов за счет их зависимости от природных факторов;
— Необходимость учета экологических и социальных аспектов;
— Ограниченность ресурсов для внедрения новых технологий.

Заключение

Моделирование бизнес-процессов является важным этапом реинжиниринга в агросекторе, позволяющим оптимизировать процессы и повысить конкурентоспособность предприятий. Учет специфики агросектора, таких как сезонность, зависимость от природных условий и экологические аспекты, делает процесс моделирования более сложным, но и более значимым. Внедрение современных методологий и технологий моделирования может стать ключевым фактором успеха в условиях растущей конкуренции и глобальных вызовов.

Использованные источники:

1. Хаммер М., Чампи Дж. Реинжиниринг корпорации: Манифест революции в бизнесе. – М.: Манн, Иванов и Фербер, 2006.
2. Дубейковский В.И. Моделирование бизнес-процессов в сельском хозяйстве. – М.: Агропромиздат, 2018.
3. Губарев В.Г., Коваленко А.В. (2018). Реинжиниринг бизнес-процессов: теория и практика. М.: Инфра-М.
4. Иванов И.А. Применение IoT в агросекторе: новые возможности и вызовы. – Журнал "Агроинновации", 2023.
5. ISO 9001:2015. Системы менеджмента качества. – М.: Стандартинформ, 2015.

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ВОПРОСЫ ЭФФЕКТИВНОГО РАЗВИТИЯ МАЛОГО БИЗНЕСА И ЭКСПОРТА

Аннотация: *В статье рассматриваются вопросы развития малого бизнеса и экспорта, процессы изменения деятельности малого бизнеса сегодня, а также эффективность развития деятельности малого бизнеса в нашей стране.*

Ключевые слова: *бизнес, предпринимательство, окружающая среда, инвестиции, предпринимательская деятельность, иностранные инвестиции, инвестиционная система.*

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ISSUES OF EFFECTIVE DEVELOPMENT OF SMALL BUSINESS AND EXPORT

Abstract: *The article examines the development of small business and export, the processes of change in small business activities today, as well as the effectiveness of the development of small business activities in our country.*

Keywords: *business, entrepreneurship, environment, investment, entrepreneurial activity, foreign investment, investment system.*

Вступление.. В настоящее время в Республике Узбекистан проводится масштабная реформа по стимулированию экспорта и увеличению объёмов экспорта. Как известно, основной принцип Стратегии развития нового Узбекистана, утверждённой Указом Президента Республики Узбекистан, «К чести и достоинству человека» предусматривает дальнейшее повышение благосостояния народа, преобразование экономики, ускоренное развитие предпринимательства, обеспечение прав и интересов человека, формирование активного гражданского общества. В то же время страна поставила перед собой цель войти в группу стран с уровнем дохода выше среднего, обеспечив рост дохода на душу населения до 4000 долларов США к 2030 году.

Диверсифицируя рыночные риски, экспорт предоставляет KBS возможность расширить свою деятельность и повысить конкурентоспособность. Участие в международной торговле позволяет малому бизнесу выходить на более крупные рынки, тем самым увеличивая

свой доходный потенциал, а также стимулирует инновации под влиянием международной конкуренции.

Анализ литературы по теме. Повышение эффективности предпринимательской деятельности в субъектах малого бизнеса означает, что под производственными ресурсами понимаются все средства производства, запасы, материальные активы, связанные с функционированием и развитием предприятия, и в целом все факторы производства, необходимые для деятельности предприятий и организаций. Как известно, В.Я.Горфинкель, соглашаясь с вышеперечисленными учёными, определяет основную проблему развития деятельности субъектов малого предпринимательства как совокупность производственных ресурсов, непосредственно участвующих в процессе производства.

Проводивший исследования в области предпринимательства. Р., Хизрич описывает предпринимательство как процесс создания продукта, имеющего ценность:

Американские ученые в области предпринимательства и малого бизнеса К.Р. Макконнелл и С. Л. Брю провели исследование. Они сосредоточились на свободе предпринимательской деятельности. В своей работе «Экономика: принципы, проблемы и политика» они подчёркивали следующее относительно свободы предпринимательства.

Повышение эффективности предпринимательской деятельности на предприятиях малого бизнеса товарные и материальные ценности, связанные с функционированием и развитием предприятия, и в целом все факторы производства, необходимые для деятельности предприятий и организаций.

Анализ и результаты. Малый бизнес играет решающую роль в экспорте. Исследования показывают, что малый бизнес вносит значительный вклад в рост экспорта, особенно в экономиках, где крупные предприятия доминируют на внутренних рынках. Например, по данным Европейской комиссии, на долю малого бизнеса приходится 30% стоимости экспорта ЕС. Этот большой вклад обеспечивается их гибкостью и нишевыми рынками. Такая ситуация позволяет малому бизнесу предлагать специализированные продукты и услуги[2].

В то же время среди важнейших задач, решаемых сегодня, приоритеты нашего правительства направлены на упрощение таможенных процедур, поддержку экспортного финансирования малых и средних предприятий, стимулирование экспорта. По официальным данным, более 76% организаций -экспортёров составляют малые и средние предприятия. В настоящее время экспорт Узбекистана сосредоточен в сырьевых товарах, особенно в трёх секторах: газ и металлы, хлопок, фрукты и овощи. Узбекистан диверсификация экспорт быть сделано продукты в соответствии с концентрированный случилось с вместе. Официально источники к информации по данным, Узбекистан продукты и товаров основной экспорт направления Китай, Россия, Казахстан, Турция, Афганистан, Иран и Корея, что составляет 53,3 процента экспорта этот страны организация достигнет.

Экономика министерство эксперты отдал для информации согласно, текущий в маленький бизнес и частный предпринимательство предметов экспорт поддерживать фонд 2 тыс. 162 предприятий к теме собственный товары и услуги экспорт в этом юридический , финансовый и организационный помощь показано .

Этот В результате 395 предприятий предмет на 1 миллиард 93 миллиона долларов экспорт сделанный повысился. Маленький бизнес и частный предпринимательство предметы экспорт наша страна общий в экспорте делиться за последние 15 лет три один раз растёт , сегодня в тот день этот эта цифра составляет 27 процентов достаточно отдельно подчёркивая наш проход это допустимо, отныне снаружи последний пять в экспорт активность с помолвлен предприятия номер 1.5 равный, малый бизнес предметы в 1,6 раза больше повысился в нашей стране экспорт дальше поощрять направленный на меры собственный положительный результаты давая идёт .

Успешные экспортёры часто обладают такими характеристиками, как сильное лидерство, стратегическое международное партнёрство и инновационная продукция. Например, финская компания Rovio Entertainment использовала инновации и стратегическое международное партнёрство для достижения мирового успеха своего продукта. В то же время немецкая компания Faber-Castell расширила свой рынок за счёт стратегического планирования экспорта и постоянного внедрения инноваций в производство.

В то время как крупные предприятия имеют преимущество в виде больших ресурсов и присутствия на определённом рынке, малые предприятия способствуют росту экспорта, заполняя пробелы и поставляя специализированную продукцию[6].

Вклад малого бизнеса в экспорт характеризуется высокой степенью гибкости и адаптивности, что позволяет ему быстро реагировать на требования и возможности рынка.

Сегодня Сегодня малый бизнес играет решающую роль в экспорте. Исследования показывают, что малый бизнес вносит значительный вклад в рост экспорта, особенно в экономиках, где крупные предприятия доминируют на внутренних рынках. Например, по данным Европейской комиссии (2019 г.), на долю малого бизнеса приходится 30% стоимости экспорта ЕС. Этот большой вклад обеспечивается их гибкостью и нишевыми рынками. Такая ситуация позволяет малому бизнесу предлагать специализированные продукты и услуги.

В предпринимательстве 2021-2024 июнь в месяцах анализ экспорта -импорта процессы [7].

Отрасли промышленности	2021 г	2022 г	2023 г	2024 г (январь-Маршировать)**	2024 г (январь-Июнь)**
Экспорт (тыс. долларов США)	245235.1	262633.8	258859.2	58831.7	135801.2
Импорт (тыс. долларов США)	467735.3	501460.8	585068.9	118560.5	214147.7

Источник : Статистика коллекция информация основано на взятый .

Мы знаем, что в то время как крупные предприятия имеют преимущество в виде больших ресурсов и присутствия на определённом рынке, малые предприятия способствуют росту экспорта, заполняя пробелы и предлагая специализированную продукцию. Вклад малого бизнеса в экспорт характеризуется высоким уровнем гибкости и адаптивности, что позволяет ему быстро реагировать на требования и возможности рынка [2] .

В то же время факторы, влияющие на экспортную эффективность малого бизнеса: Возможности малого бизнеса, включая ресурсы, управленческий опыт и стратегическую ориентацию, оказывают значительное влияние на его экспортную эффективность. Это показывает, что малые предприятия с сильным внутренним потенциалом и чёткими экспортными стратегиями имеют больше шансов добиться успеха на международном уровне .

Известно, что существуют также препятствия для экспортной деятельности малого бизнеса, а именно финансовые ограничения и капитальные барьеры. Многие малые предприятия сталкиваются с трудностями в обеспечении финансирования своей экспортной деятельности, что ограничивает их возможности по рынки. Исследования показали, что малые предприятия в развивающихся странах сталкиваются со значительными проблемами финансирования из-за недостаточного обеспечения, ограниченной кредитной истории и высоких транзакционных издержек.

Во всем мире реализуются различные политические меры и программы для поддержки экспорта малого бизнеса. Например, Экспортно-импортный банк США предоставляет финансовые продукты, помогающие малому бизнесу конкурировать на международном уровне [4] .

Мы знаем, что агентства по содействию экспорту и службы содействия торговле играют важную роль в поддержке экспортной деятельности малого бизнеса. Агентство по развитию экспорта демонстрирует, что оно может значительно улучшить экспортные показатели малого бизнеса, предоставляя рыночную информацию, возможности для налаживания связей и рекламную поддержку. Услуги по упрощению процедур торговли снижают транзакционные издержки и упрощают экспортные процессы, ещё больше повышая конкурентоспособность малого бизнеса.

Заключение и рекомендации. В заключение следует сказать, что в современном быстро меняющемся мире экспортная политика и экспортная система играют важнейшую роль в реализации экономических реформ, которые поставила перед собой наша страна, прежде всего, в стремительном развитии предпринимательства. В любой форме государственности экспорт выступает в качестве «благотворительности», стимулирующей экономическую активность не только предпринимателей, предприятий и организаций, но и отдельных лиц. Анализируя налоговые системы зарубежных стран с развитым экспортом, можно увеличить альтернативный экспорт и будущие налоговые поступления, проанализировав страны и характеристики экспорта, упомянутые выше. Этот это, в свою очередь, создаёт благоприятные условия для улучшения среды повышения конкурентоспособности предпринимательского сектора экономики.

Использованные источники:

1. Узбекистан Республика Высокий Сборка палат Информационный бюллетень, 2019, выпуск 12, приложение 1; 2020, № 3, Статья 198. Правовые документы информация национальный база , 02.12.2020, № 03/20/652/1581)
2. Н.К.Муродова. Маленький бизнес и частный предпринимательство состояние к поддержка теоретический основы улучшение.экономика науки доктор научный уровень взять для диссертация аннотация Ташкент – 2016, 17 с.
3. Muhammadjanovich K. I. EFFECTIVE DIRECTIONS OF DEVELOPMENT OF ENTREPRENEURSHIP //Web of Scientist: International Scientific Research Journal. – 2022. – Т. 3. – №. 3. – С. 413-419.
4. Kazakov, O. S., & KamoliddinovI. (2021). Questions Of The Effective Utilization Of Industrial Resources In Enterprise Activity In The Conditions Of Economy Globalization. *The American Journal of Interdisciplinary Innovations and Research*, *3*(04), 114-119. https://doi.org/10.37547/tajiir/Volume03Issue04-18
5. Малый бизнес в Узбекистане. Статистический сборник. Ташкент, 2020. 190p.

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ГЛОБАЛЬНЫЕ РИСКИ И ПРИОРИТЕТЫ РАЗВИТИЯ УСТОЙЧИВОГО ТУРИЗМА

Аннотация. *В статье рассмотрены глобальные риски, связанные с негативным воздействием на окружающую среду и их влиянием на устойчивое экономическое развитие, выявлены особенности и обоснованы факторы, принципы и приоритетные направления развития устойчивого туризма.*

Ключевые слова. *Глобальные риски, окружающая среда, устойчивое развитие, глобальные цели устойчивого развития, устойчивый туризм.*

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GLOBAL RISKS AND PRIORITIES FOR THE DEVELOPMENT OF SUSTAINABLE TOURISM

Annotation. *The article examines global risks associated with negative impacts on the environment and their impact on sustainable economic development, identifies features and substantiates factors, principles and priority areas for the development of sustainable tourism.*

Key words. *Global risks, environment, sustainable development, global sustainable development goals, sustainable tourism.*

Введение

Современное состояние мировой экономической системы во многом характеризуется наличием ряда рисков и угроз. Экологические риски относятся к потенциальным рискам для природной среды, экосистем и здоровья человека. Эти риски могут исходить из различных источников, включая загрязнение окружающей среды, изменение климата, стихийные бедствия и промышленную деятельность. Как правило, они часто состоят из совупности сложных экономических, социальных и экологических явлений, тесно взаимодействующих друг с другом.

Антропогенное воздействие на окружающую среду превышает допустимые пределы и обусловлено рядом взаимосвязанных процессов.

Характерно, что экономический рост сопровождается ростом населения (большей частью в развивающихся странах) и уменьшением численности населения (в отдельных развитых странах и регионах), увеличением потребления ресурсов, деградацией окружающей среды, глобальным изменением климата, снижением биоразнообразия, опустыниванием значительной части территорий в отдельных регионах мира.

Понимание характеристик экологических рисков и угроз имеет решающее значение для устойчивого развития туристической индустрии и выработки комплекса мер по предотвращению, уменьшению и устранению существующих проблем.

Методы исследования

В работе использочаны методы логического метода, классификации и систематизации, реферирования, обзора и анализа научных публикаций ученых и специалистов на основе баз данных рецензируемой научной литературы.

Результаты исследования

По мере усиления конфликтов с окружающей средой экономическое развитие становится более нестабильным в результате нарушения работы экосистемы. В этих условиях концепция устойчивого развития приобрела актуальный характер и нашла свое отражение в работе Всемирной встречи высокого уровня, состоявшейся в Копенгагене в 1995 году[38] [1]. В этом документе принят комплекс мер, направленных на создание условий для устойчивого развития. Он предусматривает широкое участие гражданского общества в разработке и реализации решений, определяющих благосостояние общества.

Можно выделить следующие три пути устойчивого развития туризма как стратегической отрасли экономики.

Во-первых, путь экстенсивного развития связан с расширением площади туристских территорий и кластеров, привлечением дополнительных работников, увеличением объёмов туристических продуктов и услуг в условиях, когда рынок туристических услуг не насыщен и нет сильной конкуренции.

В январе 2023 года Всемирный экономический форум опубликовал «Отчет о глобальных рисках». В докладе освещаются проблемы устранения непосредственных и долгосрочных рисков. Согласно докладу, «неспособность смягчить последствия изменения климата» и неспособность адаптироваться к изменению климата являются наиболее серьезными рисками, прогнозируемыми на 2033 год. В докладе также отмечается, что социальная и политическая поляризация может еще больше снизить способность коллективного решения проблем для устранения этих

[38] Всемирная встреча на высшем уровне в интересах социального развития. 6–12 марта 1995 года, Копенгаген, Дания https: URL : //www.un.org/ru/conferences/social-development/copenhagen1995

глобальных рисков[39] [2]. Например, кризис стоимости жизни был определен как риск номер один в течение следующих двух лет, в то время как самым большим риском за 10-летний период была неспособность смягчить последствия изменения климата.

Отчет «Глобальные риски 2023» предупредил о возникающих рисках роста инфляции, долга и процентных ставок. Согласно последним прогнозам Международного валютного фонда (МВФ), ожидается резкое снижение глобальной инфляции в развитых странах с почти 9 процентов в 2022 году до 6,5 процента в 2023 году и 4,1 процента в 2024 году[40] [3].

25 сентября 2015 г. на саммите по вопросам развития, прошедшем в штаб-квартире ООН, страны-члены ООН приняли программу «Устойчивое развитие 2030», которая состоит из 17 Целей устойчивого развития[41] [4].

Эта программа предусматривает реализацию конкретных мер по борьбе с бедностью, неравенством, несправедливостью и изменением климата. Новые глобальные цели и комплексная программа развития, в отличие от 2000 года, предусматривают реализацию более глубоких реформ, направленных на устранение коренных причин бедности и обеспечение общего процесса развития для масс и каждого.

В следующем докладе ООН об устойчивом развитии (UN Sustainable Development Report 2024) 2024 год обозначен решающим периодом для глобального развития[42] [5].

Известно, что Республика Узбекистан поддерживает программу устойчивого развития из 17 целей и 169 задач, разработанную ООН до 2030 года, и проводит системную работу в области устойчивого развития[43] [6].

Туризм является одной из крупнейших и наиболее быстро развивающихся отраслей в мире и становится все более важным источником дохода, занятости и благосостояния во многих странах. В настоящее время на туризм приходится большая доля валютных поступлений и доходов от экспорта, чем на любую другую отрасль в мире. Хотя туризм приносит значительные экономические выгоды многим странам, регионам и сообществам, как показывает практика, его быстрое расширение имеет серьезные экологические и социально-экономические последствия.

Наблюдается сокращение природных ресурсов и деградация окружающей среды, связанная с туризмом. Путешествие на дальние

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[39] WEF's The Global Risks Report 2023. URL : https://future-of-risk.captivate.fm/episode/wefs-the-global-risks-report-2023.

[40] IMF, World Economic Outlook Report October 2022: Countering the cost-of-living crisis, October 2022. URL :https://www.imf.org/en/Publications/WEO/Issues/2022/10/11/world-economic-outlookoctober-2022.

[41] Global Sustainable Development Report 2015 (Advance Unedited Version) (GSDR 2015)

[42] UN Sustainable Development Report 2024. URL :https://sdgs.un.org/publications/global-sustainable-development-report-2015-advance-unedited-version-gsdr-2015-17874 URL :https://www.globalsociety.earth/post/un-sustainable-development-report 2024?gad_source=1&gclid=CjwKCAiA5Ka9BhB5EiwA1ZVtvLyCAIfgI9wuxEJnGQhVYeqs4oL-YSLab64I-3y8ZDsm7MVZwWZ01RoCIrIQAvD_BwE

[43] Узбекистан поддерживает цели устойчивого развития ООН до 2030 года. URL :http://www.trend.az/casia/uzbekistan/2438516.html

расстояния приводит к сжиганию большого количества топлива и способствует изменению климата за счет выбросов CO2. В результате развитие туризма может иметь как положительные, так и отрицательные последствия для дестинаций. Развитие устойчивого туризма пытается найти баланс между этими эффектами[44] [7].

Программа ООН по окружающей среде (UN Environment Programme) и Всемирная туристская организация (UNWTO) определили устойчивый туризм как «туризм, который полностью учитывает свои текущие и будущие экономические, социальные и экологические последствия и удовлетворяет потребности посетителей, промышленности, окружающей среды и принимающих сообществ»[45] [8].

Через устойчивое развитие туризма: во-первых, можно повысить осведомленность населения об охране окружающей среды; во-вторых, развить чувство идентификации с местной традиционной культурой и помочь населению увеличить свои доходы за счет создания местных рабочих мест; в-третьих, поскольку туристическая цепочка включает в себя несколько отраслей, превратить различные отрасли региона в зеленую и низкоуглеродную промышленность.

Устойчивое развитие туризма – это и внедрение механизмов формирования соответствующих моделей производства и культуры потребления при устойчивом экономическом развитии туристических территорий и сохранении социального и экологического баланса.

При этом, устойчивое развитие туризма может быть реализовано на основе следующих принципов: реализации концепции устойчивого развития туризма в гармонии со спросом и предложением; внедрения устойчивого развития туризма в масштабе 7M (моно, мини, микро, мета, мезо, макро и мега).

Таким образом, во-первых, концепция устойчивого развития туризма является одной из моделей развития туристических территорий, получившей широкую популярность в XXI веке и предусматривающей развитие при сохранении экономического, социального и экологического баланса.

Во-вторых, согласно исследованию, проведенному Всемирным советом путешествий и туризма (WTTC) в сотрудничестве с Oxford Economics, прогнозируется, что мировой туристический сектор будет способствовать повышению уровня занятости[46] [9].

В последние годы, несмотря на экономические и геополитические проблемы, восстановление сектора путешествий и туризма продолжилось быстрыми темпами.

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[44] Soheila khoshnevis Yazdi. Sustainable Tourism. //American International Journal of Social Science. Vol. 1 No. 1; October 2012. URL :https://www.aijssnet.com/journals/Vol_1_No_1_October_2012/6.pdf

[45] UNEP & UNWTO, 2005: 11-12. Making Tourism More Sustainable – A Guide for Policy Makers). URL :https://wedocs.unep.org/20.500.11822/8741

[46] Global Travel & Tourism Catapults into 2023 Says WTTC. URL :https://wttc.org/news-article/global-travel-and-tourism-catapults-into-2023-says-wttc

Ожидается, что в 2033 году суммарная доля сектора путешествий и туризма в ВВП составит 11,6 процента (рисунок 1)[47] [10].

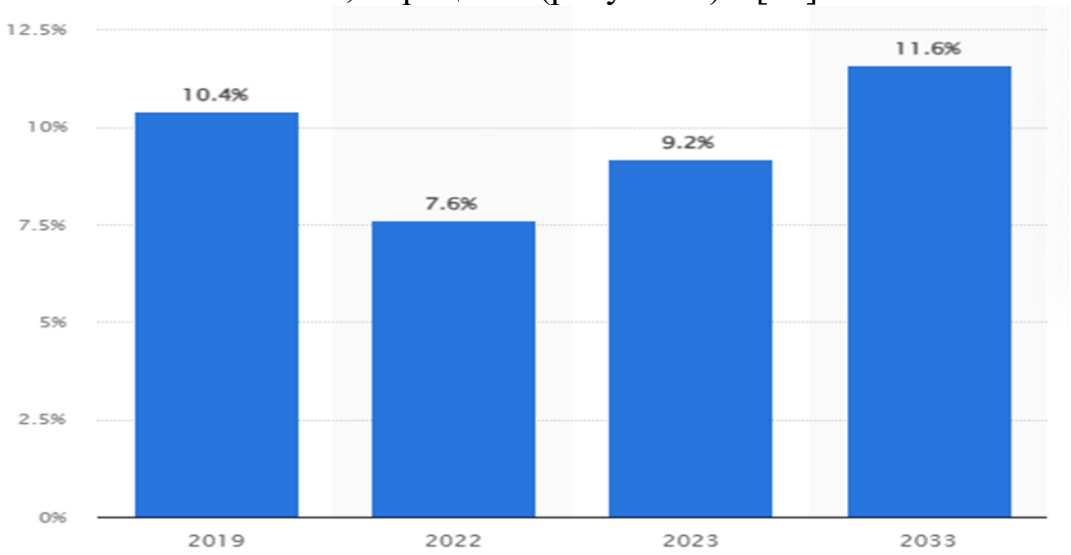

Рис. 1. Доля сектора путешествий и туризма в валовом внутреннем продукте

В таблице 1 показана роль сектора путешествий и туризма в национальной экономике 20 крупнейших стран мирового хозяйства.

Таблица 1

Роль сектора путешествий и туризма стран «Большой двадцатки» в национальной экономике[48]

Страны	Доля сектора туризма в ВВП, млрд.долл. США	Доля сектора туризма в ВВП, % ,2021 г.	Изменение доли сектора туризма ВВП (%) 2021г.	Общая доля сектора туризма в 2021 г.		Изменение секторра туризма, 2021г. (%)	
				Внутри	Международный	Внутри	международный
США	1,271.2	5.5%	22.0%	94.8%	5.2%	28.0%	1.4%
КНР	814.3	4.6%	16.9%	97.0%	3.0%	5.5%	-27.4%
Германия	251.0	6.4%	5.0%	89.6%	10.4%	5.8%	11.8%
Япония	206.3	4.2%	22.9%	99.3%	0.7%	40.5%	-90.8%

[47] Share of travel and tourism's total contribution to GDP worldwide in 2019 and 2022, with a forecast for 2023 and 2033. URL :https://www.statista.com/statistics/1099933/travel-and-tourism-share-of-gdp/
[48] Travel & Tourism economic impact 2022, URL :https://wttc.org/research/economic-impact/economic-research/reports

Италия	179.0	9.1%	58.5%	83.8%	16.2%	76.4%	19.8%
Индия	178.0	5.8%	43.6%	94.5%	5.5%	55.7%	-39.1%
Франция	177.9	6.5%	40.6%	70.0%	30.0%	51.5%	33.2%
Мексика	168.8	13.1%	23.6%	86.4%	13.6%	20.7%	58.6%
Великобр-итания	157.5	5.7%	40.3%	96.2%	3.8%	57.5%	-48.8%
Испания	113.1	8.5%	52.5%	59.5%	40.5%	52.3%	70.1%
Бразилия	103.5	6.4%	21.7%	96.0%	4.0%	29.9%	-10.6%
Канада	88.0	4.4%	24.4%	85.5%	14.5%	3.3%	4.2%
Австралия	76.5	4.7%	-6.8%	98.0%	2.0%	1.8%	-82.2%
Россия	66.0	3.7%	32.8%	86.9%	13.1%	8.3%	12.6%
Турция	59.3	7.3%	60.6%	38.0%	62.0%	7.4%	104.4%
Саудовская Аравия	51.5	6.5%	1.4%	72.8%	27.2%	6.7%	-7.0%
Южная Корея	48.8	2.7%	3.0%	71.4%	28.6%	3.6%	-23.3%
Аргентина	33.7	7.0%	39.3%	98.9%	1.1%	5.8%	-82.1%
Индонезия	28.9	2.4%	-10.3%	94.8%	5.2%	3%	-81.1%
Южная Африка	13.2	3.2%	8.4%	81.9%	18.1%	7.2%	-40.4%

Поскольку туристическая цепочка включает в себя несколько взаимосвязанных отраслей, устойчивый туризм может помочь превратить различные отрасли региона в зеленую и низкоуглеродную промышленность.

Заключение

Устойчивое развитие туризма представляет собой интегрированный и систематический подход, который объединяет социальные, экологические и экономические ценности, В настоящее время существуют различные модели

устойчивого развития туризма, но они не в полной мере охватывают факторы и показатели, обеспечивающие устойчивость туризма[49].

В этой связи необходимо разработать и реализовать ряд стратегических направлений развития устойчивого туризма. При этом важно, чтобы развитие туризма осуществлялось в соответствии со стратегиями устойчивого развития, рассматривая туристическую деятельность как часть устойчивого развития наряду с другими видами деятельности и влиянием на другие сектора. Необходимо развивать социальное сотрудничество путем разработки механизмов повышения готовности людей, занятых в сфере устойчивого туризма, к сотрудничеству. Вопрос устойчивого развития оказывает влияние на количество, качество услуг, потребляемых потребителем туристической продукции, тем самым формировать модели потребления, ведущие к устойчивому развитию туризма.

Использованные источники:

1. Всемирная встреча на высшем уровне в интересах социального развития. 6–12 марта 1995 года, Копенгаген, Дания https: URL : //www.un.org/ru/conferences/social-development/copenhagen1995
2. WEF's The Global Risks Report 2023. URL : https://future-of-risk.captivate.fm/episode/wefs-the-global-risks-report-2023.
3. IMF, World Economic Outlook Report October 2022: Countering the cost-of-living crisis, October 2022. URL :https://www.imf.org/en/Publications/WEO/Issues/2022/10/11/world-economic-outlookoctober-2022.
4. Global Sustainable Development Report 2015 (Advance Unedited Version) (GSDR 2015)
5. UN Sustainable Development Report 2024. URL :https://sdgs.un.org/publications/global-sustainable-development-report-2015-advance-unedited-version-gsdr-2015-17874 URL :https://www.globalsociety.earth/post/un-sustainable-development-report 2024?gad_source=1&gclid=CjwKCAiA5Ka9BhB5EiwA1ZVtvLyCAIfgI9wuxEJnGQhVYeqs4oL-YSLab64I-3y8ZDsm7MVZwWZ01RoCIrIQAvD_BwE
6. Узбекистан поддерживает цели устойчивого развития ООН до 2030 года. URL :http://www.trend.az/casia/uzbekistan/2438516.html
7. Soheila khoshnevis Yazdi. Sustainable Tourism. //American International Journal of Social Science. Vol. 1 No. 1; October 2012. URL :https://www.aijssnet.com/journals/Vol_1_No_1_October_2012/6.pdf
8. UNEP & UNWTO, 2005: 11-12. Making Tourism More Sustainable – A Guide for Policy Makers). URL :https://wedocs.unep.org/20.500.11822/8741
9. Global Travel & Tourism Catapults into 2023 Says WTTC. URL :https://wttc.org/news-article/global-travel-and-tourism-catapults-into-2023-says-wttc

[49] Королева И. С. Модель устойчивого туризма на староосвоенных территориях. URL :https://cyberleninka.ru/article/n/model-ustoychivogo-turizma-na-staroosvoennyh-territoriyah

10. Share of travel and tourism's total contribution to GDP worldwide in 2019 and 2022, with a forecast for 2023 and 2033. URL :https://www.statista.com/statistics/1099933/travel-and-tourism-share-of-gdp/
11. Travel & Tourism economic impact 2022, URL :https://wttc.org/research/economic-impact/economic-research/reports
12. Королева И. С. Модель устойчивого туризма на староосвоенных территориях. URL :https://cyberleninka.ru/article/n/model-ustoychivogo-turizma-na-staroosvoennyh-territoriyah

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КРЫЛАТЫЕ СЛОВА И СМЕЖНЫЕ ЯЗЫКОВЫЕ ЕДИНИЦЫ

Аннотация. *В мировом языкознании возрастает интерес к выполнению фундаментальных работ об устойчивых единицах и их используемости в речи. В частности, важную роль играют крылатые слова, которые служат для повышения эффективности и красочности речи и используются в качестве образной цитаты. В статье рассматривается различие крылатых слов от фразеологизмов, афоризмов и цитат.*

Ключевые слова: *крылатое слово, крылатое выражение, образный, смысловой, сходство, различие, фразеологизм, афоризм, цитата.*

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WINGED WORDS AND RELATED LINGUISTIC UNITS

Abstract. *In word linguistics, there is a growing interest in carrying out fundamental works on stable units and their use in speech. In particular, an important role is played by winged words, which serve to increase the efficiency and colorfulness of speech and are used as a figurative quotation. The article examines the difference between winged words and phraseological units, aphorisms and quotations.*

Key words: *winged words, winged expressions, figurative, semantic, similarity, difference, phraseological unit, aphorism, quotation.*

Введение. В языкознании существуют разные взгляды на изучение крылатых слов и фразеологизмов. Некоторые ученые не включают крылатые слова в число фразеологизмов, но многие лингвисты признавали их принадлежность к фразеологизмам. Поскольку они содержат в себе признаки разных языковых единиц, определить их языковой статус оказалось затруднительно. В этом отношении С.И.Ожегов говорит о том, что крылатые слова следует отличать от других фразеологизмов по их семантической и синтаксической структуре. [4]

В 1958 г. вышло пособие М.А.Булатова под названием «Крылатые слова». [2] Под крылатым словом автор понимает не только выражения с определенным источником, но и безымянные фразеологизмы, и он интерпретирует фразеологические выражения наряду с крылатыми единицами. В работе над французскими крылатыми словами также видно, что они

смешаны с другими единицами. Например, в сборнике И.Н.Тимесковой, посвященный французским крылатым словам выходят фразеологизмы и афоризмы под термином крылатое слово. [5] В своей серии работ А.Г.Назарян интерпретирует крылатые слова во французском языке как фразеологизмы. [3]

Основная часть. Как видно, ученые по-разному относятся к фразеологизмам. Однако, несмотря на различие взглядов, исследователи подтверждают, что фразеологизмы обладают такими свойствами, как устойчивость, смысловая целостность, обладание вариантами, образность, экспрессивность, владение переносным значением.

При перечислении этих свойств непроизвольно становится очевидной разница между крылатыми словами и **фразеологическими единицами.**

1) Наблюдаются структурные отличия. Упоминалось, что фразеологизмы не могут состоять из одного слова. А вот в крылатых словах наблюдается такая ситуация: *Tartuffe, Napoléon, Alphonse.*

2) Семантические особенности фразеологизмов отражаются и в крылатых словах, при этом крылатые слова также имеют признак ассоциации с событием или явлением, не наблюдаемым во фразеологизмах. Например, крылатое выражение *Âne de la fable*, т.е. *Козел отпущения* из басни Ла Фонтена, связано с событием, которое произошло между животными во главе со львом и закончилось для осла трагически.

3) Крылатые слова имеют автора или источника, а во фразеологизмах такая ситуация не наблюдается. Например, крылатое выражение *L'argent ne sent pas*, т.е. *Деньги не пахнут* принадлежит римскому императору Веспасиену. По словам римского историка Светония, он сказал эти слова в ответ своему сыну Титусу, упрекавшемуся, что установил дань общественному туалету.

Таким образом, крылатые слова отличаются от фразеологизмов своей *структурой, ассоциацией с событием или явлением,* также *принадлежностью к автору или источнику.*

Существуют также разные взгляды на отличия крылатых слов от **афоризмов.** Н.Т.Федоренко и Л.И.Сокольская в своей монографии приходят к выводу, что понятие афоризма, несомненно, является поучительной идеей и дают широкую и полную описанию их особенностей. Авторы также пытаются показать пограничные критерии афоризмов с крылатыми словами. [6]

Подразумевается, что поскольку крылатые слова имеют устойчивое переносное значение и свойство массовое признание, многие ученые включают крылатые слова в языковую единицу, а афоризмы в художественную форму. Они также подчеркивают, что афоризмам свойственны обобщенность, лаконичность, законченность мысли, отшлифованность, художественность.

Итак, между крылатыми словами и **афоризмами** есть отличия:

1) Семантические отличия. Афоризмы часто представляют собой последовательные нравственные мысли. Нам нетрудно понять их, потому что они всегда используются в своем прямом смысле. Крылатые слова употребляются и в переносном смысле. Например, крылатое выражение *Vendre la peau de l'ours* взято из басни Ла Фонтена. В басни рассказывается о продаже

содранной шкуры с неубитого медведя. Соответственно, крылатое выражение *Делить (продать) шкуру неубитого медведя* образно означает хвастаться не добившись успехов, т.е. «*пустые воображения*».

2) Афоризмы всегда всем понятны, они не связаны ни с какой ситуацией. Крылатые слова определяются ситуацией в которой они появляются, иначе их трудно понять. Например, *L'âge de Balzac*, т.е. крылатое выражение «*Бальзаковский возраст*», связано с созданием романа Бальзака «La Femme de trente ans». Героиня романа Жюли д'Эглемон – женщина, свободно выражающая свои чувства и отличающаяся своей независимостью. Из-за характера героя крылатое выражение «*Бальзаковский возраст*» применяется к женщинам в возрасте от 30 до 40 лет, обаятельным и привлекательным для мужчин. Из этого следует, что человек, прочитавший это произведение, знающий характер главного героя, сразу его поймет, иначе выражение остается непонятной.

Итак, *семантические свойства* крылатых слов, *употребление их в переносном смысле*, а также их *определение всегда возникающей ситуацией* показывают, что они отличаются от афоризмов.

Следует также уточнить сходства и различия между понятиями крылатые слова и **цитаты**. В.П.Берков в какой-то степени уточняет крылатых слов, вошедших в русскую научную традицию, во-первых, функцию, во-вторых, ярко выраженный национальный характер, в-третьих, их отличие от народных цитат. [1]

Цитата и крылатое выражение сближают сложную словесную структуру, но составная структура крылатых слов имеет свои узуально-ограниченные границы. Объем цитаты полностью зависит от лица, получающего цитирование. И цитата, и крылатое слово имеют генетическую память о своем источнике. Например, крылатое выражение *Oublier d'éclairer sa lanterne* которое означает «забыть самое главное», напоминает басню Флориана. Вспоминается, что обезьяна в басне созывает животных на совет, гордо объявляет им, что они увидят, и забывает включить фонарь, оставляя зрителей в темноте и они ничего не могли видеть.

Многие исследователи пришли к выводу, что крылатые слова – это более распространенная образная цитата, полученная из определенного письменного источника или мнение конкретного лица. Мы соглашаемся с ними и приводим следующий пример. Согласно сведениям Светония, крылатое выражение *Le sort en est jeté*, то есть *Жребий брошен* Цезарь произнес, когда шел со своей армией через озеро Рубикон, отделяющее Италию от Римской провинции: *Tunc Caesar, Eatur, inquit, quo deorum ostenta et inimicorum iniquitas vocat. Jacta alea esto.* Становится ясным, что крылатое выражение, означающее «бесповоротное решение», взято из речи Цезаря.

Во французском языке термин крылатое слово называется «citation». Во французском энциклопедическом словаре «Le Petit Larousse» указано, что этот термин происходит из латинского языка и выражает смысл отрывка, ясно

произнесенного автором. Поэтому термин «citation» включает в себя как простые, так и образные цитаты, т.е. крылатые слова.

Словом тот факт, что оба выражения являются мнением другого, объединяет их. Эти понятия отличаются объемами, т.е. наблюдается, что объем цитат шире, чем крылатые слова. Цитатами всегда пользуются в прямом смысле. Соответственно, к крылатым словам больше подходят понятия «образная цитата».

Заключение. Итак, крылатые слова, являющиеся объектом нашего исследования, отличаются от *фразеологических единиц, афоризмов и цитат.* Они отличаются от фразеологических единиц по структуре, по своим ассоциацированием с событием или явлением, по принадлежности автору или источнику. Семантические особенности крылатых слов, их употребление в переносном значении и ассоциация всегда возникающей ситуации показывают, что они отличаются от афоризмов. Крылатые слова и цитаты, близкие во многом по свойству, отличаются объемом, смыслом и образностью.

Использованные источники:

1. Берков В.П. Русско-норвежский словарь крылатых слов. – Москва: Русский язык, 1980.
2. Булатов М.А. Крылатые слова. – Москва: Детгиз, 1958. – С. 3.
3. Назарян А.Г. Почему так говорят по-французски. – Москва: Наука, 1968. – 349 с.
4. Ожегов С.И. О структуре фразеологии (в связи с проектом фразеологического словаря русского языка). – Москва: Высшая школа, 1974. – С. 182-219.
5. Тимескова И.Н. Крылатые слова, их значение и происхождение. – Ленинград: Просвещение, 1974. – 231 с.
6. Федоренко Н.Т., Сокольская Л.И. Афористика. – Москва: Наука, 1990. – С. 181-183.

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РОЛЬ ОБУЧЕНИЯ В ЛИЧНОСТНОМ РАЗВИТИИ

Аннотация*: В современном конкурентном, но гуманном мире прививать студентам альтруистическую и уравновешенную личность губительно. Поэтому необходимо приложить серьезные усилия, чтобы привить ценности и этику не только детям, но и взрослым. Ценности - это принципы, которые закладывают прочный фундамент цивилизованного общества.*

Ключевые слова*: ценностно-ориентированное образование, цели учебной программы, ценности, ценностные ориентации.*

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THE ROLE OF LEARNING IN PERSONAL DEVELOPMENT

Abstract: *In today's competitive but humane world, it is disastrous to inculcate altruistic and balanced personality in students. Therefore, serious efforts should be made to inculcate values and ethics not only in children but also in adults. Values are principles that lay a solid foundation for a civilised society.*

Keywords*: value based education, values curricular objectives, values, values orientations*

Существует твердое убеждение, что образование делает человека совершенным в его одежде и помогает обрести значимый жизненный опыт. В современном модернизированном мире мы наблюдаем множество колебаний ценностей человека. Это, правда, что произошло много изменений, влияющих на наш менталитет и даже наши ценности, но разнообразие ситуации заключается в том, что на пути к этическим моделям жизни возникло препятствие. Это отставание можно устранить только с помощью привития ценностей через образование. Более того, этика в жизни должна помочь ответить на вопросы о том, что правильно или должно быть сделано,

поскольку у людей есть врожденное этическое чувство, которое побуждает их делать предсказуемый выбор. Хотя большинство людей считают, что их поступками руководят логика и разум, разум часто выступает лишь в качестве механизма, оправдывающего этот выбор. Образование - это признание реальной силы врожденного этического чувства и того, как оно влияет на наше поведение. Многие узбекские философы высоко оценивали роль образования в превращении человека в гуманную личность. На примере таких легендарных индийских философов, как аль Хорезми, аль Фараби, ибн Сино, Беруни, Накшбанд, Мирзо Улугбек многих других, все они подчеркивали важность ценностей и роль образования в формировании сбалансированной личности. Более того, всегда ожидается, что поведение будет отражать амбивертную природу человека.

Великие мыслители и прогрессивные педагоги выдвинули немало идей, критическое изучение которых способствует развитию педагогической науки и обогащению истории педагогики. Большое внимание великий Мухаммад аль Хоразмий (780-850) уделял педагогике и образованию молодых людей. Главная его задача в этой области - составление структуры и содержания школьного и высшего образования, необходимого для решения задач теоретической и практической подготовки ученых и специалистов. Впервые в литературе на арабском языке была дана таблица градаций ученого роста и введен тезис: «Учись, чтобы обладать миром».

Великий ученый Абу Али ибн Сино (980-1037) призывает настойчиво изучать науки, стремиться к совершенству. Для быстрейшего овладения глубокими знаниями он считал рациональным коллективное обучение, что особенно было важно для его эпохи. Мысли ибн Сино о науке и образовании свидетельствуют о том, что «я неустанно стремился показать роль науки в развитии человеческого общества, боролся за осмысленное усвоение учебных дисциплин, применение теоретических знаний в жизни, за развитие самостоятельной мысли человека»

В свете этого ценности для человека служат мотивирующей силой его действий, которые на самом деле являются отражением его мыслей. На первый план выходит то, что шкала ценностей, определяющая их приоритеты, должна быть однозначной, то есть, можно сказать, выстраивать иерархическую схему ценностей, основанных на потребностях, а также тех, которые являются абсолютными и труднодостижимыми, то есть само актуализации. В нашем контексте цель достижения само актуализации стоит на первом месте, и наше обучение должно работать в этом направлении, создавая гуманных и в то же время постоянно стремящихся к самоактуализации людей.

Утилита ценностей в образовании.

1. создание человеческих существ, наделенных силой и мощью
2. содействие развитию личности и социальной сплоченности
3. развитие профессиональной эффективности
4. приспособление к окружающей среде и ее изменение

5. содействие национальной интеграции и ее модификации
6. сопереживать друг другу
7. понимать динамику и сферу жизни
8. повысить самосознание
9. проявлять гуманность во время стресса
10. понять свое существование и предназначение в этом мире
11. уважать старших и быть для них надежной опорой

Понимая это и глядя на сегодняшнюю ситуацию, страшно осознавать, что современное общество, особенно страны третьего мира, включая Индию, обеспокоено так называемым ценностным кризисом. Существует множество сигналов, указывающих на медленную деградацию ценностей.

- нечистота ума
- отсутствие морального мужества
- необъективные решения в жизни
- экстремальное и гнусное поведение
- эгоцентризм
- отсутствие эмпатичного характера
- увеличение числа случаев насильственного поведения
- отсутствие уважения к старшим

Как педагог мы не можем игнорировать эти факты. Поэтому важность ценностей и образования становится все более актуальной. Мы движемся вперед, рассматривая образование как важный инструмент, который включает в себя различные методологии и техники преподавания и разработки мероприятий для лучшего понимания концепций, определения проблем учеников, коррекции и так далее. При этом основная ответственность ложится на учителей.

Роль преподавателей

1. Учителя должны побуждать учеников задумываться о моральных ценностях, тем самым развивая знания, навыки и отношение, которые позволяют им развиваться как рефлексирующим мыслителям.

2. Применяя различные методы, такие как рассказ, метод проектов и даже метод решения проблем. Цель - приобщить студентов к практике самоанализа.

3. Реализация учебной программы в классах и школах также требует вклада учителей, которые сосредоточены на преподавательской деятельности, основанной на ценностях.

4. Мероприятия, которые способствуют развитию базовых человеческих ценностей, такие как создание реальных жизненных ситуаций, акцент на развивающих и интерактивных играх и, самое главное, понимание детской психологии.

5. Учителя сами должны быть примером для подражания для учеников.

6. Проводите ролевые игры, чтобы ученики понимали эмоции и чувства персонажей, которых они играют.

7. Покажите документальные фильмы о легендарных философах и

других личностях и помогите им поразмышлять о них.

8. Через учебные предметы учитель должен развивать важные ценности рамках комплексного подхода.

9. Академическая деятельность будет прививать научные, социальные, экономические, утилитарные, культурные, моральные, интеллектуальные и другие ценности.

10. Скрытая учебная программа, институциональный климат, личность преподавателя и функционирование учебного заведения передают этические ценности.

11. Проводите междомовые соревнования по дебатам и дискуссиям на темы ценностей, например, забота о пожилых людях и т.д.

12. Учителя должны предложить студентам организовать программу вроде викторины и для этого работать в сотрудничестве, давая им понять важность маленьких жестов благодарности, признательности и т.д.

Лучше всего позволить студентам заниматься тем, к чему их свободно склоняет естественное стремление к конкуренции. Хорошо сказано Конфуцием: "Выбор, а не случай определяет судьбу". Они должны научиться самоконтролю, чтобы преодолевать жизненные трудности и доказывать, что они смелы в своем подходе к жизни.

Использованные источники:

[1]. Abdumajidovna, I. Z. (2022). TEACHING AND LEARNING USING INFORMATION AND COMMUNICATION TECHNOLOGIES.

[2]. Искандарова, З. А. (2024). ТЕНДЕНЦИИ СОВРЕМЕННОГО ПРОГРАММИРОВАНИЯ В СОЗДАНИИ ЦИФРОВЫХ ОБРАЗОВАТЕЛЬНЫХ ИНСТРУМЕНТОВ. PEDAGOGS, 58(2), 46-49

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ВОЗДЕЙСТВИЕ ЗАГРЯЗНЯЮЩИХ ВЕЩЕСТВ ЦЕМЕНТНОГО ЗАВОДА НА ОКРУЖАЮЩУЮ СРЕДУ

Аннотация. *Технологией предусмотрена схема производства цемента сухим способом, предусматривающим дробление сырьевых материалов с последующим высушиванием и совместным помолом в шаровых мельницах.*

Предлагаемая проектом технология позволит обеспечить выпуск качественного цемента, технические параметры которого отвечают современным требованиям потребителей. Цель работа для сокращению выбросов необходимо строго следить за исправность установленных рукавных фильтров.

Ключевые слова: *промышленные отходы, утилизация, окружающая среда, вторичное, энергосбережение, способ, технологический процесс.*

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EXPOSURE TO POLLUTANTS THE IMPACT OF THE CEMENT PLANT ON THE ENVIRONMENT

Annotation. *The technology provides a scheme for the production of cement in a dry manner, involving crushing of raw materials followed by drying and joint grinding in ball mills. The technology proposed by the project will ensure the production of high-quality cement, the technical parameters of which meet modern*

consumer requirements. The purpose of the work is to reduce emissions, it is necessary to strictly monitor the serviceability of installed bag filters.

Keywords: *industrial waste, recycling, environment, secondary, energy saving, method, technological process.*

К цементам относится большая группа гидравлических вяжущих веществ, главной составной частью которых являются силикаты и алюминаты кальция, образовавшиеся в результате обжига до спекания сырьевой смеси надлежащего состава. Наибольшее распространение получили портландцемент, шлакопортландцемент и глиноземистый цемент. Цемент применяют для приготовления бетонных смесей, строительных растворов, асбестоцементных изделий.

Тонкость помола цементов характеризуется величиной остатка на сите с сеткой установленного стандартами и техническими условиями номера. Тонкость помола цемента влияет на скорость его схватывания и твердения. Чем тоньше измолот клинкер, тем выше прочность цемента [1,2].

Предприятием предполагается производить портландцемент «сухим» способом.

Портландцемент – вяжущее вещество, твердеющее в воде и в воздухе. Получают при совместном тонком измельчении клинкера и необходимого количества гипсового вяжущего, добавляемого для регулирования сроков схватывания.

Производство портландцемента можно разделить на два комплекса операций. Первый включает изготовление клинкера, а второй – получение портландцемента измельчением клинкера совместно с гипсом, активными минеральными и другими добавками.

Доставляемые на предприятие сырьевые материалы выгружаются с автосамосвалов на склад под навесом в специально отведенные разгрузочные бетонированные ямы для хранения, от которых происходит выброс пыли неорганической в атмосферу.

Дозировка сырьевых материалов из бункеров-дозаторов осуществляется сжатым воздухом из ресивера при помощи специальных устройств - управляемых питателей с колосниковым затвором, находящихся внизу бункеров. Ссыпка из всех питателей бункеров-дозаторов производится на один закрытый ленточный транспортер подачи предварительно дозированной смеси на первичное дробление в щековую дробилку, а затем – в одноротурную молотковую дробилку по закрытому транспортеру - на вторичное дробление. При загрузке сырья на транспортер, при ссыпке сырья в дробилки и при измельчении сырья в дробилках выделяется пыль неорганическая [3].

Для организации производства в рамках настоящего проекта приобретено новое современное высокотехнологичное оборудование из-за рубежа. На территории существующего участка будут расположены печь обжига клинкера, цементная мельница, упаковочный участок.

Сырье закупается местного производства у поставщиков, имеющих соответственные лицензии, согласно заключенных договоров.

Канализация - сточные воды сбрасываются без очистки в бетонированный гидроизолированный выгреб, объемом 36 м3. Выгреб выполнен из монолитного железобетона, *с* толщиной стен 300 мм, сверху прикрыть железобетонному плитами. При заполнении его на 85 %, стоки будут вывозиться службами сан очистки на очистные сооружения.

Сырье загружается в мельницу помола сырьевых материалов. Измельченная смесь после помола с мельницы поступает в сепаратор, где происходит разделение на фракции величиной до 0,08 мм и более 0,08 мм. Мелкая фракция полается в силосы усреднения сырья (сырьевой склад), а крупная фракция ленточным транспортером мельницы снова подается на дополнительный помол.

Для снижения выбросов пыли в атмосферу в мельнице при помощи дутьевого вентилятора воздух, загрязненный неорганической пылью после сепарации измельченного сырья, подается на очистку в рукавный фильтр (КПД очистки 99,7%), а атем уже выбрасывается в атмосферу [3,4].

Охлаждение мельницы предусматривается водой из единой оборотной системы. Вода охлаждает следующие части мельницы сухого помола: основной подшипник, подшипник скользящего башмака, масло-станция редуктора мельницы, станция смазки основного подшипника, станция смазки скользящего башмака, станция маловязкого масла.

После помола в мельнице, измельченное сырье сначала по аэрожелобу подается на участок усреднения сырья – в три силоса-дозатора высотой 20 м, диаметром 10 м, с загрузкой по 3000 тн со сроком хранения 3 дня.

Участок усреднения предназначен для усреднения по составу размолотой сырьевой смеси от участка помола сырья перед подачей ее на обжиг. Система подачи сырьевой смеси в бункеры-дозаторы усреднения оснащена рукавным фильтром с эффективностью очистки 99,7 %, после которого сырьевая пыль выбрасывается в атмосферу.

Усредненное по составу размольное сырье из силосов-дозаторов подается во вращающуюся печь обжига. Обжиг сырьевых материалов производится в специальной вращающейся печи, предназначенной для получения клинкера на цементных заводах. Температура в печи обжига клинкера доходит до 1700 ^{0}С, поэтому ее внутренняя поверхность покрыта футерованным материалом – огнеупорным кирпичом.

Пока материал, загруженный сверху, опускается по печи, он сушится, нагревается и спекается в клинкер. Очистка дымовых газов от неорганической пыли осуществляется в электрофильтре (КПД очистки 99,9%). Уловленная пыль из фильтра будет подаваться в бункер усреднения сырья. Очищенные от пыли отходящие отработанные газы от сгорания природного газа будут выбрасываться в атмосферу посредством трубы высотой 55 метров.

Обожженный клинкер охлаждается и выгружается из печи вращающейся решеткой внизу печи через устройство тройного воздуховода.

Воздух подается снизу печи для обеспечения горения (обжига), а также служит в целях охлаждения клинкера. Охлажденный клинкер по аэрожелобу подается в силосы хранения клинкера. Система подачи клинкера в силосы хранения оснащена рукавным фильтром с эффективностью очистки 99,7 %. Из силосов хранения клинкер, как и уловленная пыль клинкера, поступают на цементную мельницу для контрольного помола. При помолке клинкера, выделяемая пыль проходит через рукавный фильтр (эффективность очистки 99,7%).

Из мельницы цемент по аэрожелобу поступает в силосы хранения цемента, отходящий воздух при загрузке цемента в силосы проходит также очистку в рукавных фильтрах с КПД очистки 99,7%

Упаковка цемента будет производится упаковочной машиной с автоматическим манипулятором для одевания мешков, которая оснащена рукавным фильтром.

Подача цемента в упаковочную машину осуществляется от цементных силосов пневмотранспортом через циклоны – разгрузители и просеивающие шнеки в бункера. Цемент от бункеров шнековыми питателями подается на упаковочную машину. Упаковочные мешки плоскими ленточными транспортерами шириной 800 мм подаются на стационарные ленточные транспортеры для погрузки мешков на автотранспорт. Для создания запасов упакованного цемента строится площадка для хранения. Для реализации цемента автотранспортом предусматриваются автомобильные весы грузоподъемностью 60 тн.

Результаты выполненных расчетов концентраций вредных выбросов в атмосферу показали, что на границе предприятия в зоне влияния источника концентрации выбросов в приземном слое атмосферы не превышают допустимых норм по установленным им квотам.

Производственные стоки образуются в процессе работы градирни. Все производственные стоки находятся в системе оборотного водоснабжения. Стоков не образуется..

Сброс хозбытовых стоков осуществлятся в гидроизолированный железобетонный выгреб, откуда по мере накопления будет вывозится спецмашинами в места, указанные СЭС.

Для временного хранения отходов на территории предприятия предусмотрены специальные места. Отходы относятся к 2, 3 4 и 5 классам опасности, условия их хранения таковы, что отходы не окажут негативного воздействия на природную среду и на здоровье рабочего персонала.

Следовательно, из вышеизложенного можно сделать вывод, что функционирование объекта при соблюдении рекомендаций, правил техники безопасности труда и выполнении природоохранных мероприятий не приведёт к необратимым экологическим последствиям.

При выполнении исследований определены качественные и количественные нормативы ожидаемых воздействий на атмосферный воздух, определены источники и объемы образования отходов, класс их токсичности,

разработаны нормативы образования отходов и предложения по дальнейшему их размещению и утилизации, проведена оценка воздействия установленного оборудования на поверхностные и грунтовые воды. В дополнительных мероприятиях по сокращению выбросов необходимости нет, для поддержания выбросов на существующем безопасном уровне необходимо строго следить за исправность установленных рукавных фильтров.

Заключение. В работе представлены результаты заключительного этапа процедуры оценки воздействия на окружающую среду. Проанализировано технологическое решение с точки зрения отходов, выбросов и сбросов загрязняющих веществ в окружающую среду.

На объекте выявлены 46 источников выбросов, 29 источника выбросов – организованные и 17 – неорганизованные.

На предприятии установлены ПГУО с коэффициентами 99,7-99,9% на источниках 12, 13, 16-21, 23-30, 38-44. Количество источники оснащенными ПГОУ составляют - 23.

В случае выхода из строя данного вида оборудования суммарный выброс от предприятия составит 36246,67287 т/год, что необходимо постоянно следить за исправностью ПГУО и своевременно производить профилактический осмотр и необходимый ремонт.

Суммарный выброс в атмосферу составляет 286,842255 т/год. Число загрязняющих веществ-16.

Залповые выбросы на предприятии отсутствуют. Выбросы вредных веществ выбрасываемых в атмосферу показано в таблице №1.

Таблица №1.

Выбрасываемые выбросы вредных веществ в атмосферу

Наименование вещества	Максимальная концентрация	Процент вклада в выбросы	Выброс, т/год
Железа оксид	0,015	0,003	0,008
Марганец и его соединения	0,004	0,00003	0,00008
Азота диоксид	0,018	22,82	65,8115
Азота оксид	0,002	5,85	16,4507
Аэрозоль масла	0,0042	0,0006	0,0016
Сера диоксид (ангидрид сернистый)	0,015	1,84	5,28503
Углерод оксид	0,156	30,44	87,31195
Бенз(а)пирен	0,0002	0,0002	0,000514

Углеводороды предельные С12-С19	0,008	0,0007	0,001901
Пыль неорганическая: 70-20% двуокиси кремния	0,132	3,60	10,3379
Пыль известняка	0,084	10,11	28,9964
Пыль железо	0,104	2,7	7,73655
Пыль гипса	0,058	0,97	2,77853
Пыль клинкера	0,116	1,3	3,72
Пыль цемента	0,136	20,36	58,393
Пыль металлическая	0,034	0,003	0,0086

В дополнительных мероприятиях по сокращению выбросов необходимости нет, для поддержания выбросов на существующем безопасном уровне необходимо строго следить за исправность рукавных фильтров.

В работе проведена инвентаризация отходов производства и потребления и рассчитаны лимиты их размещения. Установлено, что в процессе производственной деятельности предприятия образуется 28 вид отходов, из них 26 вид нормируемых отходов.

Общее количество образуемых на предприятии отходов 37769,90969 т/год, причем 35959,83 т/год – повторно используются в производстве.

Источников образования отходов 28, в том числе:

Для каждого отхода составлен паспорт, определен норматив и класс опасности, предложены места размещения и способ утилизации.

В работе предложен мониторинг состояния атмосферного воздуха,

количественного и качественного состояния производственных стоков, а также разработан план-график контроля за соблюдением нормативов ПДВ.

Установлены экологические нормативы предельно допустимых выбросов, нормы водопотребления и водоотведения, удельные показатели образования отходов.

Использованные источники:

1. Постановление Кабинета Министров Республики Узбекистан №541 от 7 сентября 2020г. «Положение о государственной экологической экспертизе в РУз». Приложение №1.
2. «Инструкция по проведению инвентаризации источников загрязнения и нормированию выбросов загрязняющих веществ в атмосферу для предприятий Республики Узбекистан», утверждённая приказом №105 от 15 декабря 2005г.

3. Методика расчета концентраций в атмосферном воздухе вредных веществ, содержащихся в выбросах предприятий. ОНД-86. Госкомгидромет. – Ленинград. – Гидрометеоиздат. – 1987.
4. Приложение к Постановлению КМ Руз от 21.01.2014 г. N 14 «Положение о порядке разработки и согласования проектов экологических нормативов».

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ВЛИЯНИЕ ТЕНЕВОЙ ЭКОНОМИКИ НА НАЦИОНАЛЬНУЮ ЭКОНОМИКУ В УЗБЕКИСТАНЕ

Аннотация: *Одним из ключевых факторов, сдерживающих экономическое развитие многих стран, особенно развивающихся государств, сегодня является теневая экономика. Неформальная занятость, считающаяся одним из секторов скрытой экономики, негативно влияет не только на экономику государства, но и на благосостояние населения. В данной статье рассматривается влияние неформальной занятости прежде всего на экономику, а также предложения по снижению доли этого сектора в занятости и ее легализации, исходя из международного опыта.*

Ключевые слова: *неформальная занятость, теневая экономика, неформальная экономика, IDL, прямой контроль, косвенный контроль, GDP.*

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INFLUENCE OF THE SHADOW ECONOMY ON THE NATIONAL ECONOMY IN UZBEKISTAN

Abstract: *One of the key factors constraining the economic development of many countries, especially developing countries, today is the shadow economy. Informal employment, considered one of the sectors of the hidden economy, negatively affects not only the state economy, but also the well-being of the population. This article examines the impact of informal employment primarily on the economy, as well as proposals to reduce the share of this sector in employment and its legalization, based on international experience.*

Key words*: informal employment, shadow economy, informal economy, IDL, direct control, indirect control, GDP.*

В настоящее время одним из факторов, сдерживающих как экономическое, так и социальное развитие, является в стране растет доля теневой экономики. Одной из вредных составляющих теневой экономики является неформальная занятость. В качестве причин возникновения подобных экономических проблем можно назвать множество факторов. Среди основных причин – недостаточная правосознательность населения и уклонение предпринимателей от уплаты налогов. Чем выше доля теневой

экономики внутри страны или ее ВВП, тем медленнее темпы экономического и политического роста и развития в этом регионе. Сегодня многие развитые страны и ученые активно работают над мерами по снижению доли этого сектора в национальных экономиках. Так, разработана «дорожная карта» по сокращению доли неформальной занятости на 2022–2024 годы. Кроме того, были приняты конкретные целевые индикаторы, направленные на снижение неформальной занятости на 2023–2026 годы [1]. В Узбекистане усилия в последние годы также были направлены на легализацию неформальной занятости, которая является структурной составляющей теневой экономики, и повышение благосостояния населения.

Обзор литературы и методы. Теневая экономика тесно связана с коррупцией и организованная преступность, что, в свою очередь, приводит к постепенному ослаблению государственных институтов. Кроме того, это создает серьезные проблемы в обеспечении верховенства закона и поддержании порядка среди населения. Предприятия и предпринимательские субъекты, работающие в неформальном секторе, часто уклоняются от уплаты налогов и игнорируют нормативные требования, стремясь минимизировать затраты и максимизировать прибыль.

Однако такое уклонение от уплаты налогов снижает объем доходов, поступающих в государственный бюджет, препятствуя своевременному и адекватному обеспечению социальной защиты, пенсий, стипендий и заработной платы населению. Это также препятствует развитию инфраструктуры внутри страны. Этот подход помог количественно оценить расхождения и измерить экономическое влияние неформальной занятости как на отдельные домохозяйства, так и на экономику в целом [3].

В Узбекистане доля неформальной экономики особенно высока в секторах строительства, торговли и услуг. По разным оценкам, его доля по отношению к ВВП колеблется примерно от 25% до 45%. В 2023 году незарегистрированная экономическая деятельность составила 140 трлн сум в сфере услуг, 50 трлн сум в строительстве, 40 трлн сум в промышленности. В результате ВВП страны потерял 135 трлн сум, а госбюджет потерял около 30 трлн сум потенциальных доходов. Кроме того, из 27 000 строительных компаний 41% (около 11 000 фирм) сообщили, что в их отчетах имеется только один официальный сотрудник. При этом почти 5 млн человек работали в неформальном секторе, причем владельцы бизнеса платили зарплату без уплаты налогов [4]. По данным Министерства сокращения бедности и занятости, в 2022 году общая численность экономически активного населения Узбекистана составила 14,98 миллиона человек.

Из них 13,7 миллиона были трудоустроены, причем 6,5 миллиона (47%) работали в формальном секторе. К экономически активному населению относятся как занятые, так и безработные. Среди различных видов экономической деятельности наибольшая доля занятых в неформальном секторе — 34% — работала в сельском, лесном и рыбном хозяйстве. В торговле и строительстве доля составила по 14%, в промышленности - по 11%.

Неформальная занятость охватывает работников предприятий, не имеющих юридического статуса. Если предположить, что работники неформального сектора получают такую же заработную плату, как и работники формального сектора, то более 9 миллионов человек, работающих неформально в 2022 году, привели к потере налоговых поступлений в государственный бюджет в размере 32,9 триллионов узбекских сумов.

Неформальный сектор – это часть экономики, которая не облагается налогом, не контролируется правительством и не учитывается при расчете ВВП. В целом, с одной стороны, неформальная занятость ограничивает социальные права работников, что приводит к ухудшению условий занятости, снижению уровня жизни, снижению качества человеческого капитала. С другой стороны, занятость в неформальном секторе часто служит социальным стабилизатором, смягчая недостатки экономической системы, такие как высокие затраты на развитие бизнеса, высокие налоги, отсутствие возможностей трудоустройства в корпоративном секторе и рост безработицы. Поэтому развитие неформального сектора можно рассматривать как естественную адаптацию рынка труда к существующим экономическим условиям. В последние годы были приняты меры по значительному сокращению масштабов теневой экономики в целях содействия здоровой конкуренции и развитию частного бизнеса в стране. В частности, стратегия «Узбекистан-2030» подчеркивает расширение налоговой базы за счет сокращения теневой экономики. Более того, в стратегии особое внимание уделяется повышению уровня занятости и обеспечению достойных условий труда для стабилизации рынка труда [5].

В целях сокращения и ликвидации доли теневой экономики в Узбекистане Президентом Республики 30 октября 2020 года подписан Указ № ПФ-6098 «Об организационных мерах по сокращению теневой экономики и повышению эффективности работы налоговых органов» [2].

Результаты наблюдений выявляют заметные региональные различия в уровне неформальной занятости. Самый высокий уровень неформальной занятости отмечается в Наманганской (50%), Сурхандарьинской и Джизакской (49%) и Кашкадарьинской (48,4%) областях. Самые низкие показатели наблюдаются в городе Ташкенте (10,9%) и Навоийской (21,8%) области, относительно низкие показатели зафиксированы также в Бухарской (32,3%) и Ташкентской (34,9%) областях. Региональное неравенство является значительным: уровень неформальной занятости в регионах за пределами города Ташкента выше в 2,3 раза. Снижение численности работников неформального сектора обусловлено, прежде всего, резким сокращением количества временных, разовых и сезонных работников (94,4 тыс. человек), а также снижением неформальной занятости внутри домохозяйств без легального статуса (141,2 тыс. человек). Данная тенденция отражает как структурный сдвиг на рынке труда, так и успех мер, направленных на формализацию занятости в Узбекистане [5].

Заключение. Теневая экономика играет значительную роль в Узбекистане, влияя на государственные доходы, систему социальной защиты и экономическую стабильность. Установление надежной анонимности системы и предоставление гарантий защиты информаторам имеет важное значение. Реализация этих стратегических мер позволит существенно сократить масштабы неформальной экономики в Узбекистане и обеспечить устойчивое экономическое развитие.

Использованные источники:

1. Постановление Президента Республики Узбекистан от 30.08.2022 № PQ-366. https://lex.uz/docs/-6179326
2. Указ Президента Республики Узбекистан от 30.10.2020 № ПФ-6098.
3. Тагаев Б.Е. С неформальным трудом в процессе цифровизации экономики формирование системы легализации занятости. - Т.: «Издательство «Инновационное развитие», 2021, 136 стр.
4. Stat.uz
5. https://imrs.uz/publications/articles-and-abstracts/norasmiy_bandlik
6. Karimova, D. K., & Akramov, A. (2025, February). Statistical Research of Efficiency of Economic Activity of the Enterprise. In International Conference ofEconomics, Finance and Accounting Studies (Vol. 14, pp. 126-129).

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РАЗРАБОТКА СТРАТЕГИИ РАЗВИТИЯ ГОСТИНИЧНОГО ПРЕДПРИЯТИЯ: ПУТЬ К УСПЕХУ В КОНКУРЕНТНОЙ СРЕДЕ

Аннотация*: Гостиничный бизнес – динамичная и высококонкурентная отрасль, требующая от предприятий постоянной адаптации и поиска путей для устойчивого развития. В условиях меняющихся потребительских предпочтений, технологического прогресса и глобализации, наличие четкой и продуманной стратегии развития становится не просто желательным, а необходимым условием для успеха гостиничного предприятия.*
Ключевые слова*: Стратегия развития, гостиничный бизнес, конкуренция, бизнес-процессы, экономика.*

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DEVELOPING A STRATEGY FOR THE DEVELOPMENT OF A HOTEL COMPANY: THE PATH TO SUCCESS IN A COMPETITIVE ENVIRONMENT

Abstract: *The hotel business is a dynamic and highly competitive industry that requires enterprises to constantly adapt and find ways for sustainable development. In the context of changing consumer preferences, technological progress and globalization, having a clear and well-thought-out development strategy is becoming not just desirable, but a necessary condition for the success of a hotel company.*
Keywords: *Development strategy, hotel business, competition, business processes, economics.*

Что такое стратегия развития и зачем она нужна гостинице?

Стратегия развития гостиничного предприятия – это комплексный план, определяющий долгосрочные цели, направления деятельности и конкурентные преимущества, которые гостиница планирует достичь. Она служит дорожной картой, направляющей все усилия команды к общей цели и обеспечивающей:

• Конкурентоспособность: Стратегия позволяет выделиться на фоне конкурентов, предложить уникальное ценностное предложение и привлечь целевую аудиторию.

• Устойчивый рост: Стратегическое планирование помогает определить наиболее перспективные направления для роста, диверсификации услуг и увеличения прибыльности.

• Эффективное управление ресурсами: Стратегия позволяет оптимизировать использование ресурсов (финансовых, человеческих, материальных) и направлять их на достижение ключевых целей.

• Адаптивность к изменениям: Продуманная стратегия предусматривает гибкость и возможность адаптации к меняющимся рыночным условиям, новым технологиям и трендам.

• Мотивацию персонала: Четкое понимание стратегических целей и своей роли в их достижении повышает мотивацию и вовлеченность сотрудников.

Этапы разработки стратегии развития гостиничного предприятия:

Разработка эффективной стратегии – это итеративный процесс, включающий несколько ключевых этапов:

1. Анализ текущей ситуации (Стратегический аудит):

• Внутренний анализ: Оценка сильных и слабых сторон гостиницы. Это включает анализ:

• Ресурсов: Финансовые ресурсы, материально-техническая база, человеческие ресурсы (квалификация персонала, уровень сервиса), технологические ресурсы.

• Операционной деятельности: Эффективность бизнес-процессов (бронирование, размещение, обслуживание, уборка, питание и т.д.), качество обслуживания, уровень удовлетворенности клиентов.

• Маркетинга и продаж: Эффективность маркетинговых каналов, имидж бренда, уровень загрузки, средний чек.

• Финансовых показателей: Прибыльность, рентабельность, оборачиваемость активов, структура доходов и расходов.

• Внешний анализ: Оценка внешнего окружения и выявление возможностей и угроз. Это включает анализ:

• Макроэкономической среды: Экономическая ситуация в регионе и стране, инфляция, процентные ставки, политическая стабильность.

• Рынка гостиничных услуг: Тенденции рынка, спрос и предложение, сезонность, новые технологии, потребительские предпочтения, появление новых форматов размещения (апартаменты, хостелы и т.д.).

• Конкурентной среды: Анализ основных конкурентов (прямых и косвенных), их сильных и слабых сторон, стратегий, ценовой политики, клиентской базы.

• Нормативно-правовой базы: Законодательство в сфере туризма и гостиничного бизнеса, лицензирование, санитарные нормы и правила.

Инструменты анализа: SWOT-анализ, PESTEL-анализ, анализ пяти сил Портера, бенчмаркинг, анализ клиентской базы, анализ финансовых отчетов. [2.]

2. Определение стратегических целей:

На основе результатов анализа формулируются стратегические цели, которые должны быть:

• SMART: Конкретными (Specific), Измеримыми (Measurable), Достижимыми (Achievable), Релевантными (Relevant), Ограниченными по времени (Time-bound).

• Согласованы с миссией и видением гостиницы: Отражать общую философию и долгосрочные стремления предприятия.

• Ориентированы на долгосрочную перспективу: Охватывать период от 3 до 5 лет и более.

Примеры стратегических целей:

• Увеличение доли рынка: Занять определенную долю рынка в целевом сегменте.

• Повышение уровня загрузки: Достичь определенного уровня загрузки номеров в течение года.

• Увеличение средней цены номера: Повысить среднюю цену номера за счет улучшения качества услуг и позиционирования.

• Повышение удовлетворенности клиентов: Достичь определенного уровня удовлетворенности клиентов (например, по отзывам и рейтингам).

• Расширение спектра услуг: Предложить новые услуги и продукты (например, спа-центр, ресторан, конференц-зал).

• Выход на новые рынки: Расширить географию деятельности (например, открытие новых филиалов).

• Повышение операционной эффективности: Сократить издержки и повысить эффективность бизнес-процессов.

• Укрепление бренда: Повысить узнаваемость и лояльность к бренду гостиницы. [2.]

3. Разработка стратегических альтернатив и выбор стратегии:

На этом этапе разрабатываются различные варианты достижения поставленных целей. Стратегические альтернативы могут включать:

Стратегии роста:

• Интенсивный рост: Увеличение доли рынка на существующем рынке (например, за счет маркетинговых усилий, улучшения сервиса).

• Диверсификация: Выход на новые рынки или предложение новых услуг (например, открытие нового типа гостиницы, развитие дополнительных услуг).

• Интеграция: Вертикальная или горизонтальная интеграция (например, приобретение конкурентов, создание собственной сети ресторанов).

Стратегии конкуренции:

• Лидерство по издержкам: Предложение услуг по более низкой цене, чем у конкурентов (за счет оптимизации затрат).

• Дифференциация: Создание уникального ценностного предложения, отличающего гостиницу от конкурентов (например, уникальный дизайн, персонализированный сервис, тематическая концепция).

• Фокусирование: Ориентация на узкий сегмент рынка (например, бизнес-туристы, семейные пары, эко-туристы).

Выбор стратегии осуществляется на основе оценки каждой альтернативы по критериям:

• Соответствие целям: Насколько стратегия способствует достижению поставленных целей.

• Ресурсы: Наличие необходимых ресурсов для реализации стратегии.

• Риски: Оценка потенциальных рисков и возможностей их минимизации.

• Конкурентные преимущества: Насколько стратегия позволяет создать устойчивые конкурентные преимущества.

• Соответствие корпоративной культуре: Насколько стратегия соответствует ценностям и культуре компании. [1.]

4. Разработка плана реализации стратегии:

Выбранная стратегия детализируется в плане реализации, который включает:

• Конкретные мероприятия: Перечень действий, необходимых для реализации стратегии.

• Сроки выполнения: График выполнения мероприятий.

• Ответственные лица: Назначение ответственных за каждое мероприятие.

• Необходимые ресурсы: Определение необходимых ресурсов (финансовых, человеческих, материальных).

• Ключевые показатели эффективности (KPI): Метрики, позволяющие отслеживать прогресс реализации стратегии и оценивать ее эффективность.

Примеры мероприятий в плане реализации:

• Маркетинговая кампания: Разработка и реализация маркетинговой кампании для привлечения новых клиентов.

• Обучение персонала: Проведение тренингов для повышения квалификации персонала и улучшения качества обслуживания.

• Внедрение новых технологий: Внедрение системы онлайн-бронирования, CRM-системы, систем автоматизации управления гостиницей.

• Реконструкция и модернизация номерного фонда: Обновление номерного фонда для повышения конкурентоспособности.

• Разработка новых услуг: Создание новых пакетов услуг, специальных предложений, тематических программ.

• Установление партнерских отношений: Заключение партнерских соглашений с туристическими агентствами, туроператорами, местными достопримечательностями.

5. Мониторинг и контроль реализации стратегии:

Реализация стратегии требует постоянного мониторинга и контроля для:

• Отслеживания прогресса: Регулярное измерение KPI и сравнение с плановыми значениями.

• Выявления отклонений: Своевременное выявление отклонений от плана и анализ причин их возникновения.

• Корректировки стратегии: Внесение необходимых корректировок в стратегию и план реализации в ответ на изменения внешней среды или результаты мониторинга.

• Оценки эффективности стратегии: Периодическая оценка эффективности реализованной стратегии и достигнутых результатов.

• Инструменты мониторинга и контроля: Регулярные отчеты о выполнении плана, совещания по стратегическому управлению, анализ KPI, обратная связь от клиентов и персонала, SWOT-анализ для переоценки внешней и внутренней среды.

Ключевые факторы успеха разработки и реализации стратегии развития гостиничного предприятия:

• Активное участие руководства: Лидерство и вовлеченность высшего руководства в процесс разработки и реализации стратегии.

• Командная работа: Привлечение к разработке стратегии ключевых сотрудников из различных подразделений.

• Реалистичность и достижимость целей: Установка реалистичных и достижимых целей, основанных на анализе ресурсов и возможностей гостиницы.

• Гибкость и адаптивность: Готовность к адаптации стратегии к меняющимся условиям рынка.

• Фокус на клиенте: Ориентация стратегии на удовлетворение потребностей клиентов и создание ценностного предложения.

• Постоянное совершенствование: Непрерывный процесс мониторинга, анализа и корректировки стратегии для обеспечения долгосрочного успеха.

Заключение:

Разработка стратегии развития – это сложный, но крайне важный процесс для любого гостиничного предприятия, стремящегося к успеху и устойчивому росту в конкурентной среде. Продуманная и эффективно реализованная стратегия позволяет гостинице не только выжить, но и процветать, предлагая клиентам качественные услуги, адаптируясь к изменениям рынка и обеспечивая долгосрочную прибыльность бизнеса. Инвестиции времени и ресурсов в стратегическое планирование – это инвестиции в будущее гостиничного предприятия.

Использованные источники:

1. Разработка стратегии развития гостиничного предприятия // Образовательный портал «Справочник». — Дата последнего обновления

статьи: 15.03.2024. — URL https://spravochnick.ru/gostinichnoe_delo/razrabotka_strategii_razvitiya_gostinichnogo_predpriyatiya/ (дата обращения: 12.02.2025).

2. Екатерина Сундарева Стратегия отеля: как строить планы в нужном направлении // Блог Travelline «Статьи для отельеров» Дата публикации: 13.09.2023. — URL: https://www.travelline.ru/blog/strategiya-otelya-kak-stroit-plany-v-nuzhnom-napravlenii/ – (дата обращения 14.02.2025)

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СОВРЕМЕННЫЕ МЕТОДЫ И АЛГОРИТМЫ РЕШЕНИЯ ТРАНСПОРТНОЙ ЗАДАЧИ С ИСПОЛЬЗОВАНИЕМ PYTHON

Аннотация: В данной статье рассматриваются современные методы и *алгоритмы решения транспортной задачи (ТЗ), с акцентом на использование языка программирования Python. Транспортная задача, являющаяся ключевым элементом логистики и управления цепями поставок, требует эффективных подходов для оптимизации распределения ресурсов. Исследуются как традиционные, так и современные методы, включая линейное программирование и алгоритмы оптимизации. Применение Python и его библиотек, таких как PuLP и SciPy, позволяет значительно повысить эффективность решения транспортной задачи.*

Ключевые слова: *транспортная задача, оптимизация, алгоритмы, Python, линейное программирование, логистика, алгоритмы ветвей и границ, библиотека PuLP.*

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MODERN METHODS AND ALGORITHMS FOR SOLVING TRANSPORTATION PROBLEMS USING PYTHON

Abstract: *This article examines modern methods and algorithms for solving the transportation problem (TP), with a focus on the use of the Python programming language. The transportation problem, which is a key element of logistics and supply chain management, requires effective approaches for optimizing resource distribution. Both traditional and modern methods are explored, including linear programming and optimization algorithms. The application of Python and its libraries, such as PuLP and SciPy, significantly enhances the efficiency of solving the transportation problem.*

Keywords: *transportation problem, optimization, algorithms, Python, linear programming, logistics, branch-and-bound algorithms, PuLP library.*

Введение

Актуальность темы: Транспортная задача представляет собой классическую задачу в области линейного программирования, целью которой является минимизация затрат на транспортировку товаров между множеством

источников и потребителей. В условиях глобализации и роста объемов перевозок актуальность решения ТЗ возрастает, что обуславливает необходимость применения более эффективных методов и алгоритмов (Harris, 2020).

Проблема исследования: Существующие методы решения ТЗ, такие как метод северо-западного угла и метод минимальной стоимости, часто оказываются недостаточно эффективными при наличии больших объемов данных и сложных условий. Это подчеркивает необходимость разработки и внедрения более современных и гибких подходов, таких как использование алгоритмов оптимизации и языка Python для их реализации (Smith & Johnson, 2021).

Цели и задачи исследования: Цель данного исследования заключается в изучении современных методов и алгоритмов решения ТЗ с использованием языка Python. Задачи исследования включают:

- Анализ применения алгоритмов оптимизации, таких как линейное программирование и алгоритм ветвей и границ.
- Оценка эффективности реализации этих алгоритмов на языке Python.

Обзор литературы

Теоретические основы оптимизации транспортной задачи: Транспортная задача формулируется как задача линейного программирования, где необходимо минимизировать затраты на транспортировку товаров, соблюдая ограничения по поставкам и спросу. Основные методы решения включают:

- Метод северо-западного угла: простой и интуитивно понятный, но не всегда дает оптимальное решение (Winston, 2004).
- Метод минимальной стоимости: более эффективный, но требует предварительных расчетов.
- Алгоритмы оптимизации, такие как метод Гаусса, симплекс-метод и алгоритмы ветвей и границ, которые позволяют находить оптимальные решения в сложных случаях (Bertsimas & Tsitsiklis, 1997).

Пример решения закрытой транспортной задачи с помощью языка Python

Рассмотрим следующую задачу:

	B1	B2	B3	B4	запасы груза
A1	45	60	70	65	150
A2	70	40	100	90	350
A3	90	80	95	70	200
A4	55	45	75	95	300
потребности	400	200	100	300	

F min=?

Код программы на Python:

```
import tkinter as tk
from tkinter import messagebox
import numpy as np
import matplotlib.pyplot as plt

class TransportProblemApp:
    def __init__(self, master):
        self.master = master
        self.master.title("Транспортная задача")
        # Ввод количества пунктов отправления и назначения
        self.label_supply_points = tk.Label(master, text="Количество пунктов отправления (A):")
        self.label_supply_points.pack()
        self.entry_supply_points = tk.Entry(master)
        self.entry_supply_points.pack()

        self.label_demand_points = tk.Label(master, text="Количество пунктов назначения (B):")
        self.label_demand_points.pack()
        self.entry_demand_points = tk.Entry(master)

        self.entry_demand_points.pack()

        # Кнопка для создания таблицы
        self.button_create_table = tk.Button(master, text="Создать таблицу", command=self.create_table)
        self.button_create_table.pack()
```

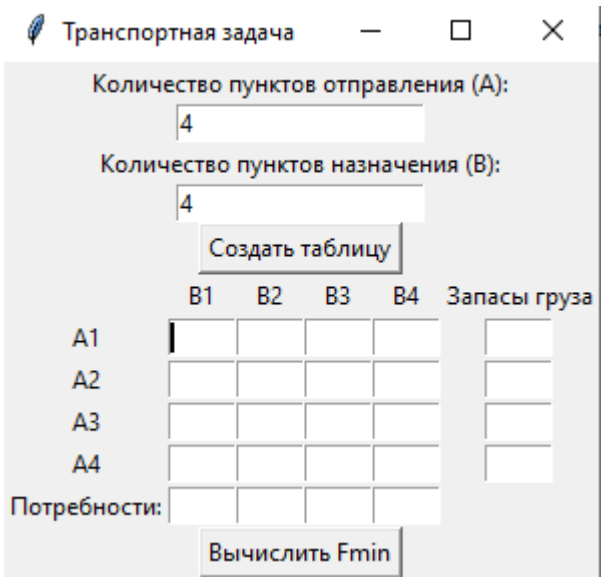
```
        self.table_frame = None  # Для хранения таблицы

    def create_table(self):
        # Получаем количество пунктов отправления и назначения
        try:
            self.num_supply = int(self.entry_supply_points.get())
            self.num_demand = int(self.entry_demand_points.get())

            if self.num_supply <= 0 or self.num_demand <= 0:
                raise ValueError("Количество пунктов должно быть положительным.")

            # Удаляем старую таблицу, если она существует
            if self.table_frame is not None:
                self.table_frame.destroy()

            # Создаем новую таблицу
            self.table_frame = tk.Frame(self.master)
            self.table_frame.pack()

            # Заголовки для пунктов назначения
            tk.Label(self.table_frame, text=" ").grid(row=0, column=0)
            for j in range(self.num_demand):
                tk.Label(self.table_frame, text=f"B{j + 1}").grid(row=0, column=j + 1)

            # Ввод запасов, потребностей и затрат
            self.supplies = []
            self.demands = []
            self.costs = []

            for i in range(self.num_supply):
                tk.Label(self.table_frame, text=f"A{i + 1}").grid(row=i + 1, column=0)
                row_costs = []
                for j in range(self.num_demand):
                    entry_cost = tk.Entry(self.table_frame, width=5)
                    entry_cost.grid(row=i + 1, column=j + 1)
                    row_costs.append(entry_cost)
                self.costs.append(row_costs)

                entry_supply = tk.Entry(self.table_frame, width=5)
                entry_supply.grid(row=i + 1, column=self.num_demand + 1)
```

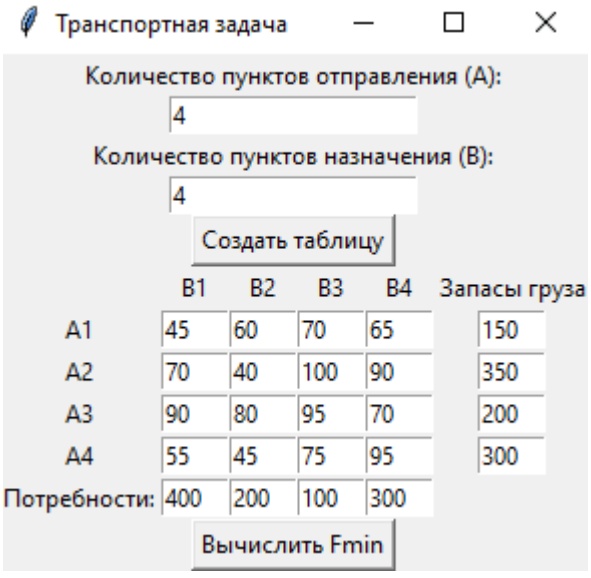
```
                self.supplies.append(entry_supply)

            tk.Label(self.table_frame, text="Запасы груза").grid(row=0, column=self.num_demand + 1)

            tk.Label(self.table_frame, text="Потребности:").grid(row=self.num_supply + 1, column=0)
            for j in range(self.num_demand):
                entry_demand = tk.Entry(self.table_frame, width=5)
                entry_demand.grid(row=self.num_supply + 1, column=j + 1)
                self.demands.append(entry_demand)

            self.button_calculate = tk.Button(self.master, text="Вычислить Fmin", command=self.calculate_fmin)
            self.button_calculate.pack()

        except ValueError as e:
            messagebox.showerror("Ошибка", str(e))

    def calculate_fmin(self):
        try:
            supplies = [int(entry.get()) for entry in self.supplies]
            demands = [int(entry.get()) for entry in self.demands]
            costs = [[int(entry.get()) for entry in row] for row in self.costs]

            if len(supplies) != len(costs) or any(len(row) != len(demands) for row in costs):
                raise ValueError("Некорректные размеры матрицы затрат или запасов/потребностей.")

            supply = supplies.copy()
            demand = demands.copy()
            allocation = np.zeros((len(supply), len(demand)))

            total_cost = 0

            for i in range(len(supply)):
                for j in range(len(demand)):
                    if supply[i] > 0 and demand[j] > 0:
                        shipped = min(supply[i], demand[j])
                        allocation[i][j] = shipped
                        total_cost += shipped * costs[i][j]
                        supply[i] -= shipped
                        demand[j] -= shipped
```

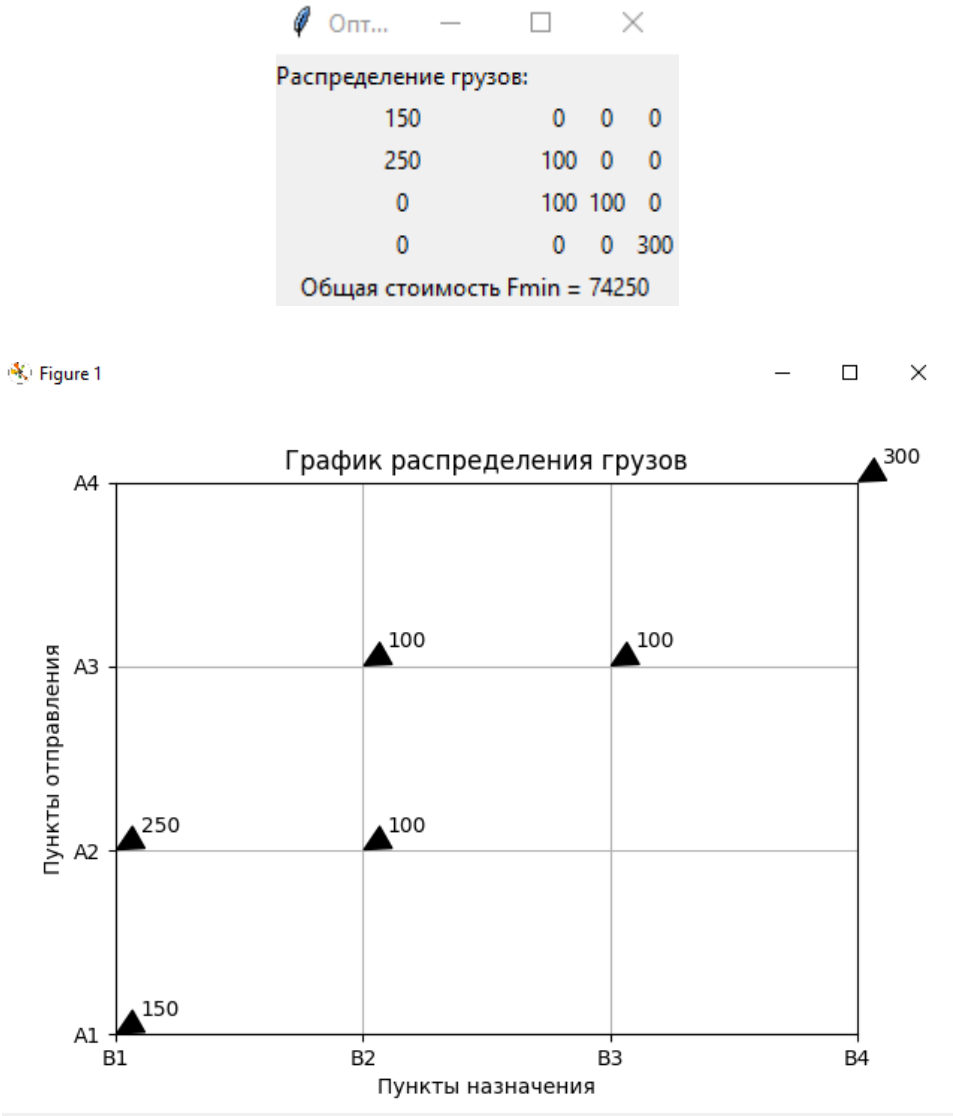
```
            result_window = tk.Toplevel(self.master)
            result_window.title("Оптимальный план")
            result_frame = tk.Frame(result_window)
            result_frame.pack()

            result_label = tk.Label(result_frame, text="Распределение грузов:")
            result_label.grid(row=0, column=0)

            for i in range(len(allocation)):
                for j in range(len(allocation[i])):

                    label = tk.Label(result_frame, text=int(allocation[i][j]))
                    label.grid(row=i + 1, column=j)

            total_cost_label = tk.Label(result_frame, text=f"Общая стоимость Fmin = {total_cost}")
            total_cost_label.grid(row=len(allocation) + 1, column=0, columnspan=len(allocation[0]))

            self.plot_graph(allocation, supplies, demands)

        except ValueError as e:
            messagebox.showerror("Ошибка", str(e))
        except Exception as e:
            messagebox.showerror("Ошибка", "Произошла ошибка при вычислении. Проверьте введенные данные.")

    def plot_graph(self, allocation, supplies, demands):
        fig, ax = plt.subplots()
        ax.set_title('График распределения грузов')
        ax.set_xlabel('Пункты назначения')
        ax.set_ylabel('Пункты отправления')
        for i in range(len(allocation)):
            for j in range(len(allocation[i])):
                if allocation[i][j] > 0:
                    ax.annotate(f'{int(allocation[i][j])}', xy=(j, i),
                                xytext=(j + 0.1, i + 0.1),
                                arrowprops=dict(facecolor='black', shrink=0.05))
        ax.set_xticks(range(len(demands)))
        ax.set_xticklabels([f'B{j + 1}' for j in range(len(demands))])
        ax.set_yticks(range(len(supplies)))
        ax.set_yticklabels([f'A{i + 1}' for i in range(len(supplies))])
```

```
        plt.grid()
        plt.show()

if __name__ == "__main__":
    root = tk.Tk()
    app = TransportProblemApp(root)
    root.mainloop()
```

Результат программы:







Заключение

Обобщение результатов исследования: В процессе исследования были подведены итоги основных находок, связанных с эффективностью современных методов и алгоритмов решения ТЗ. Значение результатов для практики подчеркивается, особенно в контексте оптимизации логистических процессов и снижения затрат.

Перспективы дальнейших исследований: Будущие исследования могут сосредоточиться на разработке гибридных алгоритмов, которые комбинируют различные методы оптимизации, а также на применении алгоритмов машинного обучения для улучшения точности прогнозирования и оптимизации маршрутов.

Использованные источники:

1. Bertsimas, D., & Tsitsiklis, J. N. (1997). Optimization Over Integers. Belmont, MA: Athena Scientific.
2. Harris, C. M. (2020). Logistics and Supply Chain Management. London: Pearson Education.

3. Smith, J., & Johnson, L. (2021). "Modern Approaches to Transportation Problems." Journal of Optimization Theory and Applications, 189(3), 567-589.
4. Van Rossum, G., & Drake, F. L. (2009). Python 3 Reference Manual. Scotts Valley, CA: CreateSpace.
5. Winston, W. L. (2004). Operations Research: Applications and Algorithms. Belmont, CA: Thomson Brooks/Cole.

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ФОРМИРОВАНИЕ ТЕХНИКО-ТАКТИЧЕСКИХ ДЕЙСТВИЙ У СТУДЕНТОВ ФУТБОЛИСТОВ В ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЯХ

Аннотация:*В статье рассматриваются процессы формирования технико-тактических действий у студентов-футболистов в высших учебных заведениях. Анализируются основные аспекты развития технических навыков, тактического мышления и применения игровых методик в учебно-тренировочном процессе. Особое внимание уделяется роли преподавателя и тренера в организации подготовки студентов. Представлены эффективные методы и подходы, способствующие совершенствованию индивидуального мастерства и командного взаимодействия.*

Ключевые слова*: метод, навык, аспект, мастерство, процесс, тренировка.*

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FORMATION OF TECHNICAL AND TACTICAL ACTIONS IN STUDENT FOOTBALL PLAYERS IN HIGHER EDUCATIONAL INSTITUTIONS

Abstract:*The article considers the processes of formation of technical and tactical actions in student football players in higher educational institutions. The main aspects of development of technical skills, tactical thinking and application of game methods in the educational and training process are analyzed. Particular attention is paid to the role of the teacher and coach in organizing the training of students. Effective methods and approaches that contribute to the improvement of individual skills and teamwork are presented.*

Key words*: method, skill, aspect, skill, process, training.*

Футбол является одним из самых популярных видов спорта в мире, и его развитие на студенческом уровне играет важную роль в подготовке

профессиональных игроков. Современный футбол предъявляет высокие требования к технико-тактической подготовке игроков, особенно на уровне высших учебных заведений. Формирование этих навыков у студентов-футболистов – сложный и многогранный процесс, требующий комплексного подхода.

В высших учебных заведениях технико-тактические действия студентов-футболистов формируются в ходе учебно-тренировочного процесса, который направлен на совершенствование индивидуального мастерства, развитие тактического мышления и коллективного взаимодействия на поле.

Первостепенное значение имеет развитие индивидуальных технических навыков: владение мячом, передачи, удары, обводка. Однако, важно не только освоить эти элементы, но и уметь применять их в различных игровых ситуациях, адаптируясь к действиям соперника и партнеров.

Технические навыки являются фундаментом для успешных игровых действий. В рамках тренировочного процесса особое внимание уделяется следующим аспектам:

- владение мячом (ведение, остановки, передачи, удары);
- дриблинг и финты;
- точность передач и ударов;
- контроль мяча в сложных игровых ситуациях.

Для совершенствования этих элементов используются упражнения с мячом, специальные тренажеры и игровые задания, направленные на развитие координации и ловкости.

Тактическая подготовка включает в себя понимание принципов командной игры, умение выбирать позицию, взаимодействовать с партнерами, создавать и реализовывать голевые моменты. Студенты должны анализировать игру, оценивать сильные и слабые стороны соперника, разрабатывать тактические схемы.

Тактическое мышление играет ключевую роль в эффективности действий футболиста на поле. В этом аспекте формируются:

- умение читать игру и предугадывать действия соперника;
- выбор оптимального решения в зависимости от игровой ситуации;
- взаимодействие с партнерами по команде;
- адаптация к изменяющимся условиям матча.

Тактические навыки развиваются через анализ игровых эпизодов, теоретические занятия, моделирование игровых ситуаций и участие в тактических упражнениях.

Эффективность формирования технико-тактических действий достигается благодаря сочетанию теоретических занятий, практических тренировок и участия в соревнованиях. Важно использовать современные методики, видеоанализ, моделирование игровых ситуаций. Акцент должен быть сделан на развитии креативного мышления и способности принимать быстрые решения в условиях ограниченного времени и пространства.

Одним из эффективных методов формирования технико-тактических действий является игровая практика. В учебном процессе применяются:

- мини-футбол и игры в ограниченном пространстве;
- двусторонние матчи с заданными тактическими целями;
- комбинационные упражнения, направленные на развитие взаимодействия между игроками.

Игровые упражнения позволяют студентам быстрее адаптироваться к реальным условиям футбольного матча и развивать навыки принятия решений в условиях дефицита времени.

Ключевую роль в формировании технико-тактических действий играет преподаватель или тренер, который разрабатывает учебно-тренировочные программы, анализирует ошибки студентов и корректирует их действия. Важными аспектами работы тренера являются:

- ✓ индивидуальный подход к каждому студенту;
- ✓ использование современных методик и технологий;
- ✓ постоянный контроль за физической и тактической подготовкой студентов;
- ✓ обратная связь с игроками для улучшения их результатов.

Таким образом, формирование технико-тактических действий у студентов-футболистов в высших учебных заведениях требует комплексного подхода, включающего развитие технических навыков, тактического мышления и игровой практики. Эффективная подготовка в университетах не только способствует улучшению спортивных результатов студентов, но и формирует у них профессиональные качества, необходимые для дальнейшего роста в спортивной карьере.

Использованные источники:

1. Ахматджанов У.М., Талипжанов А.И., Исеев Ш.Т. физическая подготовка футболистов/. Т.: Ilmiy texnika axboroti-press nashriyoti, 2018. - 172 с.
2. Курбанбаев А. Д., Машарипов Р. Р., Оразбаева Р. Р., Кашкынбаев А. П. Физическая подготовка футболистов в высших учебных заведениях // Теория и практика современной науки. 2022. №6 (84). –С.155-158.
3. Янмурзин Д. Р. Особенности физической подготовки будущих квалифицированных футболистов // Вестник Башкирского государственного педагогического университета им. М. Акмуллы. 2019. №2 (50). –С.93-98.

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ВНЕШНЕЭКОНОМИЧЕСКОЕ СОТРУДНИЧЕСТВО В РАМКАХ СТРАТЕГИИ ”ОДИН ПОЯС, ОДИН ПУТЬ"

Аннотация:*Исследование, представленное в данной статье, в основном основано на текущей ситуации во внешнеэкономическом сотрудничестве с момента реализации проекта ”Один пояс и один путь“, всесторонне анализирует вызовы и возможности, с которыми сталкивается Китай в рамках политики “Один пояс и один путь", изучает теорию зон зарубежного экономического и торгового сотрудничества и дает рекомендации по направлениям об их будущем направлении развития.*
Ключевые слова: *Внешнеэкономическое сотрудничество; инициатива "Один пояс, один путь"*

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FOREIGN ECONOMIC COOPERATION WITHIN THE FRAMEWORK OF THE ”ONE BELT, ONE ROAD" STRATEGY

Summary:*The research presented in this article is mainly based on the current situation in foreign economic cooperation since the implementation of the ”One Belt and One Road“ project, comprehensively analyzes the challenges and opportunities faced by China within the framework of the “One Belt and One Road" policy, studies the theory of zones of foreign economic and trade cooperation and makes recommendations. according to the directions about their future direction of development.*
Keywords:*Foreign economic cooperation; One Belt, One Road initiative*

С 2008 года мировой финансовый кризис и европейский долговой кризис разразились один за другим, мировая экономическая конъюнктура претерпела огромные изменения, экономическое развитие развитых стран пострадало, а темпы экономического роста резко снизились.Десять лет

спустя, когда мировая экономика начала вступать в эпоху постфинансового кризиса, восстановление мировой экономики было медленным, а ситуация в регионе - напряженной; развитые страны, представленные Соединенными Штатами, Европейским союзом, Японией и т.д., приняли ряд мер по корректировке, включая политику реиндустриализации, перестройка структуры промышленности и новое региональное экономическое сотрудничество. Ускорьте модернизацию модели сотрудничества Север-Север и захватите командные высоты в производственной цепочке за счет деятельности холдинговых групп; развивающиеся страны осуществляют международные промышленные поставки и жестко конкурируют на традиционных рынках; традиционная модель международного разделения труда претерпела глубокие изменения, и развитие новая модель международного разделения труда изначально сопряжена[50].

Стратегия ”Один пояс и один путь" - это добровольная, равноправная, основанная на сотрудничестве и взаимовыгодная инициатива и механизм содействия международным перевозкам, торговле и инвестициям, которые продвигаются Китаем с участием стран, расположенных вдоль этого пути и вдоль побережья, для достижения взаимовыгодной ситуации.

В настоящее время, в процессе осуществления внешнеэкономического и торгового сотрудничества, новое правительство будет уделять больше внимания инициативе ”Один пояс и один путь“. Все, от политических и деловых кругов до академических кругов, уделяют внимание продвижению и строительству инициативы "Один пояс и один путь", и содействие реализации инициативы ”Один пояс, один путь“ по всем направлениям.

(1) Статус-кво внешнеэкономического сотрудничества с момента реализации инициативы "Один пояс, один путь"

За пять лет, прошедших с момента разработки инициативы “Один пояс, один путь”, Китай скоординировал политику с соответствующими странами, включая “Евразийский экономический союз”, предложенный Россией, “Генеральный план объединения”, предложенный АСЕАН, “Светлый путь”, предложенный Казахстаном, "Промежуточный коридор", предложенный Турцией, “Дорога развития”, предложенная Монголией, “Два коридора и одно кольцо”, предложенные Вьетнамом, “Экономический центр Северной Англии”, предложенный Соединенным Королевством, и “Янтарный путь”, предложенный Польшей.В то же время в Китае также в полном объеме начата работа по планированию и стыковке с Лаосом, Камбоджей, Мьянмой, Венгрией и другими странами.Китай подписал соглашения о сотрудничестве с более чем 40 странами и международными организациями и осуществляет

[50] Сун С. Особенности китайской «культурной мягкой силы» / С. Сун // Этносоциум и межнациональная культура. – 2017. – № 3 (105). – С. 149-151.

институциональное сотрудничество в области производственных мощностей с более чем 30 странами[51].

(2) Проблемы и возможности, с которыми сталкивается Китай в рамках политики “Один пояс, один путь”

В связи с большим количеством стран, расположенных вдоль ”Пояса и пути", я возьму Россию и Казахстан, основные страны среди них, в качестве примера для проведения исследований и анализа текущих проблем и возможностей.

В настоящее время уровень регионального экономического сотрудничества между Китаем и Россией в целом отстает от общей тенденции международного экономического развития, и огромный потенциал экономического сотрудничества между двумя странами реализован не в полной мере.Судя по нынешним различиям в экономических основах стран, расположенных вдоль маршрута, и сложности экономической координации, региональное экономическое сотрудничество между Китаем и Россией и странами, расположенными вдоль маршрута, не может привести к крупномасштабному многостороннему сотрудничеству в краткосрочной перспективе, но предпочтение следует отдавать соседним странам, особенно в рамках "Один пояс и один путь" и Евразийский экономический союз укрепляют сотрудничество, реализация совместного китайско-российского продвижения трансграничного и субрегионального экономического сотрудничества является более реалистичной.

Китай и Россия географически близки, их граница имеет протяженность около 4370 километров и ряд торговых портов, особенно в Северо-Восточном Китае и на Дальнем Востоке России. Существуют также взаимосвязанные транспортные каналы, которые обеспечивают большие удобства для китайско-российского регионального экономического сотрудничества.Стабильная политическая обстановка и хорошие политические отношения являются надежной гарантией регионального экономического сотрудничества между Китаем и Россией.Конечно, китайско-российское сотрудничество по-прежнему сталкивается с проблемами. У “теории китайской угрозы” все еще есть определенный рынок сбыта в России, и даже есть опасения, что Россия станет базой поставок сырья; геополитическая ситуация в Северо-Восточной Азии сложна и изменчива, и по-прежнему существует столкновение геополитических факторов. и стратегические интересы в китайско-российских отношениях.Поэтому в будущем Китаю и России необходимо еще больше расширить свою открытость, углубить понимание друг друга, укрепить политическое взаимное доверие и заложить хорошую политическую основу для китайско-российского регионального экономического сотрудничества.В настоящее время потенциал двустороннего торгового и инвестиционного

[51] Цзяоцзяо Н. Культурный брендинг как инструмент мягкой силы Китая / Н. Цзяоцзяо // Дневник АШПИ. – 2017. – № 33. – С. 162-165.

сотрудничества между Китаем и Россией эффективно не реализован, и две страны по-прежнему имеют асимметричные экономические интересы и нестабильность.Поэтому, продолжая расширять потенциал взаимодополняющей торговли и инвестиций, особенно важно осуществить трансформацию китайско-российской экономики от взаимодополняющего сотрудничества к стратегическому[52].

Казахстан, расположенный в Центральной Азии, является крупнейшей страной, не имеющей выхода к морю, в Центральной Азии и мире.Казахстан богат ресурсами, имеет относительно стабильную политическую ситуацию и быстрое экономическое развитие.Казахстан, одна из важных стран, расположенных вдоль ”Пояса и пути“, и развитие двусторонней торговли с Китаем имеют большое значение для реализации и развития стратегии ”Пояса и пути".

Многие казахстанские специалисты отметили, что политика "Один пояс, один путь" - это огромная возможность для взаимовыгодного и совместного развития двух стран, которая может увеличить доходы их стран и получить много дополнительной прибыли.Прежде всего, экономики Китая и Казахстана в последние годы сохраняют высокие темпы экономического роста. Сотрудничество между двумя странами является общей тенденцией, которая значительно расширила внутренний спрос.Во-вторых, торговая взаимодополняемость между Китаем и Казахстаном сильна, и обе стороны обладают различными ресурсами и промышленными структурами, которые формируют взаимодополняющие преимущества.В то же время отсталая инфраструктура, существование тарифных барьеров и политическая неопределенность - все это омрачает сотрудничество между Китаем и Казахстаном.

Стратегия ”Один пояс и один путь" начинается с двух основных направлений - Экономического пояса Шелкового пути и Морского шелкового пути, которые в конечном итоге пересекаются и замыкаются, образуя замкнутый экономический круг, охватывающий три континента: Европу, Азию и Африку. Его огромный экономический потенциал и хорошие перспективы развития открыли новые возможности к развитию зоны внешнеэкономического и торгового сотрудничества нашей страны.Ван Инфэй считает, что зона внешнеэкономического и торгового сотрудничества нашей страны должна взять на себя функции важных узлов стратегии ”Один пояс, один путь“ и в полной мере реализовать свои функции по управлению платформами, сбору платформ и распространению платформ, чтобы реализовать роль точек и фрагментов, и активно способствовать плавному продвижению стратегии ”Один пояс, один путь" своими собственными силами.Чжао Вэньянь считает, что наша страна должна создать надежную систему предоставления информационных услуг по инвестициям, а также

[52] Цзяоцзяо Н. Культурный брендинг как инструмент мягкой силы Китая / Н. Цзяоцзяо // Дневник АШПИ. – 2017. – № 33. – С. 162-165.

механизм коммуникации и координации; в полной мере использовать преимущества обрабатывающей промышленности и способствовать “глобализации” финансовой отрасли; изменить ситуацию с инвестициями в государственные предприятия и поощрять зарубежные инвестиции некоммерческих организаций.государственные предприятия; изменить ситуацию с инвестициями в государственные предприятия и поощрять зарубежные инвестиции негосударственных предприятий; предприятия должны принимать решение об инвестировании в принимающую страну в соответствии со своими собственными особенностями и инвестиционными целями; повысить конкурентоспособность предприятий, возможности ведения деятельности за рубежом и возможности управления рисками; укрепить платформу строительство и снижение инвестиционных барьеров в принимающей стране.

Использованные источники:

1. Сун С. Особенности китайской «культурной мягкой силы» / С. Сун // Этносоциум и межнациональная культура. – 2017. – № 3 (105). – С. 149-151.
2. Тарабарко К.А. Культурные практики реализации «мягкой силы» Китая / К.А. Тарабарко, Т.Н. Кучинская // Общество: философия, история, культура. – 2017. – № 1. – С. 22-24.
3. Тарабарко К.А. Традиционные китайские академии как ресурс «мягкой силы» культуры Китая / К.А. Тарабарко // Россия и Китай: проблемы стратегического взаимодействия: сборник Восточного центра. – 2016. – № 18. – С. 137-142.
4. Фисенко А.И. Перспективы и проблемы развития морских грузовых перевозок и их ледокольного обеспечения по Северному морскому пути / А.И. Фисенко // Современные проблемы науки и образования. – 2014. – №2. – с. 450.
5. Цзяоцзяо Н. Культурный брендинг как инструмент мягкой силы Китая / Н. Цзяоцзяо // Дневник АШПИ. – 2017. – № 33. – С. 162-165.

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ИССЛЕДОВАНИЕ МЕЖДУНАРОДНОЙ ЭКОНОМИЧЕСКОЙ СРЕДЫ И ВНЕШНЕЭКОНОМИЧЕСКОЙ СТРАТЕГИИ КИТАЯ

Аннотация:*После почти трех десятилетий реформ, открытости и развития китайская модель открытости внешнему миру постепенно превратилась в систему.Нет никаких сомнений в том, что изменения в общей структуре внешней экономики непосредственно повлияют на структуру внутренней экономики. В то же время развитие мировой экономики и внутренней экономики неотделимы друг от друга.Развитие мировой экономики и состояние международного финансового рынка - все это связано с уровнем экономического развития Китая.В современную эпоху глобальный экономический ландшафт претерпел огромные изменения. В таких условиях нам необходимо вникнуть в международную экономическую ситуацию и понять влияние изменений в международной экономической ситуации на экономическое развитие Китая, чтобы определить научную и обоснованную внешнеэкономическую стратегию продвижения китайской экономики. экономическое развитие.*

Ключевые слова: *Международная экономика; Международная среда; Экономика Китая; Внешнеэкономическая стратегия*

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A STUDY OF THE INTERNATIONAL ECONOMIC ENVIRONMENT AND CHINA'S FOREIGN ECONOMIC STRATEGY

Summary:*After almost three decades of reform, openness, and development, the Chinese model of openness to the outside world has gradually become a system.There is no doubt that changes in the overall structure of the external economy will directly affect the structure of the domestic economy. At the same time, the development of the global economy and the domestic economy are inseparable from each other.The development of the global economy and the state of the international financial market are all related to the level of China's economic development.In the modern era, the global economic landscape has undergone*

tremendous changes. In such circumstances, we need to understand the international economic situation and understand the impact of changes in the international economic situation on China's economic development in order to determine a scientific and sound foreign economic strategy for promoting the Chinese economy. economic development.

Keywords:*International economy; International environment; Chinese economy; Foreign Economic Strategy*

С конца прошлого века современные информационные технологии продолжают развиваться, торговые и финансовые рынки постепенно становятся более свободными, а международная экономическая среда постепенно переходит в эпоху глобализации. В условиях такой волны все страны мира не могут избежать участия в глобализированной экономике, и моя страна не является исключением.Таким образом, в таких условиях мы переживаем критический период экономического развития нашей страны. Нашей стране необходимо сделать все возможное, чтобы избежать финансовых рисков, получить экономические выгоды и повысить свою конкурентоспособность для участия в международной экономике, с тем чтобы способствовать экономическому развитию нашей страны[53].

1. Гармония между нашей страной и международной экономической средой

В развитии международного экономического порядка все еще есть много моментов, которые не являются достаточно научными и обоснованными. Однако в настоящее время экономическое развитие различных стран взаимозависимо. Такая ситуация с экономическим развитием требует, чтобы международный экономический и торговый порядок был настолько справедливым и разумным, насколько это возможно. Только таким образом может ли международный порядок экономического развития быть разумным?Нет никаких сомнений в том, что международная ситуация экономической глобализации придала существенный импульс экономическому развитию нашей страны. Такие элементы экономического развития, как рынок, технологии и капитал, - все это способствовало экономическому развитию нашей страны.За определенный период времени эти экономические элементы внесли большой вклад в экономическое развитие нашей страны.Во-первых, международные инвестиции.Нет никаких сомнений в том, что привлечение иностранного капитала оказало важную помощь экономическому развитию нашей страны.Экономические преимущества иностранного капитала, рынка и технологий в сочетании с преимуществами нашего рынка труда привели к огромной производительности труда.В краткосрочной перспективе это улучшило положение нашей экономики в мировой экономической среде. В то же время

[53] Вань Мэнлань.Исследование экономического развития международной торговли Китая на основе данных электронной коммерции [J].Современный маркетинг, 2017, (9): 16.

это способствовало развитию нашей экономики и занятости внутри страны, а также значительно снизило давление на занятость.Во-вторых, международные финансы.На самом деле, нынешняя международная финансовая среда не имеет письменной системы регулирования, поэтому главной особенностью нынешнего международного валютного рынка является открытая конкуренция.Валюты различных стран могут повысить свой международный статус посредством конкуренции. Доллар США не является легальной международной валютой.Международная валютная система допускает регулирование обменного курса и валютные интервенции, и суверенитет каждой страны над обменным курсом также является полным, поэтому каждая страна может корректировать статус открытия капитала в соответствии с ситуацией в области развития своей страны.На финансовом рынке наша страна всегда осуществляла надзор с осторожностью, чтобы избежать риска увеличения доли иностранного капитала.Наконец, международное сотрудничество.В современную экономическую эпоху способность развитых стран доминировать в экономическом сотрудничестве ослабла, в то время как мощь многостороннего сотрудничества постепенно возрастала и стабилизировалась, а межрегиональное сотрудничество быстро развивалось.В таких условиях моя страна может постепенно увеличивать долю институтов многостороннего сотрудничества при стабильном развитии многостороннего сотрудничества, с тем чтобы получать больше акций[54].

2. Несоответствие между нашей страной и международной экономической средой

В силу особых национальных условий и реалий моя страна всегда была крупным участником экономической глобализации. В таких условиях существуют определенные противоречия между экономическим развитием моей страны и международной экономической средой.В реальном процессе развития моя страна всегда придерживалась позиции адаптации к экономическому развитию в условиях глобализации.С точки зрения интересов, наибольшие экономические интересы имеют страны, которые доминируют в экономической глобализации.Эти страны, применяя традиционные методы экономического развития для получения экономических выгод, также получат экономические выгоды за счет контроля над международной финансовой сферой.Прежде всего, дискриминация в национальной финансовой сфере все еще существует.Многие страны всегда рассматривали нашу страну как страну с нерыночной экономикой и ограничивали нашу страну в плане экспорта соответствующей экономической продукции, тем самым нанося ущерб экономическим интересам нашей страны. При условии, что наша страна обладает очевидными преимуществами, торговые споры продолжают возникать.Во-вторых, существует определенный разрыв между оттоком капитала и его

[54] Вань Мэнлань.Исследование экономического развития международной торговли Китая на основе данных электронной коммерции [J].Современный маркетинг, 2017, (9): 16.

притоком.Некоторые страны могут мириться с профицитом в процессе торговли, основная причина заключается в том, что средства в соответствующих производственных звеньях нашей страны в конечном итоге возвращаются развитым странам.Поэтому наша страна подвержена экономическим потерям в процессе производства.

3. Стратегия моей страны по улучшению национальной экономической ситуации

В настоящее время экономика нашей страны все еще находится в стадии развития и трансформации. В таких национальных условиях необходимо точно оценить, способствует ли развитие международной экономической среды экономическому развитию нашей страны. Только таким образом мы сможем эффективно избежать рисков, связанных с международной экономической ситуацией. окружающая среда способствует экономическому развитию нашей страны.Во-первых, мы должны выступать за свободную торговлю.Исходя из этого, мы будем в полной мере использовать существующие правила международного экономического управления для защиты законных экономических интересов нашей страны в международной торговле.Выступать за ликвидацию монополий в определенных отраслях промышленности в целях дальнейшего содействия свободному развитию международной экономики и торговли.Второе направление - это сфера прямых международных инвестиций.Нам необходимо усердно работать над тем, чтобы направлять научный поток существующего в стране иностранного капитала и эффективно продлевать жизненный цикл смежных отраслей.На основе полного использования иностранного капитала направлять смежные отрасли промышленности для оптимизации их промышленной структуры, продолжать осуществлять промышленный перенос международной индустрии услуг и решительно повышать открытость индустрии услуг Китая. В то же время совершенствовать соответствующие законы и нормативные акты, регулирующие использование иностранного капитала, с тем чтобы что касается поддержания безопасности экономического развития нашей страны.

Из приведенного выше анализа нетрудно сделать вывод, что в нынешней ситуации с международным экономическим развитием, хотя нет никакой совместимости между ситуацией с международным экономическим развитием и ситуацией с экономическим развитием нашей страны, в целом экономическое развитие нашей страны и международная экономическая среда в основном совместимы друг с другом, и во многих важных областях отсутствуют соответствующие конфликты интересов и противоречия.Однако очевидно, что нынешний механизм функционирования национальной экономики создан не в соответствии с экономической волей нашей страны.Следовательно, в такой международной экономической среде нам необходимо придерживаться принципов открытости, равенства и конкуренции в торговле в рамках нынешней международной экономической системы и полагаться на экономическую мощь нашей страны, чтобы

постепенно укреплять право нашей страны выступать на международном экономическом поле.

Использованные источники:

1. Исследовательская группа Института экономики Национальной комиссии по развитию и реформам.Международная экономическая конъюнктура и внешнеэкономическая стратегия нашей страны [J].Справочник по экономическим исследованиям, 2012, (43): 53-56.
2. Вань Мэнлань.Исследование экономического развития международной торговли Китая на основе данных электронной коммерции [J].Современный маркетинг, 2017, (9): 16.
3. Чжэнь Бинси, Ли Сяою.Внешняя экономическая среда и новые идеи Китая по открытию внешнему миру в ближайшие пять лет [J].Международные исследования, 2015, (4): 68-81.

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ЁШЛАР ТАРБИЯСИ: МАЪНАВИЙ ҚАДРИЯТЛАР ВА “ОММАВИЙ МАДАНИЯТ”

Аннотация. *Ёш авлодни маънавий қадриятлар руҳида тарбиялаш, алломаларнинг ўгити, доно сўзлари, фикрларини қадрлаш, ўрганиш, ҳаётда қўллаш ёшларни фикр ва дунёқарашини кенгайтиради. Бугунги ёшлар – келажак пойдевори. Шундай экан, уларни ҳар томонлама етук, комил, ватанпарвар, юрт тинчлиги ва равнақи йўлида фидокор бўладиган фарзандлар қилиб тарбиялаш зарур.*

Калит сўзлар: *Эгоцентризм, индивидуализм, антиглобалист, рэп, рок, блокбастер, бесоқолбоз, порнографик.*

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YOUTH EDUCATION: SPIRITUAL VALUES AND “MASS CULTURE”

Annotation. *The upbringing of the younger generation in the spirit of spiritual values, the turning of allomas, wise words, appreciation of thoughts, learning, application in life expand the thinking and worldview of young people. Today's youth is the foundation of the future. Therefore, it is necessary to educate them in every possible way as mature, perfect, patriotic, selfless in the path of peace and prosperity of the land.*

Keywords: *egocentrism, individualism, antiglobalist, rap, rock, blockbuster, besokolboz, pornographic.*

Мамлакатимизда бугунги глобаллашув жараёнида ёшларни миллий қадриятлар асосида интеллекти юқори ва ватанпарвар қилиб тарбиялашга катта аҳамият қаратилмоқда. Ўзбекистон Республикаси Конституцияси давлати- мизнинг қомусий ҳужжати бўлиб, бу ҳужжат таҳлил қилинганида унда ёшлар тарбияси, ахлоқ-одоби, ижтимоий ҳимоялангани, конституциявий ҳақҳуқуқларига оид етмишга яқин атама ва сўз бирликмалари мавжуд экани маълум бўлди.

Жумладан, бунёдкорлик ғояларига содиқлик,юксак масъулият, ижтимоий адолатпарварлик, инсонпар- варлик, демократик-ҳуқуқий давлат,фуқароларнинг тинчлиги, миллий тотувлик, халқимизнинг урф-

одатлари ва анъаналари, қадриятлари, ижтимоий ҳаётда мафкуралар хилма-хиллиги ва эркинлиги, инсон ва жамият муносабатларидаги ижтимоий адолат, дунё ҳамжамиятида халқлар ва миллатларнинг суверен тенглиги, фуқароларнинг эътиқоди, жинси, ирқи, миллати, тили, дини, ижтимоий келиб чиқиши, шахсий ва ижтимоий мавқеидан қатъи назар қонун олдидаги тенглиги, шаъни ва обрўсининг дахлсизлиги, фуқароларнинг виждон эркинлиги, адолатли меҳнат, ижод эркинлиги ва ҳар бир шахснинг маданий ютуқлардан фойдаланиш эркинлиги, ёш авлодни тарбиялаш ва бепул таълим олиши каби фикрлар келтирилган бўлиб, улар Бош Қомусимизда ҳуқуқий жиҳатдан кафолатланган.

Албатта, сўнгги йилларда республикамизда фан, маданият, ишлаб чиқариш, таълим соҳасида жадал ривожланишлар суръати яққол кўзга ташланмоқда. Хусусан, таълим тизимида амалга оширилган туб ислоҳотлар тизимга янги ахборот-коммуникация ва педагогик технологияларнинг кириб келишига асос бўлди.

Инсон маънавий олами бўйича ўнга яқин мақолалар муаллифи Абдухалил Маврулов ўзининг “Ватанни севиш масъулияти” китобида ёшлар ҳақида шундай фикрларни илгари сурган: “Ёшларимизнинг аксарияти даврнинг руҳини тўғри ҳис этмоқда. Айни пайтда ёшларда ақл ва фаросатнинг мутаносиблигини таъминлашга бўлган интилиш жамият барқарорлигини мустаҳкамловчи омил сифатида баҳоланиши мумкин.

Эришилган ютуқлар қатори ёшларимизнинг айрим қисмида мавжуд бўлган, баъзан янгидан пайдо бўлаётган салбий ҳолатлар, ушбу вазиятга айрим катталарнинг муносабатию ўша ёшларнинг бундай иллатларга нисбатан ёндашуви хавотирли.

Баъзи ёши улуғларнинг ёшларимиз дунёқарашидаги муайян салбий ўзгаришларга нисбатан “замон ўзгарди, ёшлар ҳам ўзгардида ёки бундай ҳолни “табиий жараён” сифатида таҳлил этишга уринишлар ҳам мавжудки, бу ҳар қандай илм аҳ- лини ташвишга солиши табиий”. Бугунги глобаллашув ва тезкор ривожланиш даврида инсонлар ўзгармоқда, қадриятлар трансформацияси юз бермоқда. Булар “оммавий маданият” деган ниқоб остида ахлоқий бузуқлик ва зўравонлик, ин- дивидуализм, эгоцентризм ғояларини тарқатиш, керак бўлса, шунинг ҳисобидан бойлик орттириш, бошқа халқларнинг неча минг йиллик анъана ва қадриятлари, турмуш тарзининг маънавий негизларига беписандлик, уларни қўпоришга қаратилган хатарли таҳдидлар одамни ташвишга солмай қўймайди.

Маданият – миллий қадриятнинг асоси бўлиб, кишилик жамияти ёки бирор халқнинг ишлаб чиқаришда ижтимоий ва маънавий ҳаётда эришган ютуқлари ҳисобланади.“Маънавият: асосий тушунчалар изоҳли луғати”да ҳам худди шундай изоҳ берилган. Файласуф олим А.Эркаев “Оммавий маданият” дунёда жуда тез ва кенг тарқалди. “Оммавий маданият”да баъзи бир ижобий жиҳатлар билан бир қаторда салбий жиҳатлар ҳам кўп. Энг аввало, “оммавий маданият” инсонни барча соҳаларда, жумладан, маданият ва дам олиш, бўш вақтни ташкил қилиш борасида ҳам индивидуаллигини

йўқотган истеъмолчига айлантириб қўяди. Унинг истеъмол қилаётган маънавий-маданий маҳсулотлари, “санъат асарлари” эса стандартлашган, миллий қиёфасиз (поп-арт) товарга айланади. Мусиқада ва ашулачиликда “рэп”, “рок” каби жанрлар, жангарилик, мистик-фантастик фильмлар, триллерлар, блокбастерлар фикримизни тасдиқлайди”,-деб ёзади.

“Оммавий маданият” ниқоби остида вақти-вақти билан пайдо бўладиган турли ижтимоий ҳаракатлар ва гуруҳлар (“хиппи”лар, “пранк”лар, “рокер”лар ҳамда “гей”лар (бесоқолбозлар) ҳаракати, антиглобалистлар ва ш.к.), фаҳш ва зўравонликни, “вампир”лик ва жодугарликни тарғиб қилувчи фильмлар, очиқчасига порнографик саҳналардан иборат видео лавҳалар, дисклар ва бошқалар таъсири эса инсон шахсини емиришга, жамиятни дегуманизация қилишга олиб келади.

Давлатимиз раҳбарининг “Ёшлар, хусусан, ўсмирлар орасида безорилик, жиноятлар сони ортишига қандай омиллар сабаб бўляпти? Баъзи йигит-қизлар учун меҳр-оқибат, ахлоқ-одоб тушунчалари бутунлай бегона бўлиб бораётгани, уларда бефарқлик, масъулиятсизлик, меҳнат қилмасдан кун кўришга интилиш каби иллатлар пайдо бўлаётгани – аччиқ бўлсада, ҳақиқат”, – деган фикрлари ҳам бежиз эмас. Бундай маълумотлар кишини беихтиёр ўйга толдиради.

Жиноятчиликнинг катта фоизи ҳаёт шароити ўта оғир бўлган ўсмирлар, яъни жиноятчи, ота-она ёки ҳар иккови мунтазам спиртли ичимликлар истеъмол қилувчи, жанжалкаш оилаларнинг болалари, жисмоний ва психик оғишга мойил бўлганлар ҳисобига тўғри келади. Ўсмир ва ёшларни бундай ахлоқий ҳолатлардан ва турли-туман оғишлардан, иллатлардан, ёмон гуруҳларга кириб қолишдан сақлашда нажот кўприги бўлиб хизмат қиладиган ягона нарса – бу ўсмир қалбига йўл топа олиш, у билан дўстона, самимий, ўзаро ишонч асосига қуриладиган муносабат ўрната олишдир. Баъзи ота-оналар фарзанди яхши инсон бўлишини истаб, уларга эътиборни ҳаддан ташқари кучайтириб, ўзлари билмаган ҳолда унга барча шароитлар, компьютер, қиммат кийим-кечаклар, кези келса қўлига пул, уяли телефон олиб берадилар.

Маънавият чексиз борлиқнинг инсон руҳида ифодаланиши ҳамда комил инсоннинг онги, қалби, виждонидир. Виждони уйғоқ одам ён-атрофида бўлаётган воқеаларга, ёрдам ва кўмакка муҳтож инсонларнинг муаммоларига, адолатнинг топталишига бефарқ қарай олмайди.Айниқса, эл-юрт манфаатига зарар этказадиган ёвуз ҳатти-ҳаракатларга ҳеч қачон лоқайдларча четдан жим қараб туролмайди, ўз юрти ва халқига нисбатан хиёнат ва сотқинликни асло кечираолмайди. Бундай ҳолатларни кўганда виждони қийналади, доимо ёниб-куйиб яшайди, қандай қилиб бўлмасин, уларни бартараф этишга интилади, бу йўлда жонини ҳам фидо қилиши мумкин.

Бундай эзгу мақсадларга эса инсон фақат юксак маънавият, узлуксиз маънавий тарбия орқалигина эришиши мумкин. Виждон инсоннинг ўз фаолиятини, қилган ишлари ва белгиланган мақсадларини ички руҳий таҳлил эта олиш имкониятидир.

Использованные источники:

1. Шавкат Мирзиёев. Миллий тараққиёт йўлимизни қатъият билан давом эттириб, янги босқичга кўтарамиз. “Ўзбекис- тон”, 2016. Б.324,486, 487.
2. Шавка Мирзиёев.Буюк келажагимизни мард ва олижаноб хақимиз билан бирга қурамиз. Тошкент. Ўзбекистон 2017
3. Шавкат Мирзиёев. Нияти улуғ халқнинг иши ҳам улуғ, ҳаёти ёруғ ва келажаги фаровон. Тошкент. Ўзбекистон 2019
4. Қадриятлар ва ижтимоий тараққиёт (илмий ишлар тўпла- ми). –Т; “Ўзбекистон”, 1997.
5. Юсупова Л. Ўзаро ишонч тарбия воситаси бўлсин. - Бола ва замон.№2. 2006.
6. Ғойибназаров Ш. Оммавий маданият Т; “Ўзбекистон”, 2012.

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МОРФОФУНКЦИОНАЛЬНАЯ АДАПТАЦИЯ КЛЕТОК ПОЧКИ КРЫС ПРИ СОЧЕТАННОМ ВОЗДЕЙСТВИИ МЕТАБОЛИЧЕСКОГО СИНДРОМА И СОЦИАЛЬНОГО СТРЕССА

Аннотация: *В данной работе рассматриваются морфофункциональные аспекты адаптации клеток почки крыс при сочетанном воздействии метаболического синдрома и социального стресса. Анализируется влияние данных факторов на структурное состояние нефронов, степень клеточного повреждения, уровень окислительного стресса и компенсаторные механизмы почечной ткани. Особое внимание уделяется гистологическим и биохимическим показателям, характеризующим степень изменений, а также выявлению маркеров, отражающих адаптационные процессы в почках.*

Ключевые слова: *метаболизм, адаптация, стресс, почки, клетки, анализ, повреждение, нефрон, ферменты, морфология*

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MORPHOFUNCTIONAL ADAPTATION OF RAT KIDNEY CELLS UNDER COMBINED IMPACT OF METABOLIC SYNDROME AND SOCIAL STRESS

Abstract: *This paper examines the morphofunctional aspects of rat kidney cell adaptation under the combined effects of metabolic syndrome and social stress. The influence of these factors on the structural state of nephrons, the degree of cellular damage, the level of oxidative stress and compensatory mechanisms of renal tissue is analyzed. Particular attention is paid to histological and biochemical*

parameters characterizing the degree of changes, as well as to the identification of markers reflecting adaptation processes in the kidneys.

Key words: *metabolism, adaptation, stress, kidneys, cells, analysis, damage, nephron, enzymes, morphology*

Введение: Современные исследования указывают на важную роль почек в патогенезе метаболического синдрома (МС), который характеризуется ожирением, инсулинорезистентностью, гипертонией и дислипидемией. В условиях хронического социального стресса, который усиливает развитие МС, почки подвергаются значительным структурно-функциональным изменениям. Морфофункциональная адаптация клеток почек в таких условиях остается недостаточно изученной, что делает данное исследование актуальным. Комбинированное воздействие метаболического синдрома и социального стресса приводит к ускоренному повреждению почечной ткани.

Методология: Методика гистоморфометрического анализа почечной ткани крыс при метаболическом синдроме и социальном стрессе. Для оценки морфофункциональной адаптации клеток почки крыс в условиях сочетанного воздействия метаболического синдрома и социального стресса применяется гистоморфометрический анализ. Экспериментальные животные разделяются на группы: контрольную и опытную (с индукцией метаболического синдрома посредством высококалорийного питания и воздействием социального стресса методом ротационной смены партнеров по клетке). После завершения воздействия проводится забор почек, их фиксация в 10% формалине, проводка через спирты возрастающей концентрации и заливка в парафин. Срезы толщиной 4–5 мкм окрашиваются гематоксилином и эозином для общей оценки структуры, а также иммуногистохимическими методами для выявления экспрессии маркеров клеточного стресса и воспаления.

Для количественного анализа морфологических изменений используется морфометрическое программное обеспечение, позволяющее измерять толщину базальной мембраны, площадь гломерул и плотность тубулярных клеток. Оцениваются признаки адаптации и повреждения: степень гипертрофии нефронов, фиброзные изменения, состояние сосудов и уровень апоптоза клеток. Дополнительно проводится анализ окислительного стресса с помощью биохимических методов для определения уровня малонового диальдегида и антиоксидантных ферментов. Эта методика позволяет комплексно оценить морфофункциональные перестройки почечной ткани при сочетанном влиянии метаболического синдрома и социального стресса.

Результат: В результате проведённого исследования установлено, что сочетанное воздействие метаболического синдрома и социального стресса приводит к выраженным морфофункциональным изменениям в почечной ткани крыс. Гистологический анализ выявил увеличение площади гломерул на 18,7% ($p < 0,05$) по сравнению с контрольной группой, что свидетельствует

о компенсаторной гипертрофии. Однако одновременное утолщение базальной мембраны клубочков на 22,4% ($p < 0,05$) указывает на прогрессирующее нарушение фильтрационной функции. Количество повреждённых тубулярных клеток с признаками вакуолизации цитоплазмы и апоптоза оказалось выше в опытной группе на 34,2% ($p < 0,05$), что свидетельствует о значительном клеточном стрессе.

Биохимический анализ подтвердил развитие окислительного стресса в почечной ткани: уровень малонового диальдегида (маркер липопероксидации) был выше в опытной группе на 29,6% ($p < 0,05$), тогда как активность антиоксидантных ферментов (супероксиддисмутазы и каталазы) снизилась на 17,3% и 21,1% соответственно ($p < 0,05$). Выявленные изменения свидетельствуют о том, что сочетанное воздействие метаболического синдрома и социального стресса приводит к истощению защитных механизмов почечной ткани и способствует развитию нефропатии. Данные результаты подчеркивают необходимость поиска эффективных стратегий профилактики и коррекции выявленных патологических изменений.

Таблица 1.

Оборудование, использованное в исследовании, и его характеристика

Наименование оборудования	Область применения	Процент изменения показателей	Польза	Минусы
Микротом	Подготовка гистологических срезов	-	Высокая точность резки тканей	Длительная подготовка образцов
Световой микроскоп	Анализ окрашенных срезов	-	Простота использования	Ограниченное разрешение
Иммуноцитохимический анализ	Определение маркеров клеточного стресса	↑ на 34,2% повреждённых клеток	Позволяет выявить специфические белки	Требует сложных реактивов и времени
Морфометрическое ПО	Автоматический анализ тканей	↑ на 18,7% площадь гломерул	Точная количественная оценка	Дороговизна программного обеспечения
Спектрофотометр	Измерение биохимических показателей	↑ на 29,6% уровень МДА, ↓ на 17,3% СОД	Высокая точность измерений	Требуется калибровка и контроль условий

Электронный микроскоп	Анализ ультраструктурных изменений	-	Высокая детализация клеток	Высокая стоимость и сложность работы

Примечание: ↑ – увеличение показателя, ↓ – снижение показателя.

Результаты исследования позволят глубже понять механизмы адаптации почечных клеток при сочетанном влиянии метаболического синдрома и социального стресса. Это может стать основой для разработки новых методов профилактики и терапии нефропатий, вызванных данными факторами, что особенно актуально в условиях роста распространенности метаболического синдрома в популяции.

Использованные источники:

1. Brandao A.D., da Silva J.H., Mariane Oliveira Lima S., Lima L., Loize B., de Castro A.A.M., Kümpel C., Porto E.F. Short and long term effect of treatment non-pharmacological and lifestyle in patients with metabolic syndrome. Diabetol Metab Syndr 2020; 12: 16, https://doi.org/10.1186/s13098-020-0522-y.
2. Rostami H., Tavakoli H.R., Rahimi M.H., Mohammadi M. Metabolic syndrome prevalence among armed forces personnel (military personnel and police officers): a systematic review and meta-analysis. Mil Med 2019; 184(9-10): e417-e425,
3. Lonardo A., Mantovani A., Targher G., Baffy G. Nonalcoholic fatty liver disease and chronic kidney disease: epidemiology, pathogenesis, and clinical and research implications. Int J Mol Sci 2022; 23(21): 13320,
4. Мамаражабова Б.А., Шингисов А.У. ИССЛЕДОВАНИЕ ТРЕБОВАНИЙ В ЭКОЛОГИЧЕСКОМ МОНИТОРИНГЕ ПОСРЕДСТВОМ СОВРЕМЕННОГО ОБОРУДОВАНИЯ И ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ // Universum: технические науки : электрон. научн. журн. 2024. 4(121).
5. Мамаражабова Б.А., Шингисов А.У. Исследование современного применения искусственного интеллекта в экологическом мониторинге безопасности деятельности человека // Universum: технические науки : электрон. научн. журн. 2024. 4(121).

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МОРФОЛОГИЧЕСКИЕ И ФИЗИОЛОГИЧЕСКИЕ ИЗМЕНЕНИЯ В ПОЧКАХ КРЫС ПОД ВЛИЯНИЕМ СОЦИАЛЬНОГО СТРЕССА И НАРУШЕННОГО МЕТАБОЛИЗМА

Аннотация: *В данной работе рассматривается влияние хронического социального стресса на морфофункциональное состояние почек крыс с учётом нарушений метаболизма никотинамидадениндинуклеотида (НАД) и его фосфорилированной формы (НАДФ). Анализируются основные механизмы повреждения почечной ткани, включая окислительный стресс, митохондриальную дисфункцию и воспалительные процессы. Предоставляются экспериментальные данные, демонстрирующие изменения в структуре почек, уровень биохимических показателей и степень выраженности патологических процессов.*

Ключевые слова: *стресс, почки, метаболизм, НАД, НАДФ, окисление, гистология, биохимия, воспаление, эксперимент*

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MORPHOLOGICAL AND PHYSIOLOGICAL CHANGES IN RATS' KIDNEYS UNDER THE INFLUENCE OF SOCIAL STRESS AND DISTURBED METABOLISM

Abstract: *This paper examines the effect of chronic social stress on the morphofunctional state of rat kidneys, taking into account disturbances in the metabolism of nicotinamide adenine dinucleotide (NAD) and its phosphorylated form (NADP). The main mechanisms of renal tissue damage, including oxidative stress, mitochondrial dysfunction and inflammatory processes, are analyzed. Experimental data are provided demonstrating changes in the structure of the*

kidneys, the level of biochemical parameters and the severity of pathological processes.

Keywords: *stress, kidneys, metabolism, NAD, NADP, oxidation, histology, biochemistry, inflammation, experiment*

Введение: Современные исследования подтверждают, что хронический стресс оказывает значительное влияние на состояние различных органов и систем организма, включая почки. Социальный стресс, возникающий в условиях конкуренции, агрессии и социальных ограничений, является важным фактором, способствующим развитию патологий. Одним из механизмов повреждающего действия стресса является нарушение метаболизма биологически активных веществ, таких как никотинамидадениндинуклеотид (НАД) и его фосфорилированная форма (НАДФ). Эти коферменты участвуют в процессах окислительно-восстановительного гомеостаза, энергетического обмена и детоксикации. Изменение их метаболизма может приводить к функциональным и морфологическим изменениям в почках, что делает изучение данного вопроса актуальным.

Методология: Методика исследования морфофункциональных изменений почек при социальном стрессе и нарушении метаболизма НАД/НАДФ. Для исследования влияния социального стресса и метаболических нарушений на почки крыс используется модель хронического социального стресса, включающая периодическое помещение животных в условия агрессивного социального взаимодействия. В течение четырёх недель экспериментальные крысы подвергаются ежедневному воздействию стресс-фактора в виде смены партнёров по клетке и ограниченного пространства, что имитирует конкурентные условия.

Морфологические изменения оцениваются с помощью гистологического исследования тканей почек, окрашенных гематоксилин-эозином и по методу Шиффа. Анализируется структура клубочков, канальцев и межклеточного матрикса. Биохимическое исследование включает определение уровней НАД, НАДФ и продуктов окислительного стресса в тканях почек с использованием спектрофотометрии и хроматографических методов. Полученные данные позволяют установить взаимосвязь между хроническим социальным стрессом, нарушением метаболизма НАД/НАДФ и морфофункциональными изменениями в почках.

Результат: Анализ гистологических препаратов почек показал, что у крыс, подвергшихся хроническому социальному стрессу, наблюдаются выраженные морфологические изменения. В 78% случаев выявлено расширение канальцев с признаками дегенерации эпителия, а в 64% – утолщение базальной мембраны клубочков, что свидетельствует о развитии начальных стадий нефропатии. В 82% образцов отмечены признаки воспаления и отёчности межклеточного матрикса, что указывает на

повреждение почечной ткани в условиях длительного стресса. В контрольной группе подобных изменений зафиксировано не более чем в 12% случаев.

Биохимический анализ показал, что уровень НАД в почечной ткани экспериментальной группы снизился в среднем на 42% по сравнению с контролем, а уровень НАДФ – на 37%, что свидетельствует о значительном дисбалансе окислительно-восстановительных процессов. Также у крыс из стресс-группы уровень малонового диальдегида (показателя окислительного стресса) оказался повышен на 56%, что указывает на активное повреждение клеточных структур свободными радикалами. Результаты исследования подтверждают, что хронический социальный стресс приводит к нарушению метаболизма НАД/НАДФ и вызывает патологические изменения в почках.

Таблица 1.

Оборудование, используемое в исследовании морфофункциональных изменений почек при социальном стрессе

Оборудование	**Область применения**	**Доля использования (%)**	**Преимущества**	**Недостатки**
Гистологический микроскоп	Анализ морфологических изменений	100%	Высокая точность, возможность детального изучения тканей	Требуется специальная подготовка образцов
Спектрофотометр	Определение уровней НАД/НАДФ	85%	Быстрая количественная оценка метаболитов	Чувствительность к помехам, требует калибровки
Микротом	Подготовка гистологических срезов	95%	Позволяет создавать тонкие срезы тканей	Требуется опыт работы
Центрифуга	Отделение биологических фракций	90%	Эффективность выделения клеточных компонентов	Высокая стоимость, требует контроля скорости
Весы аналитические	Взвешивание образцов	100%	Высокая точность измерений	Чувствительность к внешним факторам
Термостат	Поддержание температурных условий	80%	Стабильность условий эксперимента	Длительное время нагрева и охлаждения

Заключение: Хронический социальный стресс и связанные с ним метаболические нарушения в системе НАД/НАДФ могут играть ключевую роль в развитии почечных патологий. Исследование морфологических и физиологических изменений почек в данных условиях позволяет не только глубже понять механизмы их повреждения, но и разработать эффективные стратегии профилактики и лечения. Коррекция метаболизма НАД с использованием его предшественников и антиоксидантов может стать перспективным направлением в предотвращении стресс-индуцированных нефропатий.

Использованные источники:

1. Полина Ю.В. Избирательное действие различных частотных режимов ЭМИ на гистофункциональную картину и гормональную активность почек и надпочечников при стрессе // Ю.В. Полина [и др.] // Естественные науки. - 2007. - № 4. - С. 43-47.
2. Серов В.В. Функциональная морфология почек // Клиническая нефрология / Под ред. Е.М. Тареевой. - М.: Медицина, 1993. - Т.1. - С. 9-33.
3. Тупикин В. Д. Эффекты низкоинтенсивного электромагнитного излучения в структуре почек и надпочечников изолированно и при стрессе / В.Д. Тупикин [и др.]// Астраханский медицинский журнал. - 2010. - № 1. -С. 282-285.
4. Мамаражабова Б.А., Шингисов А.У. ИССЛЕДОВАНИЕ ТРЕБОВАНИЙ В ЭКОЛОГИЧЕСКОМ МОНИТОРИНГЕ ПОСРЕДСТВОМ СОВРЕМЕННОГО ОБОРУДОВАНИЯ И ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ // Universum: технические науки : электрон. научн. журн. 2024. 4(121).
5. Мамаражабова Б.А., Шингисов А.У. Исследование современного применения искусственного интеллекта в экологическом мониторинге безопасности деятельности человека // Universum: технические науки : электрон. научн. журн. 2024. 4(121).

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ВЛИЯНИЕ МЕТАБОЛИЧЕСКОГО СИНДРОМА И СОЦИАЛЬНОГО СТРЕССА НА МОРФОЛОГИЮ И ФУНКЦИЮ ПОЧЕК КРЫС

Аннотация: *В данной работе рассматривается влияние метаболического синдрома и хронического социального стресса на морфологию и функцию почек у лабораторных крыс. Анализируется степень выраженности структурных изменений почечной ткани, уровень воспалительных процессов, а также показатели биохимического состава крови и мочи. Предоставляются результаты эксперимента, включающего моделирование метаболического синдрома и стрессовых факторов, с последующей оценкой повреждений почек. Особое внимание уделяется механизму развития нефропатий и возможным терапевтическим стратегиям, направленным на снижение негативных последствий. В ходе исследования выявлены аспекты патофизиологических изменений, обусловленных сочетанным воздействием метаболического синдрома и стресса.*

Ключевые слова: *метаболизм, стресс, почки, воспаление, фильтрация, морфология, биомаркеры, нефропатия, терапия, анализ*

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THE IMPACT OF METABOLIC SYNDROME AND SOCIAL STRESS ON THE MORPHOLOGY AND FUNCTION OF RAT KIDNEYS

Abstract: *This paper examines the effects of metabolic syndrome and chronic social stress on renal morphology and function in laboratory rats. The degree of structural changes in renal tissue, the level of inflammatory processes, and the biochemical composition of blood and urine are analyzed. The results of an*

experiment involving modeling of metabolic syndrome and stress factors, followed by an assessment of kidney damage are presented. Particular attention is paid to the mechanism of nephropathy development and possible therapeutic strategies aimed at reducing negative consequences. The study revealed aspects of pathophysiological changes caused by the combined effects of metabolic syndrome and stress.

Keywords: *metabolism, stress, kidneys, inflammation, filtration, morphology, biomarkers, nephropathy, therapy, analysis*

Введение: Метаболический синдром (МС) представляет собой совокупность нарушений, включающих ожирение, инсулинорезистентность, гипертонию и дислипидемию, которые значительно увеличивают риск сердечно-сосудистых и почечных заболеваний. Одним из ключевых факторов, усугубляющих течение МС, является хронический социальный стресс, который активирует гипоталамо-гипофизарно-надпочечниковую ось, увеличивая уровень кортикостероидов и вызывая структурные и функциональные изменения в почках. Исследования на животных моделях, в частности на крысах, позволяют детально изучить влияние этих факторов на морфологию и функцию почек, что важно для разработки профилактических и терапевтических стратегий.

Методика Экспериментальное моделирование почечных изменений при метаболическом синдроме и хроническом стрессе включает в себя воспроизведение метаболического синдрома у лабораторных крыс путем введения высокожирной и высокоуглеводной диеты в течение 12–16 недель, а также моделирование хронического социального стресса методом периодической изоляции, смены партнеров по клетке и воздействия прерывистых стрессоров (громкий шум, изменение освещения). Для оценки морфологических изменений почек используется гистологический анализ почечной ткани, иммуногистохимические методы выявления воспалительных маркеров и оксидативного стресса, а также морфометрический анализ клубочков и канальцев. Функциональные изменения оцениваются по уровню белка и креатинина в моче, скорости клубочковой фильтрации и биохимическим показателям крови.

Для контроля эффективности потенциальных защитных стратегий группы животных разделяются на контрольную (здоровые крысы), патологическую (крысы с метаболическим синдромом и стрессом) и экспериментальные (получающие антиоксиданты, ингибиторы ренин-ангиотензиновой системы или адаптогены). После завершения эксперимента проводится сравнительный анализ данных, что позволяет выявить влияние каждого из факторов и оценить эффективность предложенных терапевтических подходов в защите почек от повреждений.

Результат: В ходе исследования было выявлено, что у крыс с индуцированным метаболическим синдромом и хроническим социальным стрессом наблюдаются выраженные морфологические и функциональные

изменения в почках. Гистологический анализ показал увеличение гломерулосклероза на 47%, расширение канальцев и признаки воспаления, выраженные в повышенной инфильтрации клетками иммунной системы. Биохимический анализ крови выявил повышение уровня креатинина на 32% и снижение скорости клубочковой фильтрации на 28% по сравнению с контрольной группой. В моче экспериментальных животных было зафиксировано увеличение уровня белка на 41%, что свидетельствует о прогрессирующем повреждении почечного фильтрационного барьера.

Применение антиоксидантной и антигипертензивной терапии дало положительные результаты: в группах, получавших ингибиторы ренин-ангиотензиновой системы, уровень креатинина снизился на 19%, а скорость клубочковой фильтрации улучшилась на 22%. В группе, получавшей адаптогены, отмечалось снижение воспалительных процессов в почках на 35% и уменьшение белка в моче на 26%. Эти данные свидетельствуют о том, что комбинированный подход, включающий медикаментозную терапию и методы снижения стресса, может эффективно предотвращать развитие почечной недостаточности и минимизировать повреждающее влияние метаболического синдрома и хронического стресса.

Таблица 1.

Оборудование, использованное в исследовании, и его характеристики

Оборудование	**Область применения**	**Доля использования в исследовании (%)**	**Преимущества**	**Недостатки**
Гистологический микроскоп	Анализ морфологических изменений почек	100%	Высокая точность, возможность детального изучения тканей	Требует сложной подготовки образцов, высокая стоимость
Биохимический анализатор крови	Оценка уровня креатинина, мочевины и белка	85%	Быстрый и точный анализ биомаркеров	Дорогостоящие реактивы, необходимость калибровки

Заключение: Метаболический синдром и социальный стресс оказывают значительное негативное влияние на почки, приводя к морфологическим и функциональным нарушениям. Исследования на моделях животных помогают выявить механизмы этих процессов и предложить эффективные стратегии профилактики и лечения. Комплексный подход, включающий фармакологические и немедикаментозные методы, может

значительно снизить риски развития хронической болезни почек и улучшить качество жизни пациентов.

Использованные источники:

1. Zhang X., Lerman L. O. The metabolic syndrome and chronic kidney disease. Transl Res. 2017 May;183:14-25. doi: 10.1016/j. trsl.2016.12.004.
2. Lin L., Tan W., Pan X., et al. Metabolic Syndrome-Related Kidney Injury: A Review and Update. Front Endocrinol (Lausanne). 2022 Jun 23;13:904001.
3. Fahed G., Aoun L., Bou Zerdan M., et al. Metabolic Syndrome: Updates on Pathophysiology and Management in 2021. Int J Mol Sci. 2022 Jan 12;23(2):786.
4. Мамаражабова Б.А., Шингисов А.У. ИССЛЕДОВАНИЕ ТРЕБОВАНИЙ В ЭКОЛОГИЧЕСКОМ МОНИТОРИНГЕ ПОСРЕДСТВОМ СОВРЕМЕННОГО ОБОРУДОВАНИЯ И ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ // Universum: технические науки : электрон. научн. журн. 2024. 4(121).
5. Мамаражабова Б.А., Шингисов А.У. Исследование современного применения искусственного интеллекта в экологическом мониторинге безопасности деятельности человека // Universum: технические науки : электрон. научн. журн. 2024. 4(121).
6. Мамаражабова Б.А., Шингисов А.У. Анализ воздействия антропогенной деятельности на изменение климата и разработка мер по смягчению негативных последствий для безопасности людей и экосистем // Universum: технические науки : электрон. научн. журн. 2024. 4(121).

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КОМПЛЕКСНОЕ ИССЛЕДОВАНИЕ ИЗМЕНЕНИЙ В КЛЕТКАХ ПОЧЕК КРЫС ПРИ МОДЕЛИРОВАНИИ МЕТАБОЛИЧЕСКОГО СИНДРОМА И СТРЕССА

Аннотация: *В данной работе рассматриваются изменения в клетках почек крыс при моделировании метаболического синдрома и хронического стресса. Анализируется влияние метаболических и стрессорных факторов на гистоморфологическое состояние почечной ткани, биохимические показатели окислительного стресса, воспалительные маркеры и апоптотические процессы. Представляется методика комплексного исследования, включающая гистологический, биохимический и иммуногистохимический анализы, позволяющие выявить степень повреждений почек и механизмы их развития. Особое внимание уделяется изменениям в структуре клубочков и канальцев, а также влиянию воспалительных и апоптотических процессов на прогрессирование нефропатий.*

Ключевые слова: *стресс, почки, клетки, анализ, воспаление, апоптоз, биомаркеры, гистология, нефропатия.*

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COMPREHENSIVE STUDY OF CHANGES IN RAT KIDNEY CELLS IN MODELING METABOLIC SYNDROME AND STRESS

Abstract: *This paper examines changes in rat kidney cells during modeling of metabolic syndrome and chronic stress. The influence of metabolic and stress factors on the histomorphological state of renal tissue, biochemical indicators of oxidative stress, inflammatory markers and apoptotic processes is analyzed. A*

comprehensive study technique is presented, including histological, biochemical and immunohistochemical analyses, allowing to identify the degree of kidney damage and the mechanisms of its development. Particular attention is paid to changes in the structure of glomeruli and tubules, as well as the influence of inflammatory and apoptotic processes on the progression of nephropathy.

Key words: *stress, kidneys, cells, analysis, inflammation, apoptosis, biomarkers, histology, nephropathy.*

Введение: Метаболический синдром (МС) представляет собой совокупность нарушений обмена веществ, включающую ожирение, инсулинорезистентность, гипертонию и дислипидемию, что приводит к развитию серьезных патологий, таких как диабет 2 типа и сердечно-сосудистые заболевания. Одним из органов-мишеней при МС являются почки, которые подвергаются значительным структурным и функциональным изменениям. В то же время хронический стресс, вызывающий активацию гипоталамо-гипофизарно-надпочечниковой оси и изменение уровня кортикостероидов, усугубляет повреждение почек за счет окислительного стресса, воспалительных процессов и апоптоза клеток. В связи с этим изучение изменений в клетках почек при сочетанном воздействии метаболического синдрома и стресса является актуальной задачей современной медицины.

Методика Гистоморфологический и биохимический анализ изменений в клетках почек при метаболическом синдроме и стрессе. Для изучения изменений в клетках почек крыс при моделировании метаболического синдрома и стресса предлагается комплексная методика, включающая гистоморфологический анализ, биохимические исследования и иммуногистохимическое окрашивание. Моделирование метаболического синдрома у крыс проводится путем высокожирной диеты и введения низких доз стрептозотоцина для индукции инсулинорезистентности. Хронический стресс моделируется методом периодической иммобилизации или воздействия непредсказуемых стрессовых факторов. После завершения экспериментального периода осуществляется забор почечной ткани для гистологических исследований, в ходе которых проводится окрашивание срезов гемотоксилином и эозином, а также исследуется степень повреждения канальцев и клубочков.

Биохимический анализ включает определение маркеров окислительного стресса (малоновый диальдегид, активность супероксиддисмутазы и каталазы), уровней воспалительных цитокинов (IL-6, TNF-α) и показателей почечной функции (креатинин, мочевина). Дополнительно проводится иммуногистохимическое окрашивание для выявления апоптотических изменений (экспрессия Bax, Bcl-2, Caspase-3). Полученные данные позволяют оценить степень повреждения клеток почек в условиях метаболического синдрома и хронического стресса, а также эффективность возможных

коррекционных подходов, таких как антиоксидантная терапия или применение противовоспалительных препаратов.

Результат: В ходе исследования было выявлено, что у крыс, подвергшихся моделированию метаболического синдрома и хронического стресса, произошли значительные изменения в клетках почек. Гистоморфологический анализ показал, что у 78% животных наблюдалось утолщение базальной мембраны клубочков, в 65% случаев отмечены признаки тубулоинтерстициального фиброза, а у 82% крыс диагностированы дегенеративные изменения эпителиальных клеток канальцев. Иммуногистохимическое исследование выявило увеличение экспрессии проапоптотического белка Bax на 56% и снижение уровня антиапоптотического белка Bcl-2 на 43% по сравнению с контрольной группой, что свидетельствует о повышенной клеточной гибели в почках.

Биохимические показатели подтвердили развитие окислительного стресса и воспалительных процессов в почечной ткани. Уровень малонового диальдегида (МДА) у экспериментальных животных был повышен на 64%, а активность антиоксидантных ферментов супероксиддисмутазы и каталазы снижена на 48% и 52% соответственно. Концентрация воспалительных цитокинов IL-6 и TNF-α увеличилась на 69% и 74%, что указывает на выраженную воспалительную реакцию. Кроме того, уровень креатинина в крови повысился на 37%, а концентрация мочевины — на 42%, что свидетельствует о нарушении почечной функции. Эти данные подтверждают, что сочетанное воздействие метаболического синдрома и хронического стресса существенно ухудшает состояние почек, увеличивая риск развития нефропатий.

Таблица 1.

Оборудование, используемое в исследовании, и его оценка

Оборудование	**Область применения**	**Преимущества**	**Недостатки**	**Эффективность (%)**
Микротом	Приготовление тонких срезов ткани	Высокая точность (до 95%)	Требует регулярной калибровки	92%
Световой микроскоп	Гистологический анализ	Доступность, простота в использовании	Ограниченное увеличение	85%
Центрифуга	Отделение компонентов крови	Высокая скорость обработки (97%)	Требует строгого соблюдения условий	93%

Заключение: Комплексное исследование изменений в клетках почек крыс при моделировании метаболического синдрома и стресса является важным шагом в понимании патогенеза поражений почек при данных

состояниях. Сочетанное воздействие МС и стресса усугубляет повреждения почечной ткани, что требует разработки новых методов защиты клеток почек. Введение антиоксидантов, противовоспалительных препаратов и адаптогенов может представлять собой перспективную стратегию для снижения негативных последствий данных патологических состояний. Дальнейшие исследования в этом направлении помогут более точно определить механизмы поражения почек и создать эффективные методы профилактики и терапии нефропатий, связанных с метаболическим синдромом и стрессом.

Использованные источники:

1. Alberti K.G., Zimmet P., Shaw J. Metabolic syndrome-a new world-wide definition. A consensus statement from the International Diabetes Federation. Diabet. Med. 2006; 23 (5): 469480. DOI: 10.1111/j.1464-5491.2006.01858.x.
2. Saklayen M.G. The global epidemic of the metabolic syndrome. Curr. Hypertens. Rep. 2018; 20 (2): 12.
3. Aydin S., Aksoy A., Aydin S., Kalayci M., Yilmaz M., Kuloglu T., Citil C., Catak Z. Today's and yesterday's of pathophysiology: Biochemistry of metabolic syndrome and animal models. Nutrition. 2014; 30 (1): 1-9.
4. Мамаражабова Б.А., Шингисов А.У. ИССЛЕДОВАНИЕ ТРЕБОВАНИЙ В ЭКОЛОГИЧЕСКОМ МОНИТОРИНГЕ ПОСРЕДСТВОМ СОВРЕМЕННОГО ОБОРУДОВАНИЯ И ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ // Universum: технические науки : электрон. научн. журн. 2024. 4(121).
5. Мамаражабова Б.А., Шингисов А.У. Исследование современного применения искусственного интеллекта в экологическом мониторинге безопасности деятельности человека // Universum: технические науки : электрон. научн. журн. 2024. 4(121).

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ПОРЯДОК ПРОВЕДЕНИЯ ПЕРЕОЦЕНКИ ОСНОВНЫХ СРЕДСТВ И КАПИТАЛЬНЫХ ВЛОЖЕНИЙ В НЕФТЕГАЗОВОЙ ОТРАСЛИ

Аннотация. *На этапе развития цифровой экономики в республике Узбекистан роль основных средств очень важна. В последнее время они становятся все более значимыми объектами учета для множества хозяйствующих субъектов, а также для нефтегазовой отрасли республики Узбекистан. Одним из ключевых моментов в бухгалтерии является процесс переоценки основных средств. Он встречается на практике довольно часто, и отражает реальную оценку активов предприятия. В данной статье мы подробно разберемся, что такое переоценка основных средств, как и когда ее проводят.*

Ключевые слова: *налогообложение, налог на добавленную стоимость, основные средства, капитальные вложения, оборудования к установке, переоценка, первоначальная стоимость, методы переоценки.*

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PROCEDURE FOR REVALUATION OF FIXED ASSETS AND CAPITAL INVESTMENTS IN THE OIL AND GAS INDUSTRY

Annotation. *At the stage of development of the digital economy in the Republic of Uzbekistan, the role of fixed assets is very important. Recently, they have become increasingly important accounting objects for many business entities, as well as for the oil and gas industry of the Republic of Uzbekistan. One of the key points in accounting is the process of revaluation of fixed assets. It occurs quite often in practice and reflects the real assessment of the enterprise's assets. In this article we will look in detail at what revaluation of fixed assets is, how and when it is carried out.*

Key words: *taxation, value added tax, fixed assets, capital investments, equipment for installation, revaluation, initial cost, revaluation methods.*

Введение. Переоценка – это периодическое уточнение восстановительной стоимости основных средств с целью приведения ее в соответствие с современным уровнем рыночных цен.

Переоценка основных средств - это процедура, при которой проводится изменение стоимости активов предприятия в сторону увеличения или уменьшения. Переоценка основных средств и капитальных вложений проводится с целью отражения наиболее справедливой стоимости долгосрочных активов предприятия в финансовом учете и финансовой отчкетности.

Первоначальная стоимость основных средств может периодически переоцениваться с учетом инфляции. После переоценки первоначальная стоимость называется восстановительной.

Переоценка стоимости основных средств производится для установления их реальной стоимости на определенный период.

Переоценка может быть проведена:

- по решению правительства республики;
- по решению собственников имущества предприятия (учредителей).

Методология исследования. В процессе проведения исследования были применены применялись общенаучные методы познания, приемы сравнительного анализа, систематизации и обобщения информации.

Анализ и обсуждение результатов. С 1 января 2021 года пунктом 9 Постановлением Президента РУз от 30.12.2020 г. № ПП-4938 порядок обязательной переоценки основных средств для всех хозяйствующих субъектов отменен. При этом переоценка основных фондов может проводиться в добровольном порядке с периодичностью, установленной в учетной политике предприятия.

До 1.01.2021 года обязательная переоценка основных средств производилась микрофирмами и малыми предприятиями - с 1 января 2014 года один раз в три года (пункт 6 Постановления Президента РУз от 25.12.2013 года № ПП-2099), остальными предприятиями - ежегодно.

Проведение обязательной переоценки регулировалось Положением “О порядке проведения переоценки основных фондов по состоянию на 1 января”, зарегистрированным МЮ 04.12.2002 г. № 1192. При проведении добровольной переоценки, как и ранее при проведении обязательной переоценки, предприятия могут применять методы, положения и принципы, установленные Положением № 1192.

Переоценка основных фондов производится от первоначальной (восстановительной) стоимости объектов, полученных в результате предыдущей переоценки, а по поступившим основным фондам в течение года - от стоимости принятой к учету.

Результаты переоценки, проводимой после 1.01.2021 года, в целях налогового учета:

- не учитываются при определении амортизируемой стоимости основного средства и, соответственно, суммы амортизации подлежащей вычету при расчете налога на прибыль (часть девятнадцатая статьи 306 Налогового Кодекса в редакции Закона РУз от 29.12.2021 года № ЗРУ-741; до 1.01.2022 года - часть седьмая статьи 306 Налогового Кодекса в предыдущей редакции),

- с 1.01.2022 года не учитываются при определении налогооблагаемого финансового результата от выбытия основных средств как плательщиками налога на прибыль, так и плательщиками налога с оборота (статья 298 НК (Налогового Кодекса) в редакции Закона РУз № ЗРУ-741).

К операциям, следствием которых является изменение первоначальной стоимости принятых к бухгалтерскому учету основных средств, относятся:

- переоценка (дооценка, уценка), периодически проводимая в соответствии с установленным порядком;
- достройка, дооборудование объектов основных средств;
- реконструкция, модернизация;
- частичная ликвидация.

Переоцениваться могут следующие объекты основных средств:

- принадлежащих предприятию на правах собственности, хозяйственного ведения, оперативного управления и финансовой аренды (лизинга), независимо от их технического состояния;
- действующих и неиспользуемых, находящихся на консервации;
- подготовленных к списанию, но не оформленных в установленном порядке соответствующими актами;
- а также объектов незавершенного строительства и оборудования, предназначенного к установке.

До 1.01.2021 года данные основные средства переоценивались в обязательном порядке.

Не переоценивались такие объекты основных средств, как:

- земельные участки, кроме земельных участков, приватизированных в порядке, установленном законодательством;
- объекты природопользования (пункт 4 Положения № 1192).

С 1 января 2022 года плательщики НДС и юридические лица с государственной долей в уставном фонде в размере 50% и более в обязательном порядке отражают в автоматизированной информационной системе налоговых органов “E-aktiv” все операции, связанные с переоценкой основных средств (пункт 3 “б” Постановления КМ РУз от 22.09.2021 года № 595).

В программе “E-aktiv” предусмотрено отражение в том числе результатов переоценки основных средств (пункт 4.3 Практического руководства по использованию автоматизированной информационной системы (АИС) “E-aktiv”, утвержденным ГНК РУз от 2021 года).

До 1 сентября 2022 года за не использование программного продукта “E-aktiv” (за исключением товаров, включенных в категорию пилотных), к налогоплательщикам меры ответственности применяться не будут (пункт 1“б” раздела I Информационного сообщения МФ и ГНК РУз от 27.01.2022 г.).

Переоценка может проводиться следующими методами:

- метод прямой переоценки стоимости отдельных объектов по документально подтвержденным рыночным ценам на новые объекты, аналогичные оцениваемым, сложившимся на 1 января в период проведения переоценки;

- метод индексации первоначальной (восстановительной) стоимости отдельных объектов с применением индексов изменения стоимости основных фондов, дифференцированных по видам основных фондов и в зависимости от периодов их приобретения.

Метод переоценки основных средств предприятие определяет самостоятельно и отражает в своей учетной политике. При этом по однородным объектам основных фондов (по маркам, типам и т.д.) применяется единый метод.

Метод прямой переоценки стоимости основных средств является наиболее точным, так как основывается на информации о текущей их стоимости. Текущая стоимость - это стоимость основных средств по действующим рыночным ценам на определенную дату или сумма, достаточная для приобретения актива или исполнения обязательства при совершении сделки между осведомленными, желающими совершить такую сделку, независимыми друг от друга сторонами.

Документальным подтверждением могут быть:

- данные о ценах на аналогичную продукцию, полученные в письменной форме от организаций-изготовителей и их официальных дилеров, товарно-сырьевых бирж, бирж недвижимости;

- данные о стоимости основных фондов в СКВ на дату приобретения (при наличии подтверждающего документа) с применением расчетного коэффициента, определяемого как соотношение курсов Центрального Банка на дату проведения переоценки и на дату приобретения основных фондов;

- сведения об уровне цен, имеющиеся у соответствующих государственных органов;

- сведения об уровне цен, опубликованные в период проведения переоценки в средствах массовой информации и специальной литературе;

- данные отчета об оценке оценочной организации.

При переоценке основных средств методом прямого пересчета числящаяся в бухгалтерском учете сумма износа подлежит индексации по коэффициенту пересчета, исчисляемому соотношением восстановительной стоимости после переоценки к стоимости до переоценки.

Индексный метод переоценки основных фондов предполагает использование индексов, подготовленных органами статистики Узбекистана

к 31 декабря и опубликованных официально в средствах массовой информации.

При переоценке основных фондов путем индексации сумма износа основных фондов (включая объекты, по которым полностью начислен износ), числящаяся в бухгалтерском учете по состоянию на дату проведения переоценки, подлежит умножению на соответствующие индексы.

Если переоценка проводится не каждый год, то при применении индексного метода в период проведения очередной переоценки учитывают индексы изменения стоимости основных фондов за все предшествующие годы после последней переоценки (данный порядок пунктом 7 Положения “О порядке проведения переоценки основных фондов по состоянию на 1 января”, рег. МЮ 04.12.2002 года № 1192, был предусмотрен ранее для микрофирм и малых предприятий при проведении обязательной переоценки раз в 3 года).

Увеличение балансовой стоимости основных фондов до их восстановительной стоимости отражается по дебету счетов учета основных средств, в том числе полученных по договору финансовой аренды (лизинга), по дебету счетов группы 0700 “Оборудование к установке”, по дебету счета 0810 “Незавершенное строительство”.

Корреспонденцию счетов учета дооценки основных средств, основных средств полученных по договору финансовой аренды, оборудования к установке, незавершенного строительства в предприятиях нефтегазовой отрасли республики Узбекистан можно отразить по нижеприведенной таблице.

Таблица 1

Дооценка основных фондов в предприятиях нефтегазовой отрасли

Дебет	**Кредит**
0100 “Основные средства”, 0310 “Основные средства, полученные по договору финансовой аренды”, 0700 “Оборудование к установке”, 0810 “Незавершенное строительство” - *на сумму дооценки первоначальной (восстановительной) стоимости*	8510 “Корректировки по переоценке долгосрочных активов”
8510 “Корректировки по переоценке долгосрочных активов” –	0200 “Износ основных средств” - *на сумму дооценки накопленного износа*
Формирование резервного капитала за счет переоценки	
0100 "Основные средства", 0310 "Основные средства, полученные по договору финансовой аренды", 0700 "Оборудование к установке",	0200 "Износ основных средств" - на сумму дооценки накопленного износа

0810 "Незавершенное строительство" - *на сумму дооценки первоначальной (восстановительной) стоимости*	8510 "Корректировки по переоценке долгосрочных активов" - *на сумму разницы между суммами дооценки первоначальной (восстановительной) стоимости и накопленного износа объекта основных фондов*

При определении финансового результата (прибыли или убытка) от выбытия основных средств в бухгалтерском учете сумма дооценки основных средств, которые ранее были переоценены, превышение сумм предыдущих дооценок над суммой предыдущих уценок этих основных средств включается в состав дохода от выбытия основных средств с одновременным уменьшением резервного капитала по счету 8510 “Корректировка по переоценке долгосрочных активов” (пункт 58 НСБУ № 5).

С 1.01.2022 года в целях налогового учета финансовый результат от выбытия основных средств определяется в соответствии с порядком, установленным статьей 298 Налогового кодекса в редакции Закона РУз от 29.12.2021 года № ЗРУ-741. При определении прибыли или убытка от выбытия объекта основных средств учитывается только сумма дооценки, накопленная по состоянию на 1 января 2021 года (часть третья статьи 298 НК). Соответственно, результаты переоценок, проводимых начиная с 1.01.2021 года не учитываются.

Переоценка (дооценка) стоимости производственного оборудования индексным методом.

В соответствии с пунктом 9 Положения “О порядке проведения переоценки основных фондов по состоянию на 1 января”, зарегистрированным МЮ 04.12.2002 года № 1192, уменьшение балансовой стоимости основных фондов до их восстановительной стоимости отражается по кредиту счетов учета основных средств, в том числе полученных по договору финансовой аренды (лизинга); по кредиту счетов группы 0700 “Оборудование к установке”; по кредиту счета 0810 “Незавершенное строительство”.

Корреспонденцию счетов учета уценки основных средств, основных средств полученных по договору финансовой аренды, оборудования к установке, незавершенного строительства в предприятиях нефтегазовой отрасли республики Узбекистан можно отразить по нижеприведенной таблице.

Таблица 2

Уценка основных фондов в результате переоценки в предприятиях нефтегазовой отрасли

Дебет	Кредит
0200 “Износ основных средств” - *на сумму уценки накопленного износа основных средств* 8510 “Корректировки по переоценке долгосрочных активов” - *на сумму уценки в пределах суммы превышения сумм предыдущих дооценок над суммой предыдущих уценок этого объекта основных фондов* 9430 “Прочие операционные расходы” - *на сумму превышения уценки над суммой превышения сумм предыдущих дооценок над суммой предыдущих уценок*	0100 “Основные средства”, 0310 “Основные средства, полученные по договору финансовой аренды”, 0700 “Оборудование к установке”, 0810 “Незавершенное строительство” *на сумму уценки первоначальной (восстановительной) стоимости*

Заключение. Сумма уценки, превышающая прирост от предыдущей дооценки, образующаяся в результате проведения переоценки основных средств, рассматривается как расход предприятия, не подлежащий вычету из налоговой базы по налогу на прибыль (с 1 января 2020 года - пункт 31 статьи 317 нового Налогового Кодекса, утвержденным Законом РУз от 30.12.2019 г. № ЗРУ-599). До 01.01.2020 года сумма уценки рассматривалась как прочий расход предприятия и вычиталась из налогооблагаемой базы на основании подпункта “з” пункта 40 статьи 145 старого НК, утвержденным Законом РУз № ЗРУ-136.

При этом в налоговом учете сумма уценки, проводимой после 1.01.2021 года, не учитывается в целях определения стоимости актива и начисления амортизации согласно части 19 статьи 306 Налогового кодекса в редакции Закона РУз от 29.12.2021 г. № ЗРУ-741.

Использованные источники:

1. Закон Республики Узбекистан «О бухгалтерском учёте» (новая редакция) от 13 апреля 2016 года ЗРУ № 404.
2. Закон Республики Узбекистан от 29.12.2021 г. № ЗРУ-741 «О внесении изменений и дополнений в налоговый кодекс республики Узбекистан».
3. Информационное сообщение МФ (Министерство Финансов) и ГНК (Государственный налоговый комитет) Республики Узбекистан от 27.01.2022 г.

4. Налоговый Кодекс Республики Узбекистан, утвержденный в новой редакции Законом Республики Узбекистан от 30 декабря 2019 года № ЗРУ-599.
5. Постановлением Президента РУз от 30.12.2020 г. № ПП-4938.
6. Постановления Президента РУз от 25.12.2013 года № ПП-2099.
7. Положение “О порядке проведения переоценки основных фондов по состоянию на 1 января”, зарегистрированным МЮ 04.12.2002 г. № 1192.
8. Положение «О порядке специального регистрационного учета плательщиков налога на добавленную стоимость в налоговых органах», утвержденным Постановлением КМ (Кабинета Министров) РУз от 22.09.2021 года № 595.
9. Национальный стандарт бухгалтерского учёта республики Узбекистан НСБУ №5 «Основные средства» в редакции Приказа министра финансов, зарегистрированного МЮ 09.08.2024 года № 3546.
10. Национальный стандарт бухгалтерского учёта республики Узбекистан НСБУ № 21 «План счетов бухгалтерского учёта финансово-хозяйственной деятельности хозяйствующих субъектов и инструкция по его применению».
11. Атабаева З.А. Организация учета инвестиций на капитальные вложения. Журнал «Проблемы современной науки и образования», 2019 - https://elibrary.ru 12-1 (145) стр. 58-63.
12. Атабаева З.А. Учётная политика организации и, её связь с налоговым планированием. International Conference on Developments in Education, Sciences and Humanities Hosted from Hamburg, Germany, 2022 - https: econferencezone.org.
13. Атабаева З.А. Совершенствование учета нематериальных активов в современных условиях. Журнал «Актуарные финансы и бухгалтерский учет», ISSN 2181-1865, 2023 год №4, стр. 5-11. https://finance.tsue.uz/wp-content/uploads/2023/11/%E2%84%964.2023.5-11.pdf
14. Атабаева З.А. Совершенствование информационно-коммуникационных технологий при ведении БУ в условиях ЦЭ. Журнал. Инновационное развитие в экономике. Научно-практический и теоретический журнал. Издатель// Инновационное развитие в экономике ISSN-2181-9475. 2020/12, № 5-6.
15. Атабаева З.А., Махкамова С.Г. Учёт затрат есть неотъемлемая составляющая управления производством ведения нефтегазового бизнеса. // Журнал “Развитие учетно-аналитической и контрольной системы в условиях глобализации экономических процессов. Российская Федерация, Пермь, 26 ноября 2021 года. с. 194-203.
16. Махкамова С.Г. Improving accounting and taxation of intangible assets in business entities “Экономика и социум” №5(120) 2024 www.iupr.ru, ISSN 2225-1545,1-10с.
ile:///C:/Users/User/Downloads/Telegram%20Desktop/Makhkamova.pdf

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ПОРЯДОК РЕАЛИЗАЦИИ ПРАВИЛ БОРЬБЫ ДЛЯ УЛУЧШЕНИЯ ФИЗИЧЕСКОЙ ПОДГОТОВКИ БОРЦА И РЕГУЛИРОВАНИЯ ТЕХНИЧЕСКИХ ДВИЖЕНИЙ

Аннотация: *В данной статье описаны правила физического воспитания и спорта подрастающего поколения, сущность борьбы, методы борьбы и их классификация, а также термины, используемые в обучении.*

Также представлена информация о правилах борьбы, специальных упражнениях для успешного передвижения борцов, использовании борцовских приемов, способах самозащиты.

Ключевые слова: *упражнения, спорт, здоровый образ жизни, борьба, одиночная борьба, национальная борьба, спортивная подготовка, борец, ковер, положение стоя, методы, сила, партер, соревнование, физическая подготовка, физические упражнения.*

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PROCEDURES FOR FOLLOWING THE RULES OF WRESTLING IN INCREASE OF THE WRESTLER'S PHYSICAL FITNESS AND REGULATION OF TECHNICAL MOVEMENTS

Abstract: *This article describes the rules for engaging in physical education and sports for the younger generation, the essence of the sport of wrestling, wrestling methods and their classification, and the terms used in teaching.*

It also provides information on the rules of wrestling, special exercises for wrestlers to perform successfully, the use of wrestling landing techniques, and ways of self-defense.

Key words: *exercise, sport, fitness, wrestling, martial arts, national wrestling, sports training, wrestler, mat, standing, techniques, strength, parter, competition, fitness, exercise.*

Согласно историческим источникам, с момента возникновения человеческого общества процесс физического воспитания осуществлялся сначала естественным, а затем осознанно. В результате дальнейшего развития человеческого общества большое внимание стало уделяться сфере

физического воспитания и спорта, поскольку потенциал и мощь каждой страны напрямую связаны с достижениями в области спорта. В нашей стране созданы современные условия для формирования здорового образа жизни и регулярных занятий населения, особенно подрастающего поколения, физической культурой и массовым спортом. Проводится масштабная работа по привлечению внимания и интереса к спортивной борьбе, организации соревнований, укреплению у молодежи уверенности в своей воле, силе и способностях через спортивные состязания, воспитанию ее в духе мужества, патриотизма и преданности Родине, организации и проведению дисциплинированного отбора талантливых борцов из числа молодежи.

Постановление Президента нашей страны от 3 июня 2017 года «О мерах по дальнейшему развитию физической культуры и массового спорта» еще больше усилило внимание к защите подрастающего поколения от вредных привычек и регулярным занятиям физической культурой и спортом. Данные решения координируют и интегрируют деятельность всех субъектов в сфере физической культуры и спорта в соответствии с социально-экономическими и политическими условиями нашей страны, а также способствуют выводу физической культуры и спорта в Узбекистане на высокий качественный уровень [1]. Спортсмены нашей страны, особенно наши борцы, заслуженно добились успеха и признания на многочисленных соревнованиях, проводимых на азиатских и мировых спортивных аренах. Среди них место борцов также не имеет себе равных. Исходя из вышеизложенного, одним из наиболее актуальных вопросов в подготовке борцов является вопрос улучшения и совершенствования их физического развития и двигательных навыков.

В нашей стране увеличивается число людей, занимающихся курашом (национальной борьбой), как очень интересным и важным видом спорта среди населения, особенно среди молодежи. Национальная борьба, наряду с национальными играми, вошла в традиции и ценности узбекского народа, как индивидуальная борьба, так и как вид индивидуальной борьбы. Этот вид спорта организовывался и проводился на больших праздничных мероприятиях, свадьбах и торжествах. В борьбе техническая подготовка спортсмена характеризуется уровнем овладения им системой движений, обеспечивающей достижение высоких спортивных результатов [2].

Сегодня этим видом спорта занимаются многие борцы во многих странах мира. Мы становимся свидетелями того, как мир признает Узбекистан страной настоящих борцов, а наши молодые борцы опускают головы на землю. Борьба отличается от других видов спорта тем, что она включает в себя широкий спектр технических движений и разнообразных приемов. Знание классификации, системы, терминологии и методики приемов борьбы, а также умелое их применение и преподавание требуют от каждого специалиста высокого мастерства для регулирования технических движений борца и создания возможностей для общения между специалистами в этой области. Положительным моментом является также то, что необходимое для

тренировок оборудование в спортивных залах соответствует стандартам, а эффективность тренировок контролируется спортивными медицинскими центрами в школах, колледжах и университетах с целью системного и последовательного обучения молодых спортсменов, оптимального проведения тренировок и подготовки их к соревнованиям. Разделение различных боевых приемов на категории на основе их общих характеристик позволяет специалистам развивать теоретические и практические знания по предмету и одновременно помогает выявлять пробелы в этих знаниях [3].

Различные виды борьбы имеют общие правила (по А.П. Купцову), которые заключаются в следующем: 1. В борьбе участвуют два спортсмена, каждый из которых с помощью приемов или контрприемов добивается победы над своим соперником. Таким образом, в каждую отдельную минуту схватки есть атакующий и атакуемый борец, то есть борец, выполняющий прием или комбинацию, и борец, которому наносится контрудар (борец, выполняющий контратаку, называется контратакующим).

2. Одной из главных задач каждого боевого движения является сохранение выбранного состояния.

3. Задача атакующего борца — вывести противника из равновесия, чтобы изменить его положение относительно ковра. При этом положение борцов относительно друг друга может меняться различным образом.

4. Изменение положения относительно ковра осуществляется за счет использования силы тяжести борцов, направленной в сторону ковра.

5. Приложение необходимой силы к заданной точке тела противника (т. е. создание моментов силы, создание пар сил, использование силы тяжести и моментов инерции) составляет биомеханическую основу каждого приема.

6. Метод позволяет одержать победу силой и состоит из нескольких частей: подготовительное движение, захват, основное движение, атака и заключительные моменты.

7. Каждый метод может быть модифицирован и усложнен в зависимости от динамики ситуации и характеристик противника.

8. Каждый метод имеет свои ритмические характеристики. Его можно изменить в определенные моменты матча или во время него.

9. Площадь для выполнения каждого приема ограничивается размерами ковра кураша. Содержание различных видов борьбы, несмотря на то, что движения борцов в каждом виде борьбы имеют свои особенности, имеют общую основу и классифицируются по схожим признакам [4].

Физические упражнения являются основным средством спортивной тренировки. Их состав разделен по видам спорта. Упражнения позволяют легко освоить технические и тактические приемы и построения в борьбе. В борьбе существуют специальные тренировочные и имитационные упражнения. С помощью этих упражнений борцы развивают определенную область физических качеств. Есть много видов спорта, в которых изначально тренируются борцы, такие как легкая атлетика, гимнастика и спортивные игры. Хотя эти упражнения считаются упражнениями общего развития, они

постепенно становятся специализированными упражнениями в результате общего развития тела борца, укрепляя его кости.

Тренируя каждого нашего спортсмена, тренеры должны в первую очередь развивать его физические качества и психологическую подготовку. Поэтому важно, чтобы каждый тренер имел достаточный опыт, обладал способностью понимать мысли и чувства спортсменов, умел заинтересовать спортсменов в тренировочном процессе, умел управлять их психическим состоянием в условиях соревновательной деятельности.

Использованные источники:

1. Постановление Президента Республики Узбекистан № ПП-3031 «О мерах по дальнейшему развитию физической культуры и массового спорта» - 3 июня 2017 года.
2. Абдуллаев А., Ханкелдиев Ш.Х. Теория и методика физической культуры. Учебник, часть 2. Ташкент, «Янги аср авлоди» - 2016. - 354 с.
3. Гаппарович З.Д. Спортивная психология. Учебник для студентов факультета физического воспитания. Ташкент, «Мехридарё», 2011-345 с.
4. Купцов А.П. Эволюция и применение классификации, систематики и терминологии спортивной борьбы. М., 1980.
5. Тараканов Б.И. Педагогическое руководство физической и тех- нико-тактической подготовкой борцов: автореф. дис… д-ра пед. наук. - СПб.: СПбГАФК им. П.Ф. Лесгафта, 2000. - 45 с.

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ОСОБЕННОСТИ СОВРЕМЕННОГО ПОДХОДА В ПОДГОТОВКЕ СТУДЕНТОВ-ВОЛЕЙБОЛИСТОВ В ВУЗЕ

Аннотация: *В статье рассматриваются современные подходы к подготовке волейболистов в высших учебных заведениях, основанные на комплексном подходе. Рассматриваются ключевые аспекты подготовки: физическая, техническая, тактическая и психологическая составляющие. Особое внимание уделяется внедрению инновационных технологий, индивидуализации тренировочного процесса и методам повышения конкурентоспособности спортсменов. Анализируется роль современных методик в развитии игровых навыков и стратегического мышления.*

Ключевые слова: *мышления, подход, физическая, техническая, тактическая, психологическая.*

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FEATURES OF A MODERN APPROACH TO THE TRAINING OF STUDENT VOLLEYBALL PLAYERS AT THE UNIVERSITY

Abstract:*The article discusses modern approaches to the training of volleyball players in higher education institutions, based on an integrated approach. Key aspects of training are considered: physical, technical, tactical and psychological components. Particular attention is paid to the introduction of innovative technologies, individualization of the training process and methods of increasing the competitiveness of athletes. The role of modern methods in the development of game skills and strategic thinking is analyzed.*

Keywords: *thinking, approach, physical, technical, tactical, psychological.*

Современная подготовка волейболистов в высших учебных заведениях включает в себя комплексный подход, сочетающий физическую, техническую, тактическую и психологическую подготовку. Учитывая

динамическое развитие волейбола и рост требований к спортсменам, программы подготовки постоянно совершенствуются.

Подготовка волейболистов в высших учебных заведениях представляет собой сложный и многогранный процесс, требующий учета современных методик, технологий и индивидуальных особенностей спортсменов. В условиях конкурентного спорта тренеры и преподаватели стремятся внедрять инновационные подходы, направленные на развитие как физических, так и тактических навыков игроков.

Физическая подготовка остается ключевым аспектом подготовки волейболистов. В современном тренировочном процессе акцент делается на развитие силы, скорости, выносливости и координации. Особое внимание уделяется функциональной подготовке, включающей упражнения на стабилизацию, гибкость и профилактику травм.

Техническая подготовка направлена на индивидуализацию тренировок с учетом особенностей каждого игрока. В вузах используются современные технологии, такие как видеонаблюдение, анализ движений и виртуальная реальность для совершенствования игровых навыков. Отрабатываются все элементы игры: подача, прием, передача, блок, атака и защита.

Тактическая подготовка. Тактическое мышление играет важную роль в современном волейболе. В подготовке спортсменов в вузах применяются методики анализа игровых ситуаций, моделирования матчей, работа с игровыми схемами. Особое внимание уделяется командному взаимодействию и быстрому принятию решений в условиях игры.

Психологическая подготовка – неотъемлемая часть подготовки спортсменов. Используются методы психотренинга, медитации и дыхательных техник для управления стрессом. Также проводится работа над развитием лидерских качеств, уверенности в себе и стрессоустойчивости в условиях соревнований. Развитие этих навыков способствует повышению уровня игры студентов и эффективности их командных действий. Формирование технико-тактических навыков у студентов-волейболистов осуществляется посредством комплексного подхода, включающего следующие методы:

Теоретическая подготовка- изучение основ тактики и стратегии игры, разбор игровых ситуаций с использованием видеоанализа, рассмотрение тактических схем и игровых моделей.

Практическая подготовка:

- *Обучение техническим элементам*: студенты осваивают основные движения, постепенно переходя от простых к сложным элементам.
- *Развитие тактического мышления*: выполнение упражнений, направленных на анализ игровых ситуаций и принятие решений в условиях реальной игры.
- *Игровые тренировки*: моделирование различных тактических схем, отработка взаимодействий в команде, участие в соревновательных играх.

Учет уровня подготовки каждого студента и корректировка тренировочного процесса в зависимости от его навыков. Применение дифференцированных заданий для развития индивидуальных качеств игроков.

Современный спорт требует персонализированного подхода к каждому спортсмену. В волейболе это выражается в учёте физических данных, технической оснащённости и психологических характеристик игроков. В высших учебных заведениях применяется система индивидуальных тренировочных программ, которая учитывает:

- антропометрические показатели;
- уровень физической подготовки;
- индивидуальные игровые предпочтения и стиль игры;
- психологическую устойчивость.

Цифровизация в спорте открывает новые возможности для анализа и улучшения игры. Современные технологии позволяют:

- применять видеомониторинг для детального разбора тактических ошибок;
- использовать трекеры и датчики для анализа движений и нагрузок;
- внедрять виртуальную реальность для тактической подготовки.

Включение элементов функционального тренинга в программу подготовки позволяет волейболистам развивать силу, выносливость и координацию. В вузах особое внимание уделяется:

- тренировкам с собственным весом;
- упражнениям на стабилизацию корпуса;
- функциональным комплексам для взрывной силы и быстроты движений.

Успех в волейболе зависит не только от физической формы, но и от тактической грамотности и психологической устойчивости.

В волейболе важны не только сила, скорость и выносливость, но и способность быстро анализировать игру, взаимодействовать с командой и сохранять концентрацию в напряженные моменты.

Тактическая грамотность включает в себя умение читать игру соперника, правильно выбирать позиции, грамотно строить атаки и защиту. Психологическая устойчивость помогает сохранять хладнокровие при напряженной борьбе, справляться с ошибками и не терять уверенности даже в сложных ситуациях.

В рамках вузовских программ активно внедряются:

- групповые разборы тактических схем;
- моделирование игровых ситуаций;
- психологические тренинги для повышения стрессоустойчивости и концентрации.

Современный волейбол опирается на научные исследования в области спортивной физиологии, биомеханики и психологии. В вузах ведётся работа по:

- мониторингу показателей спортсменов с помощью современных диагностических систем;
- исследованию влияния различных тренировочных методик на результативность игры;
- разработке методических рекомендаций по повышению эффективности тренировочного процесса.

Таким образом, подготовка волейболистов в вузе требует комплексного подхода, сочетающего современные технологии, индивидуальный подход и научные разработки. Внедрение инновационных методик позволяет не только улучшить спортивные результаты студентов, но и подготовить их к профессиональной карьере в волейболе. Дальнейшее развитие тренерских программ в вузах будет способствовать росту уровня подготовки молодых спортсменов и популяризации данного вида спорта.

Использованные источники:

1. Матвеева А. Е., Череп З. П. Современный подход в подготовке волейболистов в вузе // Наука-2020. 2019. №1 (26). -С. 83-87.
2. Машарипов Р. Р. , Курбанбаев А. Д. Волейбол – как вид двигательной активности студентов высшего учебного заведения// Экономика и социум" №6(121) 2024/ www.iupr.ru.- С.1211-1215.
3. Машарипов Р. Р., Курбанбаев А. Д. Методические основы занятий волейболом в высших учебных заведениях // "Экономика и социум" №5(108) 2023/ www.iupr.ru.- С.614-618.

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СОЗДАНИЕ СОРТОВ ХЛОПКА С ВЫСОКОЙ ПРОДУКТИВНОСТЬЮ И ВЫСОКИМ КАЧЕСТВОМ ВОЛОКНА В СВЕТЛОЦВЕТНЫХ СЕРОЗЕМАХ АНДИЖАНСКОЙ ОБЛАСТИ

Аннотация: *В статье представлены данные исследований по изменению продуктивности волокна, крупности семян, массы семян и ценных хозяйственных показателей устойчивости к болезням у гибридов хлопчатника.*

Ключевые слова: *гряды Т-44, Т-48 и гибриды УзПИТИ-201, УзПИТИ-202, УзПИТИ-203, Ibrat, Андижан-35.*

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MEDICINAL PROPERTIES OF THE BARBARIUS PLANT AND ORGANIZATION OF COURSES OF TREATMENT OF DISEASES

Annotation: *In this article, research data on changes in fiber productivity, seed size, seed weight and valuable economic traits of disease resistance in cotton hybrids are presented.*

Key words: *T-44, T-48 ridges and UzPITI-201, UzPITI-202, UzPITI-203, Ibrat, Andijon-35 hybrids.*

Важно, что создаваемые сегодня новые первичные материалы и сорта имеют не низкие показатели своих основных характеристик, то есть устойчивы к различным биотическим и абиотическим факторам, выход волокна превышает 40 %, качество волокна полностью соответствует

международным стандартам, выход волокна высокий. Даже не имея высоких показателей по продуктивности волокна, Узбекистан занимает лидирующие позиции в мире по производству и экспорту волокна. По продуктивности волокна занимает 14-15 место. Из-за низкой продуктивности волокна многие площади используются неэффективно. Для решения этой проблемы необходимо эффективно использовать сорта и линии, созданные в нашей республике, и создавать для большинства хозяйств новые первичные формы с высокой продуктивностью волокна и ценными признаками на основе изучения гибридных комбинаций, полученных в результате их скрещивания. Ученые посадили в теплице 28 видов госсипиума и скрестили 16 из них со средневолокнистыми сортами. С целью повышения качества волокна сортов G. hirsutum привлекали сорта Силенд и Египет [1, 2]. Эти два вида растут на американском континенте уже сотни лет. Они являются тетраплоидными видами и были скрещены с диплоидными видами G.herbaceum и G.arboreum для получения триплоидных растений с 39 хромосомами [3]. Гексаплоидные образцы с 78 хромосомами были созданы путем обработки этих растений колхицином [4]. Сорта G. barbadense обладали высокой устойчивостью к паутинному клещу (Tetranychus urticae Koch) [5]. Цель исследований: на основе изучения гибридного потомства, полученного в результате скрещивания сортов и линий, созданных в нашей республике в разных условиях, выявлены факторы, повышающие волокнистость средневолокнистого хлопчатника, то есть индекс волокна, размер 100 семян, масса 1000 семян, и создание первичного материала, устойчивого к заболеванию вилтом.

Экспериментальные системы и условия переноса

Полевые опыты проводятся в Андижанской области, Андижанском районе, Андижанском областном центре агроуслуг в условиях научно-экспериментального хозяйства. Поле, где будет проводиться эксперимент, имеет серую почву, уровень грунтовых вод составляет 1,7-2,0 м. расположен в глубине.

Данная экономическая территория расположена в Андижанском районе Андижанской области (в северо-восточном направлении относительно Андижанской области), географически расположена: 40□-60□ северной и 22□-25□ восточной широты и на высоте 540,2 метра над уровнем моря. Погодные условия в основном типичны для Андижанской области: днем жарко, ночью прохладно. Летом здесь преимущественно безоблачные дни, высокие температуры и небольшое количество осадков из-за прямых солнечных лучей. По данным метеостанции «Андижан», среднегодовое количество осадков составило 380 мм. Температура замерзания поверхностной части почвы весной в основном соответствует марту.

В экспериментах изучались простые гибридные семейства средневолокнистого хлопчатника, полученные с участием местных сортов и гребней. В ходе исследований из гибридных комбинаций хлопчатника были

отобраны 4 гибрида, обладающие большинством признаков родительских форм, и опыты были продолжены. По признаку вегетационного периода показатели были разделены на 6 классов (105-130) с интервалом 5 дней. Установлено, что у гибридных семейств F3 Гозы вегетационный период составил от 114 дней для F3 (ИбратхУзПИТИ-201), до 119 дней для F3 (Андижан-35хИбрат). Среди гибридных семейств F3 по периоду вегетации в комбинациях F3 (УзПИТИ-203хИбрат) и F3 (ИбратхУзПИТИ-201) было много скороспелых растений. В семействах этих гибридных комбинаций период вегетации до 110 дней составлял 36,8-44,4%.

По данным, полученным в экспериментах, показатели были разделены на 7 классов (26-38) по 2 грамма. При изучении семейств гибридных комбинаций F3 по продуктивности волокна установлено, что растений с этим признаком было больше в простых гибридах F3 (УзПИТИ-203хТ-48), F3 (ИбратхУзПИТИ-201) и F3 (Андижан-35хИбрат), чем в других гибридных комбинациях. У этого гибрида установлено, что у растений с выходом волокна более 32 г этот показатель колебался от 38,8% до 68,4%, а коэффициент вариации в семействах простых гибридных комбинаций хлопчатника находился в пределах 5,0-8,2%. По результатам экспериментов с целью продолжения исследований следующего года и создания нового исходного сырья с некоторыми ценными экономическими характеристиками были отобраны растения семейств гибридных комбинаций, расположенных справа от линии изменения продуктивности волокна, т. е. продуктивность волокна превышает 34 грамма, вегетационный период короткий, а масса одного боба высокая.

Рисунок 1. Процесс посева семян 4-го гребня.

В ходе экспериментов были проведены простые скрещивания ряда гряд с местными сортами. Среди них 4-я линия создана в результате простого

скрещивания сортов (Андижан-35 Х Ибрат). Агротехника 4-го ряда следующая: Характеристики волокна ряда: цвет белый, длина 33,6-34,0 мм, выход волокна 36,5-37,0%, масса одной коробочки хлопка 5,9-6,0 г, твердость волокна 4,6 г/текстура, относительная длина разрыва 28,6 г форс/текс, метрический номер 5800-5900, мкм. 4,5-4,6, относится к IV-промышленному типу.

Использованные источники:

1. Автономов А.А. Селекция тонковолокнистых сортов хлопчатника. Ташкент: Наука, 1973. 141 с.
2. Акмурадов Ш., Бердымуродов Р., Чану А. Наследование признаков у мейвидовых гибридов // журнал. «Хлопководство» 2, 1987, ул. 30.
3. Курбанов, Н. Д. (2024). КУЛЬТУРА ДЫНИ НА ФЕРГАНСКОЙ ДОЛИНЕ УЗБЕКИСТАНА. ОБРАЗОВАНИЕ И НАУКА В XXI ВЕКЕ, 5(37).
4. Курбанов, Н. Д., & Мирзаев, Ж. Ж. (2024). СРАВНИТЕЛЬНЫЙ АНАЛИЗ ФОТОСИНТЕТИЧЕСКИХ ПРОЦЕССОВ ИНТРОДИЗИРОВАННОГО АМАРАНТУСА ЛЕКАРСТВЕННОГО РАСТЕНИЯ. Экономика и социум, (5-2 (120)), 1114-1116.
5. Курбанов, Н. Д., Мирзаев, Ж. Ж., & Обидова, Д. Ш. (2024). PASSIFLORA INCARNATA L БИОМОРФОЛОГИЧЕСКАЯ ХАРАКТЕРИСТИКА И ХИМИЧЕСКИЙ СОСТАВ. Экономика и социум, (12-1 (127)), 852-854.

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ИННОВАЦИОННЫЕ МЕТОДЫ ВЫРАЩИВАНИЯ ЛЕКАРСТВЕННЫХ РАСТЕНИЙ В АГРОЭКОЛОГИЧЕСКИХ УСЛОВИЯХ ФЕРГАНСКОЙ ДОЛИНЫ

Аннотация:*В данной статье анализируются инновационные методы выращивания лекарственных растений в агроэкологических условиях Ферганской долины. Ферганская долина благодаря своему климату, почвам и водным ресурсам является благоприятным регионом для культивирования лекарственных растений. Лекарственные растения имеют большое значение, особенно в медицине и фармацевтической промышленности. В статье рассматриваются современные инновационные технологии, включая органическое сельское хозяйство, гидропонику, аэропонику, генетическую модификацию и интеллектуальные системы орошения, а также их эффективность в выращивании лекарственных растений. Эти технологии позволяют увеличить урожайность, обеспечить экологическую безопасность и эффективно использовать водные ресурсы. Результаты исследования демонстрируют, что широкое применение инновационных методов выращивания лекарственных растений в Ферганской долине может способствовать устойчивому развитию сельского хозяйства.*

Ключевые слова: *Ферганская долина, лекарственные растения, инновационные технологии, агроэкологические условия, гидропоника, аэропоника, генетическая модификация, интеллектуальное орошение, органическое сельское хозяйство, экологическая безопасность, водные ресурсы.*

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INNOVATIVE METHODS OF GROWING MEDICINAL PLANTS IN THE AGROECOLOGICAL CONDITIONS OF THE FERGANA VALLEY

Annotation:*This article analyzes innovative methods of growing medicinal plants in the agroecological conditions of the Fergana Valley. Due to its climate, soils and water resources, the Ferghana Valley is a favorable region for the cultivation of medicinal plants. Medicinal plants are of great importance, especially in medicine and the pharmaceutical industry. The article discusses modern innovative technologies, including organic agriculture, hydroponics, aeroponics, genetic modification and intelligent irrigation systems, as well as their effectiveness in growing medicinal plants. These technologies make it possible to increase yields,*

ensure environmental safety and efficiently use water resources. The results of the study demonstrate that the widespread use of innovative methods of growing medicinal plants in the Ferghana Valley can contribute to the sustainable development of agriculture.

Keywords: *Ferghana Valley, medicinal plants, innovative technologies, agroecological conditions, hydroponics, aeroponics, genetic modification, intelligent irrigation, organic agriculture, environmental safety, water resources.*

ВВЕДЕНИЕ

Ферганская долина является одним из самых продуктивных и активно возделываемых регионов Узбекистана, обладающим благоприятными климатическими условиями для сельского хозяйства. Этот регион отличается уникальными возможностями с точки зрения почвенных ресурсов и водообеспечения, что делает его перспективным для выращивания лекарственных растений. Лекарственные растения, благодаря своему медицинскому и фармацевтическому значению, играют важную роль в развитии сельского хозяйства в последние годы.

Применение инновационных технологий позволяет повысить эффективность выращивания лекарственных растений, улучшить их качество и создать возможности для получения урожая без нанесения ущерба экосистеме. В данной статье рассматриваются инновационные методы культивирования лекарственных растений в Ферганской долине и возможности их применения в агроэкологических условиях региона.

АНАЛИЗ ЛИТЕРАТУРЫ

Исследования и научные работы, посвященные выращиванию лекарственных растений, широко представлены как в мире, так и в Узбекистане. В данном разделе проводится анализ существующей литературы по агроэкологическим условиям и инновационным методам выращивания лекарственных растений в Ферганской долине. Рассматриваемая литература охватывает такие аспекты, как агроэкологические условия, инновационные технологии, влияние на экосистему, современные подходы в сельском хозяйстве и культивировании лекарственных растений, а также передовой опыт и методы.

1. **Лекарственные растения** широко применяются в народной медицине, фармацевтической промышленности, косметологии и других отраслях. Выращивание этих растений в Ферганской долине играет важную роль, особенно в обеспечении доходов сельского населения. Гафуржонов (2020) в своей статье **«Лекарственные растения в сельском хозяйстве Узбекистана и их значение»** рассматривает роль лекарственных растений в медицине и подчеркивает важность применения экологически чистых и инновационных методов их выращивания.

2. **Ферганская долина** является одним из наиболее благоприятных регионов Узбекистана для сельского хозяйства. Агроэкологические условия долины, включая климат, почвы и водные ресурсы, подходят для

выращивания лекарственных растений. Абдувохидов и Мустафаев (2018) в статье **«Агроэкология и сельское хозяйство: особенности Ферганской долины»** анализируют агроэкологические условия региона и возможности выращивания растений. Исследователи отмечают изменчивость климата, ограниченность водных ресурсов и необходимость обеспечения экологической устойчивости при выращивании лекарственных растений.

3. **Применение инновационных технологий** в выращивании лекарственных растений играет важную роль не только в увеличении урожайности, но и в обеспечении экологической безопасности. В связи с этим уделяется большое внимание изучению эффективности инновационных технологий в сельском хозяйстве. Куюков (2021) в своей работе **«Агроэкологические технологии и инновационные подходы»** рассматривает внедрение инновационных методов в сельское хозяйство. По его мнению, современные технологии, такие как **гидропоника, аэропоника и интеллектуальные системы орошения**, играют важную роль в сохранении почвенного плодородия и рациональном использовании водных ресурсов. Внедрение этих технологий в выращивание лекарственных растений в Ферганской долине может значительно повысить урожайность.

4. **Биотехнологии и генетическая модификация** также набирают популярность в выращивании лекарственных растений. Внедрение этих технологий в Ферганской долине позволит повысить устойчивость растений к заболеваниям и засухе. Однако их применение в сельском хозяйстве Узбекистана пока остается ограниченным, хотя исследования в этом направлении продолжаются. Турсунов (2019) в статье **«Развитие лекарственных растений с помощью генной модификации»** рассматривает возможности повышения устойчивости лекарственных растений к агроклиматическим условиям путем генетической модификации.

5. **Водные ресурсы Ферганской долины** имеют решающее значение для сельского хозяйства. Однако их эффективное управление и экономное использование становятся актуальной задачей. Интеллектуальные системы орошения, например **автоматические ирригационные системы**, помогают снизить потери воды и более точно рассчитывать потребность растений во влаге. Рахматов и Бекмуродов (2020) в работе **«Интеллектуальные системы орошения: новые подходы для Ферганской долины»** анализируют эффективность таких систем и их преимущества в агроэкологических условиях региона.

РЕЗУЛЬТАТЫ И ОБСУЖДЕНИЕ

Применение инновационных технологий и методов в выращивании лекарственных растений в Ферганской долине привело к следующим результатам:

1. **Технологии органического сельского хозяйства**: Использование органических методов позволило повысить экологическую безопасность растений и сократить применение пестицидов. В результате экспериментов было установлено, что лекарственные растения, выращенные органическим

методом, обладают более высоким качеством и полезными свойствами по сравнению с растениями, обработанными химическими веществами.

В следующей таблице представлены преимущества, недостатки, возможности применения и эффективность технологии органического сельского хозяйства.

1-**таблица**

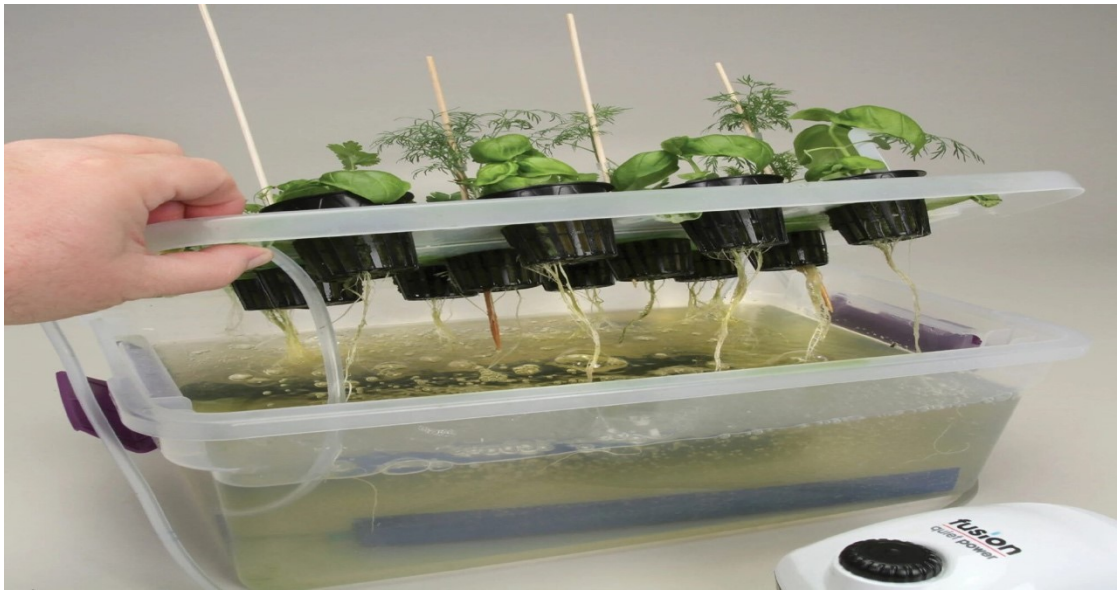
Основные Направления	**Преимущества**	**Недостатки**	**Возможности и Эффективность**
Сохранение плодородия почвы	Отказ от химических веществ, сохранение естественного плодородия почвы	Ограничение в использовании семян и удобрений, что может привести к снижению урожайности	Эффективность в долгосрочном сохранении плодородия почвы
Отсутствие использования пестицидов и удобрений	Экологически чистые продукты, отсутствие вредных веществ для окружающей среды	Может замедлить рост растений, меньшая устойчивость к болезням	Растущий спрос на органические продукты, экспортные возможности
Развитие агроэкологической системы	Сохранение природных экосистем, увеличение биологического разнообразия	Трудности в борьбе с вредителями и болезнями	Повышение устойчивости агроэкологической системы, использование севооборота
Использование биологических методов в сельском хозяйстве	Применение биологических средств (например, полезных микроорганизмов, ферментов)	Эффективность биологических средств может не быть немедленно видимой	Защита растений с помощью биологических систем, снижение потребности в химических веществах
Повышение качества продукции	Здоровые и экологически чистые продукты, высокое качество урожая	Стоимость технологий для повышения урожайности	Рост цен на органические продукты, увеличение спроса

			на здоровый образ жизни
Государственная поддержка	Субсидии и гранты для развития органического сельского хозяйства	Недостаток начального капитала для развития органических ферм	Увеличение государственного финансирования для развития органического сельского хозяйства
Сельскохозяйственная устойчивость	Эффективное управление водными ресурсами, предотвращение эрозии и загрязнения почвы	Ограниченные средства для защиты растений и методов	Развитие устойчивого сельского хозяйства, борьба с изменением климата

2.Гидропоника и аэропоника:

Эти технологии позволили добиться значительных успехов в выращивании лекарственных растений без использования почвы. Гидропонный метод способствовал более быстрому росту растений при меньшем расходе воды. Аэропонные системы обеспечили улучшенное снабжение корней кислородом, создавая оптимальные условия для развития растений.

1- картина



РЕЗУЛЬТАТЫ И ОБСУЖДЕНИЕ

Применение инновационных технологий и методов при выращивании лекарственных растений в Ферганской долине привело к следующим результатам:

1. **Технологии органического сельского хозяйства**: Использование органических методов позволило повысить экологическую безопасность растений и сократить применение пестицидов. В результате экспериментов было установлено, что лекарственные растения, выращенные органическим способом, обладают более высоким качеством и полезными свойствами по сравнению с обработанными химическими веществами.

В следующей таблице приведены данные о преимуществах, недостатках, возможностях применения и эффективности технологий органического сельского хозяйства.

2. **Гидропоника и аэропоника**: Эти технологии позволили выращивать лекарственные растения без использования почвы, что привело к значительным успехам. Гидропонный метод способствовал более быстрому росту растений и снижению расхода воды. Аэропонные системы, обеспечивая доступ корней к воздуху, создавали оптимальные условия для развития растений.

3. **Генетическая модификация и биотехнологии**: Генетическая модификация позволила повысить устойчивость лекарственных растений к заболеваниям. Например, была изучена возможность создания устойчивых к засухе лекарственных растений, что позволило продолжить выращивание урожая в засушливых условиях Ферганской долины.

Генетическая модификация (ГМ) — это процесс искусственного изменения генетической структуры растений, животных или микроорганизмов. Данный метод позволяет изменять определённые характеристики организмов или вводить новые.

Наиболее распространенной технологией генной модификации является **рекомбинантная ДНК-технология**, при которой в геном растения или животного внедряются чужеродные гены.

Цели генетической модификации

Генная модификация проводится с несколькими основными целями:

Повышение урожайности: Генетически модифицированные растения могут давать более высокий урожай и быть устойчивыми к изменениям климата.

Устойчивость к заболеваниям: ГМ-растения могут быть генетически модифицированы для защиты от вредителей и болезней.

Улучшение качества продукции: Например, растения могут быть обогащены полезными веществами, а у животных может быть улучшено качество получаемых от них продуктов (молоко, мясо, яйца).

Адаптация к климату: Генетически модифицированные растения могут быть устойчивыми к засухе или низким температурам.

Различие между генетической модификацией и биотехнологией

Генетическая модификация связана с изменением или добавлением генетического материала, её цель — создание новых генетических характеристик.

Биотехнология охватывает широкий спектр технологий, направленных на использование биологических процессов в промышленности, включая генную модификацию, работу с микроорганизмами и ферментами.

Технологии генетической модификации

Для генной модификации используются следующие технологии:

Рекомбинантная ДНК-технология: Введение чужеродного гена (например, из бактерий или других растений) в ДНК целевого организма.

Gene gun (генная пушка): Метод введения генов в клетки организма с использованием специального оборудования.

Преимущества генетически модифицированных растений

Повышение урожайности

Обеспечение продовольственной безопасности

Экологическая безопасность

Недостатки генетически модифицированных растений

Экологические риски

Влияние на почву и биоразнообразие

Социальные и экономические проблемы

Достижения в области биотехнологий

Разработка новых лекарственных препаратов

Лечение генетических заболеваний

Производство ферментов и микроорганизмов для пищевой и фармацевтической промышленности

Будущее генетической модификации

Генетическая модификация и биотехнологии обещают большие перспективы не только в сельском хозяйстве, но и в медицине, энергетике и

охране окружающей среды. Однако необходимо учитывать и потенциальные риски, а также разрабатывать законодательные и научные механизмы контроля.

4. **Умные системы орошения**: Современные технологии управления водными ресурсами позволили оптимизировать процесс полива. Автоматизированные системы рассчитывали время и объем полива, способствуя экономии воды и созданию благоприятных условий для растений.

Основные виды умного орошения:

Капельный полив: Вода поступает непосредственно к корням растений, обеспечивая её экономию.

Дождевальная система: Вода равномерно распределяется по почве и растениям с помощью разбрызгивания.

Аэроорошение: Вода подаётся через воздушные каналы, обеспечивая эффективное распределение влаги.

Преимущества умного орошения:

Экономия воды,адаптация к климату,Повышение качества урожая,Автоматизация процесса

5. **Агроэкологический мониторинг**: Использование дронов и спутников для дистанционного наблюдения за растениями и состоянием почвы позволило оперативно выявлять вредителей и болезни на ранних стадиях, а также принимать своевременные меры для защиты растений.

Агроэкологический мониторинг — это процесс наблюдения и оценки взаимодействия сельского хозяйства с окружающей средой. Он направлен на изучение влияния аграрной деятельности на экологию и экономику, а также на контроль состояния природных ресурсов.

Основные цели агроэкологического мониторинга:

Оценка плодородия почвы

Изучение биоразнообразия

Выявление вредителей и заболеваний

Контроль за качеством водных ресурсов

Вот таблица, показывающая инновационные технологии, применяемые при выращивании лекарственных растений в Ферганской долине, и их эффективность:

2-таблица

Инновационная технология	Эффективность	Преимущества	Трудности
Органическое сельское хозяйство	Улучшение качества урожая, экологическая чистота	Не используется химические вещества, соответствует рыночному спросу	Высокие затраты, возможная низкая эффективность
Гидропоника	Рост без почвы и с минимальным количеством воды	Экономия воды, защита почвы, быстрое созревание урожая	Сложная технология, высокие первоначальные затраты
Аэропоника	Оптимальные условия для корней	Меньше расходуется воды, быстрый рост, высокий урожай	Более высокая стоимость по сравнению с другими технологиями
Генетическая модификация	Устойчивость к болезням, сопротивление засухе	Высокий урожай, адаптивность, устойчивость к болезням	Высокие затраты на биотехнологию и исследования
Умные системы орошения	Экономия воды, эффективное орошение	Эффективное управление водными ресурсами, автоматизация системы	Затраты на установку и техническое обслуживание
Агроэкологический мониторинг	Дистанционное наблюдение за состоянием растений и почвы	Быстрый мониторинг, раннее выявление вредителей и болезней	Высокие требования к технологическим устройствам и программному обеспечению

Выращивание лекарственных растений в Ферганской долине с применением инновационных методов имеет множество преимуществ. В первую очередь, важным фактором является использование технологий органического сельского хозяйства для обеспечения экологической устойчивости. Такие технологии, как гидропоника и аэропоника, играют значительную роль в экономии водных ресурсов. Кроме того, с помощью генной модификации и биотехнологий можно ускорить рост растений и улучшить их качество. А умные системы орошения представляют собой одни из самых современных технологий управления водными ресурсами.

Экономическая эффективность применения инновационных методов также может быть высокой. За счёт экономии воды, сокращения использования пестицидов и выращивания устойчивых к заболеваниям растений можно снизить затраты и, соответственно, увеличить доход. К тому

же, производство высококачественных лекарственных растений создаёт хорошие возможности для экспорта, что способствует укреплению экономики региона.

ВЫВОДЫ

Агроэкологический мониторинг является важным инструментом для обеспечения экологической устойчивости сельскохозяйственных систем. Непрерывное наблюдение за такими природными ресурсами, как почва, вода, растения и животные, позволяет определить влияние сельского хозяйства на окружающую среду. Основная цель мониторинга – обеспечение экологической безопасности, рациональное использование ресурсов и сохранение природного баланса.

Благодаря данным, полученным в ходе агроэкологического мониторинга, можно решать проблемы, связанные с вредителями, болезнями растений, плодородием почвы и изменением климата. Кроме того, этот метод помогает обеспечить устойчивость и долгосрочное развитие сельскохозяйственных практик.

Однако для эффективного функционирования агроэкологического мониторинга необходимо преодолеть высокие затраты и сложность его внедрения. В то же время, развитие мониторинговых систем и совершенствование технологий позволит создать эффективные с экологической и экономической точки зрения системы. В целом, агроэкологический мониторинг является одним из ключевых инструментов управления сельским хозяйством и окружающей средой, способствуя устойчивому развитию.

Использованные источники:

1. Джалилов, А. (2020). "Агроэкология: теоретические основы и практическое руководство." Ташкент: Учитель.
2. Василенко, И. & Фролов, П. (2019). "Агроэкология: инновационные подходы." Москва: Издательство Сфера.
3. Хамидов, А. (2018). "Умные системы орошения в сельском хозяйстве." Самарканд: Издательство Самаркандского государственного университета.
4. Smith, P., et al. (2017). "Climate change mitigation in agriculture: an agroecological perspective." Agriculture, Ecosystems & Environment, 235, 54-69.
5. Карев, В. (2021). "Агроэкологический мониторинг и его значение." Международный журнал сельского хозяйства, 34(2), 103-110.
6. Гуломов, Ш. (2016). "Агроэкологический мониторинг и экологическая безопасность." Исследования в сельском хозяйстве, 19(1), 12-20.
7. Петров, А. (2020). "Генная модификация и роль биотехнологий в сельском хозяйстве." Журнал биологии и биотехнологии, 22(3), 45-60.
8. Cesar, A. & Sanchez, R. (2018). "Advances in irrigation technologies and sustainability." Irrigation Science, 36(2), 101-115.
9. Юсуфов, М. & Мирзаев, К. (2017). "Умные системы орошения и их эффективность." Аграрные технологии, 25(1), 23-30.

10. Гусев, В. & Панков, С. (2019). "Генная модификация растений и ее экологические последствия." Журнал сельского хозяйства и экологии, 44(2), 92-101.
11. Johnson, F. & Lee, H. (2020). "Smart Irrigation Systems: Principles and Technologies." Water Resources Management, 34(4), 1131-1145.
12. Ташкент, С. & Каримов, А. (2018). "Экологический мониторинг и его актуальность." Журнал экологической администрации Узбекистана, 8(3), 45-53.
13. Бокова, Т. & Шестакова, Н. (2021). "Биотехнология и её влияние на сельское хозяйство." Biotechnology Advances, 39, 1076-1092.
14. Zho, P. (2017). "Умные технологии орошения: экономия воды и повышение урожайности." Инновационное сельское хозяйство, 15(2), 76-81.
15. López, M., & Rodríguez, J. (2016). "Agroecology and sustainable farming." Sustainable Agriculture Research, 5(2), 100-115.
16. Исмаилов, И. (2018). "Управление водными ресурсами: умные системы орошения." Проблемы сельского хозяйства, 31(4), 19-26.
17. Попов, А. (2020). "Будущее биотехнологий в сельском хозяйстве." Agricultural Systems, 177, 102-109.
18. Абдувахидов, А. & Туробов, Б. (2020). "Методологические основы агроэкологического мониторинга." Журнал Академии агроэкологии Ташкента, 12(3), 49-57.
19. Акимов, С. & Иванов, П. (2021). "Агроэкологический мониторинг в современном сельском хозяйстве." Journal of Environmental Management, 82(6), 1295-1301.
20. Назаров, З. & Джумаев, И. (2019). "Особенности агроэкологического мониторинга." Журнал сельского хозяйства и охраны природы, 27(1), 12-19.

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ИССЛЕДОВАНИЕ МЕТОДОВ УЛАВЛИВАНИЯ ПЫЛИ ИЗ МЕТАЛЛУРГИЧЕСКИХ ПЕЧЕЙ И ИХ ЭФФЕКТИВНОСТИ

Аннотация: *Снижение негативного воздействия пыли, выделяющейся из металлургических печей, на атмосферу и рабочую среду является одной из важных экологических и технологических задач. В данной статье рассматривается эффективность методов улавливания пыли, образующейся в металлургических печах. Также анализируются возможности совершенствования систем пылеулавливания с применением современных технологий и инновационных подходов. Пыль, образующаяся в металлургических печах, содержит тяжёлые металлы, сульфиды и другие вредные компоненты, которые могут оказывать негативное влияние на окружающую среду и здоровье человека. Поэтому эффективное улавливание пыли из металлургических печей является одной из ключевых технологических и экологических задач.*

Ключевые слова: *металлургические печи, пылеуловление, методы улавливания пыли, экологическая защита, фильтрация, электростатические фильтры, инерционные пылеуловители, промышленные выбросы, системы очистки воздуха, экологические технологии*

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STUDYING METHODS OF CAPTURING DUST FROM METALLURGICAL FURNACES AND THEIR EFFECTIVENESS

Abstract. *Reducing the negative impact of dust emissions from metallurgical furnaces on the atmosphere and working environment is one of the crucial environmental and technological challenges. This article examines the effectiveness of dust capture methods from metallurgical furnaces. Additionally, it analyzes the possibilities of improving dust separation systems using modern technologies and innovative approaches. Dust generated in metallurgical furnaces contains heavy metals, sulfides, and other harmful components that can adversely affect the environment and human health. Therefore, the efficient capture of dust from metallurgical furnaces is considered one of the significant technological and environmental issues.*

Keywords: *metallurgical furnaces, dust separation, dust capture methods, environmental protection, filtration, electrostatic filters, inertial dust separation, industrial waste, air purification systems, environmental technologies.*

Введение. Металлургия является неотъемлемой частью современной промышленности, в которой осуществляются процессы извлечения и переработки различных металлов. В результате этих процессов наряду с получением важных металлических и сплавных продуктов образуются различные газообразные, жидкие и твердые отходы, выбрасываемые в атмосферу. Особенно значимыми среди промышленных выбросов являются пылевые выбросы из металлургических печей [1].

В ходе технологических процессов на медеплавильных заводах пылевые выбросы могут содержать цветные металлы, такие как медь, свинец и цинк. Распространение этой пыли в окружающую среду вызывает экологические проблемы и может негативно сказаться на здоровье человека. Кроме того, потеря ценных компонентов, содержащихся в пыли, является экономически невыгодной. По этой причине эффективное улавливание и переработка металлургической пыли является одной из актуальных задач сегодняшнего дня.

Существует несколько основных методов улавливания пыли, выделяемой из печей медеплавильных заводов, включая механические, электростатические и мокрые технологии пылеулавливания. Каждый метод обладает своей степенью эффективности, и их правильный выбор способствует повышению экологической и экономической эффективности производственного процесса [2,3].

Цель данного исследования - детально изучить методы улавливания пыли, выделяемой из металлургических печей, проанализировать их эффективность и предложить наиболее оптимальные технологические решения для медеплавильных заводов. В ходе исследования рассматриваются состав пыли, источники её образования и влияние на окружающую среду, а также преимущества и недостатки современных технологий пылеулавливания. Кроме того, предлагаются пути решения существующих проблем и разрабатываются мероприятия, направленные на обеспечение экологической безопасности на предприятиях металлургической промышленности.

Таким образом, исследование методов улавливания металлургической пыли и повышения их эффективности имеет не только экологическое, но и экономическое значение, оказывая положительное влияние на рентабельность промышленных предприятий [4].

Анализ литературы и методы. Для газов, выделяемых многими металлургическими агрегатами, требуется очистка от нетоксичной пыли до уровня 100 мг/м³, при котором пыль становится практически незаметной визуально. Для некоторых вредных веществ установлены предельно допустимые концентрации (ПДК) в районах, где присутствуют люди.

Значения приблизительно допустимых концентраций (мг/м³) для таких веществ приведены в таблице 1 [5].

Таблица 1

Предельно допустимые концентрации вредных веществ в атмосфере (мг/м³)

Наименование вещества	Максимальная разовая концентрация (мг/м³)	Среднесуточная концентрация (мг/м³)
Нетоксичная пыль	0,5	0,15
Оксид углерода (CO)	6,0	1,0
Оксиды азота (NO_x)	0,085	0,085
Диоксид серы (SO_2)	0,5	0,15
Сероводород (H_2S)	0,008	0,008
Фенол (C_6H_5OH)	0,01	0,01

Очистка газов от твердых частиц (пыли) и улавливание вредных газообразных веществ с помощью химических методов различаются. В настоящее время существует множество методов очистки выбрасываемых в атмосферу газов от вредных примесей, поскольку в составе газов и пыли содержатся ценные компоненты, которые необходимо улавливать.

На металлургических заводах очистка газов от пыли в основном осуществляется механическими методами. В зависимости от принципа работы применяемые методы очистки подразделяются на сухие и мокрые. Мокрые пылеуловители не только задерживают пыль, но и частично очищают газы от диоксида серы (SO_2). Однако такие установки потребляют большое количество воды, которая затем также требует очистки. В настоящее время на металлургических предприятиях используется несколько типов пылеуловителей.

Сухая механическая очистка газов. Аппараты для сухой очистки газа делятся на пылеуловители и фильтры. Пылеуловители, в свою очередь, подразделяются на гравитационные и газозадерживающие установки.

Гравитационные пылеуловители. Эти устройства представляют собой пылевые камеры различных конструкций, в которых пыль оседает преимущественно под воздействием силы тяжести. Влияние гравитации на процесс отделения пыли от газового потока считается минимальным (рис. 1) [6].

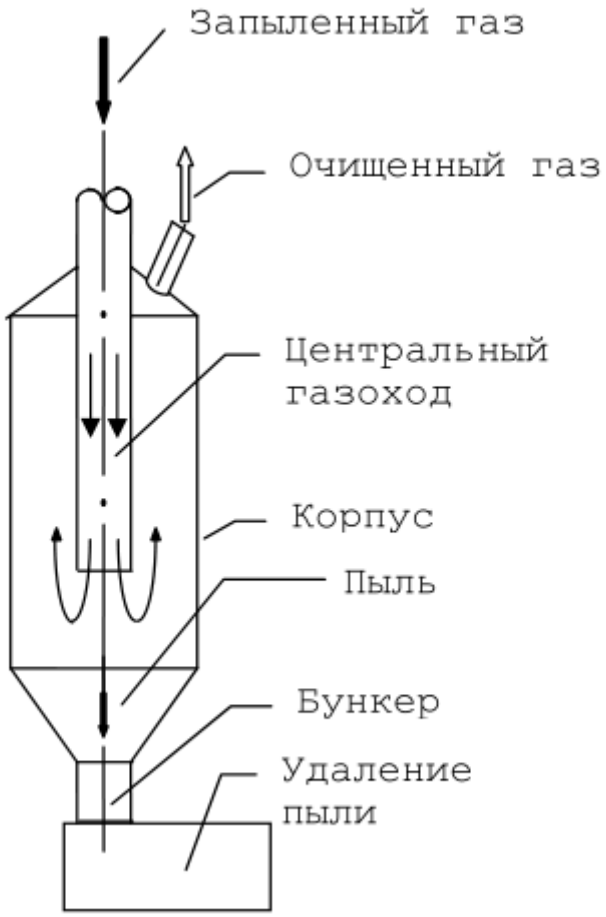

Рис. 1. Схема радиального пылеуловителя

Через центральный газоход поступает запыленный газ, который в корпусе пылеуловителя снижает скорость своего движения и меняет направление движения на 180° . Пыль, содержащаяся в газе, под действием сил тяжести и по инерции, оседает в бункер, а газ удаляется в очищенном виде. Гравитационные пылеуловители эффективны при удалении частиц пыли с размерами, большими 100 мкм, т.е. достаточно крупных частиц. Они обеспечивают грубую очистку газа, улавливая до 60% пыли.

Использованные источники:

1. Циркун О.Ф., Щёлоков Я.М., Бекгурин В.Г. Некоторые физико-химические свойства пылей предприятий цветной металлургии. Цветные. металлы. 1980. №2. С.27.
2. Ванкжов А.В., Уткин Н.И. Комплексная переработка медного и никелевого сырья. Челябинск: Металлургия. 1988.
3. Патент 184266 Польша, МКИ С22В 7/02. Способ переработки окисленных пылей медеплавильных заводов. 1980.
4. Aripov A.R., Sayfullayev F.I., Qurbonov M.N., Majidova I.I. O‘zbekistonda kon-metallurgiya sanoatining shakllanish va rivojlanish tarixi. Sanoatda raqamli texnologiyalar ISSN: 3030-3214, Volume 2, № 3:2024.

5. Sirojov T.T.,Sayfullayev F.I., Qurbonov M.N., Yuldosheva Sh.J. Oltin va mis tarkibli rudalarni kompleks qayta ishlash texnologiyasini tadqiq qilish. Sanoatda raqamli texnologiyalar. ISSN: 3030-3214 Volume 2, № 4 2024.
6. Aripov A.R., Fuzaylov O.U., Sayfullaev F.I., Qurbonov M.N. Murakkab oltin tarkibli ruda va konsentratlarning maydalanish va sianlanish qobiliyatini yaxshilash uchun mikroto‘lqinli energiyadan foydalanish. Sanoatda raqamli texnologiyalar ilmiy-texnik jurnali December № 2. Qarshi-2023.

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СРАВНИТЕЛЬНАЯ ХАРАКТЕРИСТИКА МОРФОМЕТРИЧЕСКИХ ПАРАМЕТРОВ ПОЧЕК ПРИ ПОЛИПРАГМАЗИИ ПРОТИВОВОСПАЛИТЕЛЬНЫМИ ПРЕПАРАТАМИ

Аннотация:*В эксперименте на крысах проведено сопоставление морфологических изменений частей нефрона почек крыс в норме и при применение противовоспалительные лекарственные средства. Установлено, что применение противовоспалительные лекарственные средства уменьшается параметры нефронов почечной ткани.*

Ключевые слова: *нефрон, проксимальный извитый каналец, дистальный извитый каналец, полипрагмазия.*

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COMPARATIVE CHARACTERISTICS OF MORPHOMETRIC PARAMETERS OF KIDNEYS IN POLYPRAGMASIA WITH ANTI-INFLAMMATORY PREPARATIONS

Annotation:*In an experiment on rats, the morphological changes in the parts of the nephron of the kidneys of rats were compared in normal conditions and with the use of anti-inflammatory drugs. It was found that the use of anti-inflammatory drugs decreases the parameters of the nephrons of the renal tissue.*

Key words: *nephron, proximal convoluted tubule, distal convoluted tubule, polypharmacy.*

Актуальност и проблемы

Особо важное место во взаимоотношении всего организма с внешней средой занимает мочевыделительная система. Почки, как главный экскреторный орган, в большой степени подвержены негативному воздействию лекарственнқх средств [2].

Противовоспалительные средства это одна из наиболее часто используемых в медицине лекарственных групп. Их преимуществом является комплексное действие (жаропонижающее, противовоспалительное и обезболивающее), а также широкий спектр показаний, при которых они могут использоваться. Более распространенны и часто назначаются 5 видов противовоспалительных средств, входящие в одну группу по

фармакодинамическим эффектам. Однако имеющиеся на сегодня сведения о результатах терапии данными препаратами не позволяют сделать однозначный вывод об их эффективности или неэффективности а так же о развитие побочных эффектов в таких комбинациях [1].

При исследовании отдаленных последствий полипрагмазии уменшаеться параметры нефронов почки в более чувствительной популяции и параллельно растет численность стромальных элементов в наиболее устойчивых к полипрагмазии [4]. Эти данные свидетельствуют о снижении функциональной активности нефронов почки после воздействия полипрагмазии [5].

Побочные эффекты лекарственных препаратов, в том числе ренальные и кардиоваскулярные, являются актуальной медицинской проблемой во всем мире. Ведущее место в их развитии занимают нестероидные противовоспалительные препараты (НПВП), являющиеся одним из наиболее часто применяемых классов лекарственных средств [3,6].

Цель исследования: установить динамику изменений морфометрических параметров площадь почечного тельца, проксимальных и дистальных извитых канальцев почек крыс до 6 месячного возраста в норме и при полипрагмазии противовоспалительных лекарственных средств.

Материалы и методы. Исследование выполнено на 50 белых рандомбредных крысах самцах, с массой от 210 до 320 г., содержавшихся в условиях вивария при стандартном рационе питания, свободном доступе к воде, обычном режиме освещения. Животные были разделены на 3 группы (n=60): I – интактный контроль (n=20); II–группа – крысы, получавшие 2 вида противовоспалительных средств, парацетамол 15 мг/кг, аспирин 5 мг/кг (n=25); III – группа – крысы, получавшие 3 вида противовоспалительных средств, парацетамол 15 мг/кг, аспирин 5 мг/кг, ибупрофен 6 мг/кг (n=25);

Данные дозировки препаратов были рассчитаны эмпирическим путем и вводились ежедневно внутрижелудочно в виде раствора в течении 10 дней. Крысам контрольной группы в течение 10 дней начиная с 141 дня развития до 150 дня металлическим зондом внутри желудочно вводили дистиллированную воду в объёме 0,5 мл.

Тяжесть органопатологии оценивали по морфологическим показателям (площадь почечного тельца, наружный диаметр проксимальных и дистальных извитых канальцев, диаметр просвета канальцев и её процентному соотношению к группам).

Выведение животных из эксперимента проводили через 3 месяца (в 180 дневном возрасте) с момента его начала, посредством мгновенной декапитации животных под эфирном наркозом. На проведение исследования получено разрешение Этического комитета Самаркандского государственного медицинского института.

Для микроскопического исследования материал фиксировали в 10% формалине, пропускали через батарею спиртов и разливали парафиновой

блоки в соответствии с общепринятыми методами. Окраска срезов толщиной 5-7 мкм производилась гематоксилин-эозином.

Математическую обработку производили непосредственно из общей матрицы данных «Excel 7,0» на персональном компьютере Pentium-IV, определяли показатели среднеквадратичного отклонения и ошибки репрезентативности.

Результаты и обсуждение. При морфологическом исследовании параметров площадь почечного тельца, наружный диаметр проксимальных и дистальных извитых канальцев, диаметр просвета канальцев почек у крыс 1-й группы наблюдалась положительная динамика изменений всех показателей. Период наблюдений площадь почечного тельца увеличивался до 3263±34 мкм2, наружный диаметр проксимальных извитых канальца среднем равен 22,08±0,12 мкм, диаметр просвета канальца 13,12±0,09 мкм, наружный диаметр дистальных извитых канальца среднем равен 21,11±0,32 мкм, диаметр просвета канальца 12,04±0,1 мкм.

У крыс 2-й группы наблюдалось уменьшение морфометрических показателей, по сравнению с животными 1-й группы. После окончания воздействия условий 2-й группы площадь почечного тельца уменьшался до 3018±4 мкрм2, 3056±7 мкрм2, 3126±6 мкрм2, 3131±5 мкрм2 (процентном соотношение -7,21%, -6,32%, -4,18%, -4,03%) наружный диаметр проксимальных извитых канальца уменьшался 20,04±0,1 мкрм, 20,49±0,13 мкрм, 21,16±0,3 мкрм, 21,39±0,2 мкрм (процентном соотношение -9,26%, -7,21%, -4,15%, -3,11%) диаметр просвета канальца на 12,16±0,12 мкрм, 12,29±0,22 мкрм, 12,45±0,13 мкрм, 12,70±0,31 мкрм (процентном соотношение -7,25%, -6,31%, -5.12%, -3,21%) наружный диаметр дистальных извитых канальца уменьшался 18,59±0,1 мкрм, 18,68±0,23 мкрм, 18,86±0,12 мкрм, 19,24±0,33 мкрм (процентном соотношение -7,54%, -7,09%, -6,22%, -4,34%) диаметр просвета канальца на 11,42±0,11 мкрм, 11,43±0,14 мкрм, 11,60±0,23 мкрм, 11,67±0,12 мкрм (процентном соотношение -5,12%, -5,04%, -3,64%, -3,09%).

При сравнение морфометрических показателей крыс 3-й группы с показателями 2-й группы было выявлено достоверное уменьшение. Площадь почечного тельца уменьшался 3430±71 мкм^2, 3427±8 мкм^2, 3367±0,8 мкм^2, 3361±5 мкм^2 (процентное соотношение -5,14%, -5,05%, -3,19%. -3,02%) наружный диаметр проксимальных извитых канальца уменьшался 24,65±0,4 мкрм, 24,19±0,32 мкрм, 23,73±0,25 мкрм, 23,58±24 мкрм (процентном соотношение -8,13%, -6,11%, -4,08%, -3,42%) диаметр просвета канальца на 13,95±0,17 мкрм, 13,78±0,22 мкрм, 13,53±0,16 мкрм, 13,12±0,2 мкрм (процентном соотношение +6,33%, +5,09%, +3.12%, +3,08%) наружный диаметр дистальных извитых канальца уменьшался 22,61±0,21 мкрм, 22,18±0,13 мкрм, 22,17±0,32 мкрм, 22,05±0,18 мкрм (процентное соотношение -7,12%, -5,07%, -5,03%, -4,48%) диаметр просвета канальца на 12,58±0,13 мкрм, 12,52±0,21 мкрм, 12,41±0,17 мкрм, 12,32±0,31 мкрм (процентное соотношение -4,47%, -4,04%, -3,07%, -2,31%).

Таким образом, полученные результаты показали, что отмечается разная степень морфологических и морфометрических изменений при воздействии разных количеств лекарственных средств. Экспериментально изучено действие противовоспалительных лекарственных средств на почки у белых без породных крыс. Установлено, что после воздействия более трех видов противовоспалительных средств заметно уменьшается мочевыделительная система организма. Определение наличия влияния полипрагмазии на почках свидетельствуют о том, что полипрагмазия имеет достаточный уровень риска для организма.

Выводы.

Доказано чем больше использовано лекарственных средств тем более выражен патологический эффект в почках. Наличия влияния полипрагмазии противовоспалительными средствами на почках свидетельствуют о том, что полипрагмазия пагубно влияет на мочевыделительную, снижает выделение мочи и имеет достаточный уровень риска для организма.

Эти факты косвенно свидетельствуют о снижении показателей нефрона почки.

Использованные источники:

1. Oglu, M. Z. M., & Zokirovna, O. A. (2023). Морфологические И Морфометрические Параметры Печени Белых Беспородных Крыс, Перенесших Экспериментальную Черепно-Мозговую Травму После Медикаментозной Коррекции. *Journal Of Biomedicine And Practice*, *8*(1).
2. Мустафоев, З. М., Бахронов, Ж. Ж., & Хидиров, З. Э. (2022). Яллиғланишга Қарши Дори Воситалари Полипрагмазиясида Буйрак Нефронларида Рўй Берадиган Морфометрик Ўзгаришлар. Биология Ва Тиббиёт Муаммолари. *Самарқанд–2022*, *3*, 177-181.
3. Мустафоев, З. М. (2024). Сравнительная Характеристика Морфометрических Параметров Почек При Полипрагмазии Противовоспалительными Препаратами. *Multidisciplinary Journal Of Science And Technology*, *4*(2), 277-282.
4. Хидиров, Н. Ч. (2024). Орол Экологик Муаммосининг Ижтимоий—Фалсафий Тахлили. *Journal Of International Scientific Research*, *1*(1), 425-432.
5. Исмоилов, О. И. (2024). Соғлом Авлод Ва Экологик Маданият. *Tadqiqotlar. Uz*, *48*(1), 153-157.
6. Mustafo Ogli, M. Z., & Ismoilovich, I. O. (2024). Hystopatology Of Kidney Tissue In Polypragmasia. *Journal Of New Century Innovations*, *53*(1), 104-109.
7. Мустафоев, З. М., Абдураимович, А. З., & Хидиров, З. Э. (2024). Морфометрическая, Сравнительная Характеристика Параметров Почек При Полипрагмазии Аспирином, Парацетамолом, Ибупрофеном. *Miasto Przyszłości*, *46*, 1177-1183.
8. Сулейманов, Р. И. (2024). Яллиғланишга Қарши 2 Турдаги Дори Воситалари Полипрагмазиясида Буйракларнинг Морфометрик Параметрларининг Ўрганиш. *Technical Science Research In Uzbekistan*, *2*(2), 166-172.

9. Ўғли Мустафоев, З. М., & Киямов, Б. Э. (2024). 2 Турдаги Яллиғланишга Қарши Дори Воситаларининг Буйраклар Морфометрик Кўрсаткичларига Таъсирини Ўрганиш. *Scholar*, *2*(6), 4-11.
10. Хидиров, З. Э., & Ўғли Мустафоев, З. М. (2024). Яллиғланишга Қарши 3 Турдаги Дори Воситаларининг Буйраклар Морфометрик Кўрсаткичларига Таъсири. *Scholar*, *2*(6), 12-22.

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ПРИМЕНЕНИЕ ДОЗИРОВАННОГО МЕТОДА ИССЛЕДОВАНИЯ СЛЮННЫХ ЖЕЛЕЗ У БОЛЬНЫХ ХОЛЕЦИСТИТОМ И ГЕПАТОХОЛЕЦИСТИТОМ ДО И ПОСЛЕ ЛЕЧЕНИЯ

Аннотация.*В статье изучено применение дозированного метода исследования слюнных желез у больных с патологией желчеотделительной системы в стадии обострения заболевания и после консервативного и хирургического лечения. После консервативного и хирургического лечения саливаторный эффект имеет тенденцию к восстановлению в соответствии с «законом силы» и по количеству и по качеству слюны.*

Ключевые слова: *рефлексы, лимонная кислота, раздражение, слюнные железы, полость рта, амилаза, гепатохолецистит,*

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APPLICATION OF A DOSED METHOD OF STUDYING SALIVARY GLANDS IN PATIENTS WITH CHOLECYSTITIS AND HEPATOCHOLECYSTITIS BEFORE AND AFTER TREATMENT

Abstract. *The article studies the application of a dosed method of studying salivary glands in patients with biliary system pathology in the acute stage of the disease and after conservative and surgical treatment. After conservative and surgical treatment, the salivary effect tends to be restored in accordance with the "law of force" both in the quantity and quality of saliva.*

Keywords: *reflexes, citric acid, irritation, salivary glands, oral cavity, amylase, hepatocholecystitis,*

Ввдение. Желудочно-кишечный тракт представляет собой единую целостную систему, где деятельность выше- и нижележащих отделов функционально взаимосвязана. Слюнные железы, находясь в начале пищеварительной системы, тонко реагируют количеством и качеством секрета на малейшие сдвиги во внешней и внутренней среде организма[1,2]. Ряд исследований посвящены изучению взаимосвязи слюнных желез с желудком, поджелудочной железой, щитовидной и паращитовидными

железами, корой надпочечников и гипофизом, половыми железами[3].Проведенные рядом авторов исследования показали несомненное влияние общих патологических процессов на секреторную функцию слюнных желез[4,5].Однако многие вопросы этой зависимости остаются еще не выясненными.

Цель исследования: изучить применение дозированного метода исследования слюнных желез у больных холециститом и гепатохолециститом до и после лечения

Материал и методы исследования. Безусловно рефлекторную деятельность околоушной слюнной железы мы изучали методом дозированного раздражения слизистой оболочки полости рта растворами лимонной кислоты (2%, 20%, 40%, 60%).

Результаты исследования.В процессе исследования нас интересовали следующие показатели: латентный период секреции околоушной слюнной железы, количество выделенной слюны на каждый раздражитель, амилаза и РН слюны, концентрация натрия и калия в каждой порции слюны, выделенной на каждую концентрацию лимонной кислоты. Изучение этих показателей проводил в момент обострения холецистита и гепатохолецистита и после консервативного и хирургического лечения. Всего обследовано 90 больных до лечения и 70 после лечения. В подавляющем большинстве «пуск» безусловно-рефлекторной деятельности околоушной слюнной железы осуществлялся через более длительный период времени, чем у здоровых людей. Так время латентного периода секреции в ответ на раздражение рецепторов слизистой оболочки полости рта 2% раствором лимонной кислоты равно 74+5,5 секунды (М-м) в период обострения, 36+3 секунды у больных после консервативного лечения и 27,65 сек. после хирургического лечения (у здоровых оно составило 30").у 70 (из 90) больных холециститом и гепатохолециститом саливаторный эффект не соответствовал «закону силы». В указанной группе больных определены следующие фазовые секреторные реакции:

Фаза временного, преходящего нарушения усвоения ритма возбуждения, когда на дозированное раздражение рецепторов слизистой оболочки полости рта секреция околоушной слюнной железы носила колебательный характер. Такая саливаторная реакция наблюдалась у 46 больных.

Уравнительная фазовая реакция секреции околоушной слюнной железы. Подобный тип секреции наблюдался у 6 больных.

Парадоксальная фазовая реакция секреции околоушной слюнной железы наблюдалась у 18 больных.

Таким образом, если исходить из общепринятого представления о том, что колебание величины латентного периода свидетельствует о колебании возбудимости в центральных звеньях безусловно слюноотделительного рефлекса, а интенсивность рефлекса (скорость, величина секреции) отражает силу возбудительного процесса в том же центральном звене изучаемого

рефлекса, то из приведенных данных можно заключить следующее. Возбудимость центральных звеньев слюноотделительного рефлекса у больных холециститом и гепатохолециститом резко снижена в период обострения и имеет выраженную тенденцию возврата к норме после проведенного терапевтического и хирургического лечения. Сила же возбудительного процесса в центральных звеньях изучаемого рефлекса носит фазовый характер; на дозированное раздражение определяется торможение по типу парабиоза. Электролиты (натрий и калий) в каждой пятиминутной порции слюны, выделенной на дозированное раздражение рецепторов слизистой оболочки полости рта растворами лимонной кислоты, определялись методом пламенной фотометрии в мг% у 37 больных холециститом и гепатохолециститом до лечения и у 36 больных — после хирургического и терапевтического лечения.

Как видно, концентрация натрия в слюне на все раздражители до лечения ниже, чем после хирургического и терапевтического лечения. Кроме того, на 40% и 60% растворы лимонной кислоты концентрация натрия в слюне, выделенной на дозированные раздражители, не увеличивается, как это наблюдается у здоровых, а уменьшается. Интенсивность секреции калия в группах «до лечения» и «после терапевтического лечения» почти не изменяется. Однако, концентрация калия в группе «хирургических больных» значительно выше, чем в предыдуших группах.Итак, интенсивность трофического компонента безусловного слюноотделительного рефлекса у больных холециститом и гепа- тохолециститом (по данным амилолитической активности, сек-реции калия и натрия), в период обострения заболевания значительно снижена и имеет тенденцию увеличения у больных после хирургического и терапевтического лечения

Выводы. Возбудимость центральных звеньев слюноотделительного рефлекса у больных холециститом и гепатохолециститом резко снижена. Хирургическое и терапевтическое лечение приводит к нормализации возбудимости центральных звеньев слюноотделительного безусловного рефлекса. Сила возбудительного процесса, в центральных звеньях слюноотделительного безусловного рефлекса у больных холециститом и гепатохолециститом носит фазовый характер. Интенсивность трофического компонента безусловного слюноотделительного рефлекса у больных холециститом и гепатохолециститом снижена и имеет тенденцию к увеличению после хирургического и терапевтического лечения.

Использованные источники:

1. Abdullaeva, D. R., Ismati, A. O., & Mamataliev, A. R. (2023). Features of the histological structure of extrahepatic bile ducts in rats. Golden brain, 1(10), 485-492 (in Russ).

2. Mamataliev, A., & Oripov, F. (2021). Histological structure of the intramural nervous apparatus of the common bile duct and gallbladder in a rabbit, in norm and after gallbladder removal. Journal of Biomedicine and Practice, 1(3/2), 117-125(in Russ).

3. Mamataliev, A. R., Tukhtanazarova, Sh. I., Zokhidova, S. Kh., Omonov, A. T., & Rakhmonov, Sh. Sh. Anatomical and topographic structure and active contraction of the walls of the portal vein of laboratory animals. Academic research in modern science, (2024). 3(30), 163-168(in Russ).
4. Satybaldiyeva, G., Minzhanova, G., Zubova, O., Toshbekov, B., Rasulovich, M. A., Sapaev, B., ... & Khudaynazarovna, T. I. Behavioral adaptations of Arctic fox, Vulpes lagopus in response to climate change. *Caspian Journal of Environmental Sciences*, (2024); *22*(5): 1011-1019.
5. Mamataliev, A. R. (2024). Nervous apparatus of extrahepatic bile ducts in rabbit after experimental cholecystectomy. International journal of recently scientific researcher's theory, 2(4), 161-165(in Russ).

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ГЕОЭКОЛОГИЧЕСКАЯ ОПТИМИЗАЦИЯ БАССЕЙНА НИЖНЕЙ АМУДАРЬИ

Аннотация: *В данной статье рассматриваются факторы в бассейне Нижней Амударьи в результате постепенного высыхания Аральского моря и возникающие в результате этого экологические проблемы и меры, которые необходимо принять для устранения их экологических, социально-экологических последствий. Обозначены создаваемые на территории гидротехнические сооружения и пути их эффективного использования. В целях снятия напряженности экологической проблемы на Аральском море были даны конструктивные размышления и предложения.*

Ключевые слова: *Региональная экологическая проблема, Причины высыхания Аральского моря, экосистемы Аральского моря, засоление почв, биосистема.*

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GEOECOLOGICAL OPTIMIZATION OF THE LOWER AMUDARYA BASIN

Annotation: *This article discusses the factors in the Lower Amu Darya basin as a result of the gradual drying up of the Aral Sea and the environmental problems arising as a result and the measures to be taken to eliminate their environmental, socio-ecological consequences. Hydrotechnical facilities being created on the territory and ways of their effective use have been indicated. In order to alleviate the tension of the environmental problem on the Aral Sea, constructive reflections and proposals were given.*

Key words: *Regional ecological problem, causes of the drying up of the Aral Sea, Aral Sea ecosystems, soil salinisation, biosystem.*

Введение: За последние годы бассейн Нижней Амударьи превратился из региональной экологической проблемы в глобальную, привлекая внимание мирового сообщества. В настоящее время в результате отступления Аральского моря на его месте образовались уникальные новые ландшафты на песчано-солончаковых территориях, охватывающие площадь в пять миллионов гектаров. С этой точки зрения изучение и анализ естественно-географических изменений, происходящих в Аральском море, является научно и практически актуальным.

После возникновения проблемы в бассейне Нижней Амударьи эта территория стала объектом исследований в различных направлениях. Была проделана большая научная работа по выявлению той или иной природной особенности этой местности. В частности, геологию высохшего дна Аральского моря освещали Б.И.Пинхонов (2002, 2006, 2009), вопросы почвообразования – Т.Ф.Некрасов (1999), Б.Джоллибеков (1991, 1995, 2002) и др., а состояние растительного покрова изучали Л.Я.Курачкова (1984), С.К.Кабилов (1985), Ж.Жулдосбоев (1995), Т.Т.Рахимова (2008) и др. Формирование природно-географических комплексов на высохшем дне Аральского моря изучали Н.Ф.Можайдев (1979), М.И.Ишонкулов (1980), А.Рафиков (1982), А.К.Курбонниязов (2001, 2006) и другие. Климатические условия исследовали и описывали Т.И.Маоснова, О.И.Суботина, С.Г.Чанышева (1987) и другие.

В связи с продолжающимся с 1961 года снижением уровня Аральского моря в настоящее время на всей территории Приаралья сложились условия, ускоряющие динамику экологических процессов в природно-географических комплексах. Процесс ухудшения природно-географических условий Аральского моря превысил все естественные показатели.

Основная часть. Глубокие изменения природно-географической среды затронули не только высохшую часть моря, но и всю прибрежную зону, равнины дельт Сырдарьи и Амударьи, прибрежные районы пустынь Каракумы и Кызылкумы. На наших глазах происходит процесс опустынивания в дельтах двух рек. В дельтах Амударьи и Сырдарьи исчезают характерные лесные ландшафты, которые обеспечевали постоянной высокой влажностью. Площадь орошаемых земель в Приаралье сокращается, почвы засоляются. Площадь лугов в дельте сокращается, увеличиваются пустоши (или такыры) и солончаки, расширяются солончаковые пустыни. В результате падения уровня грунтовых вод сокращаются обширные саксауловые леса в дельтах Амударьи и Сырдарьи.

В более ранние времена, при благоприятных природно-географических условиях, между природными компонентами рельефа, почвой, водами, растительным и животным миром существовала системная взаимосвязь, связь и движение. Потому что эта адаптация развивалась на протяжении нескольких

тысяч лет, и, следовательно, преобладают природно-географические условия, характерные для этих регионов. Эти условия представляли собой благоприятные для проживания человека природно-географические условия. Нарушение водного режима, прежде всего, осложнило условия вегетации растений. Первыми засохли гидрофиты (камыш, водоросли), растущие только в воде, а также начали засыхать лесные растения, зависящие от регулярного увлажнения (туронгил, джийда, ива). Иссушение почвенной влаги, снижение уровня грунтовых вод и увеличение степени их минерализации, замена в химическом составе вод гидрокарбонатно-кальциевых солей на гидрокарбонатно-сульфатные, а позднее и хлоридно-сульфатные, привели к полному изменению природно-географических условий, так как растения, ранее развивавшиеся в засоленной среде, заменяются засоленным и засухоустойчивым органическим миром.

Нарушение природно-географического равновесия Нижней Амударьи обусловлено также тем, что способность острова согревать окружающую среду зимой и поддерживать влажность летом меняется из года в год. Потому что ухудшение этой ситуации с 1960-х годов привело к ускорению нарушения естественного баланса в Аральском море. Испарения с Аральского моря обеспечивали влагой растительность и пастбища на прилегающих обширных территориях. Черный и белый саксаул и другие крупные кустарники растут на Аральском море гуще, чем в других частях пустыни. Потому что такой облик природы является результатом того, что эти растения и пастбища впитывают часть влаги, поднимающейся из Аральского моря. Сейчас количество влаги, поступающей с Аральского моря, резко уменьшается, что, в свою очередь, все более негативно сказывается на нормальном развитии растений в Приаралье. Это явление, в свою очередь, является одной из причин нарушения взаимосвязей в природно-географических системах.

Пыльные бури. Резкое падение уровня воды в Аральском море с 1960-х годов привело к потере воды на площади в несколько тысяч квадратных километров. Разрыхление морского дна (dengiz tubining ochilib qolishi) на такой большой площади, безусловно, привело к увеличению количества пыльных бурь. Специалисты использовали годовые метеорологические данные за 1966-1980 годы по следующим типам станций: Аральское море, Жаслык, Каракалпак, Тигровый, Муйнак, Техникауй, Уяли, Чимбой, Тахиаташ, Хива, Ургенч, Чопонкозган, Окбойтал, Джонкелди, Оёгетма, Бухара, Чорджой. Анализ полученных данных показал, что за последние десятилетия количество дней с пыльными бурями увеличилось на 50%. Чаще всего пыльные бури случаются в период с мая по июль, реже всего — в феврале, марте и октябре.

Геоморфологические процессы: В связи с высыханием Аральского моря в прибрежной зоне и под высохшей водой происходят многочисленные геоморфологические изменения. Когда Л.С. Берг в 1901–1902 годах обследовал Аральское море, в юго-восточной прибрежной зоне моря находилось много островов и полуостровов. Еще Л.С. Берг ввел в науку

геоморфологию понятие «берега типа Аральского моря». К середине 1970-х годов от этих островов не осталось и следа. Зона Аральского моря приобрела совершенно иной геоморфологический ландшафт.

По результатам научных исследований здесь между старым побережьем и современным были выделены два района: 1) песчаная равнина шириной 10-15 км и даже более (в южной и восточной частях); 2) солончаковые равнины.

Песчаная равнина образовалась, в основном, за счет перемещения песка под морем под воздействием ветра. Здесь образовалось больше дюн и песчаных дюн. Линия, проходящая от песчаного региона к солончаку, состоит из небольших песчаных дюн. Дюны и песчаные дюны не очень хорошо укреплены растительностью. Лишь изредка встречаются колючие растения, иногда черный саксаул, а в нижней части можно встретить различные низкорослые растения, относящиеся к семейству осоковых. Песок постоянно перемещается, в основном с северо-востока на юго-запад, под воздействием ветра. Вот почему в настоящее время на прилегающих к старому побережью участках дельты Амударьи, образовались разнообразные песчаные дюны. По расчетам, миграция песка в дельту происходит со скоростью 500 м в год, а иногда и больше. Если нашествие песков продолжится такими темпами, то значительная часть дельты Амударьи неизбежно будет покрыта песком. Это особенно заметно в районе города Муйнак.

Изменения в почвенно-растительном покрове: До 1960-х годов дельты Амударьи и Сырдарьи представляли собой край естественных водно-болотных угодий, зачастую границей между одним озером и другим считались болота, покрытые тростниковыми зарослями, поэтому здесь большие площади (более 550 тыс. га) занимали болотистые аллювиальные почвы и аллювиальные луговые почвы. Многие водно-болотные угодья в дельтах с обеих сторон были окружены густыми лесами. В лесах, преимущественно луговых, голых, лесных болотистых почвах, которые покрывались водой во время разливов рек весной и в первой половине лета, а в остальное время оставались сухими. Вот почему почвы не засолялись, так как небольшое количество соли, накопившееся на почве во второй половине лета, было вымыто весенними паводками. В целом, из-за этого явления площадь солончаков в дельтах также была ограничена. По оценкам почвоведов, общая площадь солончаков составила более 200 тысяч гектаров. Значительная часть этого количества пришлась на прибрежные солончаки. Так как дельты Амударьи и Сырдарьи на Аральском море сложены, в основном, смесью суглинка и мелкозернистого песка, а равнина от верховьев рек до бывшего морского побережья чрезвычайно плоская, то горизонтальное перемещение стоковых вод было очень медленным, но вертикальное их перемещение было чрезвычайно быстрым. Такая ситуация привела к тому, что большая часть сточной воды терялась на испарение, а небольшое количество отводилось в близлежащие болота. После прекращения регулярного подтопления дельты (с середины 1970-х годов) вода в озерах, прудах и болотах на этих территориях начала полностью испаряться.

Изменения в растительном покрове: К редким эндемичным видам Приаралья относятся астрагал (Astragalus remanens), ковыль (Stipa aktauensis), борщевик (Botsch et Vved), тюльпан Бузе (Tulipa buhsena Boiss), козелец (Scorzonera bungle KraschEt Lipsch), а также реликтовый вид северной части Узбекистана солянка хивинская (Salsola chiwensis) с уровнем редкости 3, который включен в Красную книгу Республики Узбекистан.

К 1960-м годам в связи с регулярным ежегодным затоплением дельт Амударьи и Сырдарьи на этих территориях сформировались природные комплексы из озер, болот, лесов и морских побережий. Из-за повсеместного затопления большую часть территории заняли тростниковые заросли. Тростниковые рощи занимали площадь 800 тыс. га в дельте Амударьи и более 220 тыс. га в дельте Сырдарьи. Заросли тростника использовались, с одной стороны, как корм и естественное пастбище, а с другой — как строительный материал. Заросли тростника считались средой обитания и размножения различных животных, рыб, ондатр, нутрий и птиц. По имеющимся данным, только в Каракалпакстане из тростниковых зарослей можно было производить 5 миллионов тонн кормов в год. В современных и древних дельтах и долинах Сырдарьи имеются луга, сенокосы и рощи общей площадью 2 млн гектаров, где ежегодно паслось десятки тысяч голов крупного рогатого скота, лошадей, овец и коз. До 1960 года вдоль притоков дельт Амударьи и Сырдарьи росли густые рощи деревьев и кустарников. Верхний ярус их занимали тополя и осины, а нижний — труднопроходимые заросли — ивняки, осоковые и аллювиальные почвы, луга.

Поверхность Аральского моря была связана с ежегодными разливами рек в дельтах Амударьи и Сырдарьи, что обеспечивало экстремальную влажность дельт и испаряло 8 км3 воды в год. Экосистемы дельты можно рассматривать, хотя и условно, как единую систему с экосистемами Аральского моря, по отношению к окружающим пустыням. Снижение уровня Аральского моря и нехватка речной воды в дельтах привели к их опустыниванию и засолению. Флора дельты Амударьи была особенно богата. Здесь произрастало более 576 видов растений, 29 из которых были эндемиками Средней Азии. Более 54 видов растений находятся на грани исчезновения из-за резкого снижения уровня воды в дельте реки. Если до 1960 года площадь тростниковых зарослей в дельте Амударьи составляла 800 тыс. га, то к 1965 году ее площадь сократилась до 251 тыс. га, а урожайность снизилась в 5 раз.

Изменения в фауне: К 1960 году, когда уровень воды нового Аральского моря достигал абсолютной отметки 53,0 м, а средняя соленость морской воды площадью 67 тыс. км2 составляла 10 промилле, в Аральском море обитало более 20 видов многих редких пресноводных рыб (усач, лосось, сазан, плотва, судак, знаменитая аральская плотва и др.). Аральское море является основным источником ценных пород рыб, средний улов составляет 450–500 тыс. центнеров рыбы, из которых 20 тыс. центнеров приходится на Аральского окуня.

Повышение солености морской воды, нарушение водного контакта с дельтой (так как рыбы размножались в прудах и озерах дельт), прекращение поступления различных питательных веществ через реки полностью уничтожили экологические возможности для воспроизводства рыб. Именно поэтому с 1980 года лов рыбы в море был прекращен. Огромный рыбный завод в городе Муйнак раньше производил 20 миллионов штук рыбных консервов и другой рыбной продукции в год, но сейчас его деятельность полностью остановлена. Море, помимо того, что является домом для бесчисленных озер и множества птиц, также было местом, где тысячи птиц, ежегодно перелетающих через Аральское море в другие части нашей страны, могли отдохнуть и «перевести дух» перед перелетом на большие расстояния. Теперь высыхание Аральского моря влияет на изменения в схемах миграции птиц.

В целом резкие изменения экологических условий не только усложняют выживание животного мира, но и приводят к вымиранию многих из них. Высохшие дельты Амударьи и Сырдарьи были местом обитания очень крупных животных, в первую очередь крупных охотничьих зверей. Например, в дельте Амударьи сохранилось 40 из 178 видов животных. Уничтожение тропических лесов в дельте реки привело к вымиранию многих животных. Если в 1950–1960-е годы здесь ежегодно заготавливалось в среднем 250 тыс. шкурок ондатры, то в 1968 году здесь было заготовлено 8 тыс. штук шкурок ондатры, в 1978 году — 72 шт. шкурок.

Заключение: Высыхание Аральского моря привело к полному изменению береговых линий и исчезновению более трехсот островов, что создало геоэкологические проблемы в бассейне Нижней Амударьи. Высыхание Аральского моря вызвало не только изменение геоморфологии региона, но и изменение климатических элементов. Это даже привело к появлению новых природных явлений — пылевых и соляных бурь (впервые наблюдавшихся из космоса в 1977 году). В настоящее время пылевые и соляные бури, поднимающиеся со дна Аральского моря, вызывают сложные экологические и социальные проблемы.

На огромной территории исчезли растительность, рощи, тростниковые заросли и многие виды животных. Хуже всего то, что высыхание Аральского моря привело к росту различных заболеваний среди населения и возникновению экономических и социальных проблем. Проблема Аральского моря превратилась в сложную проблему, стоящую перед республиками Центральной Азии и всем человечеством. Быстро развивающееся явление засоления, происходящее в бассейне Нижней Амударьи, не имеет прецедентов в мировой практике.

Сохранение и охрана нашей природы, разумное ее использование, развитие экологической культуры и экологического сознания в обществе – это не только дело природоохранных органов, но и долг каждого человека, живущего на этой земле, перед своей Родиной и ее природой.

Использованные источники:

1. Алибеков Л.А. Эколого-географические проблемы Центральной Азии. Самарканд, 2009.
2. Бабаев А.Г. Проблемы освоения пустынь. Ашгабат - «Ылым».1995.
3. Бабушкин Л.И. Особенности климата Низовьев Амударьи Материалы по производительным силам Узбекистана 1959. 247.
4. Баратов П., Маматкулов М., Рафиков А. Ўрта Осиё табиий географияси. - Т.-Ўқитувчи, 2002. - 282-283 бетлар.
5. В.А.Рафиков “Оценка, прогноз и воссоздание геосистем дельты Амударьи и обсохшего дна Аральского моря’’ Ташкент 2022 удк 551.4 (575.172) ббк 26.222.6.
6. В.А.Рафиков “Проблемы решения судьбы Аральского моря’’ Ташкент Урфон-2009.
7. Григорянц А.А. Аральский кризис - деградация экосистемы и биоразнообразия. Материалы Ургенчской международной конференции. 2014.С.4-8.
8. Жолтанбеков Б. Почвенный покров приморской части дельты Амударьи, его изменение в процессе аридизации. Алма-Ата, 1983.С.24.
9. Султонова О.Г., Худойбергенова Я.Г., Далжанов Об особенностях климатическом режиме и агроклиматическом условии Южного Приаралья. «Қуйи Амударё региони ижтимоий-иқтисодий муаммоларининг географик ечимлари». Урганч, 2010.с.214-215.
10. Хайитбаев А.И., Алимкулова Р.А. Орол денгизи қуришининг Куйи Амударё экосистемаларига таъсири ва унинг олдини олиш чора-тадбирлари. - СамДУ Ёш олимлар илмий конференцияси материаллари. Самарканд, 2018.
11. Чуб В.Е., Осокова Т.А. Изменение климата и поверхностные водные ресурсы бассейна Аральского моря. Информация об исполнении Узбекистаном своих объязательств по Рамочной ковенции ООН об изменении климата. Бюллетень №3. СЛНИГМИ. Ташкент, 1999.с.5-14.

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ЭКОНОМИКА УЗБЕКИСТАНА: РЕАЛЬНО ЛИ ДЕДОЛЛАРИЗАЦИЯ

Аннотация. *Использование иностранной валюты (в основном доллара США) преимущественно перед национальной валютой в Узбекистане помимо международных расчетов внутри республики создает серьезные проблемы перед национальной экономикой. Она приводит к оттоку инвестиций, снижает уровень экономического развития, минимизирует доходность бюджетов, что снижает размеры ассигнований в важные отрасли экономики и социальной сферы.*

В статье анализируется нынешнее состояние экономики Узбекистана, а также возникшие негативные явления во внешнеэкономической деятельности республики за последние годы. В том числе рассматриваются определенные проблемы, возникающие из-за низкого уровня конкурентоспособности национальной экономики. В конце работы предлагаются конкретные меры, которые позволят снизить темпов инфляции, что дает возможности повышать конкурентоспособности экономики, улучшить качества национальной валюты и выполняемых ими функций.

Ключевые слова: *долларизация, национальная экономика, инвестиции, внешнеэкономическая деятельность, конкурентоспособность экономики, инфляция, коррупция, налоговые льготы.*

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ECONOMY OF UZBEKISTAN: IS DE-DOLLARIZATION REALLY POSSIBLE

Annotation. *The use of foreign currency (mainly the US dollar) preferentially over the national currency in Uzbekistan, in addition to international payments within the republic, creates serious problems for the national economy. It leads to an outflow of investment, reduces the level of economic development, minimizes budget profitability, which reduces the size of allocations to important sectors of the economy and social sphere.*

The article analyzes the current state of the economy of Uzbekistan, as well as the negative phenomena that have arisen in the foreign economic activity of the republic in recent years. In particular, certain problems arising due to the low level of competitiveness of the national economy are considered. At the end of the work, specific measures are proposed that will reduce the rate of inflation, which makes

it possible to increase the competitiveness of the economy, improve the quality of the national currency and the functions they perform.

Key words: *dollarization, national economy, investment, foreign economic activity, economic competitiveness, inflation, corruption, tax benefits.*

В настоящее время использование иностранной валюты (в основном доллара США) преимущественно перед национальной валютой помимо международных расчетов внутри республики создает серьезные проблемы перед национальной экономикой. Это проявляется в снижении уровня экономического развития, минимизации доходности бюджетов, что снижает размеры вложений в важные отрасли экономики и социальной сферы, не позволяет применения монетарных методов контроля инфляции, приводит к повышению волатильности обменного курса и стимулированию теневой экономики. Вдобавок к этому необходимо отметить, что все средства, которые накапливаются в иностранной валюте, не могут быть использованы в реальном производственном процессе, что приводит к снижению экономического роста, стагнации производства.

Здесь возникает вопрос, какие факторы повлияли на то, чтобы уровень долларизации экономики республики остаются на сегодняшний день очень высокими? И самое главное, какими способами можно снизить негативное влияние иностранной валюты на национальную экономику?

За годы независимости руководство республики финансовую политику нацеливали на то, чтобы обеспечить твердый устойчивый обменный курс сума по отношению другим иностранным валютам, в первую очередь к доллару, не допустить роста цен и инфляции, снизить дефицита государственного бюджета, в общем, на все что в целом называется денежно-финансовой стабилизацией. Это вроде верное направление. Но с другой стороны как эта политика обеспечивается. Несмотря на высокопарные лозунги с трибун о преимуществах социально ориентированной «узбекской модели», потребительские цены в республике росли и растут, инфляция высокая, допускается дефицит государственного бюджета, торгового и платежного балансов, покупательная способность и обменный курс национальной валюты непрерывно снижаются.

По нашему мнению главной причиной этого явилось то, что после введения национальной валюты в 1994 году Центральным банком в республике действовало два курса сума: фиксированного государственного, к которому обычные предприятия не имели никакого доступа и рыночного «черного» - разница с которым составляла почти трехкратный размер. Это в свою очередь привело к ненадежности и неустойчивости сума, его крайне малой связи с собственной национальной экономикой. Вдобавок к этому очень высокие ставки налогов привели к тому, что к 2000 году реальный сектор экономики в Узбекистане практически перестал существовать.

Впоследствии этого экономика республики превратилась сырьевого придатка остального мира. К сожалению, этот процесс дальше усугубляется,

и учитывая нынешнюю состоянию национальной экономики ожидать положительных тенденций в ближайшем будущем не реально.

На сегодняшней день ход интеграции экономики Узбекистана в мировое хозяйство выявил ограниченность возможностей приспособления к мировым тенденциям национального хозяйства республики. Как видно, из истории развития мировой экономики, страны, специализированные на развития сырьевых отраслей экономики не имеют сильного иммунитета против конъюнктурных колебаний мирового рынка. Для них всегда существует внешняя угроза нарушения внутреннего экономического равновесия. Естественно прочное будущее на подобной основе, влекущей за собой рост финансовой и технологической зависимости, неустойчивые бюджетные доходы и многие другие негативные последствие, не построишь.

Как видно из графика в последние годы в республиканском внешнеторговом обороте наблюдается негативные тенденции: превышение импорта над экспортом. Это показывает, что основная часть обрабатывающих отраслей, аграрный сектор и сфера услуг не в состоянии удовлетворять потребность внутреннего рынка по номенклатуре, качеству или количеству производимых товаров иуслуг.

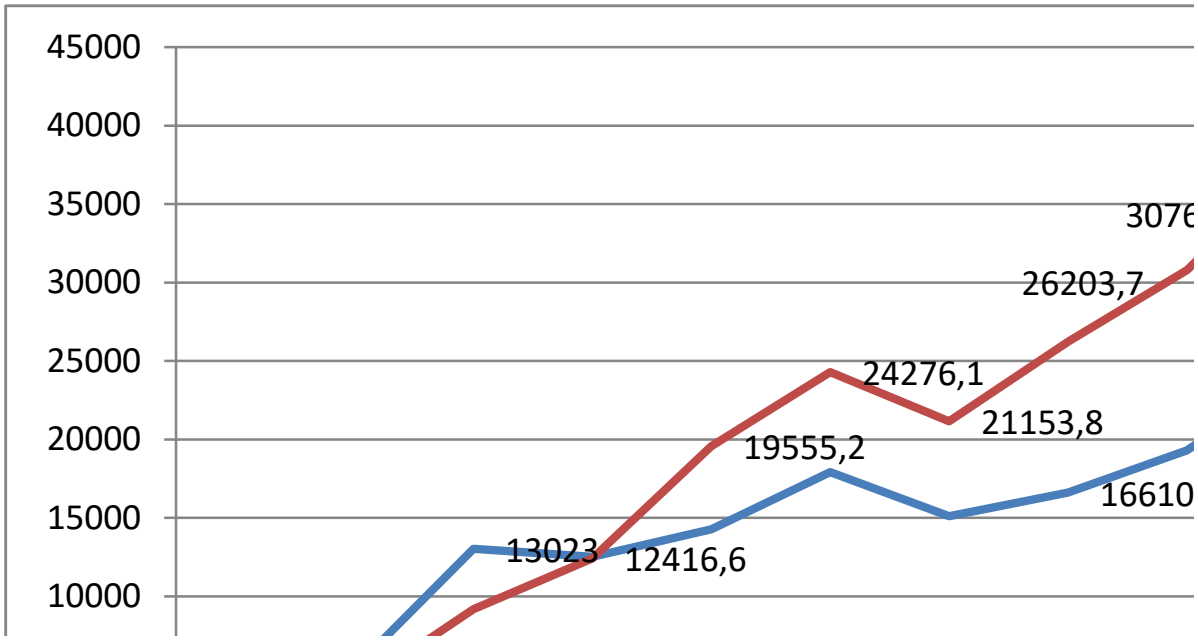

График. Динамика внешнеэкономической деятельности Р. Узбекистан за 2000-2023гг. (В млн. долл.)

Источник: Агентство по статистике Р. Уз.

Сопоставление динамики структуры внешней торговли товарами и услугами республики с данными по мировой торговле и экспорту наглядно показывает, что по своей структуре внешнеторговый оборот Узбекистана кардинальным образом отличается от международного экономического обмена. В мировой торговле значительный удельный вес приходиться на готовую продукцию и услуги, в которых воплощены достижения научно-технического прогресса. А в структуре республиканского экспорта

преобладают базовые товары и простейшие виды услуг, импорте заметное место занимают товары и услуги, связанные с удовлетворением потребительского спроса (таблица)

Таблица

Динамика структуры внешней экономической деятельности республики Узбекистан за 2000-2023 гг. (в долл. США)

Структура	**2000**	**2005**	**2010**	**2015**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
ЭКСПОРТ										
Хлопок-волокно	897,1	1033,3	1572,7	736,1	222,1	281,6	146,9	136,5	3,5	-
Продовольственные товары	176,4	206,1	1260,5	1316,4	1097,7	1517,5	1443,8	1471,8	1823,5	1770
Химическая продукция и изделия из нее	93,4	285	661,3	613	904,6	876,9	873,2	1225,3	1426,2	1310
Энергоносители и нефтепродукты	335,2	623	2973,8	2685,2	2666,2	2524,9	659	889,9	1215,2	939,50
Черные и цветные металлы	216,7	499,9	894,4	824,2	1167,1	1300,9	1241,9	1653,4	1658	1696
Машины и оборудования	111,8	452,8	715,4	159,3	214,1	451,4	442	702,8	989,3	1300
Золото	554,2	1164,7	2618,1	1920,6	2909,5	4918,3	5804,4	4109,8	4110,3	8150
Текстильная продукция	235,6	203,5	637,2	883,7	1603,1	1626,6	1578	1326,2	1521,5	2050
Услуги	449,1	659,3	1335,5	3061,3	3029,9	3560,3	2005	2547,4	4017,8	4425,3
Прочие	195,2	281,2	354,5	307,8	438,6	843,5	908,1	**3 229,7**	**2528,4**	**2779,2**
Всего	**3264,7**	**5408,8**	**13023**	**12507,6**	**14252,9**	**17901,7**	**15102,3**	**16610,6**	**19293,7**	**24420**
ИМПОРТ										
Продовольственные товары	361,1	287,2	963,2	1585,3	1581,6	1885,1	2159,6	2 926,2	3953,2	3490
Химическая продукция и изделия из нее	399,5	558,7	1265,7	2108,2	2554,8	3200,4	3436,7	4 260,1	5046,5	4860
Энергоносители и нефтепродукты	112,7	103,7	654,6	725	879,5	928,1	1106,9	1 541,0	1795,1	2630
Черные и цветные металлы	253,5	419,4	742,1	919,4	1773,3	2116,9	1751,3	2312,8	2821,1	2550

Машины и оборудования	1044,1	1770,4	4032,5	5026,7	8321,7	10635,2	8904,2	9 454,4	11018,4	14930
Услуги	251	424,7	490,4	954,1	2242,9	24241,8	1221,4	**1 736,8**	**2547,5**	**3158,7**
Прочие	525,5	527,2	1027,3	1097,9	2201,4	3088,7	2573,7	**3 229,7**	**3586,0**	**6521,3**
Всего	**2947,4**	**4086,3**	**9175,8**	**12416,6**	**19555,2**	**24276,1**	**21153,8**	**26203,7**	**30767,8**	**38140**

Источник: Агентство по статистике Р. Уз.

Сложившаяся к настоящему времени состояния узбекской экономики, основанная преимущественно на экспорте сырья, энергоносителей, полуфабрикатов и импорте машин, оборудования, узлов, компонентов содержат в себе очевидные экономические и политические угрозы. Топливно-сырьевая специализация сдерживает рост конкурентоспособности республики и делает нестабильным ее экономическое позиционирование в мире. На наш взгляд в условиях глобализации и интеграции мирохозяйственной системы, государство должно направлять усилия на развитие взаимовыгодного внешнеэкономического сотрудничества со странами ближнего и дальнего зарубежья и принимать участие в глобальных и региональных торговых процессах с целью обеспечения устойчивого экономического развития. Т.к. в современных условиях конкурентоспособность экономики страны является показателем состояния и перспектив развития хозяйственной системы, обуславливает характер ее участия в международном разделении труда, выступает гарантом экономической безопасности и способность производить товары и услуги, удовлетворяющие требованиям мирового рынка, реализация которых способствует росту благосостояние населения. Учитывая этого можно сказать, что изменить характер участия республики в международном разделении труда невозможно, не развивая обрабатывающие отрасли, то есть без новой индустриализации. Только таким образом можно диверсифицировать экспорт за счет готовых изделий, в т. ч. конкурентоспособной в мировом рынке продукции высокотехнологичных отраслей. Индустриализация экономики республики ослабила бы ориентацию потребителей на импорт и укрепила бы позиции местных производителей и на внутреннем рынке.

В нынешних условиях, для того чтобы перейти на инновационный путь развития, вырваться из зависимого положения доноров сырьевых ресурсов, войти в мир развитых стран с высокотехнологичным производством и диверсифицированной экономикой, улучшения инвестиционного климата причем не только для зарубежных, но и для отечественных предпринимателей для Узбекистана является объективной необходимостью. Для привлечения инвестиций в экономику республики правительство Узбекистана в последние годы ввело ряд важных мер, включая бесплатную конвертацию национальной

валюты, снижение торговых барьеров и таможенных платежей. В рамках дополнительных преференций Узбекистан предоставляет налоговые льготы участникам специальных экономических зон, налоговые льготы организациям с участием иностранного капитала, а также освобождение дохода от экспортных продаж от налога на прибыль. Несмотря на эти меры, из-за сложности существующей налоговой системы, высокой налоговой нагрузки для бизнеса и высокого уровня коррупции в государственном аппарате, инвестиционная привлекательность национальной экономики на сегодняшний день остается очень низкой. Здесь необходимо отметить, что, по мнению большинства экспертов, сформировать благоприятный инвестиционный климат в республике можно за счет надлежащей защиты прав собственности, независимости судебной системы, серьезного сокращения масштабов коррупции, а также уменьшения административного давления на бизнес. Но на наш взгляд этого недостаточно, т.к. привлекательный инвестиционный климат невозможно создать без формирования полноценной конкурентной среды, наращивания капитализации банковской системы, уменьшения стоимости заимствований, снижения темпов инфляции, благодаря которым экономика нашей республики могла бы подняться до высокого уровня и интегрироваться в мировое хозяйство.

Мировая практика доказывает, что глобальные экономические катаклизмы наименее болезненно воздействует на страны, для которых характерны: сбалансированное развитие важнейших отраслей экономики, здоровая финансовая система, невысокие темпы инфляции, сбалансированный бюджет, активное сальдо торгового и платежного баланса по текущим операциям, отсутствие значительного внешнего долга, достаточно высокий объём золотовалютных резервов, реалистичный курс национальной валюты, эффективное государство как макрорегулятор экономики. Учитывая этого мы предлагаем конкретные предложения которые позволили бы нашей республике войти в мир развитых стран с высокотехнологичными производствами и диверсифицированной экономикой за счет устойчивого роста национальной экономики:

- На сегодняшний день в республике уровень коррумпированности властных структур остается очень высокими из-за низкого уровня демократизации общества. Вследствие этого разбазаривается не только государственный бюджет но и вдобавок к этому кредиты полученных от международных организаций. Из-за этого в последние годы наблюдается тенденция увеличения дефицита государственного бюджета. Чтобы заполнит этот брешь правительство вынуждено брать кредиты, которые приводят к дальнейшему увеличению государственного долга. Учитывая этого, мы предлагаем сократить государственных расходов за счет: а) сокращения аппарата управления на 70-80% во всех уровнях власти, б) уменьшение не обоснованных субсидий.

- В годы независимости в республике в среднем два раза в год правительства прибегало к увеличению заработной платы бюджетникам. К сожалению, эти меры не давали ожидаемых результатов, наоборот привели дальнейшему росту инфляции и ухудшению жизни основного части населения. Исходя из этого, мы предлагаем минимум на 3-4 года заморозить рост заработной платы и пособий, что позволит стабилизировать уровень цен на товары и услуги в республике.
- для того, чтобы помочь встать на ноги отечественным производителям, особенно для тех отраслей, создающие продукцию с высокой добавленной стоимостью, мы предлагаем снизить НДС до 10% для всех предприятий вне зависимости от их форм собственности;
- в настоящее время в республике для защиты собственных производителей применяются высокие таможенные пошлины на импортируемую продукцию, к сожалению, эти меры не принесли ожидаемых результатов. Учитывая этого, мы предлагаем другие способы, чтобы ослабить ориентацию потребителей на импорт и укрепить позицию отечественных производителей на внутреннем рынке. По нашему мнению в условиях, когда внешнеторговый оборот отрицательный, целесообразно использовать эффективную тарифную защиту, т.е. обнуление пошлин на импортируемое сырье и материалов, которые необходимы для стимулирования и поддержанию собственного производства и не могут быть обеспечены отечественными поставщиками.
- В нынешних условиях ставка рефинансирование центрального банка остаются очень высокими и составляют 13,5%. А это в свою очередь приводит к подорожанию кредитов коммерческих банков и для бизнеса и населению. Это означает, что если мы не снизим ставку рефинансирования, последствия могут быть негативными для всей экономической системы республики.
- В данное время тарифы для энергоносителей (электроэнергия, газ) очень высокие для бизнеса и населения, что в свою очередь приводить к подорожанию товаров и услуг, тем самим, снижая конкурентоспособность отечественных производителей во внутренних и внешних рынках. Исходя из этого, мы предлагаем пересмотреть тарифов на энергоносители в сторону снижения.

Применение этих мер позволит в конечном итоге снизить темпов инфляции, что дает возможность повышать конкурентоспособность экономики республики, снизить влияния теневой экономики за счет увеличения заработной платы, пенсий и иных фиксированных доходов. Это в свою очередь приводит к улучшению покупательной способности национальной валюты, что дает возможность, улучшит качества денег и выполняемых ими функций. С помощью этого снижаются масштабы долларизации экономики нашей республики.

Использованные источники:

1. Е Дудкова. Дедолларизация в государствах-членах ЕАЭС. Научно-аналитический вестник ИЕ РАН, 2019.№5
2. Жариков .М. В. Проблемы дедолларизации Российской экономики.
3. К.К.Нуманов. Р.Р.Солиев Возможности повышение инвестиционной привлекательности экономики Узбекистана в современных условиях
4. К.К.Нуманов. Повышение конкурентоспособности экономики Республики Узбекистан в условиях глобализации. Т.Агроиктисодиет.2019.
5. Мустакимов Р.Р. О «косвенных» особенностях интеграции // Таможня. 2011. № 6 (269). С. 12.
6. Оболенский В.П. Глобальный кризис и внешняя торговля России // Рос. Внешнеэконом. вестник. 2012. № 1. С.5-6.
7. Якорева А.Е. Эффект интеграции [Электронный ресурс]. URL:http://expert.ru/2012/01/25/effect-integratsii/ (дата обращения: 25.01.2012).
8. Темирова А. Б Конкурентнособность продукции как показатель развития внешней торговли государства Астана, Сборник Евразийский национальный университет

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ЗАРУБЕЖНЫЙ ОПЫТ ФОРМИРОВАНИЯ СИСТЕМЫ УЧЕТА, ВЕДЕНИЯ РЕЕСТРА ГОСУДАРСТВЕННЫХ АКТИВОВ И ВОЗМОЖНОСТИ ЕГО ПРИМЕНЕНИЯ В УЗБЕКИСТАНЕ

Аннотация. *Учитывая, возрастающее в последний период роль и значение учета и ведении реестра государственных активов, нами проведена аналитическая работа, что показала, насколько учет государственными активов имеют существенное значение в экономике любой страны. Были изучены опыт некоторых зарубежных стран в ведении реестра государственных активов, правила и подходы по его внедрению, сделаны выводы и предложения.*

Ключевые слова: *государственные активы, учет, ведения реестра, рыночные отношения, государственные имущества, зарубежный опыт, приватизация, единый реестр, положение, уполномоченный орган, территориальный орган.*

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FOREIGN EXPERIENCE IN ESTABLISHING AN ACCOUNTING SYSTEM, MAINTAINING A STATE ASSETS REGISTRY, AND THE POTENTIAL FOR ITS IMPLEMENTATION IN UZBEKISTAN

Abstract. *Given the increasing role and significance of accounting and maintaining the register of state assets in recent times, we have conducted analytical work that demonstrates the substantial importance of state asset accounting in the economy of any country. We have examined the experience of several foreign countries in maintaining state asset registers, as well as the rules*

and approaches for their implementation. Based on this research, we have drawn conclusions and formulated proposals.

Keywords: *state assets, accounting, register maintenance, market relations, state property, foreign experience, privatization, unified register, regulation, authorized body, territorial body.*

Государственные активы имеют существенное значение в экономике любой страны. Несомненно, они являются неотъемлемой частью государства, его опорным звеном в системе хозяйственных отношений. Они обладают уникальными свойствами, с помощью которых практически неограниченно удовлетворяются основные общественные потребности, и экономика функционирует в согласии с национальными экономическими интересами. Именно с их помощью решаются сложные макроэкономические проблемы, осуществляются крупные инвестиционные программы, обеспечиваются условия для непрерывного процесса воспроизводства национального капитала.

Вопросы управления государственными активами и пути дальнейшего совершенствования, методы и принципы его преобразования в другие формы собственности, их учета во всех странах рассматривались в первоочередном порядке с целью создания рыночных отношений в своей экономике.

Однако в каждой отдельно взятой стране, при учете и ведения реестра государственного имущества имеются свои отличия и особенности.

В Российской Федерации.

Постановлением Правительства Российской Федерации в 1998 году был принят положение об учете федерального имущества и ведении реестра федерального имущества.

Настоящее положение устанавливает порядок учета федерального имущества и ведения реестра федерального имущества (далее именуется - реестр) в соответствии с законодательством Российской Федерации, регулирующим отношения, возникающие при управлении и распоряжении федеральным имуществом и создании информационных систем.

В настоящем положении под реестром понимается федеральная информационная система, представляющая собой совокупность построенных на единых методологических и программно-технических принципах государственных баз данных, содержащих перечни объектов учета и данные о них, подлежащая учету в Государственном регистре баз и банков данных.

Объектами учета реестра (далее именуются – объекты учета), расположенными как на территории Российской Федерации, так и за рубежом, являются:

а) земельные участки, находящиеся в федеральной собственности;

б) участки леса, недр, водные объекты и другие природные объекты (ресурсы), находящиеся в федеральной собственности;

в) федеральное имущество, закрепленное на праве хозяйственного ведения за государственным унитарным предприятием или на праве

оперативного управления за федеральным казенным предприятием или государственным учреждением, либо находящееся в федеральной собственности предприятие в целом как имущественный комплекс;

г) находящиеся в федеральной собственности акции (доли, вклады) хозяйственных обществ и товариществ, а также имеющееся у них федеральное имущество, не вошедшее в уставный (складочный) капитал;

д) иное находящееся в федеральной собственности недвижимое и движимое имущество, в том числе переданное в пользование, аренду, залог и по иным основаниям.

Данными об объектах учета являются сведения, характеризующие эти объекты (место нахождения, стоимость, обременение и т. п.).

Учет федерального имущества включает в себя описание объекта учета с указанием его индивидуальных особенностей, позволяющее однозначно отличить его от других объектов.

Учет федеральных природных объектов (ресурсов), находящихся на территории Российской Федерации, организуется и осуществляется соответствующими федеральными органами исполнительной власти в порядке, установленном законодательством Российской Федерации.

Для учета федерального имущества, имеющегося у юридических лиц, зарегистрированных на территории Российской Федерации, юридическое лицо (заявитель) представляет в соответствующий территориальный орган Министерства государственного имущества Российской Федерации или в орган по управлению государственным имуществом субъекта Российской Федерации, наделенный правами территориального органа Министерства государственного имущества Российской Федерации (далее именуются - территориальные органы):

а) заявление за подписью руководителя юридического лица на получение свидетельства о внесении в реестр федерального имущества объекта учета (далее именуется - свидетельство);

б) карту учета федерального имущества, имеющегося у юридического лица, с перечнем объектов недвижимости (далее именуется - карта учета);

в) копии документов, подтверждающих приведенные в карте учета данные об объекте учета.

Территориальный орган регистрирует заявление в день его представления и в месячный срок проводит экспертизу представленных данных и занесение их в государственную базу данных.

В Республике Казахстан.

В республике Казахстан правила ведения реестра государственного имущества разработаны в соответствии с Законом Республики Казахстан «О государственном имуществе» и определяют порядок ведения реестра государственного имущества.

По видам государственного имущества в реестре осуществляется раздельный учет республиканского и коммунального имущества, а по уровням местного государственного управления и самоуправления –

раздельный учет областного и районного коммунального имущества, а также коммунального имущества местного самоуправления, за исключением имущества, находящегося в оперативном управлении специальных государственных органов, Вооруженных Сил, других войск и воинских формирований Республики Казахстан, и государственного материального резерва.

Объекты учета подразделяются на закрепляемые и не закрепляемые за государственными юридическими лицами.

К не закрепляемым объектам учета относятся: земельные участки, находящиеся в землепользовании, принадлежащие государству акции акционерных обществ и доли участия в уставном капитале товариществ с ограниченной ответственностью, объекты национального культурного достояния, принадлежащие государству.

К закрепляемым объектам учета относится государственное имущество, закрепленное за государственными юридическими лицами – долгосрочные активы, включающие в себя основные средства, инвестиционную недвижимость, биологические активы, нематериальные активы, незавершенное строительство и долгосрочные активы, предназначенные для продажи.

Единый централизованный учет государственного имущества в реестре осуществляет уполномоченный орган по государственному имуществу.

Уполномоченный орган по управлению государственным имуществом в пределах своей компетенции:

1) координирует и организует работу по обеспечению единого учета государственного имущества в реестре;

2) ведет реестр и представляет информацию пользователям реестра в порядке, установленном настоящими Правилами;

3) формирует состав дополнительных сведений дополнительного подраздела реестра;

4) принимает решения по организационным вопросам, связанным с поддержкой функционирования реестра.

Учет в реестре по объектам информатизации, принадлежащим государству, осуществляется в отношении программного обеспечения, интернет-ресурсов и электронных информационных ресурсов.

Финансирование работ по обеспечению учета республиканской собственности осуществляется уполномоченным органом по управлению государственным имуществом за счет средств республиканского бюджета.

Финансирование работ, связанных с обеспечением учета коммунальной собственности, поддержанием и предоставлением доступа к реестру осуществляется местными исполнительными органами за счет средств местных бюджетов.

В Республике Беларусь.

В соответствии с Положением о Государственном комитете по имуществу Республики Беларусь, утвержденного постановлением Совета

Министров Республики Беларусь, Государственным комитетом по имуществу (далее – Госкомимущество) осуществляется анализ эффективности использования государственного имущества, по результатам которого Госкомимуществом на своем официальном сайте в глобальной компьютерной сети Интернет, ежеквартально размещаются информационно-аналитические материалы об использовании зданий, сооружений, изолированных помещений, находящихся в государственной собственности. Указанные материалы формируются по итогам обработки отчета об использовании зданий, сооружений, изолированных помещений, находящихся в государственной собственности.

Учет ведется в соответствии с положением о порядке формирования и актуализации государственного информационного ресурса, Единый реестр имущества, утвержденного постановлением Совета Министров Республики Беларусь. В Едином реестре имущества вся информация актуализируется ежеквартально.

Государственные органы и организация, областные, городские исполнительные комитеты осуществляет контроль за своевременным внесением территориальными органами, подчиненными (входящими в состав, систему) юридическим лицам, а также хозяйственными обществами и государственно-общественными объединениями, которым передано в безвозмездное пользование имущество, находящееся в государственной собственности, актуальных и достоверных данных в Единый реестр имущества.

В Республике Туркменистан.

В республике Туркменистан правила ведения реестра государственного имущества разработаны в соответствии с Законом Республики Туркменистан «О государственной регистрации прав на недвижимое имущество и сделок, связанных с ним». Настоящий Закон устанавливает правовые основы и порядок государственной регистрации прав на недвижимое имущество и обременений прав на него, а также сделок, связанных с ним, с целью признания и защиты государством зарегистрированных в соответствии с настоящим Законом прав, обременений прав на недвижимое имущество и сделок, связанных с ним.

В Законе определен, что Государственный реестр прав на недвижимое имущество и сделок, связанных с ним (далее – Государственный реестр) – информационная база о существующих и прекращённых правах и обременениях прав, а также о правообладателях, права которых зарегистрированы территориальными органами Службы в регистрационных книгах. Государственными органами, осуществляющими учёт объектов недвижимого имущества, являются Министерство сельского хозяйства Туркменистана, Министерство коммунального хозяйства Туркменистана, Министерство экономики и развития Туркменистана, органы местной исполнительной власти и Генгеши.

Государственный реестр создаётся и ведётся в целях:

1) реализации эффективной государственной политики в области управления недвижимым имуществом;

2) защиты государственных и частных интересов в правоотношениях, связанных с недвижимым имуществом;

3) государственного контроля за использованием и охраной недвижимого имущества;

4) информационного обеспечения физических и юридических лиц.

Государственный реестр состоит из следующих документов:

1) книги учёта документов, поступающих на государственную регистрацию;

2) регистрационных дел;

3) регистрационных книг;

4) книги учёта запросов физических и юридических лиц на предоставление информации.

Службой по государственной регистрации прав могут быть определены и иные документы, необходимые для ведения Государственного реестра.

Ведение документов Государственного реестра осуществляется территориальными органами Службы на бумажном и электронном носителях.

В США.

Существуют федеральные службы учета земельных участков – Бюро земельного управления (Bureau of Land Management) при Министерстве внутренних дел США. Бюро ответственно за кадастровый учет всех государственных земель – одной восьмой всей территории страны. Большинство публичных (государственных) земель располагается в западных штатах.

Основной единицей земельной собственности в США является индивидуальный земельный участок, имеющий определенные признаки: адрес, геодезические данные и оценочный индекс. На карте наряду с участками показываются автомобильные и железные дороги, элементы гидрографии. Специалистами Бюро земельного управления выполняется кадастровая съемка, ведение земельных (регистрационных) архивов штатов, а также различных земельно-информационных систем США.

Сегодня основными владельцами источников информации о земельных участках являются частные компании, которые специализируются на страховании сделок. Каждая такая компания работает преимущественно в одном штате и ведет свой собственный земельный учет. Записи составляются и корректируются штатом экспертов, ежедневно обобщающих соответствующую информацию из официальных записей. Причины этого заключается в том, что в отсутствие общественной (государственной, муниципальной) информационной системы нет возможности убедиться в правильности предъявляемых границ недвижимости, права на которую предстоит застраховать, обследовать границы владений клиента и вести собственную информационную систему, в которой постепенно накапливается информация о границах между соседними владениями.

Разные штаты ведут земельно-кадастровые и регистрационные системы по-разному. В стране разработано несколько основных кадастровых многоцелевых информационных систем. В одних штатах имеются семантические данные, в других – карты, на которых показаны данные, подлежащие включению в общую систему.

В Польше.

Управление активами остается децентрализованным, реестры ведутся на уровне организации. Реестры активов организованы в соответствии со стандартизированной классификационной кодировкой, которая предоставлена Статистическим управлением Польши.

Таким образом, опыт управления государственными активами различных странах показал важность учета государственной собственности. Правительства многих развитых стран сохраняют контроль над государственной собственностью, учета и ведения реестра.

Изучение международного опыта учета и ведения государственных активов, свидетельствует о наличии различных подходов к управлению ими в разных странах. При этом считали бы необходимым при выборе конкретной модели учёта и ведении реестра, обращать внимание на соответствии особенностей модели, к специфике национальной экономики Узбекистана.

Использованные источники:

1. Закон Республики Узбекистан «Об управлении государственным имуществом» от 9 марта 2023 г. № ЗРУ-821.
2. Постановление Кабинета Министров Республики Узбекистан «О мерах по совершенствованию порядка ведения учета объектов государственной собственности» от 8 мая 2020 г. № 273.

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МЕЖДУНАРОДНЫЕ ПОДХОДЫ К УПРАВЛЕНИЮ КАЧЕСТВОМ И УСЛУГ В СОВРЕМЕННЫХ УСЛОВИЯХ

Аннотация: *В статье рассматриваются ключевые аспекты управления системой качества на предприятиях, включая основные принципы, элементы и этапы внедрения системы менеджмента качества (СМК).*

Ключевые слова: *эффективность производства, управление качеством, конкурентоспособность, система менеджмента качества, контроль.*

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INTERNATIONAL APPROACHES TO QUALITY AND SERVICE MANAGEMENT IN MODERN CONDITIONS

Abstract: *The article discusses the key aspects of quality system management at enterprises, including the basic principles, elements and stages of implementing a quality management system (QMS).*

Key words: *production efficiency, quality management, competitiveness, quality management system, control.*

Управление системой качества является ключевым элементом успешного функционирования предприятий в современных условиях конкурентного рынка, где высокие требования к качеству продукции и услуг, рост потребительских ожиданий и жесткая конкуренция требуют постоянного совершенствования бизнес-процессов. Эффективная система управления качеством (СМК) позволяет повысить удовлетворенность клиентов, снизить издержки и улучшить репутацию организации.

Управление системой качества на предприятиях представляет собой комплекс мероприятий и процессов, направленных на обеспечение стабильного и высокого уровня качества продукции или услуг.

Современные системы управления качеством основываются на следующих принципах:

- Ориентация на клиента для удовлетворение потребностей клиентов является приоритетом.
- Лидерство организации задает направление и создает условия для эффективного управления качеством.
- Вовлечение персонала всех уровней повышает эффективность процессов.
- Процессный подход управление деятельностью как взаимосвязанной системой процессов.
- Системный подход к управлению это интеграция различных элементов организации в единую систему.
- Постоянное совершенствование процессов и продукции.
- Принятие решений на основе фактов для эффективного управления.
- Взаимовыгодные отношения с поставщиками для повышения качества.

Для эффективного функционирования система менеджмента качества на предприятии необходимо внедрение следующих элементов:

- Документирование процессов для создание стандартов, регламентов и инструкций.
- Контроль качества для внедрение процедур контроля на всех этапах производства.
- Аудиты и мониторинг для регулярной проверки соответствия требованиям качества.
- Управление несоответствиями это выявление, анализ и корректировка ошибок.
- Обучение персонала это постоянное повышение квалификации сотрудников.
- Обратная связь с клиентами это анализ отзывов для повышения качества продукции и услуг.

В рыночной и конкурентной среде высокое качество продукции и услуг становится неотъемлемым условием для успешного ведения бизнеса. Развитые страны рассматривают высокое качество как стратегический коммерческий императив, обеспечивающий конкурентоспособность на глобальном рынке.

Качество играет ключевую роль в формировании репутации государства и экономики. Например, Германия и Япония известны своим высоким уровнем качества продукции, что укрепляет доверие к их промышленности и способствует росту экспорта. Компании, такие как Toyota и Siemens, стали мировыми лидерами благодаря строгим стандартам качества,

что позволило им завоевать международное признание и лояльность потребителей. Оно способствует:

- Повышению уровня жизни населения;
- Развитию инноваций и технологий;
- Укреплению доверия к национальным производителям и брендам;
- Привлечению инвестиций и развитию бизнеса;
- Увеличению экспортного потенциала страны.

Эти факторы делают высокое качество стратегическим приоритетом для любого государства, стремящегося к долговременному и устойчивому развитию в условиях глобальной конкуренции.

Только на его основе предприятие может выжить в конкурентной среде и получить необходимую прибыль, поэтому очень важно, чтобы деятельность по совершенствованию и обеспечению качества в рыночных условиях была приоритетной.

Основные причины необходимости улучшения и обеспечения качества:

- непрерывный рост личных, производственных и социальных потребностей;
- повышение роли и темпов научно-технического развития в развитии науки, техники, производства, экономики и всего мирового сообщества;
- совершенствование услуг, дизайна выпускаемой продукции и повышение значимости выполняемых функций;
- увеличение объемов производства продукции и услуг и, как следствие, возможное увеличение стоимости брака и судебных исков;
- неприятие потребителями товаров и услуг сравнительно низкого уровня;
- жесткие требования к интенсификации производства и повышению его эффективности как необходимого фактора успешной работы предприятий.

Современный менеджмент качества основан на том, что деятельность по управлению качеством не может быть эффективной после производства продукции, эта деятельность должна осуществляться в процессе производства продукции. Важна также деятельность по обеспечению качества перед производственным процессом.

В целом менеджмент качества как процесс воздействия на соответствующие объекты управления следует рассматривать в рамках науки управления в целом.

Механизм управления качеством продукции – это совокупность взаимосвязанных объектов и субъектов управления, принципов управления, методов и функций, используемых на разных стадиях жизненного цикла продукции и уровнях управления качеством.

За счет реализации управленческих функций в системе управления качеством продукции устанавливается связь между техническими,

социальными, организационными и правовыми мерами на всех этапах создания и использования продукции.

В управлении качеством часто используются такие понятия, как система, среда, цель и программа. Помимо этого, различают систему управления и систему менеджмента.

Руководство предприятия играет ключевую роль в реализации и поддержании системы управления качеством, принимая важные решения, направленные на повышение эффективности и результативности деятельности.

Оценка качества продукции включает в себя выбор показателей качества оцениваемой продукции, определение значений этих показателей и сравнение их с установленными эталонами или нормативными значениями.

Использованные источники:

1. Управление качеством: лекции / Е. М. Белый, И. Б. Романова. Ульяновск, Улгу, 2017. 86 с.
2. Инструменты и методы управления качеством: учебник / В. В. Шушерин, С. В. Кортов, А. С. Цеткин. Екатеринбург: Гоу ВПО УГТУ – УПИ, 2016. 202 с.
3. Feruza, Obidova. "How to Create Effective Marketing Strategies for Your Business." *Vital Annex: International Journal of Novel Research in Advanced Sciences* 2.3 (2023): 12-17.
4. Обидова, Ф. Я. (2023). УПРАВЛЕНИЕ СИСТЕМОЙ КАЧЕСТВА НА ПРЕДПРИЯТИЯХ. *Экономика и социум*, (11 (114)-1), 929-932.

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СОВРЕМЕННЫЕ ТЕНДЕНЦИИ В УПРАВЛЕНИИ ПЕРСОНАЛОМ: МЕЖДУНАРОДНЫЕ ПРАКТИКИ И ИХ ПРИМЕНЕНИЕ В УЗБЕКИСТАНЕ

Аннотация: *Управление персоналом (HR) является одним из ключевых аспектов успешного функционирования любой организации. В условиях глобализации и быстрого изменения рынка труда, актуальные тенденции в этой области требуют внимания и адаптации. В этой статье мы рассмотрим международные практики управления персоналом и их применение в Узбекистане, а также выявим основные вызовы и возможности.*

Ключевые слова: *управление персоналом, человеческий капитал, кадровая политика, оценка эффективности труда, узбекский рынок труда, мотивация сотрудников.*

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CURRENT TRENDS IN PERSONNEL MANAGEMENT: INTERNATIONAL PRACTICES AND THEIR APPLICATION IN UZBEKISTAN

Abstract: *Personnel management is one of the key aspects of the successful functioning of any organization. In the context of globalization and rapid changes in the labor market, current trends in this area require attention and adaptation. In this article we will look at international human resource management practices and their application in Uzbekistan, and also identify the main challenges and opportunities.*

Key words: *personnel management, human capital, personnel policy, labor efficiency assessment, Uzbek labor market, employee motivation.*

В настоящее время вопросам управления персоналом уделяется все больше внимания, так как именно кадровый потенциал во многом определяет конкурентоспособность, рентабельность и устойчивость организаций. Эффективное управление человеческими ресурсами становится ключевым фактором развития предприятий, а вовлеченность персонала в процессы совершенствования организации напрямую влияет на ее успех.

Одним из важнейших направлений является комплексный подход к оценке и развитию персонала. В книге Н.В. Федоровой и О.Ю. Минченковой "Управление персоналом организации" рассматривается роль кадрового управления и раскрываются комплексные функции управления персоналом, включая формирование кадровой политики и анализ рынка труда.

Важным аспектом управления персоналом является оценка эффективности труда. В работе Г.А. Реймарова "Комплексная оценка персонала: Инженерный подход к управлению качеством труда" рассматриваются методы анализа деятельности сотрудников с применением компьютерных систем. Автор акцентирует внимание на объективности оценочных процедур и адаптации методологии к специфике рынка труда. Исследования показывают, что системный подход к оценке персонала позволяет повышать мотивацию сотрудников и формировать эффективные кадровые стратегии.

Современные технологии играют важную роль в HR-менеджменте. Практическое пособие "HR-инжиниринг. Как построить современную модель организации деятельности персонала" (авторы В.В. Кондратьев, Ю.А. Лунев) предлагает рекомендации по интеграции информационных технологий в кадровое управление. Использование цифровых инструментов позволяет автоматизировать процессы подбора, оценки и обучения персонала, что повышает эффективность управления человеческими ресурсами.

Методики оценки стоимости человеческого капитала также становятся важным направлением в HR-менеджменте. В исследовании Г. Тугускиной "Оценка стоимости человеческого капитала предприятий" анализируются существующие методы оценки персонала, выявляются их слабые стороны и предлагаются альтернативные подходы, адаптированные к реалиям бизнеса.

HR-менеджеры Узбекистана активно изучают и адаптируют лучшие международные практики. Исследование Джима Коллинза "От хорошего к великому" помогает понять, какие управленческие решения ведут к успеху и как вовлеченность сотрудников влияет на развитие компании. В работе Марка А. Хьюзилида, Брайана Е. Беккера и Ричарда У. Битти "Оценка персонала: как управлять человеческим капиталом, чтобы реализовать стратегию" рассматриваются подходы к инвестированию в трудовые ресурсы и их влияние на корпоративную культуру.

Особенность узбекского рынка труда заключается в его стремительном развитии, росте количества молодых специалистов и усилении конкуренции за кадры. Важным направлением является внедрение систем оценки персонала, адаптированных к национальным особенностям. Развитие

корпоративной культуры, основанной на традициях и современных методах управления, позволяет узбекским компаниям становиться конкурентоспособными на международном уровне.

В 2024 году на платформе hh.uz было размещено около 130 тысяч активных вакансий, что на 28% больше по сравнению с предыдущим годом. Об этом Kapital.uz сообщили в пресс-службе HeadHunter.

Ситуация на рынке труда в Узбекистане, по оценке Центробанка, остаётся устойчивой: уровень безработицы снизился до 8,1%, на этот год ЦБ прогнозирует дальнейшее снижение до 7,5−8%. В трудовой миграции наблюдается географическая диверсификация, доля переводов из России сократилась с 87% до 78%.

На основе обширных исследований и практического опыта можно сделать вывод, что управление персоналом является динамично развивающейся областью, требующей гибкости и адаптации. В современных условиях важно не только применять готовые методики, но и разрабатывать уникальные решения, соответствующие специфике конкретной организации. Выбор подходящей стратегии управления персоналом становится ключевым фактором устойчивого развития и повышения конкурентоспособности предприятий Узбекистана.

Использованные источники:

1. Федорова Н.В., Минченкова О.Ю. Управление персоналом : учебник / Н.В. Федорова, О.Ю. Минченкова. — М. : КНОРУС, 2016. — 224 с. — (Среднее профессиональное образование).
2. Реймаров Г.А. Комплексная оценка персонала: Инженерный подход к управлению качеством труда. – СПб.: Питер, 2017. 422 с.
3. *Свергун О., Пасс Ю., Дьякова Д., Новикова А.* «HR- практика. Управление персоналом. Как оно есть на самом деле» - СПб., Питер, 2005 г.
4. Тугускина Г. «Оценка стоимости человеческого капитала предприятий». - Журнал «Кадровик. Кадровый менеджмент», №11, 2009г.
5. *Джим Коллинз* «От хорошего к великому» (JIM COLLINS «GOOD TO GREAT»). - Стокгольмская школа экономики в Санкт-Петербурге, 2006 г.
6. Yahyoyevna O. F., Tatulovna Z. M. MECHANISM OF ORGANIZING FINANCIAL MANAGEMENT IN ENTERPRISES //Miasto Przyszłości. – 2024. – Т. 47. – С. 866-872.
7. Обидова, Ф. Я. (2023). УПРАВЛЕНИЕ СИСТЕМОЙ КАЧЕСТВА НА ПРЕДПРИЯТИЯХ. *Экономика и социум*, (11 (114)-1), 929-932.
8. Yahyoyevna, O. F., & Tatulovna, Z. M. (2024). MECHANISM OF ORGANIZING FINANCIAL MANAGEMENT IN ENTERPRISES. Miasto Przyszłości, 47, 866-872.
9. Обидова, Ф. Я. (2023). Управление системой качества на предприятиях. *Экономика и социум*, (11 (114)-1), 929-932.
10. Yahyoyevna, O. F. (2024, February). RESPUBLIKAMIZDA AHOLI BANDLIGI MENEJMENTI MASALALARINI ISTIQBOLLARI. In *International conference on multidisciplinary science* (Vol.2,No.2,pp. 25-31).

11. Обидова, Ф. Я. (2024). ОСНОВНЫЕ АСПЕКТЫ УПРАВЛЕНИЯ СИСТЕМОЙ КАЧЕСТВА НА ПРЕДПРИЯТИЯХ. *Экономика и социум*, (5-2 (120)), 1218-1221.
12. Obidova, F., & Shirinov, K. (2024, December). INVESTITSION LOYIHALARNI MOLIYALASHTIRISH. In *Russian-Uzbekistan Conference* (pp. 102-104).
13. Obidova, F., & Djalmanova, N. (2024, December). MEHNAT RESURSLARINI BOSHQARISHNING IQTISODIY AHAMIYATI. In *Russian-Uzbekistan Conference* (pp. 105-107).
14. Obidova, F. Y. (2024). TADBIRKORLIK SUBYEKTLARI MEHNAT RESURSLARIDAN SAMARALI FOYDALANISH. *Экономика и социум*, (2 (117)-1), 544-547.

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ГИПОПРОТЕИНЕМИЯ, КИШЕЧНЫЙ БАРЬЕР И ЭНДОКРИННЫЕ ДИСФУНКЦИИ У РЕАНИМАЦИОННЫХ ПАЦИЕНТОВ

Аннотация*: Увеличение доли белка в ежедневном рационе или избыточное поступление белка в организм может привести к отрицательным последствиям. Пищевые белки не откладываются в организме в качестве запасов. Чрезмерное количество белка в печени превращается в глюкозу, сопровождаясь образованием промежуточных соединений, оказывающих вредное влияние на организм. Кроме того, избыточное потребление белка способствует повышению кислотности мочи и вымыванию кальция из костной ткани, что может привести к развитию остеопороза. В рамках исследования были выявлены гистологические изменения слизистой оболочки толстого кишечника под влиянием указанных факторов.*

Ключевые слова: *несбалансированное питание, метаболизм белков, липидный обмен, углеводный баланс, витаминный статус, кишечная морфология, костная минерализация, питание спортсменов, нутрициология, структурные изменения.*

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HYPOPROTEINEMIA, INTESTINAL BARRIER, AND ENDOCRINE DYSFUNCTIONS IN CRITICALLY ILL PATIENTS

Abstract: *An increase in the proportion of protein in the daily diet or excessive protein intake can lead to negative consequences. Dietary proteins are not stored in the body as reserves. Excessive protein is converted into glucose in the liver, accompanied by the formation of intermediate compounds that have a harmful effect on the body. Moreover, excessive protein consumption contributes to an increase in urine acidity and the leaching of calcium from bone tissue, which may lead to the development of osteoporosis. In the course of the study, histological changes in the mucous membrane of the large intestine were identified under the influence of these factors.*

Keywords: *Unbalanced nutrition, protein metabolism, lipid metabolism, carbohydrate balance, vitamin status, intestinal morphology, bone mineralization, sports nutrition, nutrition science, structural changes.*

Актуальность темы: Несмотря на важность качества и количества повседневной пищи для нормального роста и развития организма, в нашей повседневной жизни часто наблюдается нарушение рациональной гигиены питания.

Недостаток питательных веществ в пище может, с одной стороны, нарушить иммунный ответ и нарушить жизненно важные метаболические процессы, а с другой стороны, это может привести к таким проблемам, как переедание, атерогенность и канцерогенность, ожирение и т.д., который является одним из факторов, делающих организм подверженным различным инфекциям: бактериальным, паразитарным, вирусным заболеваниям. Недоедание чаще встречается среди длительно госпитализированных пациентов, особенно тех, кто питается парентерально.

Факторы, способствующие недоеданию, включают: первичное недоедание (голод или недоедание, длительное употребление одной и той же пищи), вторичное недоедание, то есть нарушение всасывания и пищеварительных процессов (заболевания пищеварительного тракта, недостаток пищеварительных соков).

Немаловажную роль играет недостаток или увеличение количества белка, жира, витаминов, микроэлементов на основе патологических состояний, возникающих в органах и тканях организма в результате нарушения рационального питания. В белковой диете значительно снижается поступление в организм углеводов и жиров.

В результате в организме возникает чувство голода и увеличивается расщепление резервов углеводов за счёт компенсаторно-приспособительного процесса в организме. В этом процессе также участвует вода, в результате чего организм начинает терять много воды и углеводов.

Роль потребляемых в организме углеводов компенсируется образованием глюкозы из резервных белков в мышечной ткани. Эти процессы заставляют человека быстро худеть и долгое время не возвращать его в прежнее состояние.

Нехватка углеводов, жиров, витаминов и микроэлементов в белковой диете, недостаток растительных продуктов негативно сказываются на организме. Цвет волос становится тусклым и ломким, кожа становится сухой и белой, бывают случаи быстрой утомляемости. Кроме того, когда потребляется чрезмерное употребление белка, большая нагрузка ложится на почки в результате потребления большого количества воды для его переваривания. Это связано с тем, что промежуточные продукты, образующиеся при переваривании белка, растворяются в воде и выводятся почками в виде мочи. Поэтому при белковой диете рекомендуется пить больше жидкости. С увеличением потребления белка из года в год актуальной проблемой становится полное изучение морфофункциональных сдвигов органов пищеварительной системы.

Объект и предмет исследования: подопытные крысы: 70 белых самцов 100-дневного возраста постнатального онтогенеза.

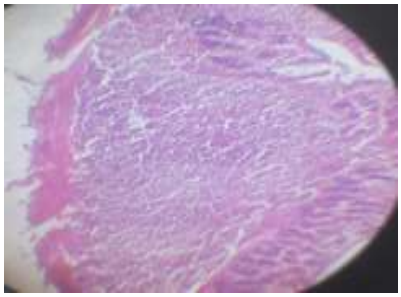
Подопытные животные были разделены на две группы. Первая группа была контрольной и получала вивариантный рацион. Вторая группа - экспериментальные животные на 100 дней во время этого же вида пищи скармливали вареным яичным белком. Объектом исследования была толстая кишка.

Анализ полученных результатов: В эксперименте морфометрическими исследованиями выявлены криптографические параметры слизистой оболочки толстой кишки, изменение количества энтероцитов и клеток стекловидного тела. С первого дня до конца экспериментов наблюдались различные уровни изменений и сдвигов гистоструктурных параметров толстой кишки.

Толщина стенок экспериментальных животных, нагруженных белком, варьировала от 315,4 ± 5,2 мкм до 318,6 ± 5,2 мкм. Глубина крипт, образованных проникновением эпителия на поверхности слизистой оболочки в закрытый слой, уменьшилась с 115,2 + 4,1 мкм до 46,6 + 5,2.

Общая толщина слизистой оболочки варьировала от 121,5 +2,7 мкм до 106,7 +2,7 мкм. Количество ячеек в стенке крипты уменьшилось с 33,2 +1,4 до 30,2 + 1,4, из которых количество бокаловидных ячеек уменьшилось с 9,3 +3,2 до 8,06 +3,2, а общее количество других ячеек уменьшилось на 5 +3, Было обнаружено уменьшение до 2.

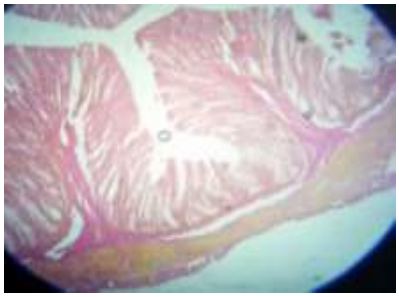
Лимфоидные фолликулы толстого кишечника



Контроль 60 сутки.

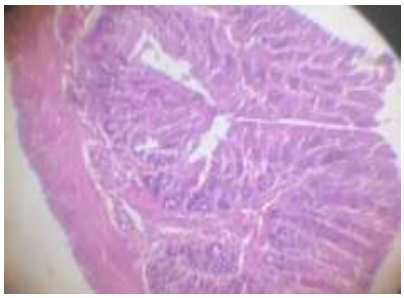
Окраска -гематоксилин-эозином. 7ок. х10об.

Стенка толстого кишечника

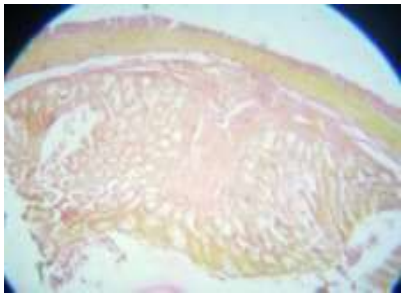


Контроль. 60 сутки.

Окраска-ван-гизон. 7ок. х10об.



Эксперимент 60 сутки. Окраска-гематоксилин-эозином. 7ок. х10об.



Эксперимент 60 сутки. Окраска-ван-гизон. 7ок. х10об.

При микроскопическом исследовании, наблюдались отчетливо выраженные атрофические и склеротические изменения слоев мышечной и серозной оболочек толстой кишки, переполнение сосудов, рост и утолщение грубой соединительной ткани.

Вывод: Под воздействием повышенной белковой нагрузки в слизистой оболочке толстого кишечника развиваются атрофические изменения, сопровождающиеся замедлением процессов абсорбции. Это обусловлено уменьшением глубины крипт и снижением количества энтероцитов, а также структурными изменениями слизистой и подслизистой оболочки кишечника. Кроме того, наблюдаются атрофические и склеротические процессы в мышечной ткани и интерстициальной соединительной ткани.

Использованные источники:

1. Аль-Раяши Салим Нассир. Морфологические изменения лимфоидных образований желудка при экспериментальном геморрагическом инсульте (экспериментально-морфологическое исследование): автореф. дис. . канд. мед. наук / Аль-Раяши Салим Нассир. М., 2006. 25 с.

2. Дилекова О. В. Морфофункциональная характеристика многокамерного желудка овец в; пренатальном онтогенезе: дис. канд. ветеринар, наук / О. В: Дилекова. М., 2006. - 133с.

3. Покровский В. И. Политика здорового питания. Федеральный и региональный уровни / В. И. Покровский, Г. А. Романенко, В. А. Княжев. Новосибирск: СУМ, 2002. - 19 с

4. Санжапова А.Ф. Особенности постнатального морфогенеза слизистой оболочки фундального отдела желудка белых крыс при длительном потреблении диспергированной пищи / автореф. дис. канд. мед. наук / Санжапова А.Ф.Ульяновск 2008 г.

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СОВРЕМЕННЫЕ МЕТОДЫ ПРЕПОДАВАНИЯ ФИЗИЧЕСКОЙ КУЛЬТУРЫ В ВУЗАХ

Аннотация*:В данной работе рассматриваются современные методы преподавания физической культуры в высших учебных заведениях. Особое внимание уделяется инновационным технологиям, цифровым инструментам и интерактивным подходам, направленным на повышение мотивации студентов к физической активности. Анализируются такие методики, как геймификация, дистанционные и смешанные формы обучения, персонализированные тренировочные программы, а также использование цифровых платформ и мобильных приложений для мониторинга физической активности. Отмечается важность комплексного подхода, учитывающего индивидуальные особенности обучающихся и современные требования к физической подготовке молодежи.*

Ключевые слова: *мотивация, подход, технология, инновация, инструмент, метод.*

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MODERN METHODS OF TEACHING PHYSICAL EDUCATION IN UNIVERSITIES

Abstract:*This paper examines modern methods of teaching physical education in higher education institutions. Particular attention is paid to innovative technologies, digital tools and interactive approaches aimed at increasing students' motivation for physical activity. Such methods as gamification, distance and blended learning, personalized training programs, as well as the use of digital*

platforms and mobile applications for monitoring physical activity are analyzed. The importance of an integrated approach that takes into account the individual characteristics of students and modern requirements for the physical training of young people is noted.

***Key words**: motivation, approach, technology, innovation, tool, method.*

Физическая культура является важной частью образовательного процесса в вузах, способствуя гармоничному развитию студентов, улучшению их физического состояния и формированию здорового образа жизни.

Физическая культура играет важную роль в образовании студентов вузов, способствуя не только улучшению их физического здоровья, но и формированию ряда личных качеств, таких как дисциплина, ответственность, команда, самоконтроль и стрессоустойчивость.

Вузовское образование требует от преподавателей применения разнообразных методов и подходов для эффективного обучения студентов. Методы преподавания физической культуры в вузах должны учитывать индивидуальные особенности студентов, их уровень подготовки, а также современные требования к физическому воспитанию.

Современные методы преподавания физической культуры ориентированы на активное вовлечение студентов в занятия, использование инновационных технологий и учет индивидуальных особенностей обучающихся.

Современные преподаватели физической культуры активно внедряют интерактивные методы обучения, которые делают процесс более увлекательным и эффективным. Среди них:

✓ *игровые технологии*: использование командных и индивидуальных игр для развития физических качеств и коммуникативных навыков.

✓ *геймификация:* включение элементов соревнования, рейтингов, достижений, которые мотивируют студентов к занятиям.

✓ *метод кейсов*: анализ реальных ситуаций, связанных с физической культурой и спортом, что помогает развивать аналитическое мышление и самостоятельность.

С развитием цифровых технологий преподавание физической культуры выходит на новый уровень, следовательно, применяются:

➢ *фитнес-трекеры и мобильные приложения* для мониторинга физической активности студентов.

➢ *видеоуроки и онлайн-курсы*, позволяющие осваивать теоретический материал и правильную технику выполнения упражнений.

➢ *виртуальная и дополненная реальность*, создающая условия для имитации спортивных ситуаций и обучения новым движениям в безопасной среде.

Современные методики преподавания физической культуры предусматривают персонализированный подход к каждому студенту:

✓ разработка индивидуальных программ тренировок с учетом состояния здоровья, физической подготовки и интересов.

✓ гибкие формы занятий, позволяющие студентам самостоятельно выбирать виды активности, например, йогу, кроссфит или плавание.

✓ внедрение инклюзивных методик, обеспечивающих доступность физической активности для студентов с ограниченными возможностями.

Каждый студент имеет разный уровень физической подготовки, поэтому преподавание должно учитывать индивидуальные особенности и потребности, поэтому для этого используются:

✓ - диагностика физического состояния (фитнес-тесты, мониторинг параметров здоровья);

✓ - индивидуальные программы тренировок, основанные на возможностях и целях студента;

✓ - групповая работа с учетом уровня подготовки (разделение студентов на группы по физическим возможностям).

В современных вузах активно используется проектный метод, когда студенты разрабатывают и реализуют собственные проекты, связанные с физической культурой, например:

✓ организация спортивных мероприятий и флешмобов.

✓ исследование влияния физических нагрузок на различные аспекты здоровья.

✓ разработка методических пособий и видеокурсов по физической культуре.

Таким образом, современные методы преподавания физической культуры направлены на повышение мотивации студентов, использование инновационных технологий и индивидуальный подход. Благодаря интеграции интерактивных, цифровых и адаптивных методов обучения физическая культура в вузах становится не только обязательной дисциплиной, но и увлекательным процессом, способствующим всестороннему развитию личности.

Использованные источники:

1. Арслонов К. П. Современные методы преподавания физической культуры // Вестник науки и образования. 2021. №17-2 (120). –С.93-96.

2. Григорьева А.В., Журавлев А.В. Современные методы преподавания физической культуры// Международный студенческий научный вестник. 2022. № DOI: https://doi.org/10.17513/msnv.21087

3. Камалова, Г. (2024). Методология преподавания физической культуры в вузах на современном этапе. Research and Implementation, 205–209. извлечено от https://rai-journal.uz/index.php/rai/article/view/865

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РОЛЬ ФИНАНСОВ В УПРАВЛЕНИИ ПРЕДПРИЯТИЕМ

Аннотация:*Финансы играют ключевую роль в управлении предприятием, обеспечивая его функционирование, развитие и конкурентоспособность. В статье рассматриваются основные функции финансов, их влияние на принятие управленческих решений, а также роль финансового менеджмента в достижении стратегических целей компании. Особое внимание уделено финансовому планированию, контролю и анализу, которые позволяют оптимизировать использование ресурсов и повысить эффективность бизнеса. Статья будет полезна руководителям, финансовым менеджерам и всем, кто интересуется вопросами управления финансами на предприятии.*

Ключевые слова: *финансы, управление предприятием, финансовый менеджмент, планирование, контроль, анализ, ресурсы, эффективность.*

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ROLE OF FINANCES IN ENTERPRISE MANAGEMENT

Abstract:*Finance plays a key role in enterprise management, ensuring its functioning, development, and competitiveness. The article discusses the main functions of finance, their impact on managerial decision-making, and the role of financial management in achieving the company's strategic goals. Special attention is paid to financial planning, control, and analysis, which optimize resource*

utilization and enhance business efficiency. The article will be useful for managers, financial managers, and anyone interested in financial management in an enterprise.

Keywords: *finance, enterprise management, financial management, planning, control, analysis, resources, efficiency.*

Введение

Финансы являются основой функционирования любого предприятия. Они обеспечивают возможность приобретения ресурсов, выполнения обязательств, инвестирования в развитие и достижения стратегических целей. Управление финансами — это комплекс процессов, направленных на эффективное использование денежных средств для обеспечения устойчивости и роста бизнеса. В данной статье рассматривается, как финансы влияют на управление предприятием и какие инструменты используются для достижения финансовой устойчивости.

Основные функции финансов в управлении предприятием

1. Обеспечение деятельности предприятия

Финансы обеспечивают текущую деятельность предприятия, включая закупку сырья, оплату труда сотрудников, покрытие операционных расходов и выполнение обязательств перед кредиторами. Без достаточного уровня финансирования предприятие не сможет функционировать.

2. Финансовое планирование

Финансовое планирование позволяет определить будущие доходы и расходы, разработать бюджеты и стратегии развития. Оно помогает предприятию заранее предусмотреть возможные финансовые трудности и разработать меры по их преодолению.

3. Контроль и анализ

Контроль за финансовой деятельностью предприятия обеспечивает выполнение планов и выявление отклонений. Финансовый анализ позволяет оценить эффективность использования ресурсов, определить резервы для улучшения и принять обоснованные управленческие решения.

4. Инвестиционная деятельность

Финансы играют ключевую роль в реализации инвестиционных проектов, направленных на модернизацию производства, расширение рынков сбыта и повышение конкурентоспособности предприятия. Управление инвестициями включает оценку их эффективности, рисков и сроков окупаемости.

5. Управление рисками

Финансовый менеджмент включает идентификацию, оценку и минимизацию рисков, связанных с финансовой деятельностью предприятия. Это позволяет снизить вероятность финансовых потерь и обеспечить стабильность компании.

Роль финансового менеджмента

Финансовый менеджмент — это система управления финансами предприятия, направленная на достижение его стратегических целей. Основные задачи финансового менеджмента включают:

- Оптимизацию структуры капитала;
- Управление денежными потоками;
- Повышение рентабельности и ликвидности;
- Обеспечение финансовой устойчивости.

Финансовый менеджер играет ключевую роль в принятии решений, связанных с распределением ресурсов, выбором источников финансирования и управлением инвестициями. Его задача — обеспечить баланс между доходностью, рисками и ликвидностью.

Инструменты управления финансами

1. Бюджетирование

Бюджетирование позволяет планировать доходы и расходы, распределять ресурсы между подразделениями и контролировать выполнение финансовых планов.

2. Финансовый анализ

Финансовый анализ включает оценку ликвидности, рентабельности, финансовой устойчивости и деловой активности предприятия. Основными инструментами анализа являются финансовые коэффициенты и отчетность.

3. Управление денежными потоками

Управление денежными потоками направлено на обеспечение достаточного уровня ликвидности для выполнения текущих обязательств. Это включает управление поступлениями и выплатами, а также оптимизацию оборотного капитала.

4. Управление затратами

Управление затратами позволяет минимизировать издержки и повысить рентабельность предприятия. Это достигается за счет анализа структуры затрат, внедрения систем контроля и оптимизации бизнес-процессов.

Заключение

Финансы играют центральную роль в управлении предприятием, обеспечивая его функционирование, развитие и конкурентоспособность. Эффективное управление финансами позволяет оптимизировать использование ресурсов, минимизировать риски и достигать стратегических целей. Для успешного управления финансами необходимо использовать современные методы и инструменты, такие как финансовое планирование, контроль, анализ и бюджетирование. Только в этом случае предприятие сможет сохранить финансовую устойчивость и добиться долгосрочного успеха.

Использованные источники:

1. Бланк И.А. Управление финансовой стабильностью предприятия. — К.: Ника-Центр, 2018.

2. Ковалев В.В. Финансовый менеджмент: теория и практика. — М.: Проспект, 2020.
3. Бригхэм Ю., Хьюстон Дж. Финансовый менеджмент. — СПб.: Питер, 2019.
4. Гурбанмурадов, Г. Б. Процесс принятия управленческого решения / Г. Б. Гурбанмурадов // Молодой ученый. – 2022. – № 13(408). – С. 40-42. – EDN AKVUDW.
5. Гурбанмурадов, Г. Б. Диалектика отношений субъекта и объекта управления / Г. Б. Гурбанмурадов // Интернаука. – 2022. – № 11-3(234). – С. 59-60. – EDN DKNTHU.
6. Гурбанмурадов, Г. Б. Организационное обеспечение управленческого решения / Г. Б. Гурбанмурадов, Б. Б. Бяшимов // Молодой ученый. – 2022. – № 19(414). – С. 175-176. – EDN OOWSIS.

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АНЕМИЧЕСКАЯ КАРДИОПАТИЯ, ОСЛОЖНЕННАЯ ДИАСТОЛИЧЕСКОЙ ДИСФУНКЦИЕЙ ЛЕВОГО ЖЕЛУДОЧКА У ПАЦИЕНТОВ С ХРОНИЧЕСКОЙ ЖЕЛЕЗОДЕФИЦИТНОЙ АНЕМИЕЙ

Аннотация: *Актуальность выбранной темы связана с трудностями диагностики метаболической кардиопатии (МК) в практической деятельности врача-терапевта, кардиолога и гематолога. Цель работы – выявление и освещение основных патогенетических механизмов и клинического течения анемической кардиопатии среди женской популяции Сохского района Ферганской области. У пациентов хронической железодефицитной анемией формирование данного состояния характеризуется развитием специфической клинической симптоматики, некоторыми дифференциально диагностическими сложностями, диастолической дисфункцией в большинстве сегментов левого желудочка (ДДЛЖ) и гиперкинетическим типом центральной гемодинамики, с последующим формированием глобальной дисфункции левого желудочка.*

Ключевые слова: *железодефицитная анемия, анемическая кардиопатия, ДДЛЖ.*

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ANEMIC CARDIOPATHY, COMPLICATED BY DIASTOLIC DYSFUNCTION OF THE LEFT VENTRICLE IN PATIENTS WITH CHRONIC IRON DEFICIENCY ANEMIA

Abstract: *The relevance of the chosen topic is associated with the difficulties of diagnosing metabolic cardiopathy (MC) in the practical activities of a general practitioner, cardiologist and hematologist. The purpose of the work is to identify*

and highlight the main pathogenetic mechanisms and clinical course of anemic cardiopathy among the female population of the Sokh district of the Fergana region. In patients with chronic iron deficiency anemia, the formation of this condition is characterized by the development of specific clinical symptoms, some differential diagnostic difficulties, diastolic dysfunction in most segments of the left ventricle and a hyperkinetic type of central hemodynamics, followed by the formation of global left ventricular dysfunction.

Keywords: *iron deficiency anemia, anemic cardiopathy, LVDD.*

Введение

Анемическим сердцем (cor anemicum), или по современной классификации метаболической (анемической) кардиопатией (МК), принято называть комплекс клинических и структурно-функциональных изменений со стороны сердечно- сосудистой системы у больных железодефицитной анемией (ЖДА) [1].

Актуальность выбранной темы связана с трудностями диагностики данного состояния в практической деятельности врача-терапевта, кардиолога и гематолога[2]. Клинические проявления МК: кардиалгии, сердцебиение, нарушения ритма сердца и проводимости, симптомы сердечной недостаточности - часто маскируются клинической картиной самой анемии, особенно в начальной стадии заболевания [1]. Затруднена и ранняя диагностика анемического сердца, соответственно, не проводится своевременная метаболическая терапия , что способствует снижению качества жизни пациентов ЖДА и увеличению сроков временной нетрудоспособности [2].В ранних исследованиях показано, что у пациентов хронической ЖДА развиваются такие структурно-функциональные изменения со стороны сердца, как дилатация камер, эксцентрическая или концентрическая гипертрофия левого желудочка (ЛЖ), увеличение ударного объема ЛЖ, диастолическая дисфункция желудочков (ДДЛЖ), а иногда, при тяжелой анемии - снижение сократительной способности миокарда [3]. Поскольку в основе развития начальной стадии МК лежит диастолическая сердечная недостаточность, то важной является, именно ранняя диагностика нарушений диастолической функции (ДФ) миокарда у больных железодефицитной анемией [3, 4]. В нашем исследовании использован метод тканевой допплер-эхокардиографии (ТДЭ), позволяющий у больных с различной кардиальной патологией диагностировать нарушения диастолической функции миокарда на той стадии, когда глобальная функция сердца еще не страдает [5]. Данные о распространенности МК на фоне анемического синдрома у пациентов в Ферганской долине и в особенности в труднодоступном анклаве Сохского региона ограничены. В связи с этим, считаем актуальным изучение распространенности МК , ее клинических особенностей, степень нарушения релаксации левого желудочка в зависимости от тяжести течения ЖДА.

Цель работы – выявление и освещение основных патогенетических механизмов и клинического течения анемической кардиопатии среди женской популяции Сохского района Ферганской области.

Материал и методы

Настоящая работа выполнена в рамках одномоментного исследования и изучения распространенности МК , ее клинических особенностей и степени вовлеченности левого желудочка в патологический процесс в зависимости от тяжести течения ЖДА. Обследование пациентов проводилась в медицинском центре ASAF Medical при содействии сотрудников кафедры внутренних болезней САМУ. Анемию и ее степень диагностировали в соответствии с рекомендациями Всемирного общества здравоохранения: легкая степень характеризовалась уровнем гемоглобина 110-119 г/л ; умеренная - 80-109 г/л; тяжелая - <80 г/л. В течении 6 месяцев излучалась особенности клинического течения МК и соотношение диастолическое функции ЛЖ среди ранее, активно выявленных больных с различной степенью анемического синдрома. Исследование проводилась с изучением параметров ДФ левого желудочка у 45 пациентов с МК (средний возраст 36,4±5,1 лет) трех групп с разной степенью анемии. Эхокардиография (ЭХОКГ) выполнялась с помощью ультразвукового сканера PHILIPS Affinity (США) в соответствии с рекомендациями Американского и Европейского обществ ЭХО КГ. Диастолическую функцию ЛЖ оценивали по трансмитральному диастолическому току крови и тканевой визуализации диастолических скоростей движения фиброзного кольца митрального клапана.

Результаты. Пациенты были разделены на три группы в зависимости от степени анемического синдрома. Полученные данные ЭХО КГ показывают снижение скорости потока быстрого наполнения (Е) у больных легкой степенью анемии 6,14%, среднетяжелой анемией на 17,7% и у пациентов с тяжелой анемией – на 36,2 %. Скорость потока (А), напротив, превышала показатель 8,4%, 14,6 % и 25,6 % у больных 1-й, 2-й и 3-й групп, соответственно. Отношение Е/А у пациентов МК достоверно снижалось по мере нарастания тяжести анемии. У всех пациентов с МК исследовалась диастолическая функция ЛЖ методом ТДЭ. Установлено, что скорость движения септального сегмента ЛЖ в раннюю диастолу (Ve) у больных ЖДА с МК была снижена более чем на 28%. Среди обследованных пациентов первой группы у 6,2% была выявлена ДДЛЖ 1 типа, в группе пациентов со средне тяжелой анемией у одной, и в третьей группе у четырех была диагностирована ДДЛЖ 2 типа (псевдо нормализация). Таким образом, методом ТДЭ можно выявить нарушения ДФ миокарда на уровне сегментов ЛЖ у пациентов ЖДА, у которых глобальная диастолическая функция не нарушена. Выявленные изменения являются начальным звеном в развитии сердечной недостаточности, лежащей в основе МК.

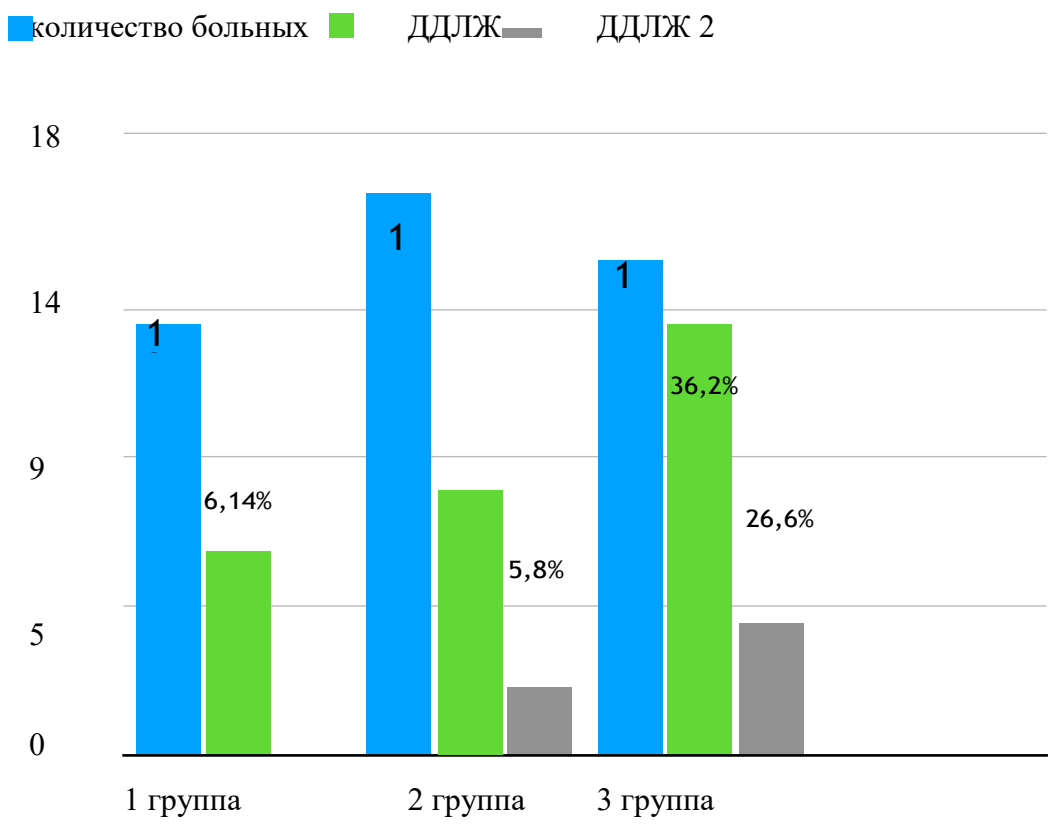

Рис 1. Частота встречаемости ДДЛЖ у больных с разной степенью анемии. n=45

Обсуждение.

До настоящего времени для обозначения поражения миокарда метаболического генеза в литературе используются термины: миокардозы, метаболическая кардиопатия, миокардиодистрофия [6].Термин «метаболическая кардиомиопатия» идентичен термину «миокардиодистрофия». Метаболическая кардиопатия представляет собой невоспалительное поражение сердечной мышцы различной этиологии, в основе которого лежит нарушение обмена веществ и процесса образования энергии в ней. Это в свою очередь приводит к структурным повреждениям кардиомиоцитов и их органелл с последующим развитием дистрофического перерождения и нарушению многих функций миокарда, прежде всего сократительной. По данным разных авторов, МК диагностируется в 25–60 % случаев. Ключевым этиопатогенетическим фактором в развитии метаболических поражений сердечной мышцы является гипоксия, которая определяется характером основного заболевания. В результате гипоксии быстро наступает истощение аэробного гликолиза с накоплением его конечных субстратов и переходом на анаэробный путь. Кроме того, происходит нарушение окислительного фосфорилирования и синтеза аденозинтрифосфата (АТФ), что вызывает повреждение целостности плазматических мембран митохондрий, выход метаболитов и ферментов в кровяное русло и развитие энергетического дисбаланса [7]. Клиническая картина МК в первую очередь определяется симптомами основного

заболевания. Симптоматика самой МК неспецифична, ее начальные стадии протекают бессимптомно. При ведении подобных пациентов важным представляется использования парентеральных препаратов железа для коррекции анемии, ассоциированной с МК. Необходим динамический контроль лабораторных изменений (увеличения количества ретикулоцитов, уровня сатурации трансферрина и гемоглобина). В терапии МК на первый план выступает применение комплекса лекарственных средств, направленных на улучшение транспорта кислорода в ткани и его утилизацию, т. е. проведение метаболической терапии [7]. Наиболее часто используемыми препаратами являются фосфорилированные субстраты метаболизма (фруктозо-1,6- дифосфат), креатинфосфокиназа и вещества пластического действия (карнитин, оротовая кислота, пантотеновая кислота, фолиевая кислота, витамин В1 в виде биодоступных форм), модификаторы метаболизма – триметазидин, ранолазин, коэнзим Q10 [8]. Их эффективность доказана в контролируемых исследованиях.

Выводы.

Выявленная высокая распространенность диастолических дисфункций левого желудочка на фоне анемического синдрома и его негативное влияние на клиническую картину, переносимость физических нагрузок и качество жизни у исследованных пациентов Сохского района указывает на необходимость более масштабного исследования данного состояния среди женщин Ферганской области. Диастолическая дисфункция левого желудочка обусловленная анемической, метаболической кардиопатией , без соответствующей комбинированной метаболической терапией и современной цитопротекцией может стать причиной сердечной недостаточности с сохраненной фракцией выброса. ЭХОКГ метод исследования пациентов с МК активно выявляет нарушенную релаксацию левого желудочка в доклинической стадии и даст возможность проведению превентивной терапии, задерживая развития диастолической сердечной недостаточности, являющейся основным проявлением МК.

Использованные источники:

1. Василенко В. Х., Фельдман С. Б., Хитров Н. К. Миокардиодистрофия. – М.: Медицина. – 1989. – 272 с.
2. Зюбина Л. Ю. Патогенез, клиника, диагностика и лечение висцеральных поражений при железодефицитных состояниях: автореф.. дис. д-ра мед. наук. – Новосибирск, 2000. – 57 с.
3. Шевченко Ю. Л., Бобров Л. Л., Обрезан А. Г. Диастолическая функция левого желудочка. – М.: ГЭОТАР-МЕД, 2002. – 240 с.
4. Matteucci M. C., et al. Left ventricular geometry in children with mild to moderate chronic renal insufficiency // J. Am. Soc. Nephrol. – 2006. – Vol. 17. – P. 218–226.
5. Алехин М. Н. Возможности практического использования тканевого допплера. Лекция 3. Тканевой допплер и стресс-эхокардиография // Ультразвуквая и функциональная диагностика. – 2003. – No 3. – С. 123–132.

6. Кушаковский М.С. Метаболические болезни сердца. СПб.: «Фолиант», 2000.186с.
7. Antman E.M., Braunwald E. ST-elevation myocardial infarction: pathology, pathophysiology, and clinical features // Heart disease / E. Braunwald, L. Zipes, P.Libby, R. Bonow editors. Saunders Company. 2005. P. 1141–1165.
8. Сухоруков В.С., Леонтьева И.В., Чечуро В.В. и др. Современные подходы к диагностике и лечению миокардиодистрофии у детей и подростков: Методич. пособие для врачей. М., 2004. 54 с.

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СОДЕРЖАНИЕ И ХАРАКТЕР ДУХОВНО-НРАВСТВЕННОЙ ВОСПИТАТЕЛЬНОЙ РАБОТЫ В ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЯХ

Аннотация: *В данной статье одной из основных задач духовно-нравственного воспитания является совершенствование высокодуховной личности путем приобщения и сближения личности с национально-духовными и общечеловеческими ценностями. Вопрос духовно-нравственного воспитания сегодня как никогда актуален и имеет практико-жизненное значение.отражено.*

Ключевые слова: *система образования, мораль, духовно-нравственная, ценность,созревание личности, добродетель, культура, наследие, наука-просвещение, справедливость.*

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CONTENT AND NATURE OF SPIRITUAL AND MORAL EDUCATIONAL WORK IN HIGHER EDUCATIONAL INSTITUTIONS

Abstract: *In this article, one of the main tasks of spiritual and moral education is to improve a highly spiritual personality by introducing and bringing the personality closer to national spiritual and universal values. The issue of spiritual and moral education is more relevant today than ever and has practical and vital importance.reflected.*

Keywords: *education system, morality, spiritual and moral, value, maturation of personality, virtue, culture, heritage, science-enlightenment, justice.*

Сегодняшнее социально-экономическое и культурное развитие общества показывает, что среди его членов происходят значительные изменения и обновления, особенно в их сознании и духовности. На данный момент все эти изменения и обновления трудно оценить в равной степени в обществе. Особенно среди молодежи можно увидеть,что этот процесс протекает довольно своеобразно.

Президент Ш. Мирзиеев особо подчеркнул, что как бы трудно это ни было, мы должны искать уникальные и эффективные, синхронизированные с сегодняшним днем методы воспитания молодежи. Необходимо беречь наших

дорогих душе детей от деструктивных и вредных идей, преступности, наркомании, апатии, настроения духовной нищеты. Мы все, прежде всего, вы, дорогая молодежь, должны быть активны в преодолении подобных негативных ситуаций. Вы, безусловно, способны беречь духовную мощь и вечные традиции нашего народа и прославлять их на весь мир.

В системе высшего образования воспитание учащихся является важным направлением непрерывного образования. Этот этап-период, когда завершается формирование жизненного мировоззрения личности и происходит осознанное самовоспитание.Поэтому налаживание воспитательного процесса в общеобразовательных учреждениях требует системного подхода, осуществления образовательно-воспитательного процесса в гармонии с научно-исследовательской подготовкой требований. Взаимосвязь и актуальность учебно-воспитательной и научной работы определяется целым рядом качеств, ценностных целей, определяющих социально-профессиональную факторизацию будущего специалиста.

Одной из основных задач духовно-нравственного воспитания является воспитание высокодуховной личности путем приобщения и сближения ее личности с национально-духовными и общечеловеческими ценностями. Вопрос духовно-нравственного воспитания сегодня приобретает как никогда важное и практико-жизненное значение. Поэтому существует необходимость и необходимость в рекомендациях по содержанию и формам, которые вводят воспитание для всех ступеней образования-от дошкольного до дошкольного.

Под духовно-нравственной образовательной деятельностью понимается целенаправленная и системная деятельность, имеющая целостную связь с образованием.Данная деятельность будет направлена на формирование у будущего специалиста общественно значимых качеств и ценностей,создание достойных условий для всестороннего духовного, умственного и физического развития,его самостоятельной работы над собой, способности к творческому самовыражению своей личности. В свою очередь, каждый реализация образовательной программы на разных ее этапах имеет свои социальные и возрастные особенности. Если социально - гражданское и общегуманитарное развитие у студентов в начальные периоды обучения в учебном заведении имеет первостепенное значение,то на 3-4 курсах формирование творческого подхода к выбранной профессии приобретает актуальность, основное внимание уделяется формированию навыков и умений, необходимых для профессиональной деятельности. В магистратуре во многом завершается процесс научного формирования, чтобы упорядочить качества личности и профессии будущего специалиста. При этом необходимо уделять внимание индивидуальной работе с требованиями.

Воспитание востребованности педагога имеет первостепенное значение не только в приобретении им профессиональных навыков и умений, но и в посещении студентом образовательной учреждениях. Адаптация обучающихся 1 курса к условиям образовательного учреждения является одной из важнейших учебно-воспитательных проблем, так как естественное

беспокойство и волнение учащихся при проникновении в среди учебного заведения может негативно сказаться на их усвоении. На это сильно влияет и не сформированность учебного коллектива, состояние которого также требует специально направленного социально - психологического воздействия.В связи с этим особое значение приобретает действующий сейчас институт наставников.Они помогают своим ученикам овладевать навыками,связанными с учебной деятельностью,решать свои психологические проблемы, знакомиться с традициями и нормами в образовании. В это время тренерская деятельность также является начальным этапом совместного обучения студентов.

Еще одной формой патриотического воспитания в высшем образовании может служить организация ознакомительных экскурсий по объектам высшего учебного заведения, организация приема студентов, общеуниверситетских , общефакультетских праздников.

Духовно-нравственное воспитание предполагает воздействие на логический мир требований,на сознание, формирование личностных нравственных принципов, его нравственных качеств и ценностей, способных гармонировать с нормами и традициями общественной жизни. Усвоение духовно-нравственного опыта народа требованиями, воплощение этого опыта в личности ученика и его взаимоотношениях с окружающими может быть одним из основных показателем. Необходимо добиться того, чтобы учащийся досконально ознакомился с национальными и общечеловеческими духовно-нравственными ценностями,осознанно усвоил их истинное содержание и сущность, почувствовал потребность в присутствии, порожденном близостью к этим ценностям.

Главная цель духовного воспитание разносторонне развитого, совершенного человека. Основная задача учебных заведений заключается в содействии умственному, духовно-нравственному, эмоциональному, трудовому и физическому развитию обучающегося, создании условий для его познания общечеловеческих ценностей, саморазвития,проявления внутренних возможностей и творческих способностей, достижения успехов.

Использованные источники:

1. Raxmonova G. S., Abdunabiyeva F. N. MAKTABGACHA TA'LIM TASHKILOTI VA OILA HAMKORLIGI //Educational Research in Universal Sciences. – 2024. – Т. 3. – №. 2. – С. 729-734.

2. Raxmonova G. S., Norquliyeva O. O. MAKTABGACHA TARBIYA YOSHDAGI BOLA SHAXSINING SHAKLLANISHI VA RIVOJLANISHI //Educational Research in Universal Sciences. – 2024. – Т. 3. – №. 2. – С. 295-297.

3. Рахмонова Г. Ш. Технологии Развития Духовно-Нравственной Компетентности Студентов //Miasto Przyszłości. – 2024. – Т. 45. – С. 306-309.

4. Shavkatovna R. G. Methods of the Competence Approach in the Spiritual and Moral Education of Students //American Journal of Language, Literacy and Learning in STEM Education (2993-2769). – 2024. – Т. 2. – №. 2. – С. 535-539.

5. Рахмонова Г. Ш. ФОРМИРОВАНИЕ НРАВСТВЕННОГО ВОСПИТАНИЯ ДЕТЕЙ ДОШКОЛЬНОГО ВОЗРАСТА НА ОСНОВЕ НАЦИОНАЛЬНЫХ ОБЫЧАЕВ И ТРАДИЦИЙ //Научный Фокус. – 2023. – Т. 1. – №. 2. – С. 1067-1073.

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КРЕПКАЯ СЕМЬЯ – ОСНОВА СИЛЬНОГО ОБЩЕСТВА И ГОСУДАРСТВА

Аннотация: *Крепкая семья - это основа стабильного и процветающего государства. Семья является клеткой общества, где формируются ценности, традиции и нравственные принципы. В данной статье говориться о роли семьи, семейных традициях и обычаях, о благополучие семьи, уважение к старшим чтобы оставались всегда.*

Ключевые слова: *традиция, семья, этика, морал, солидарность, стабильность, общества, отношения, уважение, взаимопонимание.*

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A STRONG FAMILY IS THE BASIS OF A STRONG SOCIETY AND STATE

Abstract: *A strong family is the basis of a stable and prosperous state. The family is the cell of society where values, traditions and moral principles are formed. This article talks about the role of the family, family traditions and customs, the well-being of the family, respect for elders so that they always remain.*

Key words: *tradition, family, ethics, morality, solidarity, stability, society, relationships, respect, mutual understanding.*

Для каждого из нас семья – главная ценность. На протяжении всей своей жизни мы стараемся делать все от нас зависящее, чтобы наши родные и близкие всегда были рядом и радовались каждому прожитому дню. Как известно, семья – это маленькая ячейка общества. Именно из таких маленьких составляющих и складывается наше сильное государство.

Эта мысль звучит почти во всех выступлениях главы нашего государства, где неотложной задачей указано «укрепление основ семьи, создание спокойной, дружной и благоприятной атмосферы, наполнение конкретным содержанием духовно-просветительской работы». В нашей стране созданы все условия для создания семьи, рождения детей, их развития и воспитания. Мы должны это ценить и стремиться к тому, чтобы такие понятия, как семья, семейные традиции и обычаи, уважение к старшим оставались всегда. Крепкая семья должна быть основой сильного и

процветающего государства. В жизни человека все начинается с семьи: жизненные установки и ценности, стремление и желание развиваться самому и работать на благо государства. Все это прививают родители, они и являются лучшим примером для своих детей. как известно, начиная с самого раннего возраста, дети учатся плохому или хорошему там, где живут и воспитываются. Как показывает практика, счастливая семья — не случайность, а великое достижение, основанное зачастую на тяжелом совместном труде и выборе. Создание семьи — ответственный поступок, который требует от каждого члена семьи много затрат времени, сил, энергии, средств.

Крепкая семья способствует стабильности и благополучию государства, так как в ней формируются здоровые и эмоционально устойчивые граждане. В ней происходит передача ценностей, знаний и навыков, необходимых для успешной интеграции в общество и достижения успеха в жизни.

Сегодня на государственном уровне существует понимание того, что благосостояние государства напрямую зависит от стабильности семьи. В связи с чем отмечается недопустимость легковесного отношения к браку и профилактики распада семьи.

В современных условиях глобализации мы не должны забывать об истинных фундаментальных ценностях, которые составляют основу любого государства и общества. Важно сохранить свою самобытность, духовное наследие, доставшееся от предков. Именно в семье подрастающее поколение получает духовно-нравственное воспитание, учится быть ответственным и небезразличным.

Президент страны Шавкат Мирзиёев в свою очередь неоднократно отмечал, что именно семья составляет основу любого государства и социума. Поэтому в данном направлении в Узбекистане начата большая работа, затрагивающая реализацию мер, направленных на развитие и повышение уровня благосостояния семей, улучшение духовно-нравственного и психологического климата в них, совершенствование правовых и институциональных основ.

Можно бесконечно говорить о высочайшей ценности семьи, важности обеспечения ее благополучия и всесторонней поддержки. Тем не менее, в современном мире существует множество проблем, с которыми сталкиваются ячейки общества. Одна из наиболее распространенных - высокая численность разводов, особенно среди молодых. К сожалению, наша страна не является исключением.

Глава государства в ходе видеоселекторного совещания по вопросам выявления и решения проблем в махалле и семье отдельно затронул тему разводов и выразил сожаление о том, что их причиной зачастую становятся мелкие бытовые неурядицы и указал на необходимость изучения и положительного решения ситуаций в проблемных семьях. Лидер республики также рекомендовал организовать при махаллях краткосрочные курсы по подготовке к семейной жизни, закрепить за ними психологов, авторитетных

представителей старшего поколения и проводить конкурс «Образцовая семья».

Развитие института семьи в Узбекистане рассматривается на глобальном уровне в рамках Целей устойчивого развития ООН. В Конституции нашей страны конкретно определен социальный статус семьи. А защита ячейки общества государством упорядочивается Семейным, Гражданским, Жилищным, Трудовым кодексами Республики Узбекистан, а также рядом нормативно-правовых актов. Важное значение в деле укрепления института семьи имеет совершенствование как раз правовых механизмов в сфере, а также действующего законодательства.

Согласно Указу главы государства Шавката Мирзиёева от 1 марта 2022 года №УП-81 «О мерах по совершенствованию системы работы семьями и женщинами, поддержки махалли и старшего поколения» образован Государственный комитет по делам семьи и женщин и его территориальные подразделения. В связи с созданием отдельного комитета Министерство по поддержке махалли и семьи реорганизовано в Министерство поддержки махалли и старшего поколения и его территориальные подразделения.

Сегодня Узбекистан вышел на качественно новый уровень развития общества, где главным звеном является институт семьи.

Семейные ценности, такие как любовь, взаимопонимание, терпимость и уважение, являются фундаментом морали и этики, которые определяют качество общества в целом. Крепкие семьи способствуют формированию гражданской ответственности, укреплению социальной солидарности и развитию добросовестных граждан.

Кроме того, крепкая семья обеспечивает социальную защиту и поддержку своим членам. Взаимопомощь и поддержка внутри семьи способствуют развитию здоровых и счастливых отношений, а также позволяют преодолевать трудности и препятствия в жизни.

Таким образом, крепкая семья играет важную роль в общественной жизни и стабильности государства. Она формирует ценности, обеспечивает стабильность и защиту, способствует развитию гражданской ответственности и создает благоприятную среду для развития и процветания каждого члена общества. Крепкая семья - это фундаментальное звено, которое способно укрепить и поддержать государство в сложные времена и обеспечить его долгосрочное процветание.

Использованные источники:

1. Шавкат Мирзиёев «Современность и Новый Узбекистан «Узбекистон». 2024
2. Постановление Кабинета Министров Республики Узбекистан “О мерах по повышению эффективности работы по военно-патриотическому воспитанию молодежи» № 267 от 29 июня 2023 года.
3. Юлдашева Н.А., Рахимов М.М. Воспитание молодежи в духе патриотиз-ма как главная проблема духовно-просветственного пробуждения.

4. Лизинский В.М. Приемы и формы в воспитании. - М.: Центра педагогических ПОИСК, Педагогика . 2004. -160 с.
5. Rashidova, B. (2022). Yuksak ma’naviyat avvalo inson odobida namoyon bo‘ladi. Ta'lim va rivojlanish tahlili onlayn ilmiy jurnali, 2(12), 351-355.
6. Yahyaevna, B. R. (2023). Education-First of All, it Means Immigration of Knowledge to the Child through Kindness, Attention and Care. American journal ofscience and learning for development, 2(1), 161-168.
7. Yaxyayevna, R. B. (2023). We Will Not Allow Ignorance to Replace Enlightenment. Vital Annex: International Journal of Novel Research in Advanced Sciences, 2(3), 23-26.
8. Yaxyayevna, R. B. (2023). The Role of the Neighborhood in Preparing Young People for Family Life. American journal of science and learning for development, (3), 37-40.
9. Рашидова, Б. Я. (2024). Таълим-тарбия қанча мукаммал бўлса, халқ шунча бахтли яшайди. Educational research in universal sciences, 3(1), 464-469.

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ГЛОБАЛ ФАВҚУЛОТДА ВАЗИЯТЛАР ШАРОИТИДА ЭКОЛОГИК ТАЪЛИМ МУАММОЛАРИ

Аннотация*: мазкур мақолада глобал фақвқулотда вазиятлар шароитида аҳолининг экологику саводхонлиги муаммолари ва уларнинг ечим йўллари кўрсматилган.*

Калит сўзлар*: фавқулотда вазият, жараён, атроф-муҳит, экология, саводхонлик, таълим, муаммо, ечим.*

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PROBLEMS OF ENVIRONMENTAL EDUCATION DURING GLOBAL EMERGENCIES

Abstract: *this article shows the problems of environmental literacy of the population and ways to solve them in the context of global emergencies.*

Key words: *emergency, process, environment, ecology, literacy, education, problem, solution*

Йигирма биринчи асрда фан ва техника тараққиёти янги босқичга қадам қўйди. Айниқса илм-фан соҳасидаги инновациялар асосидаги кашфиётлар орқали фан ва техника қудратли ишлаб чиқарувчи кучга айланди.

Фан ва техниканинг қудратли тараққиёти иқтисодиёт негизида янги тамаддуннинг шаклланиши тенденциясини вужудга келтирдики, уни глобаллашув жараёни деб аташ одат бўлди.

Аҳоли турмуш тарзининг яхшиланиши, илм- фан, тиббиёт соҳасидаги тараққиёт табиий равишда аҳоли сонининг ўсишига олиб келди. Бу эса ўз навбатида табиий ресурслардан фойдаланиш кўлами ошишига сабаб бўлди. Табиий ресурслардан нооқилона, режасиз фойдаланиш экологик вазиятнинг ёмонлашувига таъсир кўрсатгани ҳам унинг глобал аҳамият касб этиши билан изоҳланади.

Ҳозирги кунда глобал фавқулотда вазиятлар шароитида қуйидаги экологик муаммолар турлари фарқланади:

1.Қуруқлик (тупроқ, ер ости)нинг ҳолати ўзгариши билан боғлиқ вазиятлар:

- ҳалокатли кўчкилар — фойдали қазилмаларни қазиш чоғида ер остига ишлов берилиши ва инсоннинг бошқа фаолияти натижасида пайдо бўлувчи ер юзасининг ўпирилиши, силжиши;

- тупроқ ва ер остининг саноат туфайли келиб чиққан токсикантлар билан ифлосланиши, оғир металлар, нефть маҳсулотлари, шунингдек қишлоқ хўжалиги ишлаб чиқаришида одамларнинг соғлиғи учун хавф солувчи

концентрацияларда қўлланиладиган пестицидлар ва бошқа заҳарли химикатлар мавжудлиги.

2. Атмосфера (ҳаво муҳити) таркиби ва хоссалари ўзгариши билан боғлиқ бўлган вазиятлар:

- ҳаво муҳитининг қуйидаги ингридиентлар билан экстремал юқори ифлосланиши:

- олтингугурт диоксид, диоксид ва азотли оксид, углеродли оксид, диоксин, қурум, чанг ва одамлар соғлиғига хавф солувчи концентрацияларда антропоген тусдаги бошқа зарарли моддалар;

- катта кўламда кислотали зоналар ҳосил бўлиши ва кўп миқдорда кислота чиқиндилари ёғилиши;

- радиациянинг юқори даражаси.

3. Гидросфера ҳолатининг ўзгариши билан боғлиқ вазиятлар:

- ер юзаси ва ер ости сувларининг саноат ва қишлоқ хўжалиги ишлаб чиқариши оқовалари: нефть маҳсулотлари, одамларнинг заҳарланишига олиб келган ёки олиб келиши мумкин бўлган таркибида оғир металлар, ҳар хил заҳарли химикатлар бор бўлган чиқиндилар ва бошқа зарарли моддалар билан экстремал юқори даражада ифлосланиши;

- бинолар, муҳандислик коммуникациялари ва уй-жойларнинг емирилишига олиб келиши мумкин бўлган ёки олиб келган сизот сувлар даражасининг ошиши;

- сув манбалари ва сув олиш жойларининг зарарли моддалар билан ифлосланиши оқибатида ичимлик сувнинг кескин етишмаслиги.

Бизни ўраб турган ва соғлигимизга хавф туғдираётган атроф-муҳитнинг ҳолати ҳақидаги маълумотлар барчамизни озми-кўпми экологларга айлантириб қўйди. Инсоннинг негатив фаолияти атроф-муҳитга ҳалокатли таъсир қилса, планетамизнинг ҳозирги ҳолати иносн соғлигига ўзига хос таъсир кўрсатади деган фикрлар яшаб турган даврмизинг асосий экологик муаммосига айланди.

Экологик саводхонлик муаммоси бўйича манбаларнинг таҳлили ҳозирги кунда бутунжахон илмий-педагогик жамоаси томонидан бир- қанча умумий принцип ва қоидалар ишлаб чиқилганлигини кўрсатмоқда.

1. Бизни ўраб турган атроф-муҳит бутун бир яхлит тизимни ташкил этган ҳолда ўз таркибига «инсон фаолияти билан боғлиқ бўлган табиий аспектларни олади». (Экологик таълим масалалари бўйича ЮНЕСКО комиссияси доклади)

2. Бизни ўраб турган атроф-муҳит инқироз ҳолатида.

3. Атроф-муҳитнинг инқирози тизимли характерга эга бўлиб, глобал даражага кўтарилмоқда.

4. Глобал инқирознинг асосий сабаби инсониятнинг табиий ресурсларни ҳолсизлантириш ёки дегредацияси ҳисобидан иқтисодий ўсиш орқали ўзининг моддий эҳтиёжларини қониқтиришга интилиши билан изоҳланади.

5. Инқироздан чиқишнинг йўллари нафақат экологик хавфсиз технологияларни ривожлантириш ва махсулотлар ишлаб чиқариш, шунингдек инсониятнинг эҳтиёжлари ва турмуш тарзи билан боғлиқ бўлмаган янги ахлоқий нормалар ва ғояларни шакллантиришга боғлиқ бўлади.

6. Шундай ахлоқий нормалар ва ғояларни ташкил қилиш жараёнидаги асосий ролни узлуксиз экологик таълим ва аҳолининг экологик саводхонлигини ошириш масаласи эгаллайди.

Экологик таълим-тарбияни мустаҳкам асосда йўлга қўйиш глобал экологик инқирознинг олдини олишнинг муҳим омилларидан бири эканлигини жахон ҳамжамияти тушуниб етди. Бу сохадаги стратегик йуналиш сифатида аҳолининг маълум қисми ва гуруҳлари, шунингдек алоҳида шахсларнинг эътиқоди ва хатти-ҳаракатларига таъсир кўрсатиш назарда тутилади.

Бизнинг фикримизча экология, ўқитиладиган фан сифатида барча экологик муаммолар бўйича аниқ ва тўлиқ маълумотларни ўзида мужжасамлаштириб, мавжуд муаммоларни ечиш, уларнинг олдини олиш йуллари, чора-тадбирларини белгиловчи маёқ вазифасини бажариши лозим. Бизнингча инсонларни экологик онгли қарорларни қабул қилишга ўргатиш, экологик таълим ва саводхонликнинг асосий мазмунини ташкил қилиб, ҳар қайси инсоннинг экологик муаммоларни юзага келишида ва атроф-муҳитнинг зарарланишига уз ҳиссаси борлигини англаш, тушуниб етишга ўргатади.

Экологик билимларни ўқитишда позитив холда ёндошиш зарур. Шу сабабли экологик таълимнинг самарадорлигини таъминлаш учун уни планетамиз аҳолисининг барча қатламларига йўналтириш лозим. Бизнинг аҳолимиз экология ҳақида нимани билади ?, «Экологик хавф нима ?, каби мавзуларга доир бир қатор, педагоглар иштирокидаги мулоқот-дисскусияларнинг якуни табиатни мухофаза қилиш зарур ва инсон атроф-муҳитга негатив таъсир кўрсатмоқда деган хулосаларга олиб келади

Аҳолининг кўпчилик қисми атроф-муҳитнинг ўзи нима ? Унинг асосий компонентлари нималар, бу компонентлар бир-бири билан қандай боғланган, уларнинг ҳар бирига ва алоҳида бутун яхлит тизимига инсоннинг таъсири қандай, шунингдек, инқироз ҳолатининг ҳақиқий сабаблари нимада ва экологик вазиятни қандай қилиб ижобий томонга ўзгартириш ҳақидаги тушунчалар, билимларга эга эмаслигини таъкидлашимиз зарур.

Бизнинг фикримизча экологик билимлар барча ихтисосликлар бўйича мутахассисларни тайёрлашнинг ажралмас қисми булиши зарур. Шунингдек таълим тизими ходимлари ўз педагогик фаолиятларининг «экологик мазмуни» ни тушунган ҳолда таълим жараёнидаги барча фанларни ўқитишда экологик билимларни интеграциялаш, уйғунлаштиришга эришмоғлари муҳим аҳамият касб этади.

Использованные источники:

1. Абдуллаев К. Ф., Бобомуродова Н. Ж. К проблеме взаимодействия общества и природы //Научные школы. Молодежь в науке и культуре XXI века. – 2019. – С. 255-256.

2. Абдуллаев К. Ф., Бобомуродова Н. Ж., Кобилжонов К. К. Высокая духовность основа экологической культуры //Научное пространство: актуальные вопросы, достижения и инновации. – 2020. – С. 5-8.

3. Бобомуродова Н. Ж. Экологическая культура как общечеловеческая ценность //ББК. – 2020. – Т. 74. – С. 188.

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ПРОБЛЕМЫ ОЧИСТКИ СТВОЛОВ ГОРИЗОНТАЛЬНЫХ СКВАЖИН

Аннотация:*Бурение горизонтальных скважин осуществляется в сложных условиях. В процессе бурения нет возможности оптимизировать гидравлические параметры, даже если они « взаимосвязаны». На участке кривизны горизонтальных скважин с любой кривизной возникают проблемы с выведением на поверхность скважин. В статье освещен вопрос решения этих проблем.*

Ключевые слова: *гидравлическая программа, завершение, эффект бойкота, зенитный угол, вторая ступень, обратная промывка, радиус изгиба, режим потока.*

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PROBLEMS OF CLEANING HORIZONTAL BOREHOLES FROM WELLS

Annotation:*Drilling of horizontal wells is carried out in difficult conditions. During the drilling process, it is not possible to optimize the hydraulic parameters, even if they are "interconnected". In the area of curvature of horizontal wells with any curvature, problems arise with bringing wells to the surface. The article highlights the issue of solving these problems.*

Keywords: *hydraulic program, completion, boycott effect, zenith angle, second stage, backwash, bending radius, flow mode.*

Технологические особенности промывки горизонтальных скважин в значительной степени определяют технико-экономическое и качественное строительство скважин. Для выполнения гидравлической программы бурения горизонтальных скважин требуются конкретные критерии. Такими критериями являются: давление забоя скважины, обеспечение максимальной скорости бурения, реологические и структурно-механические свойства промывочной жидкости, минимальная промывка ствола скважины и др.

Несмотря на успехи, достигнутые благодаря многочисленным исследованиям, обобщение и распространение опыта добычи нефти при строительстве скважин, а также проблемы нефтегазовой отрасли остаются предметом постоянных дискуссий [1,2,5]. По каждому параметру оптимизировать гидравлические параметры не представляется возможным. Важнейшими критериями являются обеспечение максимальной скорости бурения и завершения очистки ствола скважины.

Проектирование гидравлической программы промывки горизонтальных и вертикальных скважин начинается с определения расхода бурового раствора, обеспечения промывки дна скважины из скважин и транспортировки ее через кольцевое пространство.

Для этого выбирается необходимая механическая скорость для участка с большим зенитным углом, то есть наихудшие условия выделения отложений. После этого определяются соответствующие типы этих устройств, исходя из ограничения расхода и давления забойного двигателя и системы измерения забойных параметров. В общем, существует несколько диапазонов изменения расхода флюида и давления, в которых можно осуществлять эффективное бурение.

Многие проведенные эксперименты показывают, что строительство горизонтальных скважин отстает от вопроса теоретических разработок по очистке ствола скважин, не дает возможности объективно оценить адекватность научных экспериментов, проводимых центрами нефтегазовых компаний, и понять характер таких явлений: образование горных пород в скважине, плотное перемещение горных пород навстречу потоку бурового раствора, эффект бойкота (на наклонном участке ствола скважины). ускорение седиментации) и ч [3,4].

Несмотря на критику экспериментальных устройств для транспортировки природных отложений по замкнутому циклу, следует признать, что они заложили основу теоретической обработки скважин и успешного их применения на практике. Классификация участков горизонтальной скважины в зависимости от состояния скважины в задней фазе трубопровода. Самая сложная зона очистки в зоне кольцевого пространства - участок под зенитным углом 35-55°C. Все исследователи считают замедление потока бурового раствора в указанный выше интервал.

От уравнения сил баланса наиболее вероятно, что силы, влияющие на сферическую частицу, расположенную на белой угловатой плоскости по отношению к вертикали, будут медленно смещаться в потоке вязкой

жидкости между зенитного угла $\alpha_1 = 36°C$ и $\alpha_2 = 54°C$ стоимость может быть получена и формироваться равномерно. Для аналитического решения вопроса транспортировки скважин на поверхность необходимо уточнить гидродинамический критерий, определяющий пропускную способность потока промывочной жидкости.

Когда угол наклона ствола составляет 10°, мелкие частицы под действием силы тяжести начинают оседать в направлении дна скважины. При наклоне ствола в пределах 10 - 30° начинает формироваться наслоение осадка. С увеличением зенитного угла сгустки начинают становиться более вязкими и плотными, но традиция смещения в забой скважины сохраняется.

Это традиционное явление уменьшается, поскольку уклон скважины достигает 60^0 метров, а затем сила трения становится причиной остановки скважин. Максимальный угол сдвига по отношению к РУО и синтетическим смесям, как правило, выше из-за их высокого моющего свойства для раствора на водной основе (рис. 1).

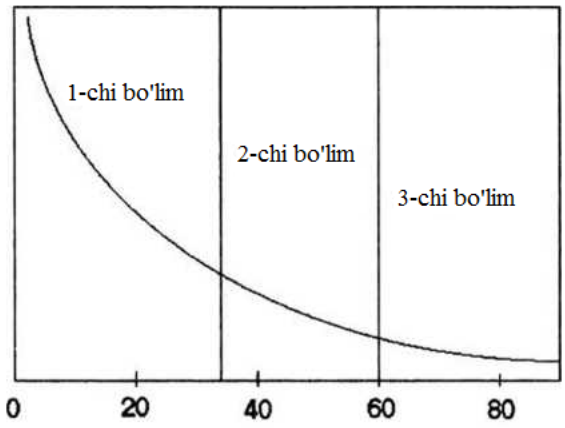

рис. 1 Условные классы ствола горизонтальной скважины по состоянию скважин.

Многие исследователи и инженерно-технические работники производственных предприятий считают, что удаление отложений улучшается в следующих случаях [6,7]:

- с горизонтального участка - при увеличении скорости турбулизации потока промывной жидкости;

- из вертикальных и наклонных участков (при зенитном угле до 300) - в режиме ламинарного течения за счет увеличения динамического напряжения сдвига;

На участке с зенитным углом от -35° до 60° режим течения мало влияет на вынос наносов

Эти предложения не должны останавливаться на достигнутом. Расстояние между верхними и нижними углами ствола скважины изменяется в результате воздействия различных факторов: характер (форма, плотность, размеры частиц); реологические и тиксотропные свойства промывочной жидкости (коэффициент трения для РВО и РУО может несколько раз

отличаться друг от друга, соответственно угол сдвига нижней жесткой подушки стены ствола); соответствие поверхности ствола скважины и др.

Параметры, влияющие на очистку ствола скважины.

Проектирование современных систем очистки горизонтальных скважин должно учитывать реологические свойства промывочной жидкости и конструкцию технологии промывки, то есть принятая скорость бурения должна обеспечивать извлечение отложений без применения других дополнительных средств или методов устранения. другие осложнения.

На очистку ствола скважины от отложений на наклонных и горизонтальных участках влияет несколько факторов. Некоторые из них можно исправить на этапе проектирования или в процессе бурения. Но есть факторы, которые невозможно предсказать или контролировать.

При угле уклона более 20^0 градусов буровая колонна может залегать на подошву стенки скважины, что сильно влияет на профиль потока бурового раствора и положение отложений в затрубном пространстве. Горный опыт бурения горизонтальных скважин показывает, что для улучшения извлечения твердых частиц из наклонного участка ствола скважины необходимо увеличивать скорость вращения бурильной колонны. За счет увеличения скорости вращения бурильных труб увеличивается вязкость промывочной жидкости, что хорошо влияет на добычу пластов. Здесь необходимо учитывать возможность негативного влияния **Кютта-Тейлора** (возникновения локальной нестабильности при вращении буровой колонны в буровом растворе) на эффективную очистку ствола [7].

Функция очистки второго ствола. При равных значениях свойства бурового раствора и его расхода через кольцевое пространство в случае бурения горизонтальных скважин, а также при малом диаметре бокового горизонтального ствола, при отсутствии скорости во втором случае может происходить накопление осадка в стволе горизонтальной скважины. При воздействии на такие условия уменьшения геометрических размеров кольцевого пространства эффективность стенки возрастает.

В результате этого происходит изменение профиля скорости потока промывочной жидкости в затрубном пространстве и снижение средней скорости ядра потока бурового раствора, т.е. ухудшаются условия транспорта осадков. Вращение бурильной колонны благоприятно влияет на выход твердых частиц из второго горизонтального ствола по сравнению со вторым основным.

При промывке боковых горизонтальных стволов необходимо использовать жидкости с хорошими тиксотропными свойствами, поскольку такие буровые растворы изготавливаются на основе биополимеров. Моющие жидкости на основе биополимеров обладают сильными псевдопластическими и тиксотропными свойствами, при прекращении циркуляции образуют гелеобразную структуру, демонстрируют низкую вязкость при высоких скоростях сдвига. Для приготовления хорошего раствора необходимо

использовать качественные реагенты. При этом цена биополимера может варьироваться в зависимости от степени очистки.

Применение обратной промывки. Чтобы ускорить поток исходящих скважин, можно применять обратный поток промывочной жидкости.

Порядок применения обратной промывки:

- увеличение скорости потока в 2,5 - 5,5 раза за счет уменьшения поверхности разреза буровых труб по сравнению с площадью кольцевого пространства;

- в необходимых случаях проводится дополнительная очистка ствола скважины гидроимпульсным методом, для этого осуществляется понижение уровня промывочной жидкости в буровой колонне с помощью компрессора;

- уменьшение силы сопротивления при движении суспензии, т.е. трение скольжения частиц суспензии значительно меньше коэффициента трения скольжения по стенке колодца, не армированной металлом.

При бурении с помощью обратной промывки возникают большие проблемы при осуществлении буровых работ, поскольку возможность устранения осложнений из-за некачественной очистки ствола скважины при обратной промывке должна быть предусмотрена еще на этапе проектирования скважин.

При бурении и планировании горизонтальных участков необходимо учитывать следующее: наиболее устойчивое направление бурения скважины; плотность бурового раствора, задействованного при бурении предыдущей вертикальной скважины; влияние плотности бурового раствора и длины ствола на эквивалентную величину плотности циркуляции (избежание сжатия из-за перепада давления или предотвращение гидроразрыва пласта при заканчивании скважин).

В Российском государственном университете нефти и газа имени И.М. Губкина разработана компьютерная программа для определения рабочего диапазона плотности промывочной жидкости, чтобы не вызвать неожиданных негативных последствий (стенка скважины, гидроразрыв пласта), упругое состояние породы на основе анализа. Результаты отчета подтвердили результаты исследований, проведенных Б.С. Ладноу и М.И. Ченевертом, П.В. Киселевым и В.А. Махоро и другими.

Bu programma asosida qurilgan diagramma quyidagi ma’lumotlarga asoslangan (3.3-rasm): Puasson koeffitsiyenti v = 0,3; quduqning z = 3000 m, qatlam bosim shu chuqurlikdagi p_{qat} = 45 MPa, tog‘ bosimi P_{tog} = 69 MPa.

Схема, построенная на основе этой программы, основана на следующих данных (рисунок 3.3): Коэффициент Пуассона v = 0,3; z = 3000 м, пластовое давление на той же глубине $p_{пл}$ = 45 МПа, горное давление $P_{гор}$ = 69 МПа.

Согласно этому расчету, большая трудность в обеспечении прочности стенки скважины приходится на расстояние между 45 и 90^0 зенитными углами. В это время возникают трудности, связанные с тем, что скважины не полностью выходят из - под контроля при бурении горизонтальных скважин.

Сложность поверхности скважины и прорыва стены скважины обусловлена тем, что моющая жидкость не выдерживает достаточного количества. Улучшение очистки стволов может быть положительным результатом предотвращения разрушения стенки скважины. В этом случае лучшим вариантом является повышение плотности моющей жидкости.

Использованные источники:

1. Samadov A.X., Shukrullayev D.D., Shodmonqulov A.O Parrakli burg‘ilarning turlari va tuzilishini o’rganish // Экономика и социум. 2024. №5-2 (120). URL: https://cyberleninka.ru/article/n/parrakli-burg-ilarning-turlari-va-tuzilishini-o-rganish (дата обращения: 21.09.2024).
2. Samadov, A. X., Ahadova, G., & Shukrullayev, D. D. (2023). PDC TURDAGI INNOVATSION BURGILARNING QOLLASHNI ASOSLASH. Экономика и социум, (5-2 (108)), 340-346.
3. Samadov A. X., Qosimova A. Y. ZAMONAVIY ROCKSTRONGTM VA GIDRO-SEAT BARREL TIZIMI (HSBTM) KERN OLISH TIZIMLARINI ASOSLASH //Экономика и социум. – 2024. – №. 2 (117)-1. – С. 621-624.
4. Самадов А. Х., Бойқобилова М. М., Мажидова Ю. С. ТЕХНОЛОГИЯ ВОЗДЕЙСТВИЯ ПАРОВОГО ТЕПЛА И ГОРЯЧЕЙ ВОДЫ НА ПЛАСТ ЧЕРЕЗ НАГНЕТАТЕЛЬНУЮ СКВАЖИНУ // Экономика и социум. 2023. №10 (113)-1. URL: https://cyberleninka.ru/article/n/tehnologiya-vozdeystviya-parovogo-tepla-i-goryachey-vody-na-plast-cherez-nagnetatelnuyu-skvazhinu (дата обращения: 11.11.2024).
5. Samadov A.X., Kasimova A.Y., Umedullayev A.G. USE OF GEONAVIGATION SYSTEM IN CONTROLLING AND FAST CONTROL OF HORIZONTAL WELLS' STEM TRAJECTORY // Экономика и социум. 2024. №3-1 (118). URL: https://cyberleninka.ru/article/n/use-of-geonavigation-system-in-controlling-and-fast-control-of-horizontal-wells-stem-trajectory (дата обращения: 11.11.2024).
6. Nomozov B.Yu., Samadov A.X., Yuldashev J.B., Boyqobilova M.M. ISM TURDAGI QATTIQ QOTISHMALI BURG`ILAR // Экономика и социум. 2023. №9 (112). URL: https://cyberleninka.ru/article/n/ism-turdagi-qattiq-qotishmali-burg-ilar (дата обращения: 11.11.2024).
7. Номозов, Б. Ю., Самадов, А. Х., & Юлдашев, Ж. Б. (2022). Особенности эксплуатации нефтегазовых месторождений горизонтальными скважинами. Экономика и социум, (11-2 (102)), 569-574.
8 Самадов, А. Х., & Ахадова, Г. (2023). Причины возникновения сложностей при проведении буровых работ нефтегазовых месторождений. Новости образования: исследование в XXI веке, 1(7), 577-582.
9. Samadov A.X., Ashurov Sh.M., Bekmuratov J.A. BURG`ILASH MINORASINI MONTAJ VA DEMONTAJ QILISH TEXNOLOGIYASINI ASOSLASH // Экономика и социум. 2024. №5-1 (120). URL: https://cyberleninka.ru/article/n/burg-ilash-minorasini-montaj-va-demontaj-qilish-texnologiyasini-asoslash (дата обращения: 11.11.2024).

10. Мирзаев, Э. С., & Самадов, А. Х. (2023). ТЕХНОЛОГИЧЕСКИЕ ОСНОВЫ БУРЕНИЯ РАПАЛЬНЫХ ОТЛОЖЕНИЙ В СЛОЖНЫХ УСЛОВИЯХ. Universum: технические науки, (2-3 (107)), 64-66.

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МУХАНДИСИК ВА КОМПЬЮТЕР ГРАФИКАСИ ФАНИДА ИНТЕРФАОЛ ТАЪЛИМ

Аннотация. *Ушбу мақолада мухандислик ва компьютер графикаси фанини резьбали бирикмалар мавзусини ўтишда инфаол методлардан "Венн диаграммасини" қўллаш орқали бирикмаларни ҳусусиятлари таҳлил қилиш келтирилган.*

Калит сўзлар. *Таълим жараёни, педагогик технология, интерфаол таълим, интерфаол метод, педагог, талаба, таълимий мақсад, ананавий метод, замонавий шароитда болтли бирикма, шпилкали бирикма, бирикма хусусиятлари, резьбали бирикмалар, машина механизмлар, ажраладиган ва ажралмайдиган бирикмалар*

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INTERACTIVE EDUCATION IN THE SUBJECT OF ENGINEERING AND COMPUTER GRAPHICS

Annotation: *This article describes the use of the interactive Venn Diagram method when teaching the topic of threaded connections, their properties and analysis of the subject of engineering and computer graphics.*

Keywords. *Education process, pedagogical technologies, interactive education. Interactive method, teacher, student, purpose of education, traditional method, modern conditions, bot connection, pin connection, properties of connections, threaded products, machines, mechanisms, detachable and non-detachable connections.*

Олий таъим тизимида педагогик технологияларни ривожланиши педагогик таълим босқичлари, яъни анъанавий, фаол, интерфаол таълим технологиялари ўқув фанлари модулларига кенг тадбиқ қилинмоқда. Модул бу бир мавзунинг назарий, амаий ва мустақил таълими учун кўзда тутилган билимлар йиғиндисидан иборат.

Замонавий шароитда таълим самарадоригини оширишнинг энг мақбул йўли, бу машғулотларнинг интерфаол методлар ёрдамида ташкил этиш деб хисобланмоқда. Таълим сохасида фаолият юритаётган ҳар бир педагог яхши биладики, анъанавий таълим ҳам сухбатга асосланган ва бу сухбат қуйидаги ўзаро муносабат шаклларида ташкил этилади:

Педагог-талаба;-анъанавий таълимдаги сухбат иштирокчилари;

Педагог талабалар гурухи;

Анъанавий таълимда ҳам табиий равишда мухбат асосини ахборот ташкил этади. Аммо ахборот узатишнинг асосий манбаи ўқитувчининг тажрибаси бўлиб, бу жараёнда у етакчилик, доминантлик қилади, яъни у дарснинг асосий вақтида билимларни оғзаки тарзида талабаларга етказиб беришга интилади. Фаолик кўрсатиш ўқитувчигагина хос бўлиб, талабалар бу вазиятда суст тинговчи бўлиб қолади. Уларнинг асосий вазифаси ўқитувчини тинглаш, зарур ўринларда ёзиш, саволлар билан мурожат қилинганда жавоб қайтариш, кам хотларда рухсат этилганидагина сўзлашдан иборатдир.

Анъанавий таълимдаги бир томонламалик олий таълим тизимидаги фақат маъруза машғулотларида эмас, амалий дарсларда ҳам устиворлик қилади.

Интерфаол ўқитиш таълим жараёнининг асосий иштирокчилари--педагог, талаба ва талабалар гурухи ўртасида юзага келадиган ҳамкорлик, қизғин бахс, мунозаралар, ўзаро фикр алмашиш имкониятига эгалик асосида ташкил этилади, уларда эркин фикрлаш, шахсий қарашларини иккиланмай баён этиш, муаммоли вазиятларда ечимларни биргаликда излаш, ўқув материалларини ўзлаштиришда тлабаларнинг ўзаро яқинликларини юзага келтириш, “ўқитувчи-талаба-талабалар гурухининг ўзаро бир-бирларини ҳурмат қилишари, тушунишлари ва қўллаб-қувватлашлари, самимий муносабатда бўлишлари, рухий бирликка эришишлари кабилар билан тавсифланади”.

Интерфаол таълим мохиятига кўра сухбатнинг талаба-ахборот комуникацион техноогиялар шаклида ташкил этилиши талабалар томонидан мустақил равишда ёки ўқитувчи рахбарлигида ахборот технологиялари ёрдамида билим, кўникма, малакаларнинг ўзлаштирилишини англатади.

Педагог талим жараёнида интерфаол таълим ёрдамида талабарнинг қобилиятини ривожлантириш, мустақилик, ўз-ўзини назорат, ўз-ўзини бошқариш, самарали сухбат оиб бориш, тенгдошлари билан ишлаш, уларнинг фикрларини тинглаш ва тушиниш, мустақил ҳамда танқидий фикрлаш, муқобил таклифларни илгари суриш, фикр мулохазаларини эркин баён қилиш, ўз нуқтаи назарларини химоя қилиш, муаммонинг ечимини топишга интилиш, мураккаб вазиятлардан чиқа олиш каби сифатларини шакллантиришга мувофиқ бўлади. Энг мухими, интерфаол методларни қўллаш орқали ўқитувчи талабаларнинг аниқ таълимий мақсадга эришиш йўлида ўзаро ҳамколикка асосланган ҳаракатларни ташкил этиш, йўнатириш, бошқариш, нахорат ва ташкил қилиш орқали ҳолис бахолаш имкониятини қўлга киритади.

Интерфаол таълим асосини, интерфаол методлар ташкил этади. Мақоланинг давомида интерфаол методлар, уларнинг мохияти, қўлланилиш шартлари ва дидактик имкониятлари тўғрисида сўз юритилади.

Қуйида “Венн диаграммаси” ГО схемасида Болтли ва шпилкали бирикмаларнинг хусусиятлари мавзусида ишанма келтирилади:

Бугунги кунда ривожланган мамлакатларда ўқитувчиларнинг ўқув ва ижолий фаолиятларини оширувчи, таълим тарбия жараёнининг самарадорлигини ифодаловчи педагогик технологияларни қўллашга доир катта тажриба тўпланган бўлиб, бу тажрибаасосини интерфаол методлар ташкил этмокда.

“Венн диаграммаси” ГО талабаларда мавзуга нисбатан таҳлилий ёндашув, айрим қисмлар негизида мавзунинг умумий мохиятини ўзлаштириш (синтезлаш) кўникмаларини ҳосил қилишга йўналтирилади. У кичик гурухларда шакллантириш асосида аниқ схема бўйича амалга оширилади.

Деталлар бир-бири билан ажраладиган ва ажралмайдиган қилиб бириктирилади. Ҳозирги зомон машинасозлигида машина деталларини ажраладиган қилиб бирикириш кўпроқ қўлланилади. Бундай бирикмалар, асосан турли профилдаги резьбалар воситасида амалга оширилади. Фанни ўрганишда резьбали бирикмаларда аввал бирикма деталлари ва элементлари билан танишилидаи. Сўнг резьбали бирикмалар ва уларнинг чизмалари ўрганилади. Резьбали бирикмалар мавзусини мустаҳкамлаш учун “Венн диаграммаси” интерфаол методни қўллаш ўринли. Бунда болтли ва шпилькали бирикмаларнинг умумий ўқшашлиги ва фарқлари қиёсий таққосланиш ишланмасидан фойдаланиш мақсадга мувофиқдир.

Использованные источники:

1.Д. Рўзиева., М. Усмонбоева., З. Холикова. Интерфаол методлар: моҳияти ва қўлланилиши. Методик қўлланма. Тошкент, 2013 й.

2.С.С.Мақсудов., А.Т.Азимов Интерактивный метод в инженерной графике. S.S.Maksudov., A.T.Azimov. The Interaktivny method in engineering graphies/

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ТИПЫ ГЕОГРАФИЧЕСКИХ НАЗВАНИЙ СЕВЕРНЫХ РАЙОНОВ ПРАВОБЕРЕЖЬЯ КАРАКАЛПАКИИ

***Аннотация**: Статья посвящена анализу типов географических названий северных районов правобережья Каракалпакии. В работе отражены типы географических названий как этнонимы, ойконимы, гидронимы а также географические термины. Топонимы отражающие быть, образ жизни, язык, хозяйственную деятельность, культуру, традиции, этнический состав народов проживающих в республике. А также окружающую их природно-географическую среду. Изучено необходимость дальнейшего совершенствования топонимов в сфере наименования и переименования географических объектов.*

***Ключевые слова:** Топонимы, Географические названия, Этнонимы, Гидронимы, Ойконимы, Система наименования, Классификация*

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TYPES OF GEOGRAPHICAL NAMES OF THE NORTHERN REGIONS OF THE RIGHT BANK OF KARAKALPAKSTAN

***Abstract**: The article is devoted to the analysis of types of geographical names of the northern regions of the right bank of Karakalpakstan. The work reflects the types of geographical names as ethnonyms, oikonyms, hydronyms and also geographical terms.*

Toponyms reflecting being, way of life, language, economic activity, culture, traditions, ethnic composition of peoples living in the republic. And also the surrounding natural and geographical environment. The need for further improvement of toponyms in the sphere of naming and renaming of geographical objects has been studied.

***Key words:** Toponyms, Geographical names, Ethnonyms, Hydronyms, Oikonyms, Naming system, Classification.*

Аннотация: Maqola Qoraqalpog‘istonning o‘ng qirg‘og‘idagi shimoliy viloyatlarning geografik nomlari turlarini tahlil qilishga bag‘ishlangan. Asarda geografik nomlarning etnonim, oikonim, gidronim kabi turlari hamda geografik atamalar o‘z aksini topgan.

Respublikada yashovchi xalqlarning hayoti, turmush tarzi, tili, xo'jalik faoliyati, madaniyati, an'analari, etnik tarkibini aks ettiruvchi toponimlar. Shuningdek, ularning tabiiy va geografik muhiti. Geografik obyektlarni nomlash va qayta nomlash sohasida toponimlarni yanada takomillashtirish zarurati o'rganildi.

Kalit so'zlar: Toponimlar, Geografik nomlar, Etnonimlar, Gidronimlar, Oykonimlar, Nomlash tizimi, Klassifikatsiya

В настоящее время населенные пункты Республики Узбекистан, в том числе Республики Каракалпакстан, получают новые названия, перекликающиеся с событиями современности: вновь возникающие населенные пункты и другие географические объекты получают названия нового типа, связанные с независимости страны.

Как видно из практики исследования, названия районов или мелких городов республики наименее постоянны, так как и сами районы – наименее постоянные единицы административно-территориального деления. Они часто переделываются, переформировываются, ликведируется и создаются вновь. Поэтому каждая разновидность географических объектов имеет свои типы названий и каждому типу названий свойственны свои морфологические и словообразовательные структуры. Наиболее подвижными являются названия населенных пунктов. Они все время обновляются в результате появления новых объектов и изменения старых названий. Названия физико-географических объектов обновляются значительно медленнее, преимущественно за счет открытия новых объектов.

Многие новые названия повторяют старые структурные типы, однако последнее не всегда удовлетворяет новым запросам, в связи с чем наблюдается и перестройка старых словообразовательных моделей. Это стало особенно заметно в конце XX века, в связи с распадом СССР, появлением многих новых независимых государств Центральной Азии.

Новшества в промышленности, в сельском хозяйстве и в политическом строе нашего молодого государства, требуют и новые модели для названия населенных пунктов и других географических объектов.

Таким образом перемены в общественной и политической жизни вносят в начале XXI века свои свежие корректировки и сушествовшие ранее топонимические типы.

Несмотря на появление отдельных названий, не поддающихся классификации в топонимии, отличается консолидация топонимических типов, И хотя общее количество типов очень велико и труднообразимо, большинство из них выделается довольно четко. При этом новые топонимы примыкают к определенному современному типу классификации.

Выявление топонимических типов классификации необходимо для изучения топонимических систем и подсистем разных областей и районов Республики Узбекистан, в том числе Республики Каракалпакстан.

При анализе местных географических названий северных районов правобережья Каракалпакий по происхождению, были разделены на: (3)

1. Географические названия, связанные с именами, фамилиями и прозвищами людей (антропонимами).

а). множество таких названий даны гидрологическим объектам (каналы Кууанышжарма, Бекниязузяк, Атажанузяк, Далжанузяк, Туремуратжап, Нагашыбай, Турымбетжап, озера Хожатай, Алимбай, Берди, Дауыт, Убайдулла и другие).

б). Некоторые антропонимы характеризуют названия населенных пунктов и местности (Чимбайский район и город Чимбай, деревня Байымбетаул, Бердиханаул, Утегенаул, общественные хозяйства Аспантай, Дауыткуль, Н.Жапаков и другие).

в). В некоторых случаях антропонимы переходят к природным свойствам территории (пески Лаузанкум, степь Мамий, Алланазаркум, Мамырой и другие).

2. Типы географических названий, связанные с народами, племенами и родами (этнотопонимы).

а). На территории Республики Каракалпакстан встречаются топонимы, связанные с родами и племенами. Количество их в процентном отношении намного больше, чем у других тюркоязычных народов. Этнотопонимы встречаются в названиях населенных пунктов и деревень (Актогин, Добал, Караоймауыт, Ажим, Айтеке, Аралбай, Араншы, Ашамайлы, Добал, Караоймауыт, Сарыоймаут, Баймаклы, Бессары, Кенегес, Кайшылы, Анна, Кепе, Кипчак и другие). Здесь встречаются этнотопонимы и других наций (деревня Казакаул, Карасакал и другие).

б). Этнотопонимы встречающиеся в географических названиях, каналов, озер и протоков (каналы Айтекежап, Араншыжап, Добалжап, Карасирак, Кенегесжап, озеро Караой и другие).

Географические названия, связанные с этнонимами, составляют около 25% от общей численности топонимов территории. Это связано с тем, что каракалпакский народ с ранних времен по разным причинам были вынуждены переселяться с одного места на другое. При этом люди переселялись по родоплеменному признаку. Некоторые жители тех или иных родов оставались на прежней территории, а другие уходили осваивать новые земли. Поэтому на территории Каракалпакии так широко распространены топонимы, связанные с названиями родов и племен.

3. Географические названия, связанные с ремеслом людей. На исследуемой территории встречаются очень мало и составляют около 5% от общей численности географических названий территории (озеро Койчикуль, деревня Шопанказган, Багман, Баксыаул, Мамыкшы, Нанбайаул, канал Райкомжап и другие.

Этот тип географических названий на исследуемой территории не развито, что связано с отсутствием полезных ископаемых. Жители занимались в основном земледельем, садоводством и скотоводством. Торговые караваны сюда почти не заходили.

4. Географические названия связанные с растительным и животным миром (фито и зоотопонимы).

Эти названия встречаются повсюду и составляют около 8% (Арпакуль, Чилимкуль, Сарытурангил, Тарлыжап, Ажириккултик, кендирли, Пишенкуль, Чигин, Кегейли и другие).

Распространение географических названий этого типа объясняется тем, что исследуемая территория расположена в дельте реки Амударьи и, естественно, богата разнообразной растительностью. Это обуславливает формирование отличительных черт от ландшафтов окружающих пустынь, что выражено и в географических названиях этого типа.

На исследуемой территории немало географических названий, связанные с названиями рыб, птиц и других животных, обитающих или обитавших в этом регионе (Суенарым, Шортанбай, Шымшыкой, Кусханатау, Ешкиулген, Кулынкуль, Кутанкуль и другие). Этот тип географических названий, довольно широко распространены на данной территории, что связано с очень густой гидрологической сетью и множеством озер. Все это объясняется расположением территории в низовьях реки Амударьи. К сожалению в связи с бедственным экологическим положением в регионе в последние годы многие виды животных, рыб и птиц, некоторые виды растительности исчезли, оставив в памяти о себе только названия.

5. Типы географических названий, связанные с географическими терминами.

Этот тип географических названий можно разделить на две категории:

- географические названия, образованные от простых терминов (аул, кала). Аул (деревня) – в Каракалпакии это небольшая группа глинобитных построек, расположенных в беспорядке, поблизости друг отдруга. Термин очень часто входит в состав собственного названия населенного пункта. На исследуемой территории встречается очень много названий, в составе которых присутствует этот термин (Мажитаул, Адилаул, Хакимаул, Базараул, Юлдузаул, Акбаксыаул, Казакаул и другие). Кала – город, укрепление, крепость – в Каракалпакии этот термин не очень распространен. В большинстве случаев названия, в составе которых есть термин кала, отражают в основном исторический период (Ишанкала, Айдоскала и другие).

- географические названия, образованные от географических терминов и с помощью определений (дарья, куль, кум, тау и другие). Такие топонимы на обследуемой территории встречаются очень часто:

Дарья – в Центральной Азии так называют большие реки (Амударья, Сырдарья). На исследуемой территории этот термин образовал топонимы Еркиндарья, Казахдарья и другие. Куль (озеро) – термин очень часто входит в состав собственного названия озера. При слияний они образовали следующие топонимы: Атакуль, Арпакуль (Ячменное озеро), Дауыткуль, Маржанкуль (Коралловое озеро), Алтынкуль (Золотое, богатое озеро), Аккуль (Белое, прозрачное озеро), Сарыкуль (Желтое озеро), Каракуль (Черное, глубокое озеро), Ашшыкуль (Соленное озеро), Сасыккуль (Вонючее, грязное озеро) и

другие. Кум – (песок, пески). Очень часто термин входит в состав собственного названия местности. Очень часто термин входит в состав собственного названия местности. Оно образовало следующие топонимы: Шоркулькум, Сарманкум, Маржанкум, Шегеликум, Алланазаркум, Кумшунгил, Кумаул и другие. Тау – (гора всякая). Термин в форме таг, даг, тоо, тау встречаются у различных народов, говорящих на языках тюркской системы и часто входит в состав собственного географического названия. В регионе образовал следующие топонимы; Бельтау, Бориштау, Кусханатау, Порлытау и другие.

6. Гидронимы. Они образуют довольно много географических названий. На земле каракалпаков с ранних времен существовали реки, притоки и озера. Реки у нас по своему типу разделяются на большую реку, ее притоки, каналы, жап, жарма или жармыс.

Каракалпаки главное русло реки называют Большая река – это есть река Амударья, единственная река, которая снабжает водой всю территорию республики. Северные районы правобережья Каракалпакии снабжается водой единственного канала – Дослык (Кызкеткен). Дальше идут каналы Кууанышжарма, Кегейли, Еркиндарья, Казахдарья, Казанкеткен и другие более мелкие каналы – Бешяб, Казахжап, Каттаяб, Сарманяб, Казахаша, Мийнеткешсай, Камысарык и другие. Наш регион очень богат мелкими озерами; Каратерен, Дауыткуль, Кутанкуль, Уйгиркуль, Сайманкуль, Мамбеткуль и другие.

В дельтовой части с давних времен распространено орошаемое земледелье, что привело к образованию антропогенных гидронимов.

На исследуемой территории давольно часто встречаются названия гидронимов, связанных с географическими терминами – узяк (озек), жармыс, жарма, жап (Кумузяк, Абаджармыс, Кууанышжарма, Алтынжап, Жылуанжап и другие).

Узяк (озек, в литературе и на картах - узяк). В Каракалпакии приток или рукав реки. Термин часто входит в состав собственных географических названий. Жармыс, жарма – (от глагола жарыу - раскалывать) – прорыв, речка или канал. Термин входит в состав собственых найменований рек, притоков. Жап – в Каракалпакии большой арык или оросительный канал.

- Гидронимы связанные с глубиной и течением, а также окраской (цветностью). Такие географические названия в большинстве встречаются в названиях озер, рек и каналов (озеро Каратерен, Караайдын, Каракуль, Узынайдын, канал Еркиндарья и другие).

Гидронимы, связанные с природными свойствами, размером объекта и соленностью воды (Бозжап, Орлыжап, Акжап, Жалпакжап, Донгелекжап, Табанкуль и другие).

7. Типы географических названий, связанные с рельефом местности.

На обследуемой территории типы географических названий, связанные с рельефом местности встречаются часто в топонимах деревень (деревня Акжагыс, - буквально Белый берег, Бозжап – светлый, серый, белесоватый,

Батпакуткел – болото, топкое место, Сазкуйы – топкое, болотистое место, болотисто-луговая местность, Аккудук – белый колодец, Бозак – светло-белый, Жалпакжап – плоский, ровный, без возвышении и углублении с прямой и гладкой поверхностью, Караой – буквально Черная яма, черная низина, ложбина, Акжаркум – буквально пески белый обрыв и другие).

8. Типы географических названий, связанные с полезными ископаемыми.

Северные районы правобережья Каракалпакии не очень богаты полезными ископаемыми и поэтому здесь топонимы, связанные с ними, редки; гора Порлытау (состоит из белых известняков, т.е. пора, мела), деревня Шагырлы (на Каракалпакском языке "гальку", "галечник" называют "шагырлы тас".

9. Странные географические названия.

На территории Каракалпакии встречаются и странные географические названия, но несмотря на это, у них имеются свои истории происхождения. Например, деревня Балекеузяк (возможно это название возникло от русского слова "балка"), Батпакуткел, т.е. узкая тропинка через болотистое место, Ешкиулген (Умерший козел), Кырк тесик (буквально Сорок дырок), Коструба (буквально пара труб), озеро Бутенкуль (другое озеро), деревня Ашаул (голодная деревня), Угизаул (деревня Быка) и другие.

Мы рассмотрели некоторые типы географических названий (по Хасанову Х.) встречающихся на территории северных районов правобережья Каракалпакии. Из этого можно сделать вывод, что на исследуемой территории, как и в других регионах республики, встречаются разные типы географических названий. В итоге мы составили картосхемы по распространению типов географических названий по районам в отдельности.

Использованные источники:

1. Абдимуратов К.А. Топонимика Каракалпакии. АКД. -Нукус, 1966.
2. Дўсимов З. Хоразм топонимлари. -Т.: «Фан», 1985. -104 с.
3. Сейтниязов К. Топонимы северных районов правобережья Каракалпакии. (диссер. на соиск. уч.степени кандидата геогафических наук). -Т.; 1998.
4. Қораев С. Ўзбекистон вилоятлари топонимлари. -Т., 2005. -238 с.
5. Ҳакимов Қ.М. Топонимика. Дарслик. -Т.; “Мумтоз сўз”. 2016. -368 с.
6. Хасанов Х. Урто Осие жой номлари тарихидан. -Т.:1965. -80 с.
7. Ўзбекистон Миллий энциклопедияси. 6, 11-жилд. -Т., 2005. 92 с.
8. Khakimov, K. M., Zakirov, A. A., Seytniyazov, K. M., & Gaypova, R. T. (2021). Some Aspects Of The Relationship Between Nature And Society In Geography. nveo-natural volatiles & essential oils Journal| NVEO, 15320-15325.
9. Turdimambetov, I. R., Seitniyazov, K. M., & Baltabayev, O. O. (2020). Methods of toponymic researches of Peoples geographical terms in the Republic of Karakalpakstan. Science and Education in Karakalpakstan, 1(2), 109-111.

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АМОРТИЗАЦИОННАЯ ПОЛИТИКА ПРЕДПРИЯТИЯ КАК ФАКТОР ПОВЫШЕНИЯ ИНВЕСТИЦИОННОЙ АКТИВНОСТИ

Аннотация*:Статья посвящена исследованию амортизационной политики предприятия как ключевого фактора, способствующего повышению его инвестиционной активности. В работе рассматриваются теоретические аспекты формирования амортизационных отчислений и их влияние на финансовые ресурсы компании. Особое внимание уделено различным методам начисления амортизации, таким как линейный, ускоренный и нелинейный методы, а также возможности оптимизации этих методов для стимулирования инвестиций. Рассматриваются преимущества и недостатки различных подходов к амортизационной политике и их воздействие на инвестиционные решения предприятий. В заключении приводятся рекомендации по эффективному использованию амортизационных механизмов для обеспечения устойчивого роста и развития бизнеса.*

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THE DEPRECIATION POLICY OF THE ENTERPRISE AS A FACTOR OF INCREASING INVESTMENT ACTIVITY

Abstract:*The article is devoted to the study of the depreciation policy of an enterprise as a key factor contributing to an increase in its investment activity. The paper examines the theoretical aspects of the formation of depreciation charges and their impact on the financial resources of the company. Special attention is paid to various methods of depreciation, such as linear, accelerated and nonlinear methods, as well as the possibility of optimizing these methods to stimulate investment. The advantages and disadvantages of various approaches to depreciation policy and their impact on investment decisions of enterprises are considered. In conclusion, recommendations are given on the effective use of depreciation mechanisms to ensure sustainable business growth and development.*

Большую часть имущественного комплекса производственного предприятия представляют основные средства производственного и непроизводственного назначения: недвижимость, транспорт, техника, оборудование, многолетние насаждения и другие. Грамотное управление данными активами является актуальной проблемой современной экономики. Смоделировать процесс управления жизненным циклом каждого объекта возможно посредствам формирования учетного стандарта – Приказ «Амортизационная политика предприятия», который наряду с Приказом «УП», является внутрихозяйственным регулятивом учетно- контрольной системы предприятия[55].

Амортизационная политика имеет важное значение для формирования собственных инвестиционных ресурсов и управления основными средствами субъекта АПК. Как комплексное понятие амортизационная политика должна включать: «аспекты обновления основных средств в зависимости от интенсивности их использования; аспекты формирования необходимых инвестиционных ресурсов; перераспределение инвестиционных ресурсов в соответствии с функциональным назначением с целью обеспечения непрерывного воспроизводства с высокой эффективностью»[56].

Следовательно, *амортизационная политика отдельного хозяйствующего субъекта (depreciation policy of an individual business entity)* – «это комплекс научно обоснованных организационно-технических и методологических способов, направленных на своевременное и качественное обновление амортизируемого имущества (в частности – основных средств), формирование достаточной для расширенного воспроизводства суммы амортизационных отчислений и ее использование при реализации инвестиционных проектов по обеспечению процесса расширенного воспроизводства основных средств».

В амортизационной политике в части *бухгалтерского учета* необходимо привести допустимые варианты отражения и нормативные документы, регулирующие порядок организации и ведения учета основных средств, а для целей налогового учета в амортизационную политику нужно обязательно включать подробную информацию по формированию доходов и расходов в части основных средств для правильного исчисления налогов.

Сущность амортизационной политики в системе бухгалтерского учета следует трактовать как составную часть учетной политики организации,

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[55] ФОРМИРОВАНИЕ УЧЕТНОЙ ПОЛИТИКИ НА ОСНОВЕ МОДЕЛИРОВАНИЯ УЧЕТНО-КОНТРОЛЬНОГО ПРОЦЕССА СУБЪЕКТА АПК Горбачева А.С., Воронов С.И., Балашова Н.Н., Токарева Е.В., Мелихов В.А., Чекрыгина Т.А. Аграрная Россия. 2023. № 7. С. 36-44.

[56] СОВРЕМЕННЫЕ ПРОБЛЕМЫ УЧЕТА АМОРТИЗАЦИИ ОСНОВНЫХ СРЕДСТВ Макуева А.Н. В сборнике: НАУКА И МОЛОДЁЖЬ: НОВЫЕ ИДЕИ И РЕШЕНИЯ. материалы XVI Международной научно-практической конференции молодых исследователей. Волгоградский государственный аграрный университет. Волгоград, 2023. С. 215-217.

представляющую собой совокупность способов формирования учетно-аналитической информации о состоянии и использовании объектов основного капитала, а также о процессах аккумулирования и использования амортизационных отчислений как собственного источника воспроизводства.[57]

Для предприятия крайне важно включить в амортизационную политику те элементы, которые не перегружали бы информационную базу, а объективно формировали и регламентировали порядок начисления и использования амортизационных отчислений в нужном для предприятия направлении. Рассмотрим предлагаемые элементы указанного внутрихозяйственного регламента.

Предлагаем процесс разработки амортизационной политики (we propose the process of developing an amortization policy) представить в виде трех последовательных этапов ее формирования.

На предварительном этапе определяется цель, ставятся задачи, производятся выбор и обоснование исходных положений построения амортизационной политики, выявляются, анализируются, оцениваются и ранжируются факторы, под влиянием которых будет производиться выбор тех или иных способов и вариантов ведения учета.

В ходе текущего этапа определяются объекты амортизационной политики, выявляются конкретные факторы, условия, явления и процессы, которые оказывают влияние на ее разработку, идентифицируются потенциально пригодные из них.

Последующий этап разработки амортизационной политики подразумевает ее изменение в случаях изменения законодательства РФ, разработки новых способов ведения учета объектов основного капитала, существенного изменения условий деятельности организации и т.п. Несмотря на определенный элемент условности, амортизация является единственным инструментом отражения в системе бухгалтерского учета процесса морального и физического износа объектов основных средств.[58]

Амортизационная политика предприятия играет ключевую роль в формировании инвестиционной активности, выступая важным инструментом финансового управления. Грамотно выстроенная амортизационная стратегия позволяет не только своевременно обновлять основные фонды, но и

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[57] БУХГАЛТЕРСКИЙ УЧЕТ НАЛИЧИЯ И ДВИЖЕНИЯ ОСНОВНЫХ СРЕДСТВ: ПРАКТИЧЕСКИЙ АСПЕКТ
Чекрыгина Т.А., Горбачева А.С., Сувонова Л.С.
В сборнике: Цифровая трансфомация бизнеса: вызовы и перспективы. материалы Всероссийской научно-практической конференции, посвященной 60-летию экономического факультета Волгоградского ГАУ и 85-летию со дня рождения доктора экономических наук, профессора, Заслуженного экономиста РФ, Почетного бухгалтера России Бычкова М.Ф.. Волгоград, 2023. С. 217-223.

[58] СОВРЕМЕННЫЕ ПРОБЛЕМЫ УЧЕТА АМОРТИЗАЦИИ ОСНОВНЫХ СРЕДСТВ
Макуева А.Н.
В сборнике: НАУКА И МОЛОДЁЖЬ: НОВЫЕ ИДЕИ И РЕШЕНИЯ. материалы XVI Международной научно-практической конференции молодых исследователей. Волгоградский государственный аграрный университет. Волгоград, 2023. С. 215-217.

аккумулировать ресурсы для реализации масштабных инвестиционных проектов. Оптимизация методов начисления амортизации, учет специфики производственных процессов и использование законодательных возможностей способствуют повышению конкурентоспособности предприятия, стимулируют инновационное развитие и укрепляют его финансовую устойчивость. В условиях динамично изменяющейся экономической среды амортизационная политика становится не просто элементом учета, а стратегическим фактором, определяющим долгосрочное развитие компании и ее способность привлекать инвестиции. Таким образом, эффективное управление амортизационными процессами является важным условием для повышения инвестиционной привлекательности и обеспечения устойчивого роста предприятия.

Использованные источники:

1. БУХГАЛТЕРСКИЙ УЧЕТ НАЛИЧИЯ И ДВИЖЕНИЯ ОСНОВНЫХ СРЕДСТВ: ПРАКТИЧЕСКИЙ АСПЕКТ Чекрыгина Т.А., Горбачева А.С., Сувонова Л.С. В сборнике: Цифровая трансфомация бизнеса: вызовы и перспективы. материалы Всероссийской научно-практической конференции, посвященной 60-летию экономического факультета Волгоградского ГАУ и 85-летию со дня рождения доктора экономических наук, профессора, Заслуженного экономиста РФ, Почетного бухгалтера России Бычкова М.Ф.. Волгоград, 2023. С. 217-223. 3.
2. Едронова, В.Н. Комплексный метод оценки амортизационных отчислений и контроль за их целевым использованием. - Текст: непосредственный /В.Н. Едронова// Экономический анализ: теория и практика. – 2016. – №12. – С. 8 – 12.
3. Методические указания по бухгалтерскому учету основных средств, утвержденные Приказом Минфина РФ от 13.10.2003г. № 91 н. Справочно-правовая система «Консультант плюс». - Текст: электронный. - URL: http: // www. aero. garant. ru/?utm_ source = yandex&utm_medium
4. СОВРЕМЕННЫЕ ПРОБЛЕМЫ УЧЕТА АМОРТИЗАЦИИ ОСНОВНЫХ СРЕДСТВ Макуева А.Н. В сборнике: НАУКА И МОЛОДЁЖЬ: НОВЫЕ ИДЕИ И РЕШЕНИЯ. материалы XVI Международной научно-практической конференции молодых исследователей. Волгоградский государственный аграрный университет. Волгоград, 2023. С. 215-217.
5. ФОРМИРОВАНИЕ УЧЕТНОЙ ПОЛИТИКИ НА ОСНОВЕ МОДЕЛИРОВАНИЯ УЧЕТНО-КОНТРОЛЬНОГО ПРОЦЕССА СУБЪЕКТА АПК Горбачева А.С., Воронов С.И., Балашова Н.Н., Токарева Е.В., Мелихов В.А., Чекрыгина Т.А. Аграрная Россия. 2023. № 7. С. 36-44.

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ПОНЯТИЕ ИНВЕСТИЦИОННОГО КЛИМАТА И ИНВЕСТИЦИОННОЙ ПРИВЛЕКАТЕЛЬНОСТИ

Аннотация: *В статье рассматриваются ключевые аспекты инвестиционного климата и инвестиционной привлекательности, их взаимосвязь и влияние на экономическое развитие страны. Анализируются основные факторы, формирующие инвестиционный климат, включая макроэкономическую стабильность, уровень правовой защиты инвесторов, налоговую политику и инфраструктурные условия. Особое внимание уделяется методам оценки инвестиционной привлекательности регионов и отраслей, а также влиянию государственной политики на привлечение инвестиций.*

Ключевые слова: *инвестиционного климата, инвестиционной привлекательности.*

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THE CONCEPT OF INVESTMENT CLIMATE AND INVESTMENT ATTRACTIVENESS

Summary:*The article examines the key aspects of the investment climate and investment attractiveness, their relationship and impact on the country's economic development. The main factors that shape the investment climate are analyzed, including macroeconomic stability, the level of legal protection for investors, tax policy and infrastructure conditions. Particular attention is paid to methods for assessing the investment attractiveness of regions and industries, as well as the impact of government policy on attracting investment.*

Keywords: *investment climate, investment attractiveness.*

Инвестиционная среда представляет собой совокупность различных условий и факторов, которые сопровождают весь процесс инвестиционной деятельности. Она включает природные, социальные, экономические, политические и правовые элементы, влияющие на инвестиции. Для предприятия инвестиционная среда — это неконтролируемый фактор, требующий глубокого анализа и адаптации. Компании должны стремиться понять особенности окружающей среды, использовать её благоприятные стороны и избегать воздействия негативных факторов.

Инвестиционная среда классифицируется по разным признакам: по материальной форме факторов она делится на жёсткую среду, включающую элементы с физической формой, и мягкую среду, состоящую из нематериальных факторов. По уровням исследования выделяют макро-, мезо- и микроуровни. Макроуровень охватывает такие аспекты, как развитие национальной экономики, политические и правовые изменения, культурные традиции и геополитические отношения[59].

Мезоуровень рассматривает региональные и отраслевые особенности, а микроуровень касается конкретных условий, учитываемых при выборе места для реализации проекта. Также инвестиционная среда может классифицироваться по этапам инвестиционного процесса (вложение, использование и возврат инвестиций), по национальной принадлежности (внутренняя или международная) или по составным элементам, включая политическую, инфраструктурную, финансовую, научно-техническую, правовую, природно-географическую и другие составляющие.

Инвестиционный климат и инвестиционная привлекательность играют ключевую роль как в теории, так и в практике экономики, поскольку они определяют способность экономической системы привлекать и эффективно использовать капитал.

Под инвестиционным климатом понимается совокупность экономических, политических, правовых, социальных и инфраструктурных факторов, которые создают условия для привлечения инвестиций в страну, регион или отрасль. Эти факторы можно рассматривать как своеобразный «барометр» для инвесторов, показывающий стабильность и предсказуемость бизнес-среды.

Инвестиционная привлекательность, в свою очередь, представляет собой интегральный показатель, отражающий степень привлекательности конкретного объекта (страны, региона или компании) для инвестиций с точки зрения получения дохода и минимизации рисков. Она оценивается на основе таких факторов, как экономический рост, налоговая политика, состояние инфраструктуры, прозрачность законодательной базы, уровень коррупции, доступность финансовых ресурсов и квалифицированной рабочей силы.

[59] Wang Qi. Влияние прямых иностранных инвестиций на структурные изменения в экономике страны-инвестора и механизм их передачи [J]. Всемирный экономический и политический форум, 2004(1):36-41.

Эти две категории тесно связаны между собой. Инвестиционный климат создает общую картину условий для ведения бизнеса в стране или регионе, тогда как инвестиционная привлекательность акцентирует внимание на специфических преимуществах или недостатках отдельных объектов. Например, устойчивый макроэкономический климат, стабильный валютный курс и низкая инфляция создают позитивный фон для страны в целом, тогда как в конкретном регионе привлекательность может зависеть от уровня развития транспортной инфраструктуры, наличия сырьевых ресурсов или кадрового потенциала.

В экономической литературе и инвестиционном менеджменте эти понятия широко применяются для анализа и прогнозирования потоков капитала. Исследования показывают, что страны с благоприятным инвестиционным климатом и высокой привлекательностью способны привлекать значительные объемы прямых иностранных инвестиций (ПИИ), что способствует экономическому росту, технологической модернизации и повышению уровня жизни.

Однако такие проблемы, как политическая нестабильность, слабая защита прав собственности и высокие административные барьеры, могут негативно сказываться на инвестиционном климате, даже если отдельные объекты обладают высоким потенциалом доходности. Анализ инвестиционного климата и привлекательности является важным инструментом экономической науки и практики. Это позволяет не только оценивать текущие условия для инвесторов, но и разрабатывать стратегии по их улучшению, что особенно актуально в условиях глобальной конкуренции за капитал[60].

Окружающая среда – это совокупность условий и факторов, которые влияют на существование какого-либо объекта. Инвестиции, в свою очередь, представляют собой экономическую деятельность, которая происходит в определенной среде. Все факторы, которые воздействуют на поведение инвесторов и определяют их решения, принято называть инвестиционной средой. Это довольно сложная система, включающая в себя экономическое развитие, природные условия, социально-культурные аспекты и многое другое. По сути, инвестиционная среда формируется под влиянием различных внешних факторов и условий.

Если рассматривать инвестиционную среду с разных точек зрения, ее можно разделить на несколько основных типов:

По масштабу можно выделить микро- и макроинвестиционную среду. Микросреда – это условия в конкретном регионе, городе или районе, где осуществляется проект. Макросреда – это более широкий уровень, включающий государственную политику, экономические показатели и другие глобальные факторы, влияющие на инвестиции[61].

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[60] Zhang Zhonghua. Инвестиции [M]. Пекин: Издательство высшего образования, 2009(4):54-61.

[61] Liu Lei. Теоретический анализ и эмпирическое исследование технологического состава ПИИ [D]. Университет Фудань, 2004.

По характеру составляющих выделяют жесткую и мягкую инвестиционную среду. Жесткая среда (или «инвестиционная инфраструктура») включает в себя материальные ресурсы: природные запасы, энергоснабжение, транспорт, связь, бытовые услуги и т. д. Мягкая среда – это нематериальные факторы, такие как экономическая политика, законодательство, уровень бюрократии и эффективность работы государственных органов.

По содержанию инвестиционная среда делится на экономическую, политическую, правовую и социально-культурную. Экономическая среда охватывает уровень развития экономики, рыночную систему и политику государства. Политическая среда включает в себя форму правления, уровень стабильности в стране и международные отношения.

Правовая среда определяется степенью развитости законодательства, справедливостью правоприменения и правовой культурой общества. Социально-культурная среда – это язык, национальные традиции, уровень образования населения и другие факторы, влияющие на инвестиционный климат.

Можно классифицировать инвестиционную среду и по другим критериям. Например, по отраслям – инвестиционная среда в первичном, вторичном и третичном секторах экономики. Или по территориальному признаку – государственная, региональная, особые экономические зоны, города, сельская местность и т. д.

Использованные источники:

1. Wang Qi. Влияние прямых иностранных инвестиций на структурные изменения в экономике страны-инвестора и механизм их передачи [J]. Всемирный экономический и политический форум, 2004(1):36-41.
2. Zhang Zhonghua. Инвестиции [M]. Пекин: Издательство высшего образования, 2009(4):54-61.
3. Liu Lei. Теоретический анализ и эмпирическое исследование технологического состава ПИИ [D]. Университет Фудань, 2004.

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ПУТИ ОПТИМИЗАЦИИ ГЕОЭКОЛОГИЧЕСКОГО СОСТОЯНИЯ ПОЧВ МИРЗАЧОЛЬСКОГО ОАЗИСА

Аннотация: *В статье определены причины геоэкологических проблем Мирзачольского оазиса, таких как ветровая, ирригационная эрозия, засоление почв, химическое загрязнение, изучен уровень воздействия, а также даны предложения и рекомендации с целью решения этих существующих проблем на территории, а также для предотвращения проблем, возникших в процессе деятельности человека и могущих возникнуть в будущем.*

Ключевые слова: *Ветровая эрозия, ирригационная эрозия, засоление почв, химическое загрязнение, ветер «Ховост».*

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WAYS TO OPTIMIZE THE GEOECOLOGICAL STATE OF THE SOILS OF THE MIRZACHOL OASIS

Annotatsion: *The article identifies the causes of the formation of geoecological problems of the Mirzachol oasis, such as wind, irrigation erosion, soil salinization, and chemical pollution, studies the level of impact, and provides suggestions and recommendations for solving these existing problems in the area, as well as preventing problems that have arisen during human activity and may arise in the future.*

Key words: *Wind erosion, irrigation erosion, soil salinization, chemical pollution, "Khovost" wind*

Введение. После обретения Республикой Узбекистан независимости в рациональном использовании природы, как и во всех сферах, осуществляются

коренные изменения. Называя текущий год «Годом охраны окружающей среды и «зеленой» экономики», является наглядным примером наших слов. В настоящее время в республике разработана Государственная программа на будущее – охраны окружающей среды и рационального использования природных ресурсов на 2017-2021 годы, и эта программа реализуется на практике. Вся деятельность в области рационального использования природы и ее охраны организуется на основе этой программы, а работы проводятся на основе программы «Необходимо научно-обоснованным образом изменить природные условия на больших территориях, чтобы обеспечить эффективное и комплексное использование природных ресурсов, например, необходимо регулировать сток рек и перебрасывать воду из одного бассейна в другой, избегать переувлажнения почвы, проводить мероприятия по сбросу воды и т. д.». Свою статью мы посвятили геоэкологическим проблемам Мирзачольского оазиса и их оптимизации. Подробно изучены геоэкологические проблемы Мирзачольского оазиса, разработаны мероприятия, направленные на решение проблем, сделаны предложения и рекомендации по улучшению состояния почв.

Основная часть.В результате освоения земель в Мирзачольском оазисе осталось очень мало естественных растений. Известно, что по решению правительства с конца 70-х годов в Джизакской пустыне было проложено несколько сетей каналов для масштабного расширения площадей орошения, и строительство шло полным ходом. Несколько сотен тысяч гектаров ранее бесплодной земли были осушены и превращены в хлопковые поля. Появились новые поселения и деревни. Были построены дороги и проведен ряд мелиоративных мероприятий. С 1991 года освоение новых земель было остановлено из-за нехватки воды. Таким образом, под влиянием многовековой хозяйственной деятельности человека возник ряд экологических проблем, и их устранение стало одной из актуальных проблем современности. Вот некоторые из проблем:

Ветровая эрозия (дефляция). Большие площади земель в Джизакской области издавна использовались под посев сухих культур и ежегодно распахивались. В засушливых климатических условиях, т.е. длительная засуха, частое возникновение ветров различной скорости вызвало развитие дефляционных процессов, т.е. ветровой эрозии, в пустыне Мирзачоль. По данным Узгидромета, площадь размытых ветром земель в пустыне Мирзачоль превышает 80 тысяч гектаров. В Джизакской области ветровая эрозия особенно сильна в ее восточной части. Здесь часто дует ветер «Ховост», иногда создающий пыльные бури. Ветер «Ховост» не только размывает засушливые земли, но и высушивает почву на орошаемых территориях и вызывает возникновение дефляционных процессов. Наиболее апробированным способом (методом) решения этой экологической проблемы в Джизакской области является агломерация. На наш взгляд, наиболее эффективным способом борьбы с ветровой эрозией является создание

древесных насаждений. Учитывая местные географические условия, скорость и направление ветра, необходимо расширить окружающие леса.

Ирригационная эрозия. Выше мы упоминали, что с 1970-х годов большие площади вод в северном районе пустыни Мирзачоль превращены в хлопковые поля. Следует отметить, что, во-первых, сброс воды на большие (3-4о) земли без учета местных географических условий привел к развитию эрозионных процессов в результате орошения. Мы видели, как эта ситуация распространилась на многие участки плато Локамино. Ирригационная эрозия наблюдается повсеместно в орошаемой зоне Джизакской области на небольших площадях. Неопытность в технологии орошения, подача воды сверх нормы во многих случаях становится причиной начала поливных процессов. Наиболее эффективным способом борьбы с ирригационными эрозионными процессами является известный метод, заключающийся в экономном использовании воды с соблюдением оросительных норм. Кроме того, при реализации памяти полива необходимо использовать самые современные технологии орошения, т.е. капельное орошение и другие.

Засоление почвы. При освоении Джизакской области орошаемого земледелия, учитывая некоторые ошибки и недостатки освоения Мирзачола, не были учтены местные географические и природные условия. В результате территории в северной и отдаленной части пустыни Мирзачоль оказались засоленными. По данным Узгидромета, в пустыне Мирзачоль засоление почв превысило 60 тысяч гектаров. Особенно зона от города Бахаристан (бывшая станция Обручева) до Ховоста полностью засолена в результате подъема грунтовых вод. Засоление почвы настолько сильное, что в жаркое время года слой за слоем выступает белая соль. Изменился даже растительный покров, увеличилось количество растений соляного типа. Процессы засоления почв наблюдаются и в северной части пустыни Мирзачоль, особенно в долинах широких ручьев. Для борьбы с засолением почв, которое является одной из сложнейших и комплексных экологических проблем, необходимо использовать современные технологии с учетом специфических местных природно-географических условий.

Химическое загрязнение. В первые годы освоения пустыни Мирзачоль торопливо и безрассудно применялось большое количество химических веществ. Например, минеральные удобрения, пестициды, т.е. химикаты. Чрезмерное использование химикатов привело к химическому загрязнению больших территорий пустыни. Источником химического загрязнения служат старые сельскохозяйственные аэродромы, особенно распространенные в пустыне Мирзачоль. По некоторым данным, например, в старых аэропортах, где скопились ядерные химикаты, загрязнение почвы в 100-200 раз превышает установленную норму. Ядерные химикаты из этих источников переносятся ветром в грунтовые и поверхностные воды и в конечном итоге влияют на здоровье человека. Еще одним источником химического загрязнения пустыни Мирзачоль являются долины крупных ручьев и обширные низменности. Ядерные химикаты накапливаются на этих землях через поверхностные и

дренажные воды. В последнее время в пустыне Мирзачоль редко используются химические вещества, но в почве пустыни осталось много остаточных химикатов от предыдущего использования. Мы рекомендуем один из общепринятых методов борьбы с химическим загрязнением, одной из сложнейших экологических проблем пустыни. То есть не следует забывать, что необходимо использовать больше местных удобрений вместо химикатов.

Заключение: В заключение, из-за сильного антропогенного воздействия на природу Мирзачола, наряду с созданием культурных ландшафтов, создаются и ландшафтно-экологические проблемы. Эти неприятные экологические проблемы свойственны микроклимату пустынь, поверхностным и подземным водам, почве, флоре и фауне, что означает взаимодействие природных компонентов и воздействие на ландшафты. В результате действия антропогенных факторов, изменяя один-два компонента природы, он влияет на все компоненты, вызывая постепенное нарушение их состояния, функций и баланса.В результате в пустынных ландшафтах могут происходить негативные экологические процессы, что, в свою очередь, приводит к усилению эрозии почв, изменению микроклимата, истощению ресурсов пресной воды, исчезновению естественных видов растений и животных. Опыт освоения земель и орошения Мирзачола требует углубленного изучения природно-мелиоративного состояния территорий сельскохозяйственного назначения, изучения природных факторов и компонентов, определяющих мелиоративное состояние земель, создания их аналитических карт. При освоении охраняемых земель в условиях Мирзачола, прежде всего, строительство гидромелиоративных объектов, планировка орошаемых земель, капитальное улучшение почвенного покрова на необходимую глубину; решение проблем инфильтрации через оросительные каналы и оросительные участки; внедрение соответствующих видов дренажа в соответствии с природным и мелиоративным состоянием территории; При использовании орошаемых земель необходимо соблюдение режима орошения, соответствующего естественному мелиоративному состоянию территории.

Использованные источники:

1. Alibekov L.A, Nishonov S.A. “Tabiatni muhofaza qilish va tabiiy resurslardan ratsional foydalanish”. Toshkent. “O‘qituvchi” 1983 yil.
2. Alibekov L.A, Nishonov S.A. “Prirodno’ye usloviya i resurso’ Djizzakskoy oblasti”. Tashkent. “Uzbekistan”. 1978 g.
3. Alibekov L.A. “O‘rta Osiyo tabiiy geografiyasi”. 1-qism. Samarqand, 2006 yil.
4. Baratov P, Mamatqulov M, Rafiqov A. “O‘rta Osiyo tabiiy geografiyasi”. Toshkent. “O‘qituvchi” 2002 yil.
5. Baratov P, “O‘zbekiston tabiiy geografiyasi” Toshkent. “O‘qituvchi” 1996 yil.
6. Musayev V.A, “O‘zbekistonning o‘simliklar dunyosi” Toshkent. “O‘qituvchi” 1997 yil.
7. Murzayev Ye.M, “sredney Aziya ocherki prirodo’ ”. Moskva 1961 g.

8. Rahimbekov R.U, Donsova Z.N “O‘rta Osiyo tabiatini geografik o‘rganish tarixi”. Toshkent. “O‘qituvchi” 1982 yil
9. Qoriyev I.V, “O‘rta Osiyo tabiiy geografiyasi”. Toshkent. “O‘qituvchi” 1968 yil.
10. Nazarov X.T, Qarshiboyeva Sh.G’, “Tog‘ oldi yaylovlarida cho‘llanishning oqibatlari va ekologik holatini optimallashtirish yo‘llari” Maqola. Nukus-2021 yil.

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СУЩНОСТЬ СИСТЕМЫ И СТРАТЕГИИ РАЗВИТИЯ ПОТЕНЦИАЛА ПЕРСОНАЛА

Аннотация. *В современных условиях деятельности предприятий значительно возросла роль человеческого фактора, который, наряду с технологиями и информацией, во многом определяет их эффективность и конкурентоспособность. Данная статья посвящена сущности системы развития потенциала сотрудников.*

Ключевые слова. *Предприятия, эффективность и конкурентоспособность, стратегия, ученый-экономист, параметры, управление, рыночная экономика, потребности, хлопково-текстильные кластеры, собственники.*

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THE ESSENCE OF THE SYSTEM AND STRATEGY OF DEVELOPING STAFF POTENTIAL

Abstract. *In the modern conditions of enterprises, the role of the human factor has significantly increased, which, along with technology and information, largely determines their efficiency and competitiveness. This article is devoted to the essence of the system of developing employee potential.*

Keywords. *Enterprises, efficiency and competitiveness, strategy, economist, parameters, management, market economy, needs, cotton-textile clusters, owners.*

Рост предприимчивости и спроса за последние тридцать лет привел к тому, что руководители предприятий взяли на себя ответственность за обновление квалификации своих сотрудников.

Среди зарубежных ученых-экономистов, внесших значительный вклад в развитие научных основ стратегического управления, можно отметить следующих: Р. Акофф, И. Ансофф, П. Друкер, Б. Карлоф, У. Кинг, Д. Клиланд, Г. Минцберг, М. Мескон, М. Портер, Г. Саймон, А. Стрикленд, А. Томпсон, Д. Хан, Ф. Хедоури и другие.

Теория стратегического управления всесторонне изучена учеными СНГ О.С. Виханским, Г.Б. Клейнером, Б.Г. Литваком, Ю.А. Маленковым, А.И. Наумовым, А.В. Тебекиным, Р.А. Фатхутдиновым, Л.С. Шеховцевой и другими.

Из ученых нашей республики этот вопрос исследовали С.С.Гулямов, А.Ш.Бекмуродов, Н.К.Юлдашев, М.А.Икрамов, Н.М.Махмудов, Ш.Д.Эргашходжаева и другие.

В настоящее время учеными создан ряд определений, направленных на определение конкретных аспектов и особенностей стратегического управления: параметров организационной среды, долгосрочных целей и путей их достижения или деятельности предприятия.

В частности, Л.С.Шеховцева определяет стратегическое управление как "специальную деятельность по разработке целей и путей их достижения, обеспечивающих конкурентное преимущество в нестабильной внешней среде путем изменения предприятия и его внешней среды." Таким образом, стратегическое управление - это процесс разработки и реализации стратегии предприятия в условиях конкуренции[1].

Проблема развития трудового потенциала не менее важна, чем уровень потенциала конкретного работника.

В настоящее время нельзя допустить, чтобы действия предприятий и их менеджеров в динамичной рыночной среде просто реагировали на изменения. Необходимо признать необходимость предвидения изменений, их регулирования и сознательного управления на основе научно обоснованного порядка адаптации к целям предприятия и изменения внешних условий. Именно хлопково-текстильным кластерам необходимо будет сформировать способность адаптироваться к изменениям внешней среды, способной противостоять жесткой конкуренции в условиях рыночной экономики. [4]

Современным инструментом управления развитием предприятия с точки зрения изменения внешней среды и связанной с этим неопределенности является методология стратегического управления.

В современных условиях уровень самостоятельности и ответственности предприятий значительно возрос. Большая часть решений, связанных с производством, реализацией продукции, а также коммуникацией с поставщиками и клиентами, будет делегирована предприятиям. Появляются и новые факторы, такие как возникновение и усиление новых форм конкуренции, постоянные изменения в поведении поставщиков и потребителей, конфликты интересов между собственниками, внедрение новых бизнес-моделей. Поэтому хлопково-текстильный кластер сам несет ответственность за свое развитие и создание ресурсов, позволяющих ему удовлетворять потребности сообществ и отдельных лиц.

Практика показывает, что предприятия, реализующие комплексное стратегическое планирование и управление, работают успешно и получают прибыль, значительно превышающую среднюю по отрасли. Сегодня многие менеджеры не используют свой потенциал эффективно из-за попыток охватить широкий потребительский рынок путем создания новых видов продукции, не учитывая свои возможности при постановке целей посредством стратегического планирования. По нашему мнению, достижение успеха требует разработки целенаправленных стратегий развития,

направленных на достижение баланса целей и возможностей. Другими словами, те, кто разрабатывает собственные продуманные стратегии и обеспечивает их успешную реализацию, быстрее достигают своих целей.

Слово «стратегия» означает «искусство расстановки солдат в бою».

Базовым понятием стратегического управления является понятие «стратегия». Стратегия часто понимается как долгосрочный план высшего руководства по достижению долгосрочных целей предприятия [5]. Некоторые авторы предполагают, что это долгосрочные намерения руководителей бизнеса в отношении производства, маркетинга и продаж, доходов и расходов или капиталовложений. Следует отметить, что концепция и понимание «стратегии» менялись вместе с эволюцией бизнес-среды.

Достаточно сложные экономические условия, сложившиеся в начале 1980-х годов, и изменения на западноевропейских предприятиях способствовали прогрессивному развитию теории управления персоналом и появлению нового подхода к работникам предприятий. В 1990-х годах общая парадигма управления в теории управления предприятием изменилась. Сотрудники стали рассматриваться в первую очередь как главный ресурс всего предприятия, определяющий его успех. При этом еще больше возросло внимание к стратегическим вопросам управления предприятием.

Полученные данные свидетельствуют о том, что переход от концепции «сотрудник-затраты» к концепции «сотрудник-ресурсы» привел к необходимости внедрения стратегического управления потенциалом сотрудников путем формирования взгляда на сотрудников как на важный фактор достижения стратегических целей. [6]

Жизнеспособность предприятий зависит, прежде всего, от того, имеют ли они собственную стратегию, а также от того, могут ли они последовательно реализовывать эту стратегию на практике посредством конкретных мер.

Неопределенность будущего, нестабильность рынка и возрастающая сложность управления заставляют предприятия тщательно изучать и пытаться реализовать различные варианты стратегического развития. Стратегическое мышление в этой области претерпело существенные изменения за последние годы, особенно в связи с ухудшением экономической ситуации как в Западной Европе, так и в нашей стране.

Термин «стратегическое управление» был введен в практику в 1960–1970-х годах на основе разграничения текущего и высшего управления на уровне производства [7].

Изменения, происходящие в экономике и политике на различных уровнях власти, с одной стороны, создают большие возможности для развития личности, но с другой стороны, несут серьезную угрозу стабильности человеческого существования и вносят в его жизнь значительную долю неопределенности.

Хотя рынок создает гибкую систему мотивационных механизмов для интенсивного и высокопроизводительного труда, он не гарантирует права на труд, доход, образование, социальную защиту, здравоохранение и другие.

Сегодня снижается уровень государственных гарантий занятости и социальной защиты, заметно ослабевает государственная поддержка повышения профессиональной квалификации, укрепления здоровья, решения бытовых проблем. В таких условиях уровень социальной устойчивости отдельных работников, а также социально-профессиональных групп, работающих на реформируемом рынке труда (внутри и вне предприятия), определяемый, прежде всего, уровнем их конкурентоспособности, во многом зависит от развития тех или иных качественных характеристик трудового потенциала работников [8].

Высокий уровень конкурентоспособности работников, с одной стороны, является одним из условий эффективной деятельности предприятия. С другой стороны, он обеспечивает своим владельцам определенную степень личной экономической безопасности и социальной стабильности. Эффективные, конкурентоспособные предприятия являются главным фактором укрепления экономики государства, что, в свою очередь, является основой экономической безопасности страны. Таким образом, задача развития трудового потенциала лежит не только в сфере трудовых отношений, но и напрямую связана с проблемой национальной безопасности.

Трудовой потенциал является субъективным фактором обеспечения экономической составляющей национальной безопасности страны. Эта составляющая (как и любая другая: экологическая, военная, технологическая, внутренняя и внешняя политика) базируется на двух аспектах:

- объективный, в зависимости от финансовых и технических возможностей;

- человеческий фактор, субъективный, связанный с уровнем развития и уровнем использования трудового потенциала людей, работающих в соответствующей сфере [9].

В целом низкий уровень развития трудового потенциала, его неиспользование или нерациональное использование в той или иной степени оказывают не меньшее влияние на экономические интересы и национальную безопасность, чем стихийные бедствия, глобальные и транснациональные угрозы. Проблема развития трудовой компетентности не только весьма актуальна, но и весьма сложна с теоретической и методической точки зрения.

Здесь решающую роль играет стратегия компании по развитию своих сотрудников.

Развитие человеческих ресурсов включает в себя повышение квалификации специалистов в области их профессиональной деятельности, а также расширение их кругозора и возможностей. По нашему мнению, развитие персонала — это направление социальных программ предприятия, реализуемое в рамках бизнес-стратегии по привлечению и удержанию профессиональных и квалифицированных сотрудников. Стратегия бизнеса определяет рыночные и финансовые приоритеты, а также направление развития предприятия [10].

В рыночных условиях становится все более очевидным, что производительность труда, мотивация и креативность сотрудников являются важнейшими конкурентными преимуществами, определяющими успешность стратегии, направленной в первую очередь на увеличение стоимости предприятия. В этой связи стратегия развития человеческих ресурсов представляет собой набор конкретных приоритетных направлений инвестирования в человеческий капитал.

Стратегический подход к развитию потенциала работников предприятия – это подход, направленный на обеспечение устойчивого конкурентного преимущества предприятия за счет повышения конкурентоспособности персонала и обеспечения его долгосрочного профессионального роста и развития [11].

Стратегия развития человеческих ресурсов представляет собой комплексную модель действий, направленных на формирование набора требований к работникам и уровня их эффективности, необходимого для достижения предприятием своих бизнес-целей [12].

По западным оценкам, только 5% предпринимателей разрабатывают и реализуют собственную стратегию, тем самым получая прибыль выше средней, у остальных же такой стратегии нет. [13]

Отношение к человеческим ресурсам существенно изменилось за последние десятилетия. Широкое использование таких понятий, как управление персоналом, кадровый менеджмент, стратегия развития персонала, свидетельствует о том, что кадровая проблема является частью общей системы организационного управления предприятием и тесно связана с другими элементами управления (постановкой бизнес-целей предприятия, разработкой стратегии, планированием, организацией, контролем и т. д.).

Использованные источники:

1. Шеховцева Л.С. Стратегический менеджмент: учебное пособие / Л.С. Шеховцева. – Калининград: Изд-во РГУ им. И. Канта, 2006. – 153 с.
2. Фатхутдинов Р.А. Стратегический менеджмент: учебник / Р.А. Фатхутдинов. - 7-е изд., исправленное и дополненное. - М.: Дело, 2005. - 448 с.
3. Овчаренко Н. А. Основы экономики, менеджмента и маркетинга. Учебник для бакалавров. — М.: Дашков и Ко, 2020. -162 с.
4. Н.Таджибаева. ПАХТА-ТЎҚИМАЧИЛИК КЛАСТЕРЛАРИ ХОДИМЛАРИ САЛОҲИЯТИНИ РИВОЖЛАНТИРИШ СТРАТЕГИЯСИНИ АМАЛИЁТГА ҚЎЛЛАШ САМАРАДОРЛИГИ. //Экономика и образование//, Страницы 188-192. 2021.
5. Н Таджибаева. ПАХТА ТОЗАЛАШ КОРХОНАЛАРИ ХОДИМЛАРИНИ РИВОЖЛАНТИРИШ СТРАТЕГИЯСИНИ ШАКЛЛАНТИРИШНИ ТАКОМИЛЛАШТИРИШ //Экономика и образование//, Страницы 66-70. 2021.
6. N Tojibaeva. ENSURING FINANCIAL SUSTAINABILITY OF FARMS IN UZBEKISTAN. //Экономика и социум//, Страницы 271-275. 2020.

7. Тожибоева Н.Р. Пахтани қайта ишлаш корхоналари ходимлари ривожланиши стратегиясини амалиётга қўллаш самарадорлиги. // Иқтисодиёт ва таълим. – Тошкент. – №6. – 2021. – Б. 29-34..
8. Tadjibayeva N.R. The creation organizational and economic models of the employee development strategies of cotton factory. // International Scientific Journal ISJ Theoretical Applied Science Philadelphia, USA issue 09, volume 101 published September 22, 2021. (5) GIF (0.564), (23) Impact Factor (SJIF 2021:7.184).http://www.t-science.org/arxivDOI/2021/09-101/PDF/09-101-46.pdf.
9. Тожибоева Н.Р. Пахта тўқимачилик кластерлари ходимлари салоҳиятини баҳолаш. // International Journal for Miasto Przyszłości Kielce 2022. Impact Factor:9.2 ISSN-L 2544-980X Vol.25(2022) https://miastoprzyszlosci.com.pl/index.php/mp/article/view/276 Б. 11-13.
10. Тожибоева Н.Р. Пахта-тўқимачилик кластерлари ходимлари ривожланиши стратегиясини амалга ошириш тадбирлари. // International scientific conference “Pedagogical sciences and teaching methods". – Copenhagen, on 15 november, 2021. – P.146-154.
11. Тожибоева Н.Р. Пахта тозалаш корхоналарида гендер сиёсати доирасида ходимлари ривожланиши стратегиясини амалиётга қўллаш. // «Минтақанинг ижтимоий-иқтисодий ривожланишининг гендер жиҳатла-рини тартибга солишнинг ташкилий-иқтисодий механизми» мавзусида халқаро илмий-амалий анжуман тезислари тўплами. – Андижон: АндДУ 15 май 2021 йил. – Б.57-60.
12. Тожибоева Н.Р. Пахта тозалаш саноати ходимлари меҳнат салоҳияти ривожланишини бошқаришнинг концепциялари. // “Фан, таълим, ишлаб чиқариш интеграциялашуви шароитида пахта тозалаш, тўқимачилик, енгил саноат, матбаа ишлаб чиқариш инновацион технологиялари долзарб муаммолари ва уларнинг ечими” мавзусидаги Республика илмий – амалий анжумани. II-қисм. III, IV-шўъбалар (21-22 апрель). – Тошкент, ТТЕСИ, 2021. – Б.375-378.
13. Тожибоева Н.Р. Пахта тозалаш корхонасини бошқариш тизимида ходимларни ривожлантириш стратегиясининг ташкилий-иқтисодий моделини яратиш. // “Рақамли иқтисодиёт шароитида ижтимоий ҳимоялаш механизмини такомиллаштириш” мавзусидаги республика илмий-амалий (онлайн) анжуман мақолалар тўплами. – Андижон: АндМИ. 26-27 апрель 2021. –Б. 286-289.

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БЕРИЛГАН ДОИРАГА ТЕНГДОШ ЁКИ ТЕНГ ЮЗАЛИ КВАДРАТ ЯСАШ

Аннотация. *Ушбу мақола геометрик масалаларни ечиш усулларига бағишланган бўлиб, берилган доирага тенг юзали квадратлар ясашга кўрилган. Шунингдек қадимги Европа ва ўрта Осиё олимлари масалалари таҳлил қилинган.*

Калит сўзлар. *Доира, юза, циркуль, чизғич, квадрат, айлана квадратураси, ирроционал ёки трансендент сон, алгебраик тенглама, айланага тенг квадрат, айлана юзаси, тўғри бурчакли учбурчак, тўртбурчак, трапеция, сегмент, сектор, айлана узунлиги, кўпбурчак, қадимги Европа ва Ўрта Осиё олимлари.*

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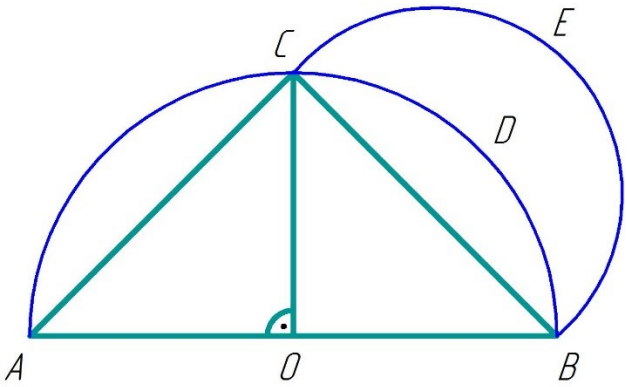
CONSTRUCTION OF A SQUARE EQUAL TO THE AREA OR EQUATING TO A GIVEN CIRCLE

Annotation. *This article is enlightened by the method of solving geometric problems, the construction of a square equal to the area of a given circle. The tasks of ancient scientists of Europe and Central Asia are also analyzed.*

Key words. *Circle, area, compass, ruler, quadrature of a circle, irrational or transcendental numbers, algebraic equations, square of an equal circle, area of a circle, right triangle, quadrilateral, trapezoid, segment, sector, length of a circle, polygon, ancient scientists of Europe and Central Asia.*

Масалага тўлиқ аниқлик киритиш учун уни қуйидагича мазмунда ифодалаш мумкин. Берилган доира юзасига тенг бўлган квадрат ясаш. Доира квадратураси масаласига оид бўлиб, у ясашга доир масалалар туркумига киради [21.]. Қадимги греклар фақат циркуль ва чизғич ёрдамида ясалиб ечиладиган масалаларни ясашга доир масалалар ҳисоблаганлар ҳамда шу усул билан кўпгина геометрик масалалар ечилган. Агар бирор геометрик масала бирор бошқа воситалар ёрдамида ечилса, уни ясашга доир масалалар туркумига киритмаганлар. Аммо айрим грек олимлари бу масалаларни бошқа воситалар қўллаш билан ечимини топишга ҳаракат қилганлар. Масалани

доира квадратураси масаласини Гиппократ Хиосский (эр. авв. V аср) қуйидагича ечган. Гиппократ OCB сектор юзини CB томонга чизилган CBE ярим доира юзига тенглигини исботлади (1-чизма).



1-чизма

Агар OCB сектор ва CEB ярим доира юзларидан CBD юзани айрилса, OBC тўғри бурчакли учбурчак юзи CDBE ойча юзига тенг бўлади. Бу шаклларни барчасини циркуль ва чизғич ёрдамида ясаш мумкин. Аммо ΔOBC квадратнинг бир бўлаги OCA унинг иккинчи бўлаги деб қабул қилинса, CDBE ойча билан иккинчи ойча битта айланани ташкил қиладими?

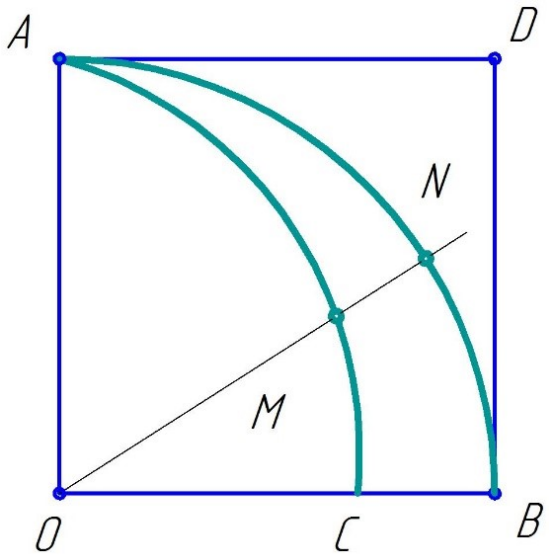
Гиппократнинг бу кашфиёти ҳам айлана ёйлари билан чегараланган ойчалар юзаларини аниқлаш мумкинлиги грек геометрларига циркуль ва чизғич ёрдамида айлана квадтратриссасини ясаш мумкинлиги тўғрисида ишонч туғдиради. Аммо унинг кашфиётини қадимги грек тарихчи математики Эвдем Родосский ва Аристотел танқидига учраган.

Қадимги грек олимларининг уринишлари билан айлана квадратураси масаласи ечилмади. Худди шунингдек, кубни иккилантириш ва бурчак трисекцияси масалалари ҳам циркуль ва чизғич орқали ясашга доир масала сингари ечилмади.

Бизнинг асримизда ҳам жуда кўп олимлар бу масалалар билан шуғулланди. Аммо натижага эриша олмадилар. Юқорида келтирилган учта қадимий масала циркуль ва чизғич ёрдамида ечиш мумкин эмаслигини Европанинг айрим олимлари математик усуллар билан исботлаганлар.

1755 йилда Париж Академияси айлана квадратураси масаласини ечилишини йиғилишларида кўрилмаслиги ҳақида қарор қабул қилган. Шундан сўнг бу масала билан шуғулланувчи олимлар анча камайди. Агар P радиусли айлана берилган бўлса, унга тенгдош квадратнинг томони X деб олинса, $X^2 = \pi \cdot R^2$ (1) бўлади. Бундан $X = R \cdot \sqrt{\pi}$ (2) бўлади, R билан бирор бутун ёки каср сон кўпайтмасини циркуль ва чизғич ёрдамида ясаш ҳамма вақт мумкун. Аммо $R \cdot \sqrt{\pi}$ ёрдамида ясашлар бажариш мумкин эмас. 1761 - йилда π сонини иррационал сон эканлигини немис олими И.Ламберт исботлади. Сўнгра француз математики А.Лежандр ҳам π сонини, иррационал 1882 - йилда немис математики Ферденонд Линдеман π сонини трансендент сон эканлигини R билан бирор иррационал ёки трансендент сон

кўпайтмасини ясаш мумкин эмаслигини исботлади, π сонини коэффицентлари бутун сонлар бўлган бирор алгебраик тенгламанинг илдизи бўлмаслигини, математик олимлар томонидан исботланди. Айлана квадратураси масаласини ечишда $R \cdot \sqrt{\pi}$ кесмани ясаш учун π сонига тенг кесма ясашга тўғри келади. π сони трантсендент сон бўлгани учун уни циркуль ва чизғич ёрдамида ясаш мумкин эмас. Шунинг учун қўшимча воситалардан фойдаланиб, Диностратт (IV э.а.) квадратница ёрдамида қуйидагича ечган.



2 - чизма

ANB айлананинг чорак бўлаги AOBD квадратга жойлашган бўлиб (2-чизма) AMC эса квадратнинг квадратураси бўлсин. Диностратт Папп Александрийский исботлаган ANB:OB=OB:OC нисбатдан фойдаланиб OA=OB=R бўлганидан ANB:R=R:OC бўлиб, бундан $ANB = R^2/OC$ бўлади. Бунда R радиуси айлана узунлиги $4R^2 : OC$ га тенг бўлади 2-чизма. Династратт берилган айланага тенг квадрат ясаш учун қуйидаги теоремадан фойдаланган.

Айлана юзаси шундай учбурчакнинг юзига тенгки, унинг асоси айлана узунлигига, баландлиги эса айлана радиусига тенгдир.

π сони ҳақида. Айлана юзига тенг квадрат ясашда квадратнинг томони $x = R \cdot \sqrt{\pi}$ бўлгани учун π сони ҳақида қуйидаги маълумотларни келтирамиз. Эрамиздан аввалги II асрда мисрликларнинг тадқиқотларига асосан айлана юзига тахминан тенг квадратнинг томони айлана юзининг 9 дан 8 диаметрининг квадратига тенг. Яъни $S_{ay} = (\frac{8}{9} \cdot d)^2$ бундан $\pi = (\frac{8}{9} \cdot 2)^2 = 3{,}16$ бўлади. Айлана квадратураси масаласини ечишда Архимеднинг хизматлари катта бўлган. Унинг айлана квадратурасига бағишланган “Айланани ўлчаш” рисоласи билан геометрия фанига жуда катта ҳисса қўшган олимдир. Бу рисолада Архимед қуйидаги учта теоремани исботлади.

1. Айлананинг юзи шундай тўғри бурчакли учбурчак юзига тенгки, унинг бир катети айлана узинлигига, иккинчиси айлана радиусига тенг бўлади.

2. Айлананинг юзи унинг диаметрига қурилган квадрат юзига нисбати 11:14 тенг бўлади.

3. Айлананинг узунлиги унинг диаметридан 3 марта ошиқ бўлиб, еттидан бир кичик ва етмишдан 10 марта катта бўлади.

3-теореманинг мазмунини символиклар билан қуйидагича ёзамиз.

$C - 3 \cdot D < \frac{1}{7} \cdot D$ ва $C - 3 \cdot D < \frac{10}{70} \cdot D$. Бунда C – айлана узунлиги, D – айлана диаметри, бундан $\frac{10}{71} \cdot D < C - 3 \cdot D < \frac{1}{7} \cdot D$ ёки $3\frac{10}{71} < \frac{C}{D} < 3\frac{1}{7}$, демак, $3\frac{10}{71} < \pi < 3\frac{1}{7}$ бўлади. π – нинг юқори $3\frac{1}{7}$ ва қуйи $3\frac{10}{71}$ чегараларини аниқлаш учун Архимед айланага ташқи ва ички чизилган мунтазам кўп бурчаклар периметрларини айлана диаметрига нисбати билан аниқлайди. Бунда Архимед 6 бурчакдан 96 бурчаккача текшириб кўради ва нинг юқори чегараси $\pi = \frac{22}{7} = 3{,}14285\ldots$ бўлганини аниқлайди. Айлананинг тахминий квадратураси билан қадимги грек олимларидан Клавдия Птоломей ҳам шуғулланган. Птоломей ўзининг “Алмагест” асарида синуслар учун жадвал тузишда 60 лик ҳисоблаш системасидан фойдаланиб, π нинг қийматини 3,8’,30” га тенглигини хисоблайди. Бунда $\pi = 3{,}8', 30'' = 3 + \frac{8}{60} + \frac{30}{3600} = 3\frac{7}{120} = 3{,}14167\ldots$ Птоломейнинг π сонини аниқлаш қиймати Архимедникидан аниқроқдир.

Айлананинг тахминий квадратураси ҳақида қадимги Хитойликлар тадқиқотлари.

Бизнинг эрамизнинг бошларида хитойликлар томонидан “Математика”га доир “Тўққиз китобли” рисоласи яратилган. Бу рисоланинг биринчи китоби “Майдонларни ўлчаш” деб номланиб, унда тўртбурчак, учбурчак, трапеция, айлана, сегмент, сектор ва халқа каби геометрик шаклдаги майдонларнинг юзаларини ҳисоблашга тегишли масалалар келтирилган. Хитойликлар айлана, сектор ва халқаларни ҳисоблашда $\pi = 3$ деб олганлар. Айланма ерлар юзасини ҳисоблашда қадимги хитойликлар қуйидаги қоидалардан фойдаланганлар. Айлана узунлиги ярмини диаметр ярмига кўпайтириш билан. Демак, $S = \frac{1}{2}C \cdot \frac{d}{2}$ бунда C – айлана узунлиги, d – унинг диаметри. Айлана узунлигини диаметрга кўпайтириб тўртга бўлиш билан. Демак, $S = \frac{cd}{4}$. Диаметрни ўзига кўпайтириб, тўртга бўлиш ва учга кўпайтириш билан. Демак, $S = \frac{d^2}{4} \cdot 3 = \frac{3}{4}d^2$. II асрда Хитойлик математик Чжан Хен $\pi = \sqrt{10}$ га тенглигини аниқлайди. π нинг бу қийматидан Ҳиндистонлик математик Брамагупта ўз тадқиқотларида фойдаланади. III

асрда Хитойлик математик Лю Хуэй айланага ички чизилган 192 томонли мунтазам кўпбурчак чизиш билан $= \frac{157}{50} = 3{,}14$эканлигини исботлайди.

Айлананинг тахминий квадратураси ҳақидаги Қадимги ҳинд олимлари тадқиқотлари.

Ҳиндларнинг “Силва-сутри” яъни “Иплар қоидаси” геометрик асарида айлана квадратураси тўғрисида қуйидаги маълумотлар келтирилган. Рисолада айлана диаметрини 15 та тенг бўлакларга бўлиб, унинг 13 та бўлагини айланага тенг бўлган квадратнинг томони деб қабул қилиш керак дейилган. Демак, $\pi = \frac{676}{225} = 3{,}00(4)$ бўлади. Яъни бунда S – айлана узунлиги, R – айлана радиуси бўлганида $S = (\frac{2\cdot R}{15} \cdot 13)^2 = (\frac{13}{15})^2 \cdot R^2,\ \pi = (\frac{13}{15})^2 = (\frac{676}{225})^2 = 3{,}00(4)$ бўлади. Ҳиндистонлик олимлар астрономия фанидан айлана квадратураси бўйича олиб борилган, тақрибий тадқиқотларида айланани ва уни бир бўлагини тўғирлаш (тўғри чизиққа жойлаштириш) бўйича шуғулланганлар. Шу сабабли π нинг турли қийматларини яратган. Масалан, VI асрда кўзга кўринган ҳинд математиклардан Ариабхата ўзининг “Ариабхатиам” астрономия-математика асарида π нинг қийматини қуйидагича қоидаси асосида келтирган.

$\frac{(100+4)\cdot 8+62000}{20000} = \pi$, 4 га 100 ни қўш, 8 га кўпайтир, 62000 ни қўшсанг бу диаметри 20000 га тенг бўлган айлана узунлиги бўлади.

$\frac{(100+4)\cdot 8+62000}{20000} = \pi,\quad \pi = \frac{62832}{20000} = 3{,}1414.$

VII асрда Ҳиндистон математикларидан бири Брамагупта π нинг иккита $\pi = 3$ ва $\pi = \sqrt{10}$ тахминий қийматларини тавсия этган. XII асрнинг биринчи ярмида Ҳиндистоннинг кўзга кўринган математикларидан Бхаскара-Акария ўзининг “Сидданта-сирамани” (Венес Тизийлари) астрономик-математик асарида $\pi = \frac{3927}{1250}$касрли қийматни келтиради. У π нинг бу қиймати Архимед келтирган $\pi = 3\frac{1}{7}$ қийматдан аниқроқ эканини айтади. Бхаскара π нинг тахминий қийматини аниқроқ топиш учун $S_{2n} = \sqrt{2r^2 - 2\sqrt{r^2 - S_n^2}}$ формуладан фойдаланган. Бунга S_{2n} - айланага ички чизилган 2n мунтазам кўп, бурчак томони, S_n - радиусли айланага ички чизилган n бурчакли мунтазам кўпбурчак томони.

Айлананинг тахминий квадратураси ҳақида Ўрта Осиё олимларининг тадқиқотлари.

Ўрта Осиё математиклари жаҳон математикасига катта ҳисса қўшган олимлар ҳисобланади. Улар асосан илмий математика фанларидан астрономия, алгебра, (тригонометрия, геометрия фанларини ривожлантиришда ва маълум бир тизимга солишга уларнинг роли катта бўлган. IX ва XVI асрларда араб халифалигига қарашли мамлакатлардан Ўрта

Осиё мамлакатлари биринчи ўринда турганлар. Ўрта Осиё минтақасидан ўзбеклар, тожиклар ва эронликларнинг астрономия, математика, геодезия ва бошқа фанларини ривожлантиришда хизматлари каттадир.

Ўрта Осиё математикларидан айлана квадратураси билан шуғулланган олим Хоразмда туғилган Муҳаммад ибн Мусо ал Хоразмий бўлган. Алгебра фанини яратган Ал Хоразмий Ўрта Осиёликларни ва Европаликларни, грек ва ҳиндистонликлар яратган π сони ҳақидаги муҳим маълумотлар билан биринчи бўлиб таништирган олимдир. Хоразмий Архимеднинг тадқиқотлари ва $\pi = 3\frac{1}{7}$ сони билан кўпчилик тадқиқотчиларни таништиради. Ҳиндистон олимлари кашф қилган $\pi = \sqrt{10}$ ва $\pi = \frac{62832}{20000}$ қийматлари π XV асрда айлана тахминий квадратураси билан Эрон математики Жамшид Ғиёсиддин ал Коший шуғулланган. Бу ҳақдаги маълумотларни у “Айлана ҳақида рисола” сида 2π нинг 17 та ўнли белгилари билан қуйидагича келтиради $2\pi = 6{,}2831853071795865$. π нинг бу қиймати ҳақиқатга анча яқиндир.

Использованные источники:

1. Муродов Ш.К., Тошимов Н.Э. “График тасвирлаш асослари (графика тарихи)”, “Навруз нашриёти”., Тошкент 2013 й.
2. Муродов Ш.К., Урушев А., Тошимов Н.Э., “Оддий геометрик ясашлар ҳақида”. Жайхун 2010 й, 2 – соп.
3. Отажонов Р.К. “Геометрик ясаш методлари” – Т. Ўқитувчи, 1965 й.
4. Чистяков В.Д. “Три знаменительные задачи древности” – М: Госучебнопедагогическое издательства., 1963 г.
5. WWW.edu.uz

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УПРАВЛЕНИЯ КОМПЛЕКСОМ ИНФОРМАЦИОННЫХ УСЛУГ В ЭЛЕКТРОННОЙ КОММЕРЦИИ

Аннотация: *В статье обоснован приоритет информационно-сервисного направления эволюции современной экономической структуры, в котором концептуально важным является развитие сферы услуг интернет-экономики, сущность электронной коммерции описывает особый вид экономической деятельности в сфере услуг, характеризующийся виртуальной сервисной средой.*

Ключевые слова: *Инфраструктура, электронный рынок, функциональная модель, электронная коммерция, конвергенция, метаинформационный сервис, информационно-торговых услуг, экстернализация информационных услуг.*

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MANAGEMENT OF A COMPLEX OF INFORMATION SERVICES IN E-COMMERCE

Abstract: *The article substantiates the priority of the information and service direction of the evolution of the modern economic structure, in which the development of the service sector of the Internet economy is conceptually important; the essence of electronic commerce describes a special type of economic activity in the service sector, characterized by a virtual service environment.*

Keywords: *Infrastructure, electronic market, functional model, electronic commerce, convergence, meta-information service, information and trading services, externalization of information services.*

ВВЕДЕНИЕ

В условиях стремительного развития цифровых технологий и глобализации экономики, электронная коммерция становится важным элементом современного бизнеса. Одним из ключевых факторов её успешного функционирования является управление комплексом информационных услуг. Этот аспект обеспечивает эффективное взаимодействие всех участников электронной коммерции, включая продавцов, покупателей и партнёров. В данной статье рассмотрены основные принципы и методы управления информационными услугами в электронной коммерции, а также их роль в повышении эффективности и конкурентоспособности бизнеса.

В течение последних семи десятилетий наблюдается активное развитие информационного рынка. На порядок увеличились объем и интенсивность информационных потоков в социально-экономических системах, появились новые возможности оперативной передачи данных на расстоянии, а также способы хранения и обработки информации. Радикальным открытием являются технологии глобальной сети Интернет. В настоящее время мы наблюдаем существенные трансформации форм и методов ведения хозяйственной деятельности, вызванные новыми возможностями управления бизнес-процессами, информационного субъект- субъектного взаимодействия, осуществления коммерческих транзакций в электронной среде. Зарубежными и отечественными учеными информационно-сервисная экономика признана одним из перспективных направлений развития неоэкономики.

ЛИТЕРАТУРНЫЙ ОБЗОР

Управление информационными услугами в электронной коммерции привлекает внимание многих исследователей. Как отмечают Котлер и Армстронг (2020), информационные технологии являются основой для создания инновационных бизнес-моделей и стратегий. Важным аспектом является управление данными, которые создаются и обрабатываются в электронной коммерции (Брайсон, 2018). Это включает в себя работу с большими данными, управление облачными сервисами, а также интеграцию различных информационных систем. Управление комплексом таких услуг требует глубокого понимания технологических, организационных и экономических аспектов (Харрис, 2019).

МЕТОДОЛОГИЯ

В ходе исследования использовались различные методы, включая наблюдение, выборку, а также научно-теоретические и эмпирические методы. Эти методы позволили глубже понять особенности и вызовы, с которыми сталкиваются производственные предприятия в процессе адаптации к электронной коммерции. Анализ опыта международных компаний помог выявить лучшие практики, которые можно применить в Узбекистане для улучшения процессов электронной коммерции.

Международный опыт, наряду с практическими разработками, был изучен для выявления тенденций и стратегий, которые могут быть адаптированы к условиям узбекской экономики. Это позволило предложить современные технологические решения для разработки моделей адаптации продукции производственных предприятий к процессам электронной коммерции.

С помощью метода моделирования разработан ряд моделей, направленных на совершенствование процессов электронной коммерции для производственных предприятий. Эти модели охватывают все ключевые этапы – от получения заказа до его доставки клиенту. Модели были адаптированы для учёта особенностей узбекских производственных предприятий и включают в себя использование современных информационных технологий,

таких как облачные вычисления, искусственный интеллект и автоматизация бизнес-процессов.

АНАЛИЗ И РЕЗУЛЬТАТЫ

Исследования свидетельствуют о высоких темпах роста электронной коммерции во всем мире. Стабильная положительная динамика отрасли привлекает все новых участников, ориентированных на инновационные решения и новые формы ведения бизнеса.

В развитии современной экономики важную роль играет возрастающая ценность информации, которая выступает в качестве экономического ресурса, товара, фактора снижения рыночной неопределенности. В настоящее время тенденции эволюционных изменений экономического уклада во многом обусловлены научными открытиями и инновациями в сфере информационных технологий. Перспективные возможности аккумулирования и обработки большого объема данных создали предпосылки интеллектуализации управления экономическими системами, сформировались абсолютно новые рынки информационных продуктов и услуг, компьютерной техники. Радикальным открытием XXв. является информационно-коммуникационная сеть Интернет, изменившая не только формы социального взаимодействия, но и способствующая формированию глобальной информационно-технологической (ИТ) инфраструктуры бизнеса. В данном аспекте принципиальными изменениями в экономическом развитии, на наш взгляд, являются: увеличение степени влияния информационного фактора (фактора знаний) на экономический рост и производительность труда; активное вовлечение экономических агентов в новые сетевые взаимоотношения и трансформация принципов ведения бизнеса; возникновение экономических форм хозяйствования, способных к самоорганизации и гибкому ресурсному обеспечению на основе аутсорсинга.

Статистика свидетельствует о динамике роста показателей оценки активности использования Интернета как жителями РУз, так и организациями (таблицы 1, 2). В 2023 г. более 69% домашних хозяйств имели доступ к сети Интернет, а удельный вес постоянных пользователей Интернета среди членов домашних хозяйств составил 48,5%.

Таблица 1 - Показатели оценки активности использования Интернета жителями РУз[6263]

В процентах

Показатель	2020 г.	2021 г.	2022 г.	2023 г.
Доля домохозяйств, имеющих компьютер, в общем числе домохозяйств	54,5	60,1	66,5	69,9
Удельный вес домашних хозяйств, имеющих доступ к сети Интернет, в общем числе домашних хозяйств	48,4	56,8	60,3	69,1
Удельный вес постоянных (более одного раза в неделю) пользователей Интернета среди членов домашних хозяйств	29,5	37,4	43,8	48,5
Доля населения, использующего доступ к сети Интернет с целью поиска информации о товарах и услугах для по- вседневной жизни, заказа товаров, бронирования мест, подачи собственных объявлений о продаже личных вещей и имущества, ко всем домохозяйствам	16,7	21,5	26,7	31,7

Таблица 2 - Оценка степени использования Интернета и интернет-ресурсов организациями в РУз[64]

Показатель	2020 г.	2021 г.	2022 г.	2023 г.
Доля организаций, использовавших Интернет	82,4	84,8	86,9	88,1
Доля организаций, имевших веб-сайты	28,5	33,0	37,8	41,3
Доля организаций, имевших действующие информацион-но-справочные терминалы (инфоматы)	2,6	4,2	6,0	6,7
Доля организаций, использовавших электронную почту	81,9	83,1	85,2	86,5

В 2023 г. доля организаций в РУз, использовавших Интернет, превысила 88%. Внедрение в хозяйственную практику опыта использования интернет-сервисов и ресурсов происходит на фоне интенсивной автоматизации бизнес-процессов и развития информационных систем. Специальные программные средства для управления закупками товаров в настоящий момент используют более 38% организаций, программные средства для управления продажами товаров - около 23%; технологии электронного документооборота применяют более 61% организаций в РУз.

Внутренняя логистика: Web-ориентированная информационная система компании; Развитие корпоративных интернет- порталов; Сквозной

[62] https://stat.uz/uz/
[63] Составлено автором на основе данных Агентства по статистике.
[64] https://stat.uz/uz/

внутренний межфункциональный информационный поток; Снижение издержек межфункциональной координации логистики.

Производство (процессы): Интерактивное планирование производственных ресурсов; Гибкие производственные программы, ориентированные на спрос; Визуализация производственных процессов с целью повышения эффективности управления; Дистанционный мониторинг процессов и деятельности.

Внешняя логистика: Единая интерактивная информационная среда цепи поставок; Закупки и продажи посредством электронных торговых систем; Электронный обмен данными; Доступ к специализированным базам данных

- Концепция 5PL; Повышение конкурентоспособности на международных рынках.

Маркетинг и продажи: Глобальный рынок сбыта; Электронные каналы сбыта или omni-каналы; Электронный маркетинг; Продвижение в социальных медиа; Имидж компании; Оптимизация рекламного бюджета; Прямой контакт с целевой аудиторией; Клиенто-ориентированность.

Послепродажное обслуживание: Связь с потребителями через корпоративные интернет-сайты и блоги; Расширенные возможности CRM-систем; Самообслуживание покупателей через web-приложения;

Консультационные и справочные сервисы интернет-сайтов; Online-поддержка обслуживающего персонала.

Таблица 3-Сравнительная характеристика информационных технологических и интеллектуальных услуг[65]

Информационные услуги	
технологические	**интеллектуальные**
При производстве доминирует организа- ционный капитал бизнеса	При производстве доминирует человече- ский капитал бизнеса
Высокая степень стандартизации сервис- ного процесса	Низкая степень стандартизации сервисного процесса
Управление на основе мониторинга метрик, внедрения стандартов, анализа инцидентов	Управление знаниями, интеллектуальными ресурсами, человеческим капиталом компании
Результат обслуживания предсказуем с высокой степенью вероятности	Результат обслуживания уникален, часто превосходит ожидания клиента

[65] составлено автором

Проникновение интернет-технологий активно в сфере услуг, при этом многие традиционные свойства услуг претерпевают значительные трансформации в новой электронной среде. Неосязаемость услуг, отсутствие у них физических характеристик затрудняют их демонстрацию, но современные технологии визуализации и мультимедиа позволяют продемонстрировать процесс оказания услуги, спроектировать ее, что снижает риск неопределенности результата обслуживания и делает более эффективной дифференциацию предложения услуг.

Глобализация социально-экономического пространства расширяет локальный характер предоставления информационных услуг; меняется отношение к основополагающему понятию сервисной деятельности - к контактной зоне, которая сегодня может определяться не только территориальными, но технологическими параметрами.

Среди многообразия информационных услуг особое место занимают электронные информационные услуги, т.е. услуги, предоставляемые в электронной среде. Так как процессы производства и оказания услуг едины, в данном случае наблюдается высокая степень автоматизации и виртуализации сервисной деятельности. Информационные электронные услуги, чаще информационные интернет-услуги (как правило, электронная среда присутствует именно в глобальной сети Интернет) обладают следующими свойствами: это короткий жизненный цикл (в Интернете высокая динамика инновационных процессов), интерактивность, поддержка различных коммуникационных моделей ("один к одному", "один ко многим" и пр.), высокая степень регламентации и технологичность.

Информационные услуги электронного бизнеса направлены на удовлетворение информационных потребностей субъектов, осуществляющих экономическую деятельность в электронной среде (Интернет). Природа бизнес-ориентированных электронных информационных услуг различна: конъюнктурный анализ рынка, обеспечение транзакций в электронной среде, информационное взаимодействие с потребителями, дистанционное обучение сотрудников компаний и пр.

Специфика информационного сервиса электронного бизнеса заключается в том, что данный вид деятельности осуществим только на электронном рынке. Потребителями информационных услуг являются как виртуальные, так и традиционные компании, а также компании, придерживающиеся стратегии мультиканальности (организация как физических, так и электронных каналов сбыта). Информационные услуги либо выступают в качестве электронного товара (не имеющего материальной формы), либо представляют собой неотъемлемую часть физического товара.

Предпосылки формирования природы социально-экономических отношений интернет-экономики заложены в исследованиях М. Кастельса, Дж. Фостера, Э. Тоффлера, К. Келли и других ученых. Если в индустриальной экономике в качестве основной производительной силы рассматривался капитал в денежной и материальной формах, то в информационно-сервисной -

человеческий капитал как экономическая форма знаний и интеллектуальных возможностей их носителей - людей. Интернет-экономика развивается на основе уникальной инфраструктуры, имеющей глобальный характер. Ее основными элементами являются технико-технологический, программный, информационный, инвестиционно-финансовый, человеческий, нормативно-правовой.

Ключевым организационным фактором в интернет-экономике выступает менеджмент, призванный оптимальным образом синтезировать коллективные знания, финансовые и материальные ресурсы компаний. В информационном обществе, являющемся основой информационной экономики, возможности одного субъекта раскрываются через возможности другого, становятся актуальными вопросы самоорганизации субъектов, а кибернетический подход в менеджменте уступает место синергетическому подходу. Доминирующей концепцией управления в интернет-экономике становится субъект-субъектное управление, а традиционные функции менеджмента находят качественно новые формы реализации. На рисунке 3 представлена система факторов развития функциональной модели управления сервисными процессами в электронном бизнесе.

Виртуальные компании, поддерживая открытую информационную политику, добиваются высокой степени прозрачности бизнес-процессов, таким образом снижая уровень энтропии и сопутствующие ей риски. Интернет-бизнес высокотехнологичен, это предопределяет существенную степень формализации инфраструктурных процессов и операционной деятельности. Возможность автоматического мониторинга целевых показателей ориентирует менеджеров в большей степени на принцип непрерывности, чем на принцип дискретности при экономическом анализе. Низкая степень влияния человеческого фактора, унификация процедур, использование принципа распределения зон ответственности повышают эффективность управленческой функции контроля.

***Рисунок 1* - Развитие функциональной модели управления сервисными процессами в электронном бизнесе[66]**

Электронная коммерция, являясь неотъемлемой составляющей интернет- экономики, реализует комплекс рыночных информационно-торговых услуг. Управление данным комплексом целесообразно рассматривать дифференцированно на глобальном, организационном и операционном уровнях. Каждый уровень подвержен воздействию системы факторов, обусловливающих применение определенных методов управления.

В электронной коммерции агрегатор как посредник берет на себя различные - в зависимости от договора обслуживания - виды экономических рисков. С развитием подобных сервисов расширяются возможности электронного рынка, а интернет-компании находят эффективные решения для обеспечения виртуального бизнеса. В дальнейшем, уже на организационном уровне управления, это увеличивает гибкость и адаптивность бизнеса, положительно влияет на лояльность потребителей.

Поддержка процессов взаимопроникновения традиционной и электронной торговли, реализующаяся в актуальных стратегиях omni- и мультиканальной распределительной системы компаний, снижает транзакционные издержки бизнеса и способствует развитию торговой отрасти и сферы услуг в целом.

В электронной коммерции утрачивает важность информация о месте

[66] составлено автором

продажи товара: товар может находиться в одном из распределительных центров, обслуживающих электронный магазин. При этом потребитель самостоятельно выбирает место получения товара, оценивая стоимость и время на доставку товара, решая логистическую задачу поиска оптимального решения с приоритетными критериями для себя (минимальная стоимость доставки, время доставки товара, наличие дополнительных услуг в месте получения товара и пр.).

Метаинформационный сервис электронной коммерции - это деятельность, направленная на удовлетворение информационных потребностей субъектов электронного рынка посредством предоставления им комплексных услуг на основе интеллектуальной обработки интегрированных ресурсов конъюнктурной информации.

Приставка "мета" отражает качественно новый подход к организации и управлению сервисом, ориентированный на получение дополнительной ценности услуг за счет агрегации данных коммерческих предприятий и информации потребительских интернет-сообществ, а также их персонализированной обработки.

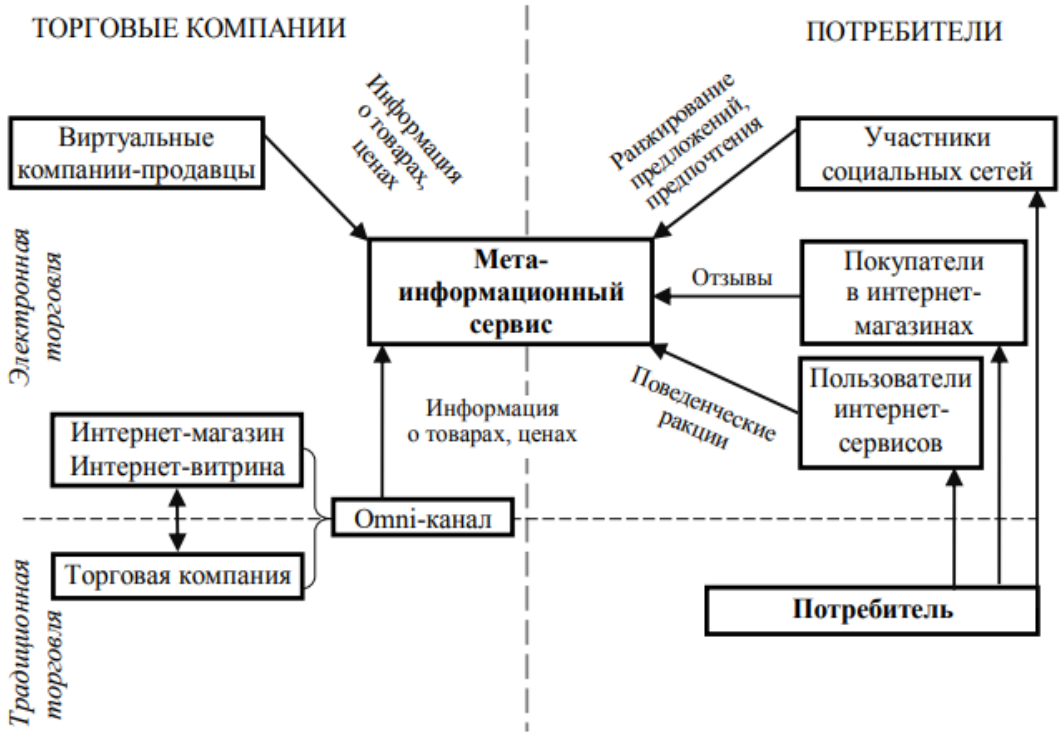

***Рисунок 2* - Модель формирования ресурсов метаинформационного сервиса электронной коммерции**[67]

Виртуальная и традиционная сферы торговли тесно связаны, что отражено на рисунке 4. Развитием их взаимопроникновения можно считать процессы

[67] составлено автором

конвергенции, ориентированные на концепции омни- (omni-) и мультиканальности систем распределения. Омниканальная политика распределения торговых компаний основана на интеграции и единой стратегии развития всех каналов сбыта. Доказано, что омниканальные продажи имеют наибольшую степень адаптивности к рынку, а стратегия омниканальности становится одним из эффективных методов снижения рыночной неопределенности в электронной коммерции.

Заключение. Организационные и инфраструктурные особенности интернет-экономики, главным образом глобализация сфер деятельности и ее виртуальный характер, предопределяют высокую степень энтропии электронных рынков. Предложены методы снижения возникающих экономических рисков на основе эффективного информационного обеспечения бизнес-процессов. Определено, что с возрастающей ценностью персонализированной информации как экономического ресурса активно развивается рынок информационных услуг. Автором выявлены принципиальные направления экстернализации сервисной деятельности в интернет-экономике: развитие интеллектуальных и информационно-технологических услуг, представляющих собой неотъемлемую часть комплекса услуг электронной коммерции; разработана и обоснована методология управления информационным сервисом в электронной коммерции, базирующаяся на принципах системного менеджмента; доказана целесообразность применения методов информационного аутсорсинга, агрегации сервисов, краудсорсинга и массовой персонализации обслуживания в Интернете.

Использованные источники:

1. *Агафонова, А.Н.* Трансформация форм и методов информационного обеспечения бизнес-процессов в условиях становления неоэкономики [Текст] / А.Н. Агафонова // Вектор науки Тольят. гос. ун-та. Тольятти, 2012. № 4 (22). С. 215-218. 0,52 печ. л.

2. Liu, Y., & Chen, Y. (2019). Integration of Service-Oriented Architecture and Microservices for E-Commerce Applications. *Future Generation Computer Systems*, 100, 353–364.

3. Khan, M. A., & Khan, A. (2020). Innovative Strategies in E-Commerce: Role of Information Systems. *Journal of Business and Economic Development*, 5(1), 24–32.

4. Mohan, M., & Sinha, A. (2017). Framework for E-Commerce using SOA. *International Journal of Advanced Research in Computer Science*, 8(3), 21–28.

5. Kumar, A., & Singh, H. (2021). Service-Oriented Architecture in E-Commerce: A Review of Recent Advances. *International Journal of Computer Applications*, 175(6), 5–12.

6. Назаров, А. К. (2022). Оптимизация логистических цепочек в Узбекистане с применением эконометрических методов. Журнал научных исследований логистики, 2(3), 53-67.

7. Каримов, М. С. (2021). Прогнозирование спроса на транспортно-логистические услуги в Узбекистане. Международный журнал эконометрики

и статистики, 5(2), 91-106.
8. Туйчиев, Ш.Ш. Функциональная структура сетевых систем управления электронным бизнесом Журнал перспективных исследований и стабильности ISSN: 2181-2608
9. Туйчиев, Ш.Ш. ЦЕЛИ И ЗАДАЧИ СТРАТЕГИИ «ЦИФРОВОЙ УЗБЕКИСТАН-2030», Евразийский научно-исследовательский журнал Страница (157-168)

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ВОЗМОЖНОСТИ ГОРНОГО ТУРИЗМА КОРАТЕПА

Аннотация: *В статье подробно анализируется развитие горного туризма в горной местности Коратепа и его географические особенности. Рассматривается использование рекреационных ресурсов для туристических целей. Развитие горного туризма на примере Коратепа освещено в контексте экотуризма, исторических памятников и туристической инфраструктуры.*

Ключевые слова: *Коратепа, горный туризм, рекреационные ресурсы, экотуризм, туристическая инфраструктура, исторические памятники, туристическое развитие, Самаркандская область, пещеры Коратепа, агротуризм.*

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POSSIBILITIES OF MOUNTAIN TOURISM OF KORATEP

Abstract: *The article provides a detailed analysis of the development of mountain tourism in the mountainous region of Qoratepa and its geographical features. It examines the use of recreational resources for tourism purposes. The development of mountain tourism in the context of ecotourism, historical monuments, and tourism infrastructure is highlighted using the example of Qoratepa.*

Keywords: *Qoratepa, mountain tourism, recreational resources, ecotourism, tourism infrastructure, historical monuments, tourism development, Samarkand region, Qoratepa caves, agritourism.*

Введение: В последние годы с улучшением уровня жизни и культурной жизни населения Узбекистана возникает потребность в определении мест, где можно отдохнуть и совершить массовые туристические поездки по древним и удивительным маршрутам. В этом плане горы Коратепа являются местом, богатым красивыми и чудесными туристическими объектами, которые даруют здоровье благодаря природе. Эти горы изобилуют живописными местами, такими как крутые скальные ущелья, расположенные в верхней части гор. Высота этих гор достигает от 1000 до 1500 метров над уровнем моря. Чистый лечебный воздух гор Коратепа, большое количество

термических ресурсов и продолжительность теплых дней с положительными температурами играют важную роль в формировании рекреационных туристических объектов. Согласно данным Е.А. Котярова (1978), для отдыхающих с физиологической точки зрения наиболее комфортной температурой считается среднесуточная температура около +10-20 градусов Цельсия. В районе гор Коратепа продолжительность дней с температурой +10-22 градуса составляет большую часть года, что длится около семи месяцев.

Оснавная часть: Коратепа находится в 42 километрах к юго-востоку от города Самарканда, и прямым маршрутом через тракт «Узбек катта» соединяет города Китоб и Шахрисабз в Кашкадарьинской области. Этот тракт проходит прямо через переднюю часть Коратепы. При въезде в село Коратепа с дороги Самарканд-Термез, если обратить внимание на правую сторону, вы увидите Тешик-Тош. Это место похоже на два огромных обрушившихся камня, которые как бы «соединяются» друг с другом. Именно в этих местах был снят знаменитый фильм «Апачи», который был снят немецкими любителями кино.

Природа и туристические объекты: Регион Коратепа выделяется своей природной красотой, скрытыми деревнями среди гор и уникальными туристическими объектами. В этом районе расположены такие села, как Омонкутан, Тершак, Узунсой и Севасой, которые демонстрируют свою уникальную культуру и природу. Каждое село привлекает туристов своими природными пейзажами, традиционным образом жизни и богатым историческим наследием.

Село Омонкутан и расположенная в его окрестностях зона отдыха «Мингарча» знамениты своими потрясающими природными пейзажами. Это место, окруженное густыми лесами, предоставляет туристам возможность наслаждаться природной красотой. Здесь созданы все условия для отдыха, включая пешие прогулки, отдых на свежем воздухе и знакомства с природой. Особенность зоны отдыха «Мингарча» заключается в расположенной там пещере КИЛСИ.

Пещера КИЛСИ находится на высоте 1220 метров и была исследована учеными Украины в 1982 году. Из пещеры изучена только часть длиной 1076 метров, что делает это место еще более загадочным и притягательным. Внутри пещеры туристы могут ощутить себя среди настоящих природных чудес: чистая вода, небольшие озера и реки, а также лодки. По рекомендациям Академии наук бывшего СССР, пещера получила название «КИЛСИ», которое связано с объединением городов Киев, Львов и Самарканд. Эта пещера привлекает туристов своей природной красотой и исторической значимостью.

Кроме того, пещера Яхдон является еще одной достопримечательностью региона. Яхдон расположена в начале реки Ургутсой, среди высоких гор, и имеет уникальный микроклимат. Холодная вода, поступающая из глубины пещеры, поддерживает природный баланс, благодаря чему температура в

пещере остается стабильной как летом, так и зимой. Эта пещера предоставляет туристам великолепные виды на вершины гор Аллаёрон, особенно для тех, кто поднимется по горным тропам.

Регион Коратепа также славится своими высокими горами и природной красотой. Путешествие по этому региону — это не только возможность для физической активности, но и прекрасная возможность для духовного обновления и отдыха от внешнего мира. Великолепие природы, а также древние памятники и пещеры в этом регионе привлекают туристов, обеспечивая им незабываемый опыт и глубокие впечатления. Кроме того, в этом регионе есть возможность познакомиться с сельской жизнью, местной культурой и традициями, что создает уникальный туристический опыт для посетителей. Проведение времени в таких местах — это не только наслаждение природой, но и отличная возможность для размышлений и медитации.

Экологический туризм и агротуризм: В селе Терсак организовано обслуживание как для внутренних, так и для зарубежных туристов. 22 июня 2021 года в районе села начали работать 25 семейных гостевых домов. В этих гостевых домах туристам предлагаются мастер-классы по приготовлению сельских продуктов и национальных блюд, демонстрация этнических обычаев села, а также демонстрация древних методов скотоводства, садоводства и земледелия в рамках агротуризма.

В селе Узунсой также организовано обслуживание туристов как из страны, так и из-за рубежа, где начали свою работу 3 семейных гостевых дома. Здесь туристам открываются невероятно интересные и привлекательные места, такие как Зумрат камар , Дев шара , Курган таш , Бел богли тош, которые являются отличными примерами природных и исторических достопримечательностей.

Курган таш

Внешний вид кишлака Узунсой

Направления развития: Для развития туризма в районе Коратепа важно создавать новые туристические объекты, улучшать транспортную инфраструктуру, расширять количество гостиниц, а также развивать агро- и экологический туризм.

Выводы. Горы Коратепа, являющиеся одним из самых ценных природных и исторических объектов Самаркандской области, демонстрируют свой туристический потенциал. В этом регионе есть богатые природные ресурсы, целебный воздух и уникальные пещеры, а также благоприятные возможности для развития экологического и агро-туризма. Туристические объекты в Коратепе, такие как пещеры "КИЛСИ" и "ЯХДОН", обладают историческим и природным значением, играя важную роль в привлечении туристов. Улучшение туристической инфраструктуры, создание новых гостиниц и развитие транспортной системы могут стать основными факторами, которые сделают этот регион еще более привлекательным. В будущем горы Коратепа могут стать одним из ключевых центров для развития туризма в Узбекистане благодаря своей природной красоте, историческим памятникам и туристическим ресурсам.

Использованные источники:

1. Мухаммадиев, С. (2006). Узбекистаннинг тоғ туризми ва рекреацион салоҳияти. Тошкент: Ўзбекистон Фанлар Академияси.
2. Юлдашев, Т. (2015). Тоғ туризми: Ўзбекистонда ривожланиш имкониятлари. Самарқанд: СамДУ нашриёти.
3. Тошкент, Б. (2010). Табиат ва туризм: Ўзбекистондаги табиий ресурслар ва туризм имкониятлари. Тошкент: Ўзбекистон Миллий Университети нашриёти.
4. Каримов, А. (2018). Экологик туризм ва унинг ривожланиш йўналишлари. Тошкент: Ўзбекистон Экология Ассоциацияси.
5. Маҳмудов, З. (2019). Туризм географияси ва тарихи ёдгорликлар. Бухоро: Бухоро Давлат Университети нашриёти. 125-127 б.
6. Рахмонов, К. (2021). Туризмни ривожлантириш ва рекреацион ресурслар: Қоратепа мисолида. Самарқанд: Самарқанд Туризм Институти.
8. Султонов, Б. (2014). Тоғ' туризмининг экологик ва иқтисодий аҳамияти. Тошкент: Ўзбекистон Туризм ва Спорт Вазирлиги.
9. Рахимов, Ж. (2013). Тоғ'ларни тадқиқ қилиш ва туристларни жалб қилиш усуллари. Тошкент: Ўзбекистон Университети.
10. Пирматов, О. (2007). Ўзбекистондаги рекреацион ва экотуризм ресурслари. Бухоро: Бухоро Давлат Университети.
11. Ахмедов, Т. (2012). Ўзбекистоннинг қишлоқ туризми ва агротуризм ривожланишида янги ёндашувлар. Тошкент: Ўзбекистон Қишлоқ Хўжалиги Институти.
12. Аманов, А. (2015). Туризм географияси: Қоратепа ва унинг атрофидаги ҳудудлар. Самарқанд: СамДУ нашриёти.

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СРАВНЕНИЕ МОРФОМЕТРИЧЕСКИХ ПОКАЗАТЕЛЕЙ ПЕЧЕНИ ПОД ВЛИЯНИЕМ ПРОТИВО ВОСПАЛИТЕЛЬНЫХ ПРЕПАРАТОВ ПАРАЦЕТАМОЛА, АСПИРИНА, ИБУПРОФЕНА, ДЕКСАМЕТАЗОНА С НОРМОЙ

Аннотация: *В статье описаны воздействия противовоспалительных препаратов на ткани печени крыс, представленном на четвертом этапе исследования, при использовании четырех видов препаратов, наблюдалась миграция купферовских клеток вокруг сосудов препортальной вены (60%, n=10) и наблюдался фагоцитоз некротических гепатоцитов купферовскими клетками (40%, n=8). В пространстве Диссе происходит обмен веществ между гепатоцитами и плазмой крови, а также в этом пространстве располагаются клетки Купера, участвующие в фиброгенезе.*

Ключевые слова: *печень, гепатоциты, крыса, гистологические птепараты, противовоспалительные средства, экспримент.*

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COMPARISON OF MORPHOMETRIC PARAMETERS OF THE LIVER UNDER THE INFLUENCE OF ANTI-INFLAMMATORY DRUGS PARACETAMOL, ASPIRIN, IBUPROFEN, DEXAMETHASONE WITH THE NORM

Abstract: *The article describes the histological preparation of rat liver, presented at the fourth stage of the study, using four types of preparations, migration of Kupffer cells around the vessels of the periportal vein was observed (60%, n = 10) and phagocytosis of necrotic hepatocytes by Kupffer cells was observed (40%, n = 8). In the Disse space, there is an exchange of substances between hepatocytes and blood plasma, and Cooper cells involved in fibrogenesis are located in this space.*

Keywords: *liver, Cooper cells, rat, histological preparations, anti-inflammatory drugs, experiment.*

Ввдение. В настоящее время в области здравоохранения Узбекистана ведутся активные работы по снижению полипрагмазии в медицинской практике. Приказ Министерства здравоохранения Республики Узбекистан от 18.06.2010 года № 191 «Положение о порядке назначения лекарственных

средств и порядке приема, хранения и использования лекарственных средств для больных в лечебно-профилактических учреждениях, а также утверждения отпусков по аптекам на основе назначения лекарственных средств населению». (Зарегистрировано Минздравом 29.06.2010 N 2118). Постановление Президента Республики Узбекистан от 30 декабря 2019 года. PQ-4554 «О дополнительных мерах по углублению реформ в фармацевтической отрасли Республики Узбекистан».

Ключевые слова: полипрагмазия, морфометрия, морфология, воспаление.

Цель исследования - определить и оценить особенности морфологических изменений паренхимы печени под влиянием противовоспалительных препаратов при полипрагмазии.

Задачи исследования: Исследование и оценка нормальных морфологических показателей печени;

определение морфологических изменений в печени лабораторных животных при одновременном применении противовоспалительных препаратов парацетамола, аспирина, ибупрофена, дексаметазона;

для определения морфометрических изменений печени при одновременном применении противовоспалительных препаратов парацетамола, аспирина, ибупрофена, дексаметазона;

сравнительное исследование морфометрических показателей печени под влиянием противовоспалительных препаратов в норме и полипрагмазии.

Материал и методы. Исследование макро- и микроморфологии ткани печени проводили у крыс в нормальных условиях вивария.

Для изучения эффектов полипрагмазии в опытных группах белых крыс опытной группы использовали следующие противовоспалительные средства аспирин, парацетамол, ибупрофен и дексаметазон:

Крысы, взятые для эксперимента, были разделены на контрольную группу - крысы, получавшие противовоспалительные препараты, парацетамол 15 мг/кг, аспирин 5 мг/кг; , ибупрофен 6 мг/кг, дексаметазон 0,1 мг/кг. Дозы этих препаратов рассчитывались эмпирически и вводились внутрижелудочно в течение 10 дней в виде раствора.

Крысам контрольной группы развития крысам внутрижелудочно вводили 0,5 мл дистиллированной воды через металлический зонд в течение 10 дней.

Исследования проводились в соответствии с правилами гуманного обращения с животными (№ 18 от 16.01.2018), регламентированными «Правилами использования экспериментальных животных», утвержденными комитетом по этике.

Методы исследования

1. Метод морфологического исследования.
2. Морфометрический метод исследования.
3. Статистический метод исследования.

Результат. Вес крыс опытной группы колебался от 187,7 г до 234,7 г, в среднем 220 г. Четвертая опытная группа крыс имела массу печени от 7,13 до 9,2 г, в среднем 7,9±0,244 г. Длина печени чистопородной крысы четвертой опытной группы составляет 2,7-3,6 см, средняя длина - 3,16±0,1 см.

Расстояние между верхним и нижним краями печени белой крысы составляет 1,9-2,5 см, в среднем 2,2±0,068 см. Толщина печени чистопородной крысы 2,7-3,4 см, в среднем 3,1±0,09 см.

Заключение. В очередном гистологическом препарате печени крыс, представленном на четвертом этапе исследования, при использовании четырех видов препаратов, наблюдалась миграция купферовских клеток вокруг сосудов перипортальной вены (60%, n=10) и наблюдался фагоцитоз некротических гепатоцитов купферовскими клетками (40%, n=8). Перисинусоидальные пространства (пространства Диссе) имели разную ширину и практически не выявлялись в поле зрения (80%, n=11).

Перисинусоидальные пространства (пространства Диссе) — узкие пространства между стенками гепатоцитов и синусоидальных капилляров в доле печени, ширина которых составляет 0,2-1,0 мкм. В пространстве Диссе происходит обмен веществ между гепатоцитами и плазмой крови, а также в этом пространстве располагаются клетки Купера, участвующие в фиброгенезе.

Использованные источники:

1.Norbekovich, T. B., Oblakulovich, K. S. O. S., Sadinovich, U. S., Mustafoevich, M. Z., & Akhmadjonovich, S. S. (2021). Polypragmasia as a risk factor causing complications in viral infection. *Central Asian Journal of Medical and Natural Science*, *2*(2), 79-82.

2. Sadinovich, U. S., Oblakulovich, K. S., & Murodullaevna, K. L. (2023). Morphology and morphometric characteristics of liver tissue of group four white rats. *Journal of biomedicine and practice*, *8*(3).

3. Usanov, S. S., & Teshaev, S. J. (2022). COMPARATIVE CHARACTERISTICS OF THE LIVER MORPHOMETRIC PARAMETERS OF WHITE UNBORED RATS IN NORMALITY AND WITH THE ACTION OF 2 DIFFERENT ANTI-INFLAMMATORY PREPARATIONS IN POLYPRAGMASIA. *Oriental renaissance: Innovative, educational, natural and social sciences*, *2*(1), 68-74.

4. Усанов, С. С. (2021). ХАРАКТЕРИСТИКА МОРФОМЕТРИЧЕСКИХ ПАРАМЕТРОВ ПЕЧЕНИ ПРИ ПОЛИПРАГМАЗИИ. *Oriental renaissance: Innovative, educational, natural and social sciences*, *1*(8), 613-621.(in Russ).

5. Sadinovich, U. S., & Ismoilovich, I. O. (2022). OQ ZOTSIZ KALAMUSHLAR JIGARINING MORFOMETRIK KO'RSATGICHLARINI POLIPROGMAZIYADA YALLIG'LANISHGA QARSHI 4 HIL VOSITALAR TA'SIRI HOLATIDA O'RGANISH. *JOURNAL OF BIOMEDICINE AND PRACTICE*, *7*(5). (in Uzb).

6. Usanov, S. S. (2022). Anatomical and Histological Parameters of the Liver of White Nonbored Rats in Normal. *BARQARORLIK VA YETAKCHI TADQIQOTLAR ONLAYN ILMIY JURNALI*, *2*(1), 123-128.

7. Usanov, S. S., & Zh, T. S. (2022). Study of Morphological Changes in the Liver of White Unbored Rats under the Influence of 3 Different Anti-Inflammatory Preparations. *BARQARORLIK VA YETAKCHI TADQIQOTLAR ONLAYN ILMIY JURNALI*, *2*(1), 129-132.
8. Usanov, S. S., Teshaev, S. J., & Sanoev, B. A. (2022). MORPHOLOGICAL AND MORPHOMETRIC PARAMETERS OF THE LIVER OF WHITE NONBORED RATS IN NORMAL. *Oriental renaissance: Innovative, educational, natural and social sciences*, *2*(1), 75-81.
9. Sadinovich, U. S. (2021). Characteristic Of The Morphometric Parameters Of The Liver In Polypragmasia. *The American Journal of Medical Sciences and Pharmaceutical Research*, *3*(10), 28-32.
10. Usanov, S., Xidirov, Z., & Olimova, J. (2023). OQ ZOTSIZ KALAMUShLAR JIGARINING ME'YoRDAGI MORFOLOGIK VA MORFOMETRIK PARAMETRLARI. *Yevraziyskiy jurnal akademicheskix issledovaniy*, *3*(11), 101-107. (in Uzb).

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МАККАЖЎХОР МАЙДОНЛАРИДА БЕГОНА ЎТЛАРГА ҚАРШИ ГЕРБИЦИДЛАР ТАЪСИРИНИ ЎРГАНИШ

Аннотация. *Мақолада маккажўхори экилган майдонлардаги бегона ўтларга қарши гербицидларни қўллаш муддатлари ва меъёрлар, гербицидларни бегона ўтларга қарши биологик самарадорлиги, ўсимликнинг ўсишига ва пишиш муддатига, сўтадаги дон сони ва вазнига таъсири ўрганиб таҳлил қилинган.*

Калит сўзлар: *маккажўхори, бегона ўтлар, гербицидлар, меъёр, уруғлар, экиш муддатлари, вегитацияси.*

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STUDYING THE EFFECT OF HERBICIDES ON WEEDS IN CORN FIELDS

Annotation. *The article studied the timing and norms of using herbicides against weeds on corn sown areas, the biological effectiveness of herbicides against weeds, the effect on the growth and timing of plant ripening, the number and weight of grains in the turf and analyzed.*

Key words: *corn, weeds, herbicides, norms, seeds, planting dates, growing season.*

Кириш. Бугунги кунда дунёнинг 165 мамлакатида йилига 188,0 млн. гектарга яқин майдонда маккажўхори парваришланиб, “ялпи дон ҳосилдорлиги 1060,3 млн. тоннани, гектар ҳисобига эса ўртача 49,3 центнерни ташкил этмоқда”. Маккажўхори ўсимлигидан юқори дон ҳосили етиштиришда минерал озуқа ва сувга тенгма тенг шерик бўлаётган бегона ўтларга қарши курашишнинг уйғунлашган тизимини ишлаб чиқиш бугунги куннинг долзарб масалалардан бири ҳисобланади.

Республикамиз қишлоқ хўжалигида маккажўхори экини ер майдонининг 51 минг гектардан 75 минг гектарга босқичма–босқич кенгайтириш, юқори ва сифатли дон ҳосили етиштиришда ресурстежамкор технологияларни қўллаш ва чорвани сифатли озуқа базасини шакллантиришга ҳукуматимиз томонидан катта эътибор берилмоқда ва чуқур ислоҳотлар ўтказилмоқда.

Тадқиқот материаллари ва услуби. Илмий тадқиқот ишларини ўтказишда дала ва лаборатория тажрибалари «Методика Государственного сортоиспытания селскохозяйственных култур», «Дала тажрибаларини ўтказиш услублари», «Методика государственного сортоиспыания селскохозяйственных култур», «Основные положения определения экономической эффективности исползования в селском хозяйстве резултатов НИР, новой техники и изобретения, рационализаторских предложений», математик-статистик таҳлилларда ўтказишда Б.А.Доспеховнинг «Методика полевого опыта» услубий қўлланмаларидан фойдаланилган.

Тадқиқот олиб борилган 2022-2024 йиллар мобайнида маккажўхори ўсимлиги орасида табиий равишда ўсиб чиққан бегона ўтларга қарши гербицид қўллашни самарадорлигини ўрганиш бўйича илмий тадқиқотлар олиб бордик. Бегона ўтларни ҳисоблашда 12 та, оқ шўра, елпиғичмева олабута, экма хантал, ёввойи карам, ачамбити, оддий бангидевона, ёввойи турп, оддий қўйтикан, доривор чумчуқўт, қўноқ, яшил қўноқ, ёввойи сули каби турли бегона ўтлар ҳисобга олинди. Маккажўхори уруғларини экиш билан бирга бегона ўтларга қарши гербицидлар қўлланилган вариантларда бегона ўтларнинг униб чиқиши вариантлар кесимида ўрганиб чиқилганида, 15 кунда гербицид қўлланилмаган назорат вариантга нисбатан уруғ экиш билан бирга Стомп гербициди 4,0 л/га меъёрида қўлланилган вариантда 50 дона/м^2 га кам бўлиб, 12,4 дона/м^2 ни, бегона ўтларнинг камайиши 80,2% ни кўрсатган бўлса, уруғларни экиш билан бирга Супер стомп 33% эм.к. гербициди 3,0-6,0 л/га меъёрларда қўлланилган вариантларда бегона ўтларнинг униб чиқиши 51,4-53,1 дона/м^2 га камайиб, бегона ўтларнинг камайиши 82,4-85,2% га тенг бўлгани ҳолда 11,0-9,3 дона/м^2 ни ташкил этганлиги аниқланди.

Уруғларни экиш билан бирга гербицид қўлланилганидан сўнг 30 кун ўтгач вариантлар кесимида бегона ўтлар миқдори ҳисобланганида, уруғларни экиш билан бирга гербицид қўлланилмаган назорат вариантига нисбатан уруғ экиш билан бирга Стомп гербициди 4,0 л/га меъёрида қўлланилган вариантда бегона ўтлар сони 52,4 дона/м^2 га камайиб, 10,0 дона/м^2 ни, бегона ўтларнинг камайиши эса 84,0% га тенг бўлган бўлса, уруғларни экиш билан бирга Супер стомп 33% эм.к. гербициди 3,0-6,0 л/га меъёрларда қўлланилган вариантларда бегона ўтлар миқдори 54,2-55,5 дона/м^2 га камайиб, бегона ўтларнинг камайиши 86,9-88,9% ни, бегона ўтлар миқдори эса мос равишда 8,2-6,9 дона/м^2 ни ташкил этганлиги кузатилди.

Жумладан, уруғларни экиш билан бирга бегона ўтларга қарши гербицид қўлланимаган назорат вариантга нисбатан уруғ экиш билан бирга Стомп гербициди 4,0 л/га меъёрида қўлланилган вариантда бегона ўтлар сони 50,9 дона/м^2 га кам бўлиб, 11,5 дона/м^2 ни, бегона ўтларнинг камайиш кўрсаткичи эса 81,7% ни ташкил этган бўлса, уруғларни экиш билан бирга Супер стомп 33% эм.к. гербициди 3,0-6,0 л/га меъёрларда қўлланилган вариантларда бегона ўтларнинг камайиши 52,5-54,0 дона/м^2 ни ташкил этиб, бегона ўтларнинг камайиши 84,3-86,6% гача камайганлиги кузатилган ҳолда 9,9-8,4 дона/м^2 ни ташкил этганлиги қайд этилди.

1–жадвал

Уруғ экиш билан бирга гербицид қўллаш меъёрларини самарадорлиги

№	Бегона ўтларнинг номлари	Назорат гербицидсиз, дона/м^2	Стомп 4,0 л/га (эталон)		Супер стомп, 33% эм.к. 3,0 л/га		Супер стомп, 33% эм.к. 6,0 л/га	
			дона/м^2	%	дона/м^2	%	дона/м^2	%
Гербицид сепилгандан 60 кун кейин								
1	Оқ шўра	5,9	1,1	81,5	0,9	84,4	0,8	86,0
2	Елпиғичмева олабута	4,6	0,6	86,6	0,5	88,1	0,5	89,7
3	Экма хантал	5,6	1,0	82,9	0,8	85,4	0,7	88,0
4	Ёввойи карам	5,9	1,2	80,1	1,0	83,0	0,9	85,3
5	Ачамбити	4,6	0,9	80,3	0,8	83,1	0,6	86,5
6	Оддий бангидевона	5,6	1,0	82,0	0,9	84,3	0,8	86,5
7	Ёввойи турп	4,6	0,6	86,8	0,4	90,6	0,4	92,0
8	Оддий қўйтикан	4,6	1,2	74,2	1,1	76,3	1,0	77,4
9	Доривор чумчуқўт	5,8	1,0	82,7	0,8	85,7	0,6	89,5
10	Қўноқ	5,5	1,1	80,2	0,9	83,1	0,7	86,4
11	Яшил қўноқ	4,4	0,6	86,2	0,5	88,2	0,4	91,2
12	Ёввойи сули	5,3	1,2	77,5	1,1	79,2	1,0	81,4
	Жами:	**62,4**	**11,5**	**–**	**9,9**	**–**	**8,4**	**–**
	Ўртача:	**5,2**	**1,0**	**81,7**	**0,8**	**84,3**	**0,7**	**86,6**

Маккажўхори уруғларини экиш билан бирга гербицид қўллаш фонига жойланган вариантларда бегона ўтларнинг камайиб бориш ҳолати шуни кўрсатдики, бегона ўтларга қарши гербицид қўллашнинг дастлабки 15 куни ҳамда 30 кунида гербицид қўлланилмаган назорат вариантга нисбатан бегона ўтларга қарши гербицид қўлланилган вариантларда бегона ўтларнинг

камайиб бориши кузатилган бўлса, 60 кунига келиб, аксинча бегона ўтлар сони 1,5 дона/м^2 дан 1,7-1,3 донагача кўпайиб борганлиги кузатилди.

Хулоса. Уруғларни экиш билан бирга бегона ўтларга қарши Супер стомп, 33% эм.к. гербицидини 3,0–6,0 л/га меъёрларда қўлланилган 3–4 вариантларда парвариш қилинган маккажўхори ўсимлигини ҳосил элементлари таҳлил қилинганида эса амал даври охирига келиб, ўсимликнинг бўйи ўртача 188,0–185,0 см ни, бир тупда барглар сони ўртача 17,9–17,7 донани, бир тупда сўталар сони ўртача 1,0 донани, битта сўтада донлар сони 366,5–360,6 донани ҳамда 1000 дона дон вазни 383,3–378,7 гр ни ташкил этиб, уруғларни экиш билан бирга гербицид қўлланилмаган назорат 1–вариантга нисбатан ўсимлик бўйи 70,0–67,0 см га, бир тупда барглар сони 7,8–7,6 донага, битта сўтада донлар сони 107,1–101,2 донага ва 1000 дона дон вазни 104,1–99,5 гр га юқори бўлганлиги қайд этилди.

Использованные источники:

1. Дала тажрибаларини ўтказиш услублари. Ўзбекистон Пахтачилик илмий–тадқиқот институти. Тошкент, 2014. Б. 36–51.
2. Бахромов С., Махмудов О., Тешабаев Ш. Бегона ўтларга қарши курашда тупроққа турли усулда ишлов бериб, гербицидлар қўллашнинг ғўза униб чиқиши ҳамда ҳосилдорлигига таъсири. //Ўзбекистон қишлоқ хўжалиги журнали № 2–сон. Тошкент–2020. Б. 39.
3. Бобоев Ф. Анғизга экилган маккажўхори дурагайи барг юзасининг дон ва кўк масса ҳосилига таъсири // Ўзбекистон қишлоқ хўжалиги журналининг Агро илм илмий иловаси №4 (36) –сон, Б. 31.
4. Усманов Санжарбек Пахлавонович.,Ғуломжонов Қудрат Шухратбек ўғли.,Мирзакаримова Санамхон Ахмаджоновна.,”INTERNATION CONFERENCE ON LEARNING AND TEACHING” 2022/5.217-222 б.
5 Джўраев М.Я., Хусанов Б. Ғалла майдонларидаги бегона ўтларга қарши курашишда янги кимёвий препаратлар гербицидларнинг самарадорлиги // Ўзбекистон Республикасида бошоқли, дуккакли дон экинлари янги навларининг истиқболлари, четдан келтирилган янги навлар интродуксияси ва замонавий ресурс тежамкор етиштириш агротехнологиялари мавзусидаги халқаро илмий–амалий конференция мақолалари тўплами. Андижон, 2019 йил, 21–22 май. Б. 244–248.
6. Жумабоев З., Махмудов О. Ш.Тешабаев. Бегона ўтларга қарши агротехник кураш усулларини тупроқнинг хажм массаси хамда кузги буғдой хосилдорлигига таъсири. //Ўзбекистон аграр фани хабарномаси. Вестник аграрной науки узбекистана. №4 (78) 2019. Б. 46–49.

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ЗНАЧЕНИЕ КОРПОРАТИВНОЙ ФИНАНСОВОЙ СТРАТЕГИИ

Аннотация:*В статье представлена трансформация обязанностей финансового директора по стратегическому управлению в направлении разработки и реализации корпоративной финансовой стратегии в текущей ситуации глубоких изменений во внешней среде предприятия, проанализированы значение, виды и различные приоритеты финансовой стратегии в разные периоды развития, а также обсуждается формулировка и реализация корпоративной финансовой стратегии, а также несколько вопросов, на которые следует обратить внимание при выборе финансовой стратегии.*

Ключевые слова: *Финансовая стратегия; стратегия компании; финансовые цели*

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THE IMPORTANCE OF A CORPORATE FINANCIAL STRATEGY

Summary:*The article presents the transformation of the responsibilities of the CFO for strategic management towards the development and implementation of a corporate financial strategy in the current situation of profound changes in the external environment of the enterprise, analyzes the significance, types and various priorities of the financial strategy in different periods of development, and discusses the formulation and implementation of the corporate financial strategy, as well as several questions that should be answered pay attention when choosing a financial strategy.*

Keywords:*Financial strategy; company strategy; financial goals*

Корпоративная финансовая стратегия - это комплексное, долгосрочное и творческое планирование движения корпоративного капитала или финансовой деятельности на основе глубокого анализа и точной оценки влияния внутренних и внешних факторов на финансовую деятельность корпорации с целью обеспечения сбалансированного и эффективного использования корпоративных ресурсов и достижения корпоративных целей. стратегические цели.Точность финансового стратегического

позиционирования и его использование напрямую определяют порядок распределения ресурсов в целом, эффективность работы и результативность управления предприятием, что оказывает жизненно важное влияние на развитие предприятий[68].

В разные периоды развития предприятия имеют разные финансовые стратегические приоритеты :

В начальный период предприятия столкнутся со многими рисками, такими как финансовые риски и управленческие риски, поэтому устойчивость компаний к рискам в начальный период очень низкая.Оптимизация распределения ресурсов компании для обеспечения ее выживания является основной проблемой, с которой сталкивается компания на ранней стадии своего развития.В частности, что касается инвестиций, то компания должна выбрать тот масштаб инвестиций, который может быть достигнут при ограниченных средствах.Что касается финансирования, то компания должна выбрать приемлемый метод финансирования, исходя из своей будущей платежеспособности.Для компаний, находящихся на начальной стадии, существует относительно немного каналов финансирования, и они часто предоставляют средства за счет нераспределенной прибыли.С точки зрения распределения, доход компании в начальный период деятельности является низким и нестабильным. Полученную прибыль после уплаты налогов следует максимально удерживать, чтобы обогатить капитал и заложить материальную основу для дальнейшего развития компании.Таким образом, политика стимулирования в течение этого периода, как правило, основывается на неденежной политике стимулирования.

Основной задачей развивающихся компаний является расширение масштабов рынка и занятие лидирующих позиций на нем, поэтому они, как правило, придерживаются активной финансовой стратегии.В период роста быстрое увеличение капитала компании приводит к относительно низкому уровню рентабельности активов. Следовательно, финансовая стратегия компании в период роста должна исходить из увеличения рентабельности финансового рычага в качестве отправной точки, увеличения доли долга, снижения капитальных затрат, сокращения финансирования. риски, а также повысить рентабельность собственного капитала компании.В то же время для быстрого роста компании также будут широко использоваться слияния и поглощения.Что касается распределения, то политика компании по распределению дивидендов должна учитывать рост реальных интересов собственников компании при условии обеспечения финансовой поддержки будущего роста компании.Таким образом, компания может применить метод распределения дивидендов по акциям на основе регулярной выплаты небольшой суммы дивидендов наличными[69].

[68] Янь Цзянь.Краткий анализ финансового стратегического выбора предприятий в условиях различных факторов внешней среды [J].Иностранные инвестиции в Китае, 2021 год.
[69] Дон Хаовэй.Исследование по построению финансовых стратегий предприятий с переходной экономикой [J].Современный бизнес, 2019.

Вступая в период зрелости, отличительной особенностью компании на данный момент является то, что наблюдается положительный денежный поток от операционной деятельности, денежный поток от инвестиционной деятельности начинает постепенно превращаться из отрицательного в положительный, а финансовая деятельность начинает демонстрировать чистый отток денежных средств. основное содержание финансовой стратегии.Поскольку в настоящее время у компании накоплен относительно значительный профицит, использование средств в основном осуществляется за счет внутренних средств для предотвращения чрезмерного процентного бремени.Чтобы оптимизировать структуру активов и пассивов и улучшить ситуацию с денежными потоками, зрелые компании могут использовать секьюритизацию активов для привлечения средств. Это может не только повысить ликвидность активов спонсоров, но и снизить риск и умеренную доходность, что способствует получению компанией более высокого кредитного рейтинга, улучшить финансовое положение компании и улучшить операционный статус компании, чтобы ее деятельность вошла в благоприятный цикл. Что касается распределения прибыли, компании, как правило, придерживаются стабильной политики распределения поощрений.

После того, как компания вступает в период рецессии, рынок сбыта продукции компании сокращается, а норма прибыли снижается. Компании часто не имеют возможности обновлять оборудование и внедрять инновационные продукты, что приводит к отсталым технологиям, устареванию продукции, сокращению производства, низкой эффективности, слабой конкурентоспособности компании и высокой смертности.Во время рецессий компании, как правило, рассматривают возможность ужесточения своей текущей деятельности, поэтому могут придерживаться консервативной финансовой стратегии.Цель этой стратегии - не допустить, чтобы компания пережила финансовый кризис, и стремиться к новому выживанию и развитию.Эта консервативная финансовая стратегия - не всеобъемлющее отступление, а накопление внутренней силы для поиска новых возможностей.Сократите отток денежных средств и увеличьте их приток, а также сконцентрируйте все ресурсы для ведущего бизнеса компании за счет активизации существующих складских активов, экономии затрат и т.д., чтобы повысить рыночную конкурентоспособность ведущего бизнеса компании.

Развитие предприятия имеет определенную закономерность, и оно должно пройти четыре этапа: период запуска, период роста, период зрелости и период спада.При разработке финансовой стратегии предприятие должно правильно понимать стадию развития предприятия и поэтапные характеристики каждой стадии развития.В соответствии с этапными характеристиками каждого этапа выберите финансовую стратегию, подходящую для данного этапа.

Использованные источники:

1. Янь Цзянь.Краткий анализ финансового стратегического выбора предприятий в условиях различных факторов внешней среды [J].Иностранные инвестиции в Китае, 2021 год.
2. Дон Хаовэй.Исследование по построению финансовых стратегий предприятий с переходной экономикой [J].Современный бизнес, 2019.
3. Пэн Юнь.Финансовая стратегия, основанная на устойчивом развитии корпоративного отдела [J].Корпоративные исследования, 2017.
4. Гэн И.Краткое обсуждение выбора финансовой стратегии предприятиями в различных жизненных циклах [J].Друзья бухгалтерии, 2018.

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ВЗАИМОСВЯЗЬ МАСЛИЧНОСТИ СЕМЯН И ИХ МОРФО ХОЗЯЙСТВЕННЫЕ ПРИЗНАКИ

Аннотация. *В статье педставлена информация взаимосвязь масличностью семян с некоторими морфохозяйственными признаками.выявлено отсутствие прямых закономерных взаимосвязей между масличностью и высотой растения, скороспелостью, урожайностью растения и другими. изучаемыми морфохозяйственными признаками.Это означает о том, что масло (жир) непосредственно не участвует в росте и развитии растения, в накоплении урожая и в его качестве так как жир не передвигается из одного органа в другой, а образуется в местах их отложения, в семенах хлопчатника и является как запасной энергетический материал для всхожести и энергии прорастании семян. Поэтому, отсутствие, каких либо прямых взаимосвязей между масличностью семян и морфохозяйственными признаками позволяют селекционеру выделить из гибридной популяции высокомасличные растения, семьи и линии, которые будут обладать высокой скороспелостью, низкорослостью, урожайностью, высоким выходом и качеством волокна I - V типа.*

Ключевые слова: *морфохозяйственный, урожайность, растения, семян, хлопка сырца, призднак, селекция, волокна, маслдичность.*

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THE RELATIONSHIP BETWEEN THE OIL CONTENT OF SEEDS AND THEIR MORPHOLOGICAL AND ECONOMIC CHARACTERISTICS

Annotation. *The article provides information on the relationship between the oil content of seeds and certain morphological characteristics.The absence of direct regular relationships between oil content and plant height, precocity, plant yield, and others has been revealed. the studied morphological features.This means that oil (fat) is not directly involved in the growth and development of the plant, in the accumulation of harvest and in its quality, since fat does not move from one organ to another, but is formed in the places of their deposition, in cotton seeds and is a reserve energy material for germination and seed germination energy. Therefore, the absence of any direct relationships between seed oil content and morphological characteristics allows the breeder to select high-oil plants, families and lines from a hybrid population that will have high precocity, low growth, yield, high yield and quality of type I - V fiber.*

Keywords: *morphological management, productivity, plants, seeds, raw cotton, prisdnak, breeding, fibers., oil efficiency.*

В постановлении Кабинета Министров Республики Узбекистан отмечается о коренном улучшении селекционной работы в деле создания скороспелых, высокопродуктивных, высоко масличных, засухоустойчивых, болезнеустойчивых сортов хлопчатника с высоким выходом и качеством волокна. Многие районированные сорта не отвечает природно-климатическим условиям различных регионов Республики Узбекистан, имеют позднеспелость, низкую урожайность, неустойчивость к вилту и др. болезням и вредителям, а также не все сорта отвечают международным стандартам по технологическим свойствам волокна.

В связи с этим перед селекционерами поставлена задача о введении пластичных, высокоурожайных, высокомасличных, вилтоустойчивых, засухоустойчивых сортов хлопчатника с высоким выходом и качеством

волокна IV-V типа, а также обладающих высокой скороспелостью и высоким темпом отдачи раннего урожая хлопка сырца до 1 -10 октября и имеющих менее энергозатратную технологию возделывания хлопчатника (одноразовый сбор, сокращение одно-двух вегетационных поливов, чеканки и т.д.).

Одним из путей решения этой большой задачи является создание ультроскороспелых сортов хлопчатника, имеющих высокую продуктивность, высокомасличных, вилтоусточивость, устойчивость к водным и климатическим стрессам, а также высокий выход и качество волокна отвечающим мировым стандартам IV-V типа. Внедрения таких сортов позволяет сократить энергозатраты на 20-25 % и получить ранний высокий и качественный урожай хлопка-сырца.

Поэтому изучение масличность семян и их взаимной корреляции помогут выявлению ценных источников и оптимизации методов отбора при создании скороспелых сортов и форм хлопчатника, что является актуальным в теоретическом и в практическом плане.

Основной целью проведенной работы было изучение масличность семян и основных морфохозяйственных признаков, их взаимосвязь, выявление ценных доноров и оптимизация методов отбора при создании высоко масличных сортов и форм хлопчатника.

Изучение влияние Масличность семян на рост и развития морфохозяйственных признаков (высота растения, продуктивность, скороспелость, выход и длина волокна и т.д.), а также их взаимосвязи.

Масличность семян - важный хозяйственный признак, так как хлопчатник является в Средней Азии первым источником пищевого растительного масла. Увеличение масличности семян на 0,5% или 1% позволило бы ежегодно в мире получать дополнительно 1.1-1.2 или 2.2-3.0 мл. тонн масла в год: (Халимов, 1976; Ниязов,1977). Возможность получения высокомасличных семян путем скрещивания и отбора доказана на ряде сельскохозяйственных культур (Жданов,1967; Енкен,1967;В.С.Пустовойт 1966, В.С.Пустовойт 1964 и др., Г.В. Пустовойт, 1975).

При изучении генетической обусловленности масличности семян подсолнечника установлено, что этот признак является полимерным. При скрещивании форм с высоким содержанием жира в семени с низкомасличными в F_1 проявляется высокая масличность, то есть наследование идет по высокомасличным родителям, или наблюдается превышение обоих родителей (Гундаев, 1971,Пустовойт 1975).

Г.Я. Губанов (1949),Н.П.Ярош (1958), Б.Х. Саттаров и А.И. Ган (1969), А.И.Бредихина (1970) установили, что масличность семян хлопчатника является наследственно обусловленным признаком и селекция на высокую масличность вполне возможна. В дальнейшем генетику этого признака изучали М.Пулатов (1979), Н.Г. Губанова и соавторы (1981), Т.Б. Соколова и др. (1985), Ф.В. Войтенюк и др.(1983), М.Пулатов, Н.Г.Губанова (1986). В работах данных авторов показано, что масличность семян хлопчатника является структурно сложным полигенным признаком, основные компоненты

которого выход ядра и содержание масла в ядре. Выраженность этих обоих компонентов масличности контролируется неаддитивными эффектами генов, свободно комбинирующих при гибридизации. Последнее создает хорошие предпосылки для выведения сортов с высокой масличностью семян, сочетающейся с комплексом других хозяйственно-ценных признаков. В целом признак масличности наследуется по промежуточному типу с небольшой, но стойкой тенденцией преобладания более высокой масличности семян у гибридов по сравнению с родительскими формами.

Т.Б. Соколова и В. Автономов (1984) провели анализ изменчивости наследуемости масличности семян хлопчатника у экологически отдаленных гибридов и сделали вывод, что масличность семян у отдаленных гибридов была промежуточной с уклоном в сторону низкомасличных форм. В F_2 наблюдали широкий размах варьирования этого признака.

R.G. Duni, R.J.Konel (1989) изучали диаллельные гибриды, полученные от скрещивания гибридных линий вида G hirsutum L. с высоким и низким содержанием масла в семенах. Установлено, что в наследовании содержания масла преобладают доминантные эффекты, значимо также взаимодействие аддитивных и доминантных генов.

Масличностъ семян. Из данных таблицы 1. видно, что масличность семян не имеет прямых закономерных существенных коррелятивных связей со всеми изучаемыми морфохозяйственными признаками и только в отдельных гибридных комбинациях наблюдаются слабые и средние отрицательные и положительные существенные связи. Например, в комбинациях Л-75 х Л-597 имеет место средняя отрицательная взаимосвязь между масличностью семян и высотой растения r= -0.48, а в комбинациях Л-1703 х Л-597 и Л-257 х Л-302 слабая и в комбинации Л-257 х Л-597 средняя положительная существенная коррелятивная связь (r=0.3 и r=0.54). Коэффициенты корреляции в остальных гибридных комбинациях варьировали от очень слабых до слабых отрицательных и положительных не существенных значений от r= - 0.04 до r= 0.2.

Анализ коэффициентов корреляции между масличностью семян и высотой закладки первой плодовой ветви, скороспелостью, количеством плодовых ветвей, количеством коробочек, урожайностью растения, выходом и длиной волокна показали схожую взаимосвязь с высотой растения, но лишь с меньшими исключениями в которых наблюдаются существенные коррелятивные связи. Коэффициенты корреляции имеют очень слабые отрицательные и положительные несущественные значения и варьируют от r-0.01 до r- 0.3. (табл.1).

Отсутствие прямых закономерных взаимосвязей между масличностью и высотой растения, скороспелостью, урожайностью растения и другими. изучаемыми морфохозяйственными признаками говорят о том, что масло (жир) непосредственно не участвует в росте и развитии растения, в накоплении урожая и в его качестве так как жир не передвигается из одного органа в другой, а образуется в местах их отложения, в семенах хлопчатника

и является как запасной энергетический материал для всхожести и энергии прорастании семян. Поэтому, отсутствие, каких либо прямых взаимосвязей между масличностью семян и морфохозяйственными признаками позволяют селекционеру выделить из гибридной популяции высокомасличные растения, семьи и линии, которые будут обладать высокой скороспелостью, низкорослостью, урожайностью, высоким выходом и качеством волокна IV - V типа.

Таблица 1.

Взаимосвязь масличности семян с морфохозяйственными признаками у гибридов F_2

№	Гибридные комбинации	Коэффициенты корреляции							
		Высота растений		hS		Длина вегетационного периода		К-во плодовых ветвей	
		r ± Sr	tr	r ± Sr	tr	r ± Sr	Tr	R ± Sr	Tr
1	Л-158 х С-6530	0.19±0.18	1.06	0.11±0.17	0.64	0.03±0.18	0.17	0.04±0.18	0.22
2	Л-158 х Л-302	0.14±0.15	0.93	-0.07±0.18	0.38	-0.07±0.18	0.39	-0.01±0.19	0.05
3	Л-158 х Л-597	-0.04±0.18	0.22	-0.03±0.20	0.15	-0.03±0.20	0.15	0.03±0.20	0.15
4	Л-75 х С-6530	0.20±0.14	1.42	0.30±0.20	1.50	-0.02±0.20	1.00	0.19±0.20	0.95
5	Л-75 х Л-302	0.20±0.16	1.25	0.02±0.18	0.11	0.08±0.21	0.38	0.15±0.13	1.15
6	Л-75 х Л-597	-0.48±0.17	2.35	0.03±0.22	0.14	-0.40±0.20	2.00	-0.29±0.17	1.76
7	Л-1703 х С-6530	-0.19±0.20	0.96	-0.03±0.20	0.15	0.13±0.17	0.76	0,08±0.18	0.44
8	Л-1703 х Л-302	-0.02±0.21	0.09	0.14±0.18	0.87	-0.26±0.15	1.30	-0.22±0.20	1.10
9	Л-1703 х Л-597	0.30±0.13	2.30	0.15±0.16	0.93	-0.23±0.19	1.21	0.26±0.12	1.53
10	Л-1858 х С-6530	-0.20±0.18	1.11	-0.18±0.15	1.20	0.40±0.19	2.11	0.09±0.18	0.50
11	Л-1858 х Л-302	-0.08±0.18	0.44	-0.19±0.15	1.26.	-0.20±0.17	12.17	0.07±0.20	0.35
12	Л-1858 х Л-597	0.18±0.15	1.20	-0.18±0.21	0.85	-0.10±0.17	0.59	0.12±0.17	0.71
13	Л-257 х С-6530	0.12±0.17	0.70	0.20±0.14	1.43	0.02±0.21	0.09	0.33±0.16	2.06
14	Л-257 х Л-302	0.30±0.15	2.00	0.113±0.17	0.62	-0.01±0.17	0.06	0.08±0.18	0.44
15	Л-257 х Л-597	0.54±0.18	3.00	0.05±018	0.28	-0.04±0.18	0.22	0.18±0.15	1.20

Использованные источники:

1. Бередихина А.И. Изменение масличности семян хлопчатника при вилтовом заболеваний. В кн. «Материалы пятой конференции молодых ученых по с/х Узбекистана»., Фан. Ташкент. 1970. 56-59 с.133. 2. Войтенок Ф.В., Соколова Т.Б., Неъматов П., Сыдык-Ходжаева Л.А. Наследование масличности семян хлопчатника и возможные пути усиление этого признака. //Ж.: С. -Х. биология. 1983. N1. С.52-57.

3. Губанов Г.Я. О масличности семян. "Известия АН Уз- ССР". 1949. №4. 5 с.

4. Губанова Н.Г., Пулатов М., Гарботовская А.Т. Комбинационная способность сортов по масличности семян. //Ж.: “Сельскохозяйственная биология”, 1981. Т-16. №1. С.74-76.

5. Пулатов М.П. Комбинационная способность по урожайности и ее компонентами у сортов и гибридов хлопчатника при топкоросных

скрещиваниях. В сб. "Генетика, селекцияи семеноводство хлопчатника и люцерны". Труд ВНИИССХ им. Зайцева вып.17. Ташкент. 1979. 3-7 с.
6. Пустовойт В.С. Избранные труды. Селекция, семеноводство и некоторые вопросы агротехники подсолнечника. М.,Изд. Колос..1966. 325-331 с.
7.Пустовойт В.С. Основные направления селекционной работы. в кн. Подсолнечник. Москва. "Колос" 1975. 153-164 с.
8. Соколова Т., Иксанов М., Сыдык-Ходжаева Л., Атланов А. «Оценка уровня маслонакопления у тонковолокнистого хлопчатника». //Ж.: Хлопководство. 1985. №2, С.27-29.
9. Duni R.G., Kohel R.J. Motornal effects and generation mean andlysis of seed - oil content in Cotton (C.hirsutum l.) i) Ther and appl.Cenet.1989.V.77 №4. p 569-575.
10. С.М.Мирахмедов. Энциклопедия хлопководства. Тошент-1985 г. 525 с.
11.Доспехов Б.А. Методика полевого опыта, Москва, Колос, 1979,416 с.

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ИЗМЕНЧИВОСТИ МАСЛИЧНОСТИ СЕМЯН У ХЛОПЧАТНИКА ГИБРИДОВ F_1, F_2 И F_3

Аннотация. *В данной статье приведены результаты анализа масличности в семенах у новых создаваемых сортов хлопчатника. Полученные результаты свидетельствуют о том, что изучаемые исходные формы и гибриды F1 по масличности семян хлопчатника имели сложную полигенную детерминацию с проявлением положительного и отрицательного гетерозиса. Гибриды имеют сложный тип наследования масличности семян в зависимости от гибридной комбинации – промежуточное и частичное доминирование низкомасличного родителя. Размах изменчивости признака широкой наблюдается большое количество трансгрессивного выщепления.*

Ключевые слова: *гибриды, семян, хлопчатник, масло-жировая, морфохозяйственный, сверхдоминантный, масличность.*

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VARIABILITY OF SEED OIL CONTENT IN COTTON HYBRIDS F_1, F_2 AND F_3

Annotation. *This article presents the results of the analysis of oil content in seeds of newly created cotton varieties. The results obtained indicate that the studied initial forms and F1 hybrids in terms of oil content of cotton seeds had a complex polygenic determination with the manifestation of positive and negative heterosis. Hybrids have a complex type of inheritance of seed oil content depending on the hybrid combination – intermediate and partial dominance of a low-oil parent. The range of variability of the trait is wide, and there is a large amount of transgressive cleavage.*

Keywords: *hybrids, seeds, cotton, fat and oil, morphological, overdominant, oil content.*

Хлопчатник важнейшая волокнистая культура, однако семена хлопчатника также имеют большое народнохозяйственное значение в пищевой, химической и фармакологической промышленности, а также в животноводстве как ценнейший кормовой продукт - шрот.

Масло-жировая промышленность Республики Узбекистан ежегодно перерабатывает около 1,5 – 1,6 млн. тонн хлопковых семян и получает около 250-300 тысяч тонн масла и около 500 000 тонн шрота. По объемам производства хлопкового масла наша Республика занимает одно из ведущих мест в мире, а по общему производству хлопкового масла занимает второе место в мире после подсолнечного. Поэтому селекция на повышение масличности в семенах у новых создаваемых сортов хлопчатника является одним из важнейших проблем в реализации продовольственной программы и благосостояния народа. В связи с этим, изучение масличности семян у исходных форм привлекаемых в системные скрещивания и их донорские свойства в передаче гибридным потомствам F_1, F_2, F_3 является актуальным в теоретическом и в практическом плане.

Дисперсионный анализ по масличности семян доказал существенность различий между вариантами опыта, т.е., изучаемые сорта и гибриды F_1 достоверно различались между собой по анализируемому признаку. Достоверные различия по эффектам общей комбинационной способности родительских форм по результатам гибридов F_1 и существенность различия по СКС, позволяет перейти к вычислению вариант эффектов ОКС материнских и отцовских форм, показатели констант СКС по всем гибридным комбинациям, а также стандартные ошибки (таблица-1).

Таблица-1.

Результаты дисперсионного анализа родительских форм и гибридов F_1 по масличностью семян

№	Источник Варьирования	Масличность семян
1	Варианты	35.2**
2	Повторности	0.12
3	Случайные	0.23
4	ОКС	2.07**
5	СКС	52.55**
6	РЭ	4.98**
7	Случайные	0.76

Примечание: ** P=0.01

Данные таблицы 2. показывают, что высокие эффекты ОКС проявили линии Л-158 (gi=2.10), Л-302 (2.21) и Л-597 (1.67), а также эти линии оказались лучшими по вариантам СКС. Следовательно, отмеченные линии могут дать хорошие результаты при скрещиваниях для увеличения масличности в гибридных потомствах.

Сравнительный анализ вариантов ОКС и СКС показывает, что линии Л-1858 и Л-257 имеют большое значение СКС, чем ОКС. Это указывает не то, что в наследовании изучаемого признака преимущественное значение у этих линий принадлежит неаддитивным эффектам генов, а у остальных сорта образцов установлен аддитивный тип взаимодействия.

Из приведенной таблицы-2. видно, что масличность семян хлопчатника наследуется, как полигенный признак, то есть при гибридизации родительских форм с близкими показателями наблюдается положительный гетерозис, а при больших различиях признака имеет место промежуточное наследование и проявление негативного гетерозиса. Так например, в гибридных комбинациях Л-75 х Л-302, Л-1703 х Л-302 и Л-1858 х Л-597 получено промежуточное наследование, тогда как гибридные комбинации Л-75 х С-6530, Л-1703 х С-6530 и Л-1858 х С-6530 дали отрицательное доминирование, а в 8-ми случаях сверхдоминирование, т.е., проявление гетерозиса. Самую лучшую специфическую комбинационную способность по изучаемому признаку имели Л-158 и С-6530, а также Л-302 и Л-597 (таблица-2).

Таким образом, изучаемые исходные формы и гибриды F_1 по масличности семян хлопчатника имели сложную полигенную детерминацию с проявлением положительного и отрицательного гетерозиса.

В таблице 3 представлены данные о характере наследования и изменчивости масличности семян у гибридов F_2. Изменчивость средних показателей этого признака у пяти материнских форм были от 18.8 до 21,2 %, наиболее высокомасличным является линия Л-1703. Тесторы Л-302 и Л-158

имели практически одинаковые показатели 19.7% и 19,5 %, а масличность сорта С-6530 оказалось несколько ниже 17,0 %.

Таблица 2.

Комбинационная способность исходных форм и показатели гибридов F_1 по масличности семян

№	Линии	С-6530	Л-302	Л-597	Эффект ОКС gi	Константа СКС			Вар.СКС Qsi	Вар.ОКС Qgi
						1	2	3		
1	Л-158	22.30	22.40	21.88	2.10	3.87	-1.92	-1.89	5.52	11.06
2	Л-75	13.66	21.48	20.98	-1.29	-1.10	0.56	0.59	0.43	4.16
3	Л-1703	14.66	21.81	21.93	-0.53	-0.86	0.13	0.79	0.31	0.69
4	Л-1858	14.46	22.75	22.01	-0.26	-1.34	0.79	0.59	0.65	0.16
5	Л-257	15.47	22.63	21.56	-0.11	-0.48	0.53	0.003	0.08	0.02
6	Gj	-3.94	2.21	1.67	(gi-gi) –0.2259 (gj-gj) –0.1749			(gi-gi) –0.202 (gij-se) –0.112		
7	Qsi	2.28	7.33	4.17						
8	Qgj	0.43	2.41	2.43						

Таблица 3.

Наследование масличностью семян у гибридов F_1.

№	Сорта и гибридные комбинации	Масличность семян	
		X±Sx	hp
1	С-6530	15,4±0,3	
2	Л-302	21,9±0,2	
3	Л-597	20,3±0,2	
4	Л-158	21,6±0,2	
5	Л-75	20,6±0,3	
6	Л-1703	21,6±0,2	
7	Л-1858	22,6±0,2	
8	Л-257	21,2±0,2	
9	Л-158 х С-6530	22,3±0,2	1,1
10	Л-158 х Л-302	22,4±0,2	7,0
11	Л-158 х Л-597	21,9±0,3	2,0
12	Л-75 х С-6530	13,7±0,4	-1,3
13	Л-75 х Л-302	31,4±0,3	-0,5
14	Л-75 х Л-597	20,9±0,4	-4,0
15	Л-1703 х С-6530	14,7±0,2	-1,0
16	Л-1703 х Л-302	21,8±0,3	11,0
17	Л-1703 х Л-597	21,9±0,3	6,0
18	Л-1858 х С-6530	14,5±0,3	-1,0
19	Л-1858 х Л-302	22,9±0,3	2,3
20	Л-1858 х Л-597	22,0±0,3	-1,6
21	Л-257 х С-6530	18,5±0,3	-0,7
22	Л-257 х Л-302	22,6±0,3	5,0
23	Л-257 х Л-597	21,6±0,3	2,0

Полученные результаты свидетельствуют о том, что гибриды F_2 имеют разный характер наследования признака масличности. Так, например, в 10 - ти комбинациях по типу негативного гетерозиса, т.е., средний показатель этого признака у гибридов был ниже, чем у низкомасличных родительских форм. В двух комбинациях доминировал признак низкомасличного родителя; в одной наблюдался негативный гетерозис и только в комбинации Л-257 и Л-302 получен промежуточный тип наследования. (табл 3.)

Анализ данных таблицы 3. Показывает, что у гибридов F_2 в абсолютном большинстве комбинаций наблюдается широкая амплитуда варьирования признака масличности с крайними пределами от 10 до 26 %. Такой широкий размах изменчивости обусловлен проявлением в популяциях большого числа особей, у которых этот признак выражен слабее, чем у родительских форм. Положительное трансгрессивное расщепление получено только в 4 комбинациях причем, частота проявления плюс вариантов была невысокой. Аналогичный характер наследования и изменчивости масличности семян наблюдается в F_3, но с небольшими колебаниями в абсолютных значениях и уменьшением одного левого класса (таблица-5.).

Таким образом, сложный формообразовательный процесс, наблюдаемый в изучаемых гибридных комбинациях F_2 и F_3 свидетельствует о том, что масличность семян хлопчатника является генетически сложным признаком и контролируется полигенами.

Таблица 4.

Изменчивость масличности семян хлопчатника у гибридов F_2.

№	Сорта и гибридные комбинации	Граница классов. %								X±Sx	V %
		10.1 -12	12. 1- 14	14. 1- 16	16.1 -18	18.1 -20	20.1 -22	22.1 -24	24.1- 26		
1	С-6530			12	17	11				17.0±0. 3	7.0
2	Л-302				3	22	13	2		19.7±0. 2	7.1
3	Л-597				9	10	15	6		19.9±0. 2	10.2
4	Л-158				11	12	14	3		19.5±0. 3	10.9
5	Л-75				8	16	11	5		19.7±0. 3	9.6
6	Л-1703					9	19	12		21.2±0. 3	7.6
7	Л-1858				12	20	8			18.8±0. 2	7.5
8	Л-257					14	15	11		20.8±0. 2	7.6

9	Л-158 х С-6530		5	9	29	14	10	6	2	17.8±0.3	16.6
10	Л-158 х Л-302		12	10	14	23	9	7		18.3±0.4	18.6
11	Л-158 х Л-597		4	6	8	11	15	18	8	19.2±0.4	15.8
12	Л-75 х С-6530	6	8	9	13	15	12	9	3	17.8±0.4	21.3
13	Л-75 х Л-302	2	2	3	5	14	25	17	7	20.5±0.4	16.4
14	Л-75 х Л-597	3	6	4	8	15	21	13	5	19.4±0.4	18.6
15	Л-1703 х С-6530	7	7	18	13	15	10	5		17.0±0.2	12.8
16	Л-1703 х Л-302	4	6	9	21	17	11	7		18.4±0.4	16.4
17	Л-1703 х Л-597			11	14	28	9	8	5	19.1±0.3	14.6
18	Л-1858 х С-6530	6	9	16	17	14	13			16.8±0.3	18.5
19	Л-1858 х Л-302		3	9	16	27	16	4		18.5±0.3	12.9
20	Л-1858 х Л-597		7	16	29	16	5	2		17.2±0.3	15.4
21	Л-257 х С-6530	5	6	19	22	11	12			16.9±0.3	14.9
22	Л-257 х Л-302			4	11	19	28	8	5	20.1±0.3	12.2
23	Л-257 х Л-597	3	7	4	9	17	21	10	4	19.1±0.4	18.6

Таблица 5.

Изменчивость масличности семян хлопчатника у гибридов F_3.

№	Сорта и гибридные комбинации	Граница классов. %								X±Sx	V %
		10.1-12	12.1-14	14.1-16	16.1-18	18.1-20	20.1-22	22.1-24	24.1-26		
1	С-6530				12	16	7	5		19.00±0.31	9.17
2	Л-302				5	17	14	4		19.8±0.25	6.85
3	Л-597				6	15	10	9		20.07±0.36	9.75
4	Л-158			6	12	15	7			19.0±0.34	9.98
5	Л-75				10	18	8	4		19.3±0.4	11.3
6	Л-1703					8	18	19		21.4±0.26	6.68
7	Л-1858					14	18	8		20.6±0.26	6.94
8	Л-257					14	19	7		20.5±0.25	6.62
9	Л-158 х С-6530	7	5	8	35	12	8			16.67±0.46	13.81
10	Л-158 х Л-302	5	14	12	10	30	3	1		18.48±0.5	17.81
11	Л-158 х Л-597	9	6	4	8	27	15	6		18.93±0.66	21.49
12	Л-75 х С-6530	9	15	15	13	8	9	6		15.4±0.66	23.65
13	Л-75 х Л-302	3	17	5	8	21	17	2	2	18.07±0.68	20.72
14	Л-75 х Л-597		5	5	12	41	8	4		18.38±0.4	11.94
15	Л-1703 х С-6530	22	40	9	4					12.73±0.24	10.71
16	Л-1703 х Л-302	19	14	7	9	16	6	4		17.25±0.59	18.84
17	Л-1703 х Л-597		4	9	9	22	28	3		18.73±0.44	12.78
18	Л-1858 х С-6530	8	37	17	8	5				13.78±0.32	12.99
19	Л-1858 х Л-302			5	4	35	31			19.63±0.3	8.49
20	Л-1858 х Л-597				17	34	18	6		19.20±0.29	8.37
21	Л-257 х С-6530	8	23	24	6	9	5			14.24±0.41	15.78
22	Л-257 х Л-302			5	5	26	24	15		20.27±0.31	9.47
23	Л-257 х Л-597	4	4	4	5	21	22	15	4	19.66±0.43	11.6

Следует отметить, что в гибридном питомнике F_3 нами выделены 6 семей с масличностью семян более 24 % и 64 семьи с масличностью от 22 до 24 %, которые позволят продолжить селекционную работу по масличности семян в комплексе с морфохозяйственными и физиолого- биохимическими признаками.

Таким образом, исходя из выше изложенного можно сделать следующие выводы:

- Родительские формы различаются по содержанию масла в семенах и имеют различную комбинационную способность. Лучшими по ОКС и СКС были Л-302, Л-158 и Л-597. При этом исходные формы имели сложную полигенную детерминацию с выраженными аддитивными и неаддитивными эффектами генов по масличности семян хлопчатника.

- Гибриды F_1 имели сверхдоминантный, доминантный и промежуточный тип наследования этого признака.

- Гибриды F_2 имеют сложный тип наследования масличности семян в зависимости от гибридной комбинации – промежуточное и частичное доминирование низкомасличного родителя. Размах изменчивости признака широкой от 10.1 % до 26 %, т.е., наблюдается большое количество трансгрессивного выщепления.

- Гибриды F_3 имеют аналогичную закономерность по наследованию и изменчивости масличности семян, что и в F_2, лишь с меньшей вариабельностью признака.

Использованные источники:

1. Бередихина А.И. Изменение масличности семян хлопчатника при вилтовом заболеваний.В кн. «Материалы пятой конференции молодых ученых по с/х Узбекистана»., Фан. Ташкент. 1970. 56-59 с.133. 2. Войтенок Ф.В.,Соколова Т.Б., Нематов П.,Сыдык-Ходжаева Л.А. Наследование масличности семян хлопчатника и возможные пути усиление этого признака.//Ж.: С. -Х. биология. 1983. N1. С.52-57.

3. Губанов Г.Я. О масличности семян. «Известия АН Уз- ССР». 1949. №4. 5 с.

4. Губанова Н.Г., Пулатов М., Гарботовская А.Т. Комбинационная способность сортов по масличности семян. //Ж.: «Сельскохозяйственная биология», 1981. Т-16. №1. С.74-76.

5. Пулатов М.П. Комбинационная способность по урожайности и ее компонентами у сортов и гибридов хлопчатника при топкоросных скрещиваниях. В сб. «Генетика, селекцияи семеноводство хлопчатника и люцерны». Труд ВНИИССХ им. Зайцева вып.17. Ташкент. 1979. 3-7 с.

6. Пустовойт В.С. Избранные труды. Селекция, семеноводство и некоторые вопросы агротехники подсолнечника. М.,Изд. Колос..1966. 325-331 с.

7.Пустовойт В.С. Основные направления селекционной работы. в кн. Подсолнечник. Москва. «Колос» 1975. 153-164 с.

8.С.М.Мирахмедов. Энциклопедия хлопководства. Тошент-1985 г. 525 с.

9. Доспехов Б.А. Методика полевого опыта, Колос, 1979,416 с.

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НАУЧНЫЕ ОСНОВЫ ФОРМИРОВАНИЯ СИСТЕМЫ МОНИТОРИНГА ПРИ ИЗУЧЕНИИ ПРИРОДНО-ГЕОГРАФИЧЕСКИХ УСЛОВИЙ ГЕОСИСТЕМ МИРЗАЧУЛЯ

Аннотация. *В данной статье приведены результаты комплексных исследований засоления почв Голодной степи, с рекомендуемым расположением постов наблюдения на базе литодинамических потоков в пределах бассейнов-геосистем, с учетом территории формирования, транзита и разгрузки легкорастворимых минеральных солей.*

Ключевые слова: *почва, засоление, мониторинг, топографическая карта, пластика рельефа, бассейны-геосистемы, вторичное засоление, легкорастворимые соли*.

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SCIENTIFIC FOUNDATIONS FOR THE FORMATION OF A MONITORING SYSTEM IN THE STUDY OF NATURAL AND GEOGRAPHICAL CONDITIONS OF THE MIRZACHUL GEOSYSTEMS

Abstract. *This article presents the results of comprehensive studies of soil salinization in the Hungry Steppe, with the recommended location of observation posts based on lithodynamic flows within basins-geosystems, considering the territory of formation, transit and discharge of easily soluble mineral salts.*

Key words: *soil, salinization, monitoring, topographic map, relief plasticity, basins-geosystems, secondary salinization, easily soluble.*

Введение. Одной из актуальных задач мелиоративной географии является получение достоверных сведений о засоленных почвах, особенностях их пространственного распространения, динамике водно-солевых процессов, без знания которых невозможно прогнозировать состояние почв, а также обосновывать мероприятия по их мелиорации.

Большое научно-практическое значение имеет создание, единой системы комплексного мониторинга засоления почв бассейнов-геосистем для территории Голодной степи (Мирзачуля),которая позволит оперативно получать представление о динамике изменения засоления почв.Создаваемая сеть позволит оперативно получать данные, выполненных по единой

методике, что в дальнейшем обеспечит сбор необходимых сведений для решения прогнозных задач и разработать рекомендации по предупреждению и устранению последствий негативных процессов (Джаналеева,2014; Панкова, 2014; Ахмедов, Баиров,Парпиев, 2016; Руководств, 2017 и др.)

Сегодня понятие «мониторинг» набирает популярность во всех слоях общества. В связи с возрастающим воздействием антропогенных факторов на окружающую среду возникает необходимость создания специальной системы мониторинга. В следствии проведенных на территории наблюдений и полученных нами данных считается целесообразным проведение мониторинга происходящих изменений в геосистемах округа и оценки изменения в природной среде.

Важность организации регионального мониторинга в Мирзачуле. Особое значение имеет включение мониторинга в перечень государственных приоритетов в нашей стране. Это связано с тем, что рациональное использование природы, воды, в том числе земли, улучшение почвенно-мелиоративных условий способствуют развитию аграрного сектора.

Значение почвенного покрова в составе геосистем очень велико. В Мирзачульском округе географическое распространение почв неразрывно связано с формами рельефа, геологическим и литологическим строением. Здесь хорошо представлены типы почв и их стратификация на предгорных пролювиально-аллювиальных равнинах, в бессточных котловинах, на террасах рек. С целью усовершенствования разработки расположения сети мониторинга, проводимых наблюдений за засолением почв в Голодной степи, авторами выполнены комплексные исследования на базе бассейнов-геосистем.

Основные результаты и их обсуждение. Глубина и минерализация грунтовых вод является важнейшим показателем почвенно-солевого режима в бассейновых геосистемах. Эти процессы усилились в последние годы по мере усиления воздействия антропогенных факторов на геосистемы. В проанализированы изменения водно-солевых показателей почв Санзарской котловины-геосистемы во времени и в пространстве.

В этом исследовании разработана система мониторинга на ключевых участках. Известно, что засоленность является одним из основных признаков, ограничивающих плодородие почв в засушливых регионах. На засоление большое влияние оказывают изменения природных условий и состояния почв в результате антропогенных воздействий, поэтому необходимо контролировать и управлять процессами, происходящими в почвах засушливых регионов.

Динамику засоления почв оценивали путем сравнения аэрокосмических снимков разных лет (Панкова, Соловьев, 1993; Рухович и др., 2010). В настоящее время целесообразно разработка компьютерных программ для обработки изображений, полученных с современных спутников высокой четкости. Это также позволяет создать многолетнюю систему мониторинга, Вотслеживающую засоление орошаемых земель по опыту прошлых

лет.Представленные исследования основаны по данным карты пластики рельефа Санзарской бассейновой геосистемое на верхней, средней и нижней частях, относящиеся к староорошаемым луговым, состоящим из старых аллювиально- пролювиальных отложений и новоорошаемым лугово-аллювиальным почвам. В геосистемах можно разделяют возникновение засоленности, движение и накопление солей.(рис.1).

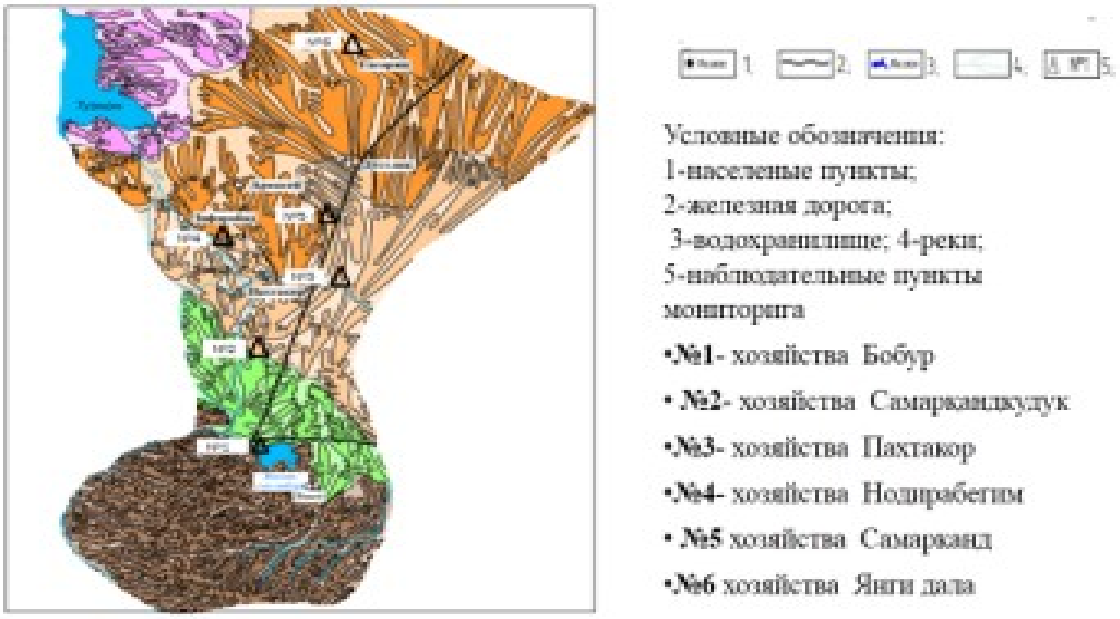

Рисунок 1. Геосистема - бассейн Санзар

Очень важное практическое значение имееть четко показать эти места на крупномасштабных картах.Аккумуляция твердых солей и органических веществ идет в нижних частях геосистем и прогибах. Это состояние вызывает засоление почвы. Опытные базовые участки в Санзарской бассейновой геосистеме, т.е. базовые точки (площадки) были выделены в почвах базовых (№1, №2, №3, №4, №5, №6) хозяйств (рис.1). Изучение химического состава воды, поступающей в озера и водохранилища бассейна реки Санзар, способствует определению мелиоративного состояния орошаемых почв бассейна, а также правильной оценке и классификации. Все речные бассейны имеют места движения транзита и аккумуляции накомления образования, движения и накопления вещества и энергии. Она обусловлена постоянным поступлением атмосферных осадков, поверхностных и подземных вод.

Считаем необходимым применять комплексный системный подход при разработке систем мониторинга в бассейновых геосистемах Санзарской котловины и Джизакской степи. Полученные результаты показывают необходимость использования системно-структурных представлений бассейново-геосистемного подхода при организации и изучении засоленных почв Мирзачуля, в частности, бассейна реки Санзар. Из представленной работы следует, что функциональная связь между компонентами осуществляется литодинамическими потоками, для чего использовался метод пластики рельефа.Через установленные базовые пункты наблюдения

появилась возможность получения достоверные и точные данные по карте структурных течений. На этой карте четко видно местонахождение наблюдаемой точки, т.

Заключение. В результате полевых исследований, на типичных светлых сероземах территории, на опытных участках наблюдения с юга на север (№1, №2, №3, №4, №5, №6), в результате механической обработки, регулярного внесения минеральных и органических удобрений, обнаружено формирование новых типов почв. Ускорились антропогенные процессы, и почвы стали гидроморфными вместо прежних автоморфных и полугидроморфных почв. Оросительные мероприятия привели к коренному изменению мелиорации почв региона. На опытных участках определены луговые сероземы и луговые почвы, связанные с литогенно-геоморфологическим строением и мелиоративным состоянием измененным под влиянием антропогенных факторов. Они образуют группу почв с очень близким механическим составом, наблюдалось накопление относительно большого количества глинистых частиц в средних слоях почвенного профиля под влиянием орошаемого земледелия. В процессах засоления и опреснения почв определены гидрогеологические и почвенно-климатические условия, состояние гидромелиоративных систем, уровень землепользования и различные принимаемые меры, в частности состояние подземных вод.

Использованные источники:

1.Abdunazarov, U., & Sabitova, N. (2020). Morphological features of buried Soils of loess formations of the prytashkent region of Uzbekistan. *Архив Научных Публикаций JSPI*.

2. Sabitova N.I., Kholdorova G.M. As A Deternining Factor Of Soil Meliorium Status Of Sangzor Basin Flow Geostem // Nature and Science.volume 18, Number 10 October 25, 2020, USA. (11.00.00. №4)

3.Kholdorova, G. M. (2020). Changes In Natural Geographical Processes In The Mirzachul Region Under The Influence of The Sardoba Reservoir. *European Journal of Molecular & Clinical Medicine*, *7*(3), 3136-3147.

5. Хакимов, К. М., Эрматова, Н. Н., & Холдорова, Г. М. принципы основные положения номинации географических объектов. Проблемы современной науки и образования, (4 (86))

6.Xoldorova G., Usmanov, M. (2020). Мирзачўл табиий географик райони ҳудудининг тупроқ қоплами мониторинг тизимини ташкил этишнинг амалий жиҳатлари. *Архив Научных Публикаций JSPI*, 1-7.

7.Xoldorova, G. (2021). Проблемы мониторинга окрижающей среды мирзачуля. Журнал Педагогики и психологии в современном образовании, (1). извлечено от https://ppmedu.jspi.uz/index.php/ppmedu/article/view/1455

8.Холдорова Г., Эсонов С.Э. М Сангзор хавзаси геосистемаларида тупрокларининг мелиоратив холатини картага туширишда тизимли тахлилдан фойдаланиш “Journal of Natural Sciences” №2 2021 y. http://natscience.jspi.uz

9.Sidikova, K., Muminova, N., & Abdurakhmanov, E. (2024). Synthesis of porous gas materials for a semiconductor carbon (ii) oxide sensor and their investigation. In *E3S Web of Conferences* (Vol. 474, p. 01023). EDP Sciences
10.O.Ruzikulova, N. Sabitova G. Kholdorova The role of GIS texnology in determining irrigateci geosistems E3S Web of Conferences 227,03004(2021) GI 2021 ttps://do.org/10.1051/e3sconf/202122703004. 257 б

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ОЦЕНКА ЭФФЕКТИВНОСТИ БИОЛОГИЧЕСКОГО ПЕСТИЦИДА «ХЕЛИТЕК» В БОРЬБЕ С ВИШНЕВЫМ СЛИЗНЕМ (*CALIROA CERASI* L.) В КОНТРОЛИРУЕМЫХ И ОТКРЫТЫХ УСЛОВИЯХ

Аннотация. *В статье приведены сведения о результатах экспериментов, проведенных по выявлению эффективности инсектицида «ХЕЛИТЭК» для борьбы с личинками вишневого слизняка (Caliroa cerasi L.) в лабораторных и полевых условиях. В ходе экспериментов в лабораторных условиях зафиксирована эффективность 98-100 % в течение 3 суток, а в полевых условиях показатель изменился до 80,1-85,0 процентов на седьмые сутки при норме расхода 0,4-0,5 л/га для каждого опыта.*

Ключевые слова*. Вишневый слизень (Caliroa cerasi L.), личинки, ордо, имаго, норма расхода, микробный инсектицид, Хелитес, бакуловирус, биологическая эффективность.*

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EVALUATION OF THE EFFECTIVENESS OF THE BIOLOGICAL PESTICIDE "HELITEK" IN THE FIGHT AGAINST CHEREBRY SLUE (CALIROA CERASI L.) IN CONTROLLED AND OPEN CONDITIONS

Abstract*. The article presents the results of experiments conducted to determine the effectiveness of the "HELITEK" insecticide in controlling cherry slug (Calirosa serasi L.) larvae in laboratory and field conditions. During the experiments, an efficiency of 98-100% was recorded in the laboratory conditions within 3 days, and in the field conditions, the indicator changed to 80.1-85.0 percent on the seventh day at a rate of 0.4-0.5 l/ha for each experiment.*

Keywords. *Cherry snail (Saliroa serasi L.), larvae, ordo, imago, consumption rate, microbial insecticide, Helites, baculovirus, biological effectiveness.*

ВВЕДЕНИЕ

По производству черешни и ее экспорту на мировой рынок Узбекистан в настоящее время занимает уникальное положение в садоводстве. Узбекистан входит в десятку стран мира, выращивающих черешню, среди 65

крупнейших. В нашей стране насчитывается 20,9 тыс.га черешневых садов, средняя урожайность составляет 13,2 тонны с гектара. Ожидается, что в этом году во всех типах хозяйств республики будет произведено 183 тыс. тонн черешневой продукции, из которых фермеры и агрофирмы произведут 82,2 тыс. тонн. [Информация предоставлена информационной службой Министерства сельского хозяйства Республики Узбекистан].

Одной из самых больших проблем, с которой сталкиваются сегодняшние экспортеры, является повышение товарности и производительности вишневых плодов и их развитие в соответствии с мировыми потребностями. В этой ситуации особое внимание должно уделяться созданию экологически чистых натуральных продуктов, а также должно быть внедрено широкое использование микробиологических инсектицидов для борьбы с вредителями и болезнями.

Известно, что в течение сезона на вишневые сады нападают более 10 насекомых-вредителей. Вишневый слизень (*Caliroa cerasi L.) является одним из наиболее вредоносных видов среди них. Из-за его повреждения* снижается урожайность, ухудшается качество плодов, а деревья в конечном итоге погибают (рис. 1).

Вишневый слизень (*Caliroa cerasi L.)* относится к семейству *Tenthredinidae* отряда *перепончатокрылых* [1,2,5,8,9,11,12]. Вредитель широко распространён в Европе, Азии, Китае, Японии, Южной и Северной Америке, Южной и Северной Африке, Новой Зеландии.

Взрослая особь вредителя глянцево-черная, длиной 4-6 мм, ложная куколка в коконе зимует в почве. Весной превращается в купол. Взрослые особи летают поздней весной в зависимости от местных температур. Размножаются часто партоногенезом. Самки откладывают 50-75 яиц по одному под листья. Яйца развиваются в течение 8-14 дней. Личинка питается листьями в течение 17-28 дней и превращается в куколку в почве [2,5,9,12]. В ходе мониторинга в 2019-2021 гг. в условиях Ферганской долины было зафиксировано 3 поколения в год.

Вредитель поражает различные растения, включая вишню, сливу, рябину, айву, грушу и боярышник. Личинка питается, обгрызая эпидермис верхней стороны листа (рис. 2). С нижней стороны она не трогает кору, то есть прокалывает одну сторону листа. Вишневый слизень — влаголюбивый вредитель. Если влажность воздуха опускается ниже 30-40%, наблюдается массовая гибель его молодых личинок [2,5,9,12].

По данным Беерса [7], вишневый слизень дает два поколения в год, причем личинки второго поколения повреждают молодые деревья еще более смертельно, чем личинки первого поколения. Оптимальная температура для этого вредителя составляет от 5 до 300 по Цельсию [8].

Опыт проводился на садоводческом участке «Ходжи Абдулхаи» Пахтаабадского района и в приусадебных садах Избасганского района Андижанской области в 2019-2021 годах.

В ходе наших наблюдений было установлено, что вишневый слизень - *Caliroa cerasi* L., относящийся к семейству перепончатокрылых, наносит серьезный ущерб вишневым садам. Первые отродившиеся личинки вредителя появились на нашем опытном поле 1-3 мая. Массовое их поражение совпало с периодом позднего созревания плодов вишни. Это создавало неудобства вишневым хозяйствам из-за несвоевременной химической обработки садов. В результате погибло 20-30% ветвей старых деревьев, а 60-80% молодых саженцев были повреждены (рис. 1.).

Подобные проблемы в вишневых садах привлекли внимание ученых мира. В частности, ряд ученых из Турции, Австралии, Новой Зеландии и Вашингтона провели ряд работ по испытанию микробиологических препаратов. В Австралии биологическая борьба с вишневым слизнем с использованием естественных врагов, таких как *Beauveria bassiana* и *Blastocrithidia caliroa* привела к резкому сокращению их численности. [3,4].

Рис. 1. Вишневый слизень (Caliroa cerasi L.) ущерб в садоводческом хозяйстве « Ходжи » Абдулхай », Пахтаабадский район Андижанской области. Фото З.Б. Холмирзаевой 19.05.2020.

Кроме того, *Lathrolestes luteolator* вызвал 90%-ную смертность личинок в первом поколении вишневого слизняка, но не смог контролировать личинки во втором поколении. [11].

В ходе научного исследования нами была изучена биологическая эффективность микробиологического биопрепарата Helitec производства Kenya Biologics Ltd. в лабораторных и полевых условиях.

Helitec — препарат, содержащий 5x10x12 полиэдроза (NPV) в одном литре раствора, вируса, принадлежащего к подклассу полиэдроза семейства бакуловирусов.

Особенно многочисленны представители подгруппы полиэдрозов. Согласно списку, составленному В.В. Гулием и др. (1982), на территории бывшего Советского Союза вирусы этой подгруппы зарегистрированы более чем у 109 видов насекомых, относящихся к трем отрядам и 24 семействам, в

том числе изучены 99 видов *чешуекрылых* (19 семейств), 7 видов *перепончатокрылых* (4 семейства), 3 вида *двукрылых (2 семейства) [13,14]*.

Вирусы полиэдроза развиваются в гиподерме в жировых клетках, гемолимфе и в аракках в эпителии средней кишки. Насекомые заражаются в основном на личиночных стадиях.

Симптомы заболевания у личинок следующие. Сначала брюшные членики ложных червей приобретают молочный цвет, изо рта вытекает молочно-белая жидкость, а из анального отверстия выделяется темно-коричневая капля. Позже ложные черви прикрепляются к листовой пластине, выделяя липкое вещество, и погибают от вируса в течение 24-48 часов. [13].

Симптомы заражения вирусом непарнокопытных включают: изменение цвета (коричневый и желтый), стресс, разложение (разжижение), медленное движение, обычно выражающееся в отказе насекомого от пищи [13,14,15].

МАТЕРИАЛЫ И МЕТОДЫ

Исследования проводились нами в лабораторных условиях совместно с учеными НИИ защиты растений. Для проведения лабораторных экспериментов использовались «Методические указания по испытанию биологических препаратов для защиты растений от вредителей, болезней и сорняков» (1973). При определении биологической эффективности микробиологических препаратов использовались методические указания Ш.Т.Ходжаева «Основные условия испытания инсектицидов против вредителей и болезней сельскохозяйственных культур в малых и больших полевых опытах / Сборник методических указаний по испытанию инсектицидов, акарицидов, биологически активных веществ и фунгицидов», II издание (2004).

Опыт проводился в 4 повторностях по 3 варианта. Для проведения опыта был взят пластиковый контейнер размером 35х15х15, на дно которого было засыпано 5 см экспериментальной садовой почвы (рис. 2.).

Рисунок 2. Пластиковые емкости размером 35х15х15, приспособленные для кормления вишневого слизняка в лабораторных условиях (автор З.Б. Холмирзаева 3.06.2020.).

Лента листьев, обработанных 0,4 и 0,5 л/га биопрепарата Helitec на свежесрезанных листьях вишни, обернутых влажной ватой и уложенных на почву. Контрольный вариант обрабатывали водой. Затем на листья помещали 10 личинок вишневого слизня того же возраста, собранных в вишневых садах. Мокрую вату прикрепляли к стенкам контейнера для поддержания влажности в контейнере, и ее обновляли каждые 12 часов. Температуру воздуха поддерживали на уровне 250С, а относительную влажность воздуха - 60-65%.

РЕЗУЛЬТАТЫ И ОБСУЖДЕНИЕ

После эксперимента подсчеты производились каждые 24 часа.

Было отмечено, что насекомые в нашем эксперименте полностью прекратили питаться и двигаться через 24 часа, а 20% из них погибли.

Через 72 часа цвет личинок вишневого слизняка стал желтовато-коричневым и биологическая эффективность составила 80,0%, а через 5 суток погибло 100% личинок и их цвет стал темным, то есть были отчетливо видны признаки гибели из-за вирусов (рис.3.).

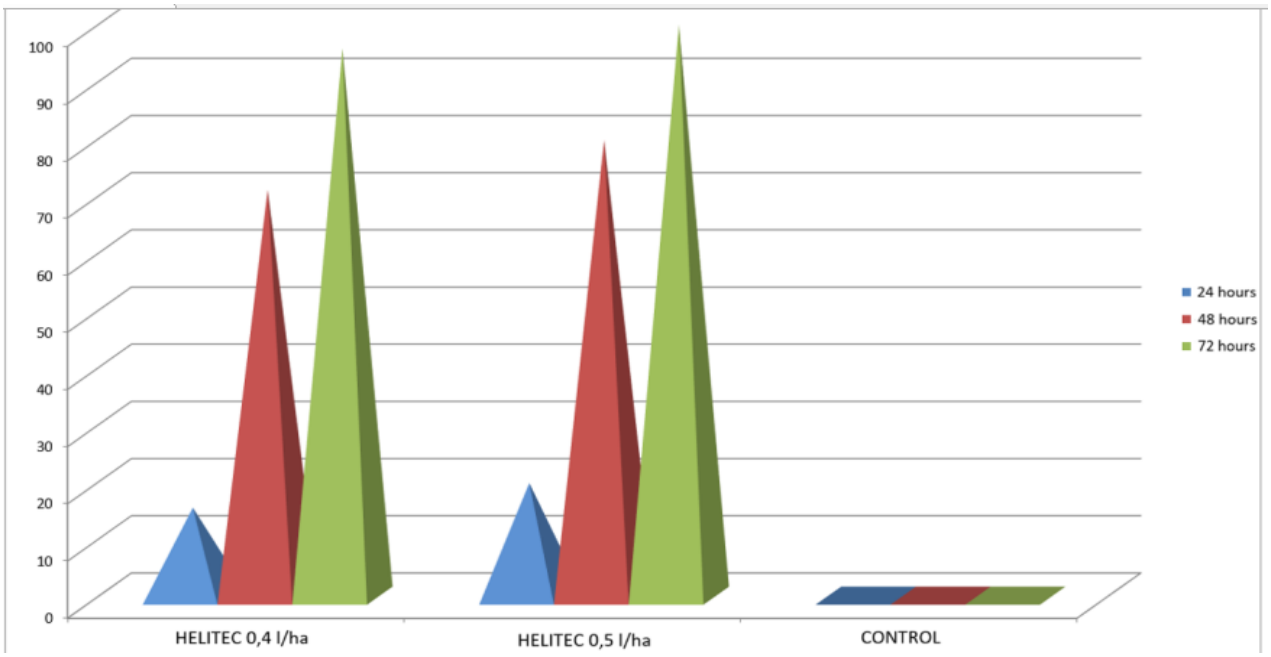

Рисунок 3 . Биологическая эффективность Helitec

В контрольном варианте при обработке обычной водой было отмечено, что личинки вишневого слизняка питались листьями вишни и активно передвигались (рис. 4).

Рисунок 4. Опыт: личинки вишневого слизняка, зараженные препаратом Хелитек 0,5 л/га (автор З.Б. Холмирзаева 05.05.2020).

Опыт: личинки вишневого слизняка, зараженные препаратом Хелитек 0,4 л/га (автор З.Б. Холмирзаева 05.05.2020 г.).

Эксперимент: личинки вишневого слизняка, зараженные водой (З.Б. Холмирзаева 05.05.2020).

Заметив, что вышеперечисленные признаки в точности соответствуют случаям гибели, вызванным вирусом, был сделан вывод, что гибель личинок наступила из-за поражения вирусом. В контрольном варианте, т. е. при обработке обычной водой, личинки вишневого слизняка питались листьями вишни и активно передвигались (рис. 4).

В связи с тем, что микробиологический препарат Препарат Helitec показал высокую эффективность против вишневого слизняка в лабораторных условиях, 1 мая 2021 и 2022 годов он был испытан на полигоне «Воловая». Сорт черешни «сердца» в мелкополевых опытах в садоводческих хозяйствах и приусадебных хозяйствах Андижанской, Ферганской, Наманганской областей. Опыты проводились в 3 вариантах, состояли из 4 возвратов и обрабатывались с помощью ручного мотоопрыскивателя «Самара 999».

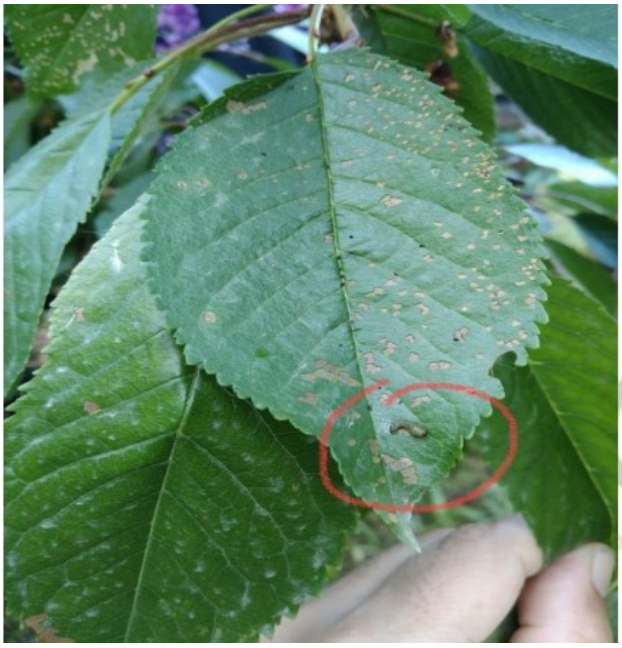

Рисунок 5 а. Личинка вишневого слизня, погибшая под воздействием микробиологического препарата

Рисунок б. Личинка вишневого слизня, погибшая под воздействием химического препарата

В полевом опыте при наблюдении через 24 часа после внесения микробиологического препарата, как и в нашем опыте в лабораторных условиях, личинки вишневого слизняка практически не отличались от здоровых и прекращали питание, а биологическая эффективность препарата в среднем в полевых условиях в Андижанской области составила 13,6-15,9%, в Наманганской области - 11,1. По наблюдениям она составила -13,5%, а в Ферганской области - 13,3-16,3%.

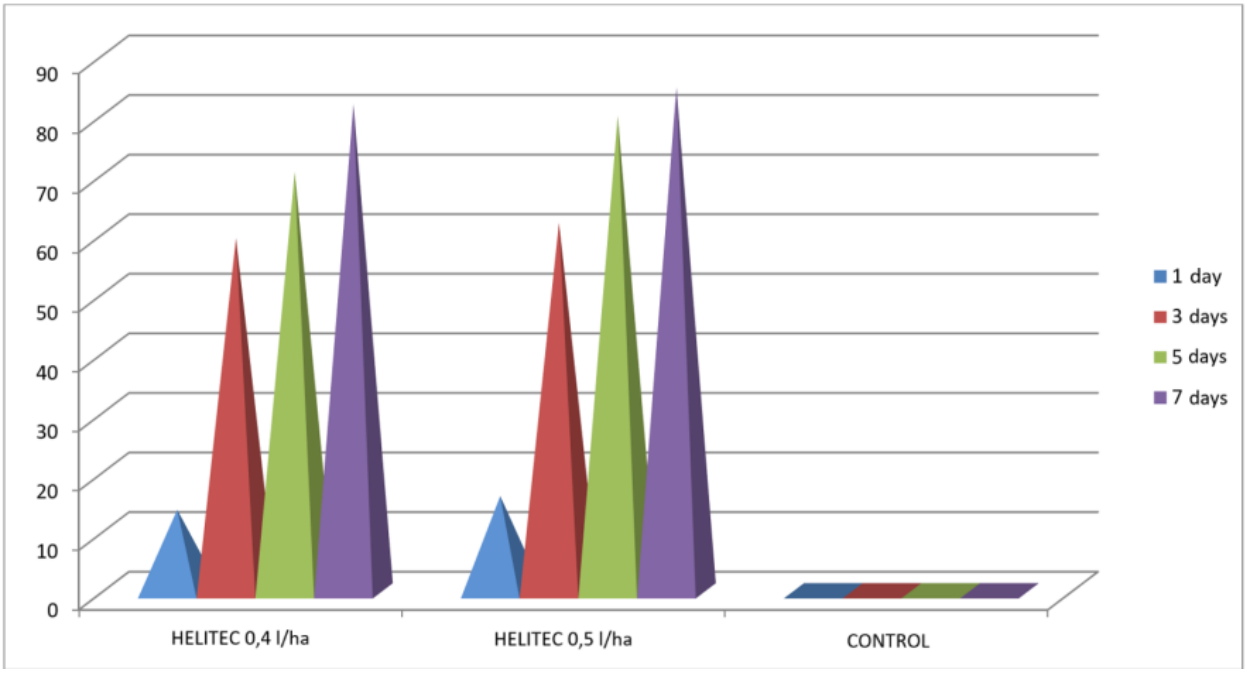

Рисунок 6. Биологическая эффективность микробиологического препарата «Helitec» в полевых условиях Андижанской области

На 3-й день после применения препарата при проведении наблюдений у личинок вишневого слизняка наблюдались симптомы пожелтения и вздутия, а также личинки переворачивались на листовой пластинке вниз головой, при этом биологическая эффективность препарата составила в полевых условиях в Андижанской области 59,2-61,8%, в Ферганской области 54,9-61,9%, а в Ферганской области 69,7-80,4% (рис. 6.).

На 7-е сутки опыта личинки вишневого слизня потемнели, а биологическая эффективность препарата составила в Андижанской области 81,7-84,5%, в Наманганской области 80,1-83,7%, в Ферганской области 81,4-85%. Отмечено, что она составила 0% (рис. 6).

Сделан вывод, что микробиологический препарат мы использовали в первой декаде мая, в течение которого средняя температура воздуха составляла 20-250С, а относительная влажность воздуха 50-60%. Так как этот период является благоприятным для применения микробиологических препаратов, то биологическая эффективность в полевых условиях в среднем составляет 80,1%. Она составила 85,0%. По результатам опыта рекомендуется использовать данный биопрепарат против вишневого слизняка с целью получения в дальнейшем экологически безопасной продукции.

Использованные источники:

1. Аброров Ш. Замонавий интенсив гилос боғлари. - Тошкент: «Бактрия пресс», 2018. – 116 б.

2. Арсланов М.Т., Пўлатов З. А., Алиев Ш. К., бошқалар. Мевали боғлар, дуккакли дон экинлар, полиз ва сабзавт ҳамда бошқа турдаги қишлоқ хўжалик

экинлари заркундалари, касалликларини тарқалишини ҳисобга олиш. – Тошкент: «Наврўз», 2019. – 31 б.
3. Асланташ, Р., Экен, К. и Хаят, Р. (2008) Патогенность Beauveria bassiana для вишневого слизняка, Caliroa cerasi Hymenoptera: Tenthredinidae) личинки. World J Microbiol Biotechnol. 24(1), 119-122 стр.
4. Липа, Дж. Дж., Карл, К. П. и Валентайн, Э. В. (1977) Бластокритидии caliroae sp. n., жгутиконосный паразит Caliroa cerasi (L.) (Hymenoptera: Tenthredinidae) и заметки об его эпизоотиях в полевых популяциях хозяина. Акта Протозоол. 6(2), 121-130 р.
5. Бондаренко Н.В., и др. Вишнёвый слизистый пилильщик- Caliroa cerasi L. Общая и с ельскохозяйственная энтомология. 2-е изд., перераб. и доп. Л.: Агропромиздат, 1991. – 371с.
6. Б.А. Доспехов. Методика полевых опытов. М. 1985 г.
7. Бирс, Э. Х., Бруннер, Дж. Ф., Уиллетт, М. Дж. и Уорнер, Г. М. (1993) Борьба с вредителями в садах: Справочник по северо-западу Тихого океана. Good Fruit Grower, Якима, Вашингтон. 276 стр.)
8. Бадо С.Г. и Хьюз А.Н. Предварительные результаты *Caliroa cerasi* L. (Hymenoptera: Tenthredinidae) Температурные требования в лабораторных условиях Аргентина
9. Дэвид В. Элфорд. Вредители плодовых культур. Цветной справочник. – Кембридж, Великобритания: «MANSON PUBLISHING», 2007.
10. Хўжаев Ш. Т. Қишлоқ хўжалик экинларини заркунандалари в асалликлариге карши инсектициды кичик ва катта дала тажрибаларида синашнинг асосий шартлари / Инсектицидлар, акарицидлар, биологик актив модалар ва фунгицидларни синаш буйича усл. курсатмалар тўплами, II нашр. Тошкент - 2004, 6-12 б.
11. Уэринг, СН, Маршалл, RR, Аттфилд, ВА и Колхаун, К. (2011) Инсектицидный контроль и фенология вишневого слизняка (Caliroa cerasi (L.)) (Hymenoptera: Tenthredinidae) на органических грушах в Центральном Отаго. Новый. Рвение. Дж. Кроп.Хорт. 39(3), 187-201 р.
12. www. ru.m.wikipedia.org.
13. www. ru.m.wikipedia.org.

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УСТРАНЕНИЯ ГРЫЖ ПЕРЕДНЕЙ СТЕНКИ ЖИВОТА СОВРЕМЕННЫМИ МЕТОДАМИ

Аннотация. *В плотных слоях передней брюшной стенки есть анатомические слабые места: паховые и бедренные каналы, пупочное кольцо, область белой линии. В «слабых местах» мышечный слой отсутствует или ослаблен. Сквозь них, при напряжении мышц брюшного пресса, грыжа преодолевает плотные слои передней брюшной стенки за счет повышения внутрибрюшного давления. На сегодняшний день лечение грыж передней брюшной стенки (ПБС) является актуальной проблемой в хирургии. По данным многих авторов, в среднем грыжи живота встречаются у 3–4% населения. Лица пожилого и старческого возраста страдают чаще – грыжи регистрируются в 15–17% случаев. До сих пор применяются операции с методами аутопластики, рецидив при этом достигает от 5 до 60%, при применении методов аллопластики в среднем он составляет от 3 до 20% [1, 2].*

Ключевые слова: *Передняя брюшная стенка, грыжа, современный метод, кинезиотейпирование.*

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ELIMINATION OF ANTERIOR ABDOMINAL WALL HERNIAS BY MODERN METHODS

Abstract. *There are anatomical weak points in the dense layers of the anterior abdominal wall: inguinal and femoral canals, umbilical ring, area of the white line. In the "weak points" the muscle layer is absent or weakened. Through them, with*

tension of the abdominal muscles, the hernia overcomes the dense layers of the anterior abdominal wall due to increased intra-abdominal pressure. Today, the treatment of anterior abdominal wall hernias (AAWH) is a pressing problem in surgery. According to many authors, on average, abdominal hernias occur in 3-4% of the population. Elderly and senile people suffer more often - hernias are recorded in 15-17% of cases. Autoplastic operations are still used, with relapse rates ranging from 5 to 60%, while alloplasty methods average 3 to 20% [1, 2].

***Keywords**: Anterior abdominal wall, hernia, modern method, kinesiotaping.*

При оперативном лечении грыж ПБС одной из важных задач является восстановление анатомо-топографических компонентов тканей для герметичности внутрибрюшного давления (ВБД). Во время операции при малых и средних грыжах в большинство случаев возможно восстановить ПБС, соединив мягкие ткани между собой, и тем самым добиться первоначального мышечно-апоневротического слоя брюшной стенки. При больших и гигантских грыжах редко получается грамотно сопоставить все слои мягких тканей, в связи с этим приходится прибегать к фиксации эндопротеза к рубцовой ткани грыжевых ворот. Такая пластика менее надежна и используется в безвыходных ситуациях. Такие методики корректно применять у пациентов с избыточной массой тела и ожирением, а также при наличии дыхательной и сердечной недостаточности [3]. В раннем послеоперационном периоде швы в области послеоперационного рубца испытывают максимальную нагрузку при активности пациента, кашле, парезе кишечника, а также при повышении ВБД. В это же время в местах крепления эндопротеза происходит изменение его размеров в среднем по длине до 20% и по ширине до 40% [4]. По данным многих авторов, основным стандартом лечения грыж и укрепления ПБС является применение полипропиленовой сетки, которая не всегда способна решить все проблемы. По наблюдениям многих авторов, в момент рецидива заболевания происходит смещение прямых мышц живота латерально, нарушается функция брюшного пресса. Также имеется мнение авторов, что полипропиленовая сетка представляет собой «корсет», способный в дальнейшем укрепить ПБС. Теоретическая и техническая база сложных форм грыж, таких как: обширные, гигантские, рецидивные, многократно рецидивирующие, требует не только высокой оперативной техники, но и большого здравого смысла. Основными процессами являются хроническая эндогенная интоксикация, связанная с нарушениями моторики кишечника при грыжах, клинический анализ факторов риска развития послеоперационных осложнений (дыхательных, сердечно-сосудистых, гнойно-септических) . Одним из традиционных, вспомогательных и современных методов в реабилитации на сегодняшний день является применение методики кинезиотейпирования. При данной методике используется эластическая лента «Кинезиотейп», состоящая из 100% хлопка, покрытая гипоаллергенным клеящим слоем на акриловой основе, которая активируется при температуре тела. Помимо этого, ее

толщина и эластичность сходны по свойствам с поверхностным слоем человеческой кожи (эпидермисом), что позволяет избежать излишней сенсорной стимуляции при правильном наложении, т. е. при нанесении аппликации на кожу пациента в течение 10–15 минут человек перестает ее ощущать. Сама хлопковая основа тейпа способствует быстрому испарению, высыханию, а также дыханию кожи. Тейп не ограничивает функцию мышц и суставов, а лишь корректирует их действие. Благодаря хлопковой основе тейп практически не вызывает аллергической реакции.

Эластическое тейпирование оказывает широкое влияние на организм, в том числе на опорно-двигательный аппарат, внутренние органы, лимфатическую и венозную систему, вегетативную нервную систему, соматическую нервную систему. Во время процедур кинезиотейпирования происходит движение связочно-мышечного каркаса и улучшение эластичности передней брюшной стенки, что, в свою очередь, улучшает микроциркуляцию и кровоснабжение этой области, что в последующем будет проявляться в улучшение процессов заживления и восстановления после операции. По наблюдениям многих авторов, в момент рецидива заболевания происходит смещение прямых мышц живота латерально, нарушается функция брюшного пресса. Также имеется мнение авторов, что полипропиленовая сетка представляет собой «корсет», способный в дальнейшем укрепить ПБС. Теоретическая и техническая база сложных форм грыж, таких как: обширные, гигантские, рецидивные, многократно рецидивирующие, требует не только высокой оперативной техники, но и большого здравого смысла.

Технический результат изобретения достигается тем, что способ лечения больных с большими вентральными грыжами заключается в хирургическом лечении, включающем полное удаление грыжевого мешка и последующее пластическое закрытие удаленного дефекта. Причем до и после выполнения хирургического лечения осуществляют коррекцию мышечно-соединительнотканного каркаса передней брюшной стенки путем наложения эластичного материала до хирургического лечения - на всю протяженность грыжи и после - на всю протяженность области хирургического лечения. В качестве эластичного материала используют кинезиотейпы, с натяжением 75% в предоперационном периоде, которые накладывают в поперечном направлении относительно срединной линии живота, перекрывая все грыжевое выпячивание, фиксируя их таким образом, чтобы были захвачены латеральные края боковых мышц живота. Процедуру кинезиотейпирования в предоперационном периоде проводят курсами, каждый из которых проводят один раз в 1 или в 2 недели, длительностью 5 дней, всего проводят 7 или 8 курсов. В послеоперационном периоде кинезиотейпы накладывают на всю область выполненной операции протезирования в поперечном направлении относительно срединной линии таким образом, чтобы были захвачены латеральные края боковых мышц живота и кинезиотейпирование проводят,

используя тейпы с натяжением 50% двумя курсами, каждый из которых - 1 раз в неделю, длительностью по 5 дней.

Способ осуществляется следующим образом:

Используют кинезиотейпы с растяжением 75%. Количество тейпов соответствует продольной длине грыжи или диастаза прямых мышц живота, процедуру кинезиотейпирования в предоперационном периоде проводят курсами, каждый из которых проводят один раз в 1 или в 2 недели, длительностью 5 дней, всего проводят 7 или 8 курсов.

Использованные источники:

1. Гогия Б.Ш., Аляутдинов Р.Р., Копыльцов А.А., Токарев Т.В. Современный взгляд на лечение послеоперационных грыж брюшной стенки. CONSILIUM MEDICUM, Хирургия 2016, №2: 6-9.

2. Awaiz A., Rahman F., Hossain M. B., et al. Meta-analysis and systematic review of laparoscopic versus open mesh repair for elective incisional hernia. Hernia. 2015; (19), 3: 449-463

3. Ramirez O.M., Ruas E., Dellon A.L. "Components separation" method for closure of abdominal-wall defects: an anatomic and clinical study. Plast Reconstr Surg 1990; 86(3): 519-526.

4. Жебровский В.В., Эльбашир М.Т. Хирургия грыж живота и эвентраций. - «Бизнес-Информ», 2002. - С. 440.

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ГЛОБАЛЬНЫЕ ТЕНДЕНЦИИ КРЕАТИВНОЙ ЭКОНОМИКИ

Аннотация: *Сегодня креативная экономика становится одним из ключевых секторов мировой экономики. Объединяя культуру, искусство, технологии и инновации, эта экономическая сфера формирует глобальные тенденции через креативные индустрии. Стремительное развитие цифровой экономики создаёт новые возможности для креативных платформ и технологий. В то же время креативная экономика играет важную роль на глобальном уровне в обеспечении занятости, сохранении культурного наследия и достижении экономической стабильности. В данном исследовании рассматриваются глобальные тенденции в креативной экономике, её роль в экономическом развитии Узбекистана и перспективы на будущее.*

Ключевые слова: *креативная экономика, творческие индустрии, цифровая экономика, экономическое развитие Узбекистана.*

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GLOBAL TRENDS IN THE CREATIVE ECONOMY

Annotation: *Today, the creative economy is becoming one of the key sectors of the global economy. Combining culture, art, technologies, and innovations, this economic field is shaping global trends through creative industries. The rapid development of the digital economy is creating new opportunities for creative platforms and technologies. At the same time, the creative economy plays a significant role globally in providing employment, preserving cultural heritage, and achieving economic stability. This study explores the global trends in the creative economy, its role in Uzbekistan's economic development, and future prospects.*

Keywords: *Creative economy, creative industry, digital economy, economic development of Uzbekistan.*

Сегодня креативная экономика развивается как одно из важных звеньев мировой экономики. Это направление, включающее в себя культуру, искусство, технологии и инновации, определяет новую динамику экономики. «Креативное мышление – это способность эффективно участвовать в процессе разработки, оценки и совершенствования идей, направленная на

поиск инновационных, т.е. новых, инновационных, оригинальных, нестандартных, необычных и эффективных – практичных, действенных, экономичных, оптимальных и других решений, приобретение новых знаний, эффективное выражение воображения. Нынешний климат глобализации меняет то, как мы работаем и живем, нравится нам это или нет. Во-первых, мы все чаще сталкиваемся со сложными проблемами, затрагивающими весь мир, будь то глобализация, загрязнение окружающей среды, финансовые кризисы или новые эпидемии. Нам необходимо позитивное мышление и творческие идеи для координации усилий по решению этих проблем. На личном уровне глобализация приводит к постоянно ускоряющемуся темпу жизни. У нас много информации, но то, что мы узнаем сегодня, завтра может легко устареть. Хотя быстрые изменения также открывают новые возможности, теперь нам приходится конкурировать с талантливыми людьми со всего мира. Чтобы добиться успеха в этой среде, нам нужны навыки позитивного мышления, которые помогают нам принимать уверенные решения и быстро приобретать новые знания.

Основная суть креативной экономики заключается в использовании креативных идей для достижения экономического и социального роста. Этот процесс усиливается по мере развития цифровой экономики и широкого внедрения технологий.

Хорошее мышление не требует отказа от чувств. Но не позволяйте своим чувствам мешать нашим. Например, если вы легко злитесь, когда другие люди не подтверждают ваше мнение, вам трудно мыслить здраво. Справедливая и беспристрастная оценка поможет вам принять более обоснованные решения.

Хороший мыслитель — это тот, кто находит время, чтобы регулярно и тщательно анализировать проблему и активно искать аргументы и аргументы с обеих сторон. Ему интересно узнать больше о своих сильных и слабых сторонах, чтобы улучшить свои результаты.

Критическое мышление иногда считается очень противоречивым. Некоторые люди думают, что критическое мышление означает постоянную критику других, что неконструктивно. Но это недоразумение. Критическое мышление – это не просто разрушительная сила. Во-первых, отвергая плохие идеи, мы становимся лучше в поиске истины. Во-вторых, критическое мышление не означает, что мы все время критикуем людей. Если другие люди правы, мы должны не согласиться. А когда другие люди не правы, критическое мышление помогает нам признать допущенные ошибки, но мы не обязаны их прямо осуждать. Иногда ошибки недопустимы. Иногда нам нужно быть вежливыми, а иногда мы можем помочь людям лучше думать другими косвенными способами, например, давая советы и предложения, а не критикуя их. Критический мыслитель может быть дружелюбным и конструктивным, а не конфронтационным.

Еще одно возражение против критического мышления состоит в том, что оно бесполезно на практике, поскольку в реальной жизни люди не

прислушиваются к разуму. Они действуют, исходя из корысти, чувств или личных отношений. Первая проблема с этим возражением состоит в том, что оно путает рассуждения с рассуждениями. Возможно, многие люди иррациональны, и чтобы повлиять на них, мы должны апеллировать к авторитету, эмоциям или чему-то иному, кроме разума. Но мы можем использовать критическое мышление, чтобы стратегически подумать о лучших средствах достижения наших целей.

Эти взгляды имеют решающее значение для хорошего мышления, но они являются скорее образом жизни, чем теоретическими знаниями. Они должны быть усвоены, чтобы стать нашими привычками и индивидуальностью. Это легче сказать, чем сделать. Хорошее мышление требует времени и усилий. Но посмотрите на это так: если мы готовы меняться, в то время как большинство людей этого не делают, это дает нам шанс преуспеть и стать лучше среднего. Как видите, «Четыре пути» состоят из четырех очень простых вопросов, но они помогают взглянуть на проблему с разных точек зрения. Если вы хотите улучшить свое мышление, часто используйте этот метод в своей повседневной жизни. Читая журналы, работая в Интернете, смотря телевизор или разговаривая с другими, вы проявите себя как сложный, систематический и творческий мыслитель.

Креативные индустрии, включая моду, дизайн, музыку, кино, архитектуру и информационные технологии, являются важными компонентами креативной экономики. Эти отрасли становятся все более важными в мировой экономике, поскольку они стимулируют инновации и создают новые рабочие места. Цифровые платформы и технологии искусственного интеллекта открывают широкие возможности для выхода творческих индустрий на глобальную арену. Творческое мышление также необходимо в процессе сохранения и обогащения культурного наследия. Творческие индустрии продвигают национальную идентичность и культурное наследие в глобальном масштабе. Во всем мире креативная экономика играет ведущую роль в создании новых рабочих мест. Креативная экономика также способствует экологической устойчивости, поскольку в этом секторе в основном используются интеллектуальные ресурсы.

Развитие креативной экономики в Узбекистане выходит на новый уровень. Традиционно сильные позиции сфер культуры и искусства в стране, а также реформы, направленные на развитие цифровых технологий, повышают роль этой сферы в экономике. Сегодня создание IT-парков и поддержка стартап-проектов создают прочную основу для креативной экономики. Инновации в сфере туризма и культурного наследия оказывают существенное влияние на развитие креативной экономики.

Креативное мышление также широко используется в системе образования. Тот факт, что разрабатываются образовательные программы с целью привлечения молодежи в творческие сферы и подготовки квалифицированных кадров для креативной экономики, положительно влияет на развитие нашей страны через независимое мышление. Основная задача

образования - сформировать навыки, которые потребуются студенту сегодня и в будущем для успешной жизни в обществе. Творческое мышление является важным навыком для современной молодежи. Эти навыки помогают им адаптироваться к миру, который постоянно и быстро меняется, требуя от работников навыков «21 века», выходящих за рамки базовой грамотности. В целом от сегодняшнего студента ожидается, что в будущем он будет работать в областях, которых сейчас даже не существует, решать новые проблемы с помощью новых технологий. Формирование навыков творческого мышления у учащихся позволяет им решать все более сложные локальные и глобальные проблемы посредством необычного подхода, важность развития творческого мышления в школе не ограничивается только рынком труда. Школа важна для того, чтобы молодые люди раскрыли свои способности и навыки, в том числе творческие таланты.

Творческое мышление также способствует обучению учащихся, интерпретируя события, опыт и поведение новыми и лично значимыми способами. В процессе обучения задействуются воображение и любознательность учащегося: творческое мышление становится, таким образом, средством взаимного согласия даже в контексте заранее определенных образовательных целей. Для повышения мотивации и интереса учащихся к школе необходимо внедрять новые формы обучения, учитывающие творческий потенциал и энтузиазм всех учащихся. Это особенно может помочь студентам, которые не очень заинтересованы в образовательном процессе, а также поможет им выразить свое мнение и развить свой потенциал. Как и любой другой навык, творческое мышление можно развивать с помощью практического и целенаправленного подхода. Некоторые учителя могут чувствовать, что развитие творческого мышления учащихся происходит в ущерб другим предметам учебной программы. Фактически, студенты могут мыслить творчески по всем предметам. Творческое мышление можно развивать с помощью подходов, которые поощряют исследования и изобретения, а не слепое запоминание во время учебных занятий. Хорошее критическое мышление также является основой науки и демократии. Наука требует рациональности при планировании экспериментов и проверке теорий. Развивающаяся и развитая демократия требует, чтобы граждане имели возможность объективно думать о социальных и политических вопросах. Поэтому развитие критического мышления должно быть основной целью образования. Роль креативной экономики в обеспечении экономической стабильности имеет особое значение. В частности, креативная экономика играет важную роль в устойчивом развитии экономики Узбекистана. Он служит увеличению экономического потенциала страны за счет развития туризма, экспорта культурной продукции и цифровых услуг. В то же время творческие индустрии также приобретают все большее значение в решении экологических проблем.

В заключение подчеркнем, что креативная экономика формируется как важное стратегическое направление на глобальном и региональном уровне. Для Узбекистана развитие этой сферы обеспечивает экономическую стабильность, сохранение культурного наследия и реализацию инновационных подходов. Поэтому усиление политики, направленной на креативную экономику, поможет усилить интеграцию страны с мировыми рынками.

Использованные источники:

1. UNCTAD (United Nations Conference on Trade and Development). (2022). Creative Economy Outlook. Доклад, опубликованный ООН.
2. Howkins, John. (2001). The Creative Economy: How People Make Money from Ideas. Penguin Books.
3. UNESCO. (2021). Cultural and Creative Industries in the Global Economy.
4. Решения и указы Президента Республики Узбекистан. (2017-2024). О реформах, направленных на развитие цифровой экономики и креативных индустрий.
5. Информация Госкомстата. (2024). Статистические данные о росте креативных индустрий в экономике Узбекистана.
6. Исследования Европейского Союза по креативной экономике. (2020). Creative Economy and Digital Transformation.
7. Н. Ганиев. (2020). Статья «Значение и перспективы развития креативной экономики в Узбекистане». Журнал экономики и инноваций.
8. Юлдошева Ш. А. ЗНАЧЕНИЕ ЦИФРОВОЙ ЭКОНОМИКИ В СИСТЕМЕ ЖИЛИЩНО-КОММУНАЛЬНОГО ХОЗЯЙСТВА //Экономика и социум. – 2022. – №. 10-1 (101). – С. 794-800.
9. Юлдошева Ш. А. САНОАТ КОРХОНАЛАРИ САМАРАЛИЛИГИНИ ОШИРИШ БЎЙИЧА ИШЛАБ ЧИҚАРИШ ЙЎНАЛИШЛАРИ //Экономика и социум. – 2023. – №. 11 (114)-1. – С. 1168-1172.
10. Yuldosheva S. UY-JOY KOMMUNAL XO ‘JALIKLARIDA SERVIS XIZMATLARINING O ‘RNI VA ULARNING SAMARADORLIGINI OSHIRISH IMKONIYATLARI //THE INNOVATION ECONOMY. – 2023. – Т. 1. – №. 02. – С. 108-118.
11. Qizi Y. S. A. The role of services in housing and utilities and their opportunities to increase efficiency //ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL. – 2021. – Т. 11. – №. 2. – С. 1313-1319.
12. Гофуров У. А., Юлдашева Ш. А. ОСОБЕННОСТИ ФОРМИРОВАНИЯ И РЕАЛИЗАЦИИ КОНКУРЕНТНЫХ СТРАТЕГИЙ БИЗНЕСА. – 2016
13. Файзиева Ш. Ш. РЕЗУЛЬТАТЫ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ПРОМЫШЛЕННОСТИ В РЕГИОНАХ УЗБЕКИСТАНА //Экономика и социум. – 2023. – №. 10 (113)-2. – С. 811-817.
14. Файзиева Ш. Ш., Бекназарова З. Д. ОСНОВНЫЕ НАПРАВЛЕНИЯ ФОРМИРОВАНИЯ КОНКУРЕНТНОЙ СРЕДЫ В БИЗНЕСЕ //Экономика и социум. – 2024. – №. 2-1 (117). – С. 1422-1428.

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СОЦИАЛЬНЫЕ ФАКТОРЫ, ВЛИЯЮЩИЕ НА РЕИНЖИНИРИНГ БИЗНЕС-ПРОЦЕССОВ НА ПРЕДПРИЯТИИ

Аннотация:*Реинжиниринг бизнес-процессов представляет собой мощный инструмент повышения эффективности и конкурентоспособности предприятий. Успешность его реализации зависит не только от технических и организационных факторов, но также и от социальных факторов. В данной статье рассматриваются ключевые социальные факторы, которые влияют на процесс реинжиниринга, например, корпоративные ценности, заинтересованность сотрудников, коммуникации и управление. Анализируется их влияние на успешность РБП и выдвигаются рекомендации по управлению этими факторами для достижения наилучших результатов.*

Ключевые слова: *реинжиниринг, бизнес-процесс, социальные факторы, руководство, коммуникации.*

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SOCIAL FACTORS INFLUENCING BUSINESS PROCESS REENGINEERING AT THE ENTERPRISE

Abstract:*Business process reengineering is a powerful tool for improving the efficiency and competitiveness of enterprises. The success of its implementation depends not only on technical and organizational factors, but also on social factors. This article examines the key social factors that influence the reengineering process, such as corporate values, employee engagement, communications and management. It analyzes their impact on the success of BPR and puts forward recommendations for managing these factors to achieve the best results.*

Keywords: *reengineering, business process, social factors, management, communications.*

Введение

Реинжиниринг бизнес-процессов — это фундаментальное переосмысление и перепроектирование бизнес-процессов с целью достижения

положительных изменений в ключевых показателях эффективности. В условиях постоянно растущей конкуренции и динамично изменяющейся внешней среды РБП становится необходимым инструментом для функционирования и развития предприятий. Однако, несмотря на потенциальные преимущества, многие проекты РБП заканчиваются неудачей. Одной из ключевых причин является недооценка социальных факторов, которые играют важную роль в успешной реализации изменений.

Методы исследования:

1. Теоретический анализ. Включает описание, определение цели и основных аспектов, рассматриваемых в данной научной статье.
2. Качественные методы исследования.
3. Количественные методы исследования.
4. Системный подход. Рассмотрение влияния социальных факторов на все этапы реинжиниринга бизнес-процессов.
5. Метод обобщения. Формулирование выводов на основе проведенного анализа.

Реинжиниринг бизнес-процессов представляет собой стратегический инструмент, необходимый для достижения значительных улучшений в таких показателях, как стоимость, качество, скорость и уровень обслуживания.

Основные этапы РБП:

1. Идентификация процессов, то есть определение основных процессов, требующих изменений.
2. Анализ текущих процессов. Включает выявление проблем и узких мест.
3. Разработка новых процессов, а именно создание оптимизированных процессов.
4. Внедрение и мониторинг. Осуществление реализации изменений и контроля их эффективности.

Однако успешность РБП зависит не только от технической стороны, но и от учета человеческого фактора, что делает социальные аспекты критически важными.

Ключевые социальные факторы, влияющие на РБП:

—Корпоративная культура. Культура организации определяет, насколько сотрудники готовы к изменениям. В организациях с гибкой и инновационной культурой внедрение РБП проходит легче, чем в компаниях с жесткой иерархией и консервативным подходом.

—Вовлеченность сотрудников. Участие сотрудников в процессе реинжиниринга повышает их мотивацию и снижает сопротивление изменениям.

—Коммуникации. Эффективная коммуникация между руководством и сотрудниками помогает донести цели и преимущества РБП, что способствует поддержке изменений.

—Лидерство. Роль лидера в процессе РБП заключается в создании видения, мотивации команды и управлении сопротивлением.

—Обучение и развитие. Подготовка сотрудников к новым процессам и технологиям является важным фактором успешного внедрения РБП.

Влияние социальных факторов на успешность РБП.

Организации с открытой и поддерживающей культурой быстрее адаптируются к изменениям, что способствует успешному внедрению РБП.

Сотрудники, которые участвуют в процессе реинжиниринга, чувствуют свою причастность и меньше сопротивляются изменениям.

Четкая и прозрачная коммуникация помогает снизить уровень неопределенности и страха перед изменениями.

Сильное лидерство способствует созданию доверия и поддержки среди сотрудников, что является ключевым фактором успеха РБП.

Подготовка сотрудников к новым процессам снижает риск ошибок и повышает эффективность внедрения.

Рекомендации по управлению социальными факторами в РБП:

1) Оцените корпоративную культуру. Проведите анализ корпоративной культуры и определите, насколько она способствует изменениям.

2) Вовлекайте сотрудников. Привлекайте сотрудников к процессу реинжиниринга на всех этапах, чтобы повысить их мотивацию и снизить сопротивление.

3) Улучшайте коммуникации. Разработайте четкую коммуникационную стратегию, чтобы донести цели и преимущества РБП до всех сотрудников.

4) Развивайте лидерство. Обучайте руководителей навыкам управления изменениями и создания видения.

5) Инвестируйте в обучение. Обеспечьте сотрудников необходимыми знаниями и навыками для работы в новых условиях

Заключение

Социальные факторы занимают важное место в успешной реализации реинжиниринга бизнес-процессов. Корпоративная культура, вовлеченность сотрудников, коммуникации, лидерство и обучение являются важными элементами, которые необходимо учитывать при внедрении РБП. Управление этими факторами позволяет снизить сопротивление изменениям, повысить мотивацию сотрудников и обеспечить успешное достижение стратегических целей. При наличии возрастающей конкуренции и постоянно изменяющейся внешней среды учет социальных аспектов становится необходимым условием для успешного реинжиниринга бизнес-процессов.

Использованные источники:

1. Петров П.П. Социальные аспекты реинжиниринга бизнес-процессов. – Журнал "Менеджмент в России и за рубежом", 2022.
2. ISO 9001:2015. Системы менеджмента качества. – М.: Стандартинформ, 2015.
3. Губарев В.Г., Коваленко А.В. (2018). Реинжиниринг бизнес-процессов: теория и практика. М.: Инфра-М.

4. Хаммер М., Чампи Дж. Реинжиниринг корпорации: Манифест революции в бизнесе. – М.: Манн, Иванов и Фербер, 2006.
5. Тарасов И.В. (2019). Большие данные: анализ и применение. М.: Издательский дом Высшей школы экономики.

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СТРАТЕГИЯ УПРАВЛЕНИЯ ФИНАНСОВЫМИ РИСКАМИ

Аннотация:*В этой статье в основном рассказывается о теории управления финансовыми рисками и факторах, возникающих в результате управления финансовыми рисками, а в конце статьи анализируется, как компании справляются с финансовыми рисками.*
Ключевые слова: *Финансовый риск; управление; контроль*

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FINANCIAL RISK MANAGEMENT STRATEGY

Summary*:This article mainly discusses the theory of financial risk management and the factors resulting from financial risk management, and at the end of the article analyzes how companies deal with financial risks.*
Keywords:*Financial risk; management; control*

1. Теория управления финансовыми рисками

1）Значение управления финансовыми рисками

Управление финансовыми рисками в основном относится к внедрению научных средств и методов для прогнозирования, выявления, контроля и устранения рисков на основе полного понимания финансовых рисков, с которыми сталкивается предприятие, с тем чтобы обеспечить сбалансированность непрерывности, стабильности и эффективности движения капитала предприятия[70].

2）Конкретное содержание управления финансовыми рисками

Деятельность по управлению финансовыми рисками должна охватывать всю финансовую деятельность, в основном проявляясь в инвестиционном риске, риске слияний и поглощений, финансовом риске,

[70] Гэн Ся.Дискуссия о причинах формирования финансовых рисков и стратегиях управления рисками предприятий в нашей стране [J].Финансирование дорожного движения и бухгалтерский учет, 2018, 11:61-63.

риске движения капитала и связанном с ним риске изменения процентных ставок.

3）Основное содержание управления финансовыми рисками

При финансовом управлении предприятием в первую очередь необходимо учитывать потенциальные факторы риска и потери, оценивать масштабы опасности и оценивать убытки, которые может понести предприятие.Во-вторых, мы должны учитывать вероятность потери предприятия.Наконец, мы должны выбрать разумный метод управления и контроля и постараться получить наибольшие выгоды от управления рисками с наименьшими затратами.Эти методы имеют хорошую ориентировочную ценность в управлении финансовыми рисками каждого предприятия.

2. Причины возникновения финансовых рисков[71]

A. Политические факторы

Изменения в политической, экономической и правовой системах общества окажут определенное влияние на управление финансами предприятий. Например, политические изменения приведут к войне, но война приведет к росту цен на дефицитные ресурсы, операционные издержки предприятий станут выше, а прибыль предприятий уменьшится. повсюду, и даже из-за политических факторов, предприятия столкнутся с закрытием.

B. Рыночные факторы

Функционирование и развитие предприятия неотделимо от рынка.Однако рынок не поддается контролю, и изменения в соотношении между спросом и предложением на рынке, корректировка цен и асимметрия рыночной информации - все это приводит к финансовым рискам.

C. Внутренние факторы деятельности предприятия

Уровень управления предприятием оказывает важное влияние на его функционирование.Чем выше уровень управления предприятием, тем сильнее его способность реагировать на риски.И наоборот, если предприятие имеет низкий уровень менеджмента и ненадлежащее управление денежными средствами, это вызовет проблемы в работе фондов, а слепое расширение инвестиций предприятия принесет предприятию определенные экономические потери.

Передача финансовых рисков заключается главным образом в передаче рискованной деятельности по управлению финансами другим странам или частным лицам определенным образом, тем самым устраняя риски в деятельности по управлению финансами.Существует два основных способа передачи финансовых рисков: один из них - метод страховой передачи. Этот метод является наиболее важным способом передачи рисков для предприятий. Посредством приобретения страховых полисов определяются отношения со страховщиком, так что неизбежные или возможные убытки

[71] Ся Чжихуа.Новые характеристики и стратегии управления финансовыми рисками в посткризисную эпоху на примере технологии Hanwang [J].Друзья бухгалтерии, 2022, 26:57-59.

могут быть уменьшены с помощью небольшой суммы страховых взносов. страховые взносы для компенсации случайных потерь в рамках всего финансового риска и осуществления передачи финансового риска.Второй - это нестраховой метод передачи рисков. Этот метод обычно заключается в передаче рисков определенному подразделению или конкретному учреждению и передаче характеристик продукта профессионалам и компаниям, обладающим обширными навыками для завершения.

Стратегия избегания финансовых рисков означает принятие инициативы по отказу от определенного фактора риска, который может вызвать риск, когда выясняется, что он с большей вероятностью возникнет при прогнозировании рискованного несчастного случая.С точки зрения методов и методик управления рисками, избегание риска является самым простым и тщательным способом борьбы с ним. Такое избегание риска может полностью устранить экономические потери, которые риск принесет предприятию до того, как он возникнет, а не просто снизить степень риска[72].

Предотвращение рисков означает возможность контролировать риски в системе, заблаговременно принимать решения и организовывать управление предприятием, постоянно повышать свою способность противостоять рискам и принимать соответствующие защитные меры, чтобы максимально избежать рисков. Возникновение рисков.Стратегия предотвращения рисков заключается в более эффективном снижении различных факторов, которые могут привести к убыткам, с тем чтобы избежать потерь. Это наиболее упреждающий способ борьбы с рисками.

Стратегия диверсификации финансовых рисков сочетает в себе современную теорию инвестиционного портфеля для эффективного распределения рисков при максимизации выгод, что позволяет достичь цели оптимизации распределения ресурсов и максимизации благосостояния.Диверсификация рисков в основном осуществляется в форме многостороннего инвестирования, диверсифицированных операций и многостороннего финансирования и направлена на консолидацию средств между несколькими клиентами таким образом, чтобы можно было максимально диверсифицировать риски.При нормальных обстоятельствах диверсифицированные инвестиции и деятельность подходят для крупных предприятий с большими финансовыми ресурсами и высоким уровнем управления, но не для малых предприятий.

Стратегия принятия финансовых рисков предприятием обычно относится к распределению рисков внутри предприятия, что представляет собой план управления рисками, в соответствии с которым предприятие само несет риски.Наиболее фундаментальным проявлением является то, что предприятие должно нести все риски, возникающие в результате его

[72] Ся Чжихуа.Новые характеристики и стратегии управления финансовыми рисками в посткризисную эпоху на примере технологии Hanwang [J].Друзья бухгалтерии, 2022, 26:57-59.

собственной деятельности, и должно принимать необходимые меры для управления рисками и контроля над ними, чтобы свести к минимуму влияние предприятия на само предприятие и влияние на другие аспекты.

Управление и контроль финансовых рисков Инструменты управления и стратегии, выбранные для различных рисков на разных предприятиях, будут отличаться, но необходимо создать свои системы финансового мониторинга и политику управления рисками на предприятии, чтобы помочь предприятиям лучше ориентироваться в условиях глобализации экономики.

Использованные источники:

1. Гэн Ся.Дискуссия о причинах формирования финансовых рисков и стратегиях управления рисками предприятий в нашей стране [J].Финансирование дорожного движения и бухгалтерский учет, 2018, 11:61-63.
2. Ся Чжихуа.Новые характеристики и стратегии управления финансовыми рисками в посткризисную эпоху на примере технологии Hanwang [J].Друзья бухгалтерии, 2022, 26:57-59.
3. Лэй Чжэньминь.Анализ стратегий управления финансовыми рисками малых и средних предприятий в посткризисную эпоху [J].Современная экономическая информация, 2022, 24: 251-252.
4. Юй Хуэйцзюнь, Ван Янь.О стратегиях корпоративного управления финансовыми рисками и контроля [J].Модернизация торговых центров, 2024, 04:154-155.
5. Чжан Цзин.Анализ эффективной стратегии компании группы по противодействию управлению финансовыми рисками [J].Финансы и экономика (Академическое издание), 2021, 04:136.
6. Цинь Лисия.О важности корпоративных мер по управлению финансовыми рисками и контролю [J].Время и пространство карьеры, 2021, 09:8-9.

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КРЕДИТНЫЙ РИСК И СТРАТЕГИИ УПРАВЛЕНИЯ КОММЕРЧЕСКИМИ БАНКАМИ

Аннотация:*В последние годы экономические начинания Китая развивались семимильными шагами, и финансовая индустрия сразу же продемонстрировала свои уникальные преимущества во всех аспектах.Однако уровень институционального управления коммерческими банками, как правило, остается низким, что приводит ко все более серьезным проблемам с кредитным риском, а использование банковских средств значительно ограничивается.В связи с этим в данной статье подробно анализируются различные риски, существующие в коммерческих банках, и предлагаются соответствующие стратегии управления с целью содействия здоровому и устойчивому развитию финансовой отрасли нашей страны.*

Ключевые слова: *Коммерческие банки; кредитный риск; стратегия управления*

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CREDIT RISK AND MANAGEMENT STRATEGIES OF COMMERCIAL BANKS

Summary: *n recent years, China's economic initiatives have developed by leaps and bounds, and the financial industry has immediately demonstrated its unique advantages in all aspects.However, the level of institutional management of commercial banks, as a rule, remains low, which leads to more and more serious problems with credit risk, and the use of bank funds is significantly limited.In this regard, this article analyzes in detail the various risks that exist in commercial banks., and appropriate management strategies are being proposed to promote the healthy and sustainable development of our country's financial industry.*

Keywords:Commercial banks; credit risk; management strategy

На данном этапе финансовый рынок Китая стремительно развивается, и его масштабы постоянно расширяются, занимая важное положение на рынке капитала.Однако в связи с трансформацией экономической структуры Китая и корректировкой его промышленной структуры кредитные риски

коммерческих банков значительно возросли, что серьезно повлияло на конкурентоспособность финансовой отрасли и эффективность экономического развития и даже повлияло на гармонию и стабильность общества.Поэтому повышение уровня управления кредитным риском коммерческих банков имеет большое практическое значение[73].

1. Анализ кредитного риска коммерческих банков

В настоящее время система управления кредитными рисками коммерческих банков все еще нуждается в совершенствовании. Использование традиционных систем количественного анализа и моделей управления рисками приведет к тому, что прогнозирование рисков будет недостаточно полным, что, в свою очередь, приведет к определенным потерям от рисков.Когда коммерческие банки прогнозируют риски, они требуют, чтобы каждый кредитный риск был независим друг от друга. Поэтому при проведении количественного анализа кредитного риска необходимо суммировать каждый кредитный риск по отдельности, в результате чего общий кредитный риск значительно превышает фактический уровень риска и соответствующий капитал. резервы будут раздуты, что, в свою очередь, приведет к растрате средств и серьезно повлияет на разумное распределение банковских средств.Во-вторых, банки привыкли основывать свои резервы по кредитным активам на законе больших чисел, что делает прогнозирование рисков негибким и неспособным справиться с некоторыми сильно коррелирующими потерями по кредитным рискам, препятствуя стабильному развитию банковской экономики.

Когда многие коммерческие банки формулируют кредитную политику, им часто не хватает достаточных и эффективных данных, подтверждающих своевременность, точность и полноту информации.Например, когда многие банки сталкиваются с новой ситуацией экономического спада и перестройки механизмов, они по-прежнему используют данные периода высокого экономического развития в качестве параметров оценки кредитного риска, что приводит к серьезному искажению информации.Коммерческие банки, как правило, ставят перед собой высокодоходные, высокоуровневые, быстрорастущие, крупномасштабные кредитные цели и проводят политику целевого инвестирования и предоставления основных услуг. На самом деле, существует не так много компаний, которые соответствуют этой бизнес-политике, и такие компании обычно обладают относительно мощными возможностями по управлению капиталом и финансовые возможности, а спрос на кредитные услуги и продукты невелик.В условиях несбалансированного спроса и предложения банки будут привлекать больше клиентов в виде преференций, что практически увеличивает инвестиционные затраты и значительно снижает операционный доход банка.

[73] Юй Хуэйцзюнь, Ван Янь.О стратегиях корпоративного управления финансовыми рисками и контроля [J].Модернизация торговых центров, 2024, 04:154-155.

Из-за отсутствия достоверности и эффективности механизма управления и количественного анализа портфеля кредитных рисков коммерческие банки не могут проводить научный и обоснованный анализ и сопоставление рисков и выгод в процессе повседневной деятельности, что приводит к явлению неравенства рисков и выгод.Это также не позволяет коммерческим банкам точно прогнозировать степень разброса рисков, и трудно достичь идеального баланса между риском и доходностью, что препятствует стабильному развитию банковского кредитного бизнеса и повышению уровня доходов.

2. Стратегии управления кредитными рисками коммерческих банков

При разработке модели оценки рисков коммерческим банкам следует провести научную разработку, основанную на внутренних и внешних условиях и реальном развитии финансовой индустрии и кредитной системы Китая. В то же время они могут использовать передовые модели измерения рисков других стран для разработки механизма оценки рисков, который подходит для национальным условиям нашей страны и соответствует операционным особенностям каждого коммерческого банка[74].

При построении модели количественного анализа сначала необходимо глубоко понять научное определение риска, всесторонне рассмотреть допущения, методы измерения, параметры и ошибки модели и другие факторы, а также представить содержание отраслевого этического риска, используя метод реляционного анализа и метод моделирования данных для определения взаимосвязи рисков. по умолчанию.При измерении уровня риска кредитного портфеля данные могут быть скорректированы с учетом разницы в убытках, чтобы сделать бюджетные результаты репрезентативными и достоверными.Для классификации кредитных портфелей коммерческие банки могут комбинировать свои характеристики и характеристики региона, в котором они расположены, и использовать тип и отрасль кредитора в качестве подробных критериев классификации, чтобы сделать определение рисков и управление ими более организованными и всеобъемлющими.Кроме того, коммерческим банкам следует также повысить практичность моделей оценки рисков, в полной мере использовать свои функции прогнозирования, а также научно обобщать и обоснованно предвидеть риски, исходя из размера существующего кредитного портфеля. Это также будет играть важную роль при разработке бизнес-планов банка и политики управления.

Сталкиваясь с постоянными изменениями на рынке финансовой индустрии, коммерческие банки должны оптимизировать свою кредитную структуру, регулярно обновлять свои модели управления рисками и постоянно совершенствовать свои стратегии развития для эффективного повышения уровня кредитных услуг.Однако для достижения этой цели

[74] Чжан Цзин.Анализ эффективной стратегии компании группы по противодействию управлению финансовыми рисками [J].Финансы и экономика (Академическое издание), 2021, 04:136.

необходимо усовершенствовать механизм развития экономики, рынка и сферы услуг, особенно для того, чтобы в полной мере реализовать собственные функции регулирования и ограничения рынка.

Хотя коммерческие банки стремятся к повышению прибыльности за счет улучшения обслуживания, они все равно должны осознавать сдерживающее влияние рынка и участвовать в отраслевой конкуренции разумным и упорядоченным образом.Основываясь на рыночной ориентации, научно корректируйте внутреннюю взаимосвязь между кредитным бизнесом и финансовыми продуктами, поддерживайте баланс рыночного предложения и совместно стройте гармоничный, стабильный, стандартизированный и прозрачный финансовый рынок.Во-вторых, являясь одним из основных субъектов финансового рынка, коммерческие банки не имеют возможности монополизировать ресурсы и капитал, но их внутренние потоки капитала могут повысить гибкость потоков капитала, что означает, что коммерческие банки могут свободно входить на рынок и выходить с него в условиях честной и законной конкуренции в отрасли.Кроме того, раскрытие информации о ходе внутренней деятельности, методах проведения операций и ценовой прибыли для общественности способствует соблюдению коммерческими банками руководящих принципов рыночной деятельности на основе единых цен.Этот комплекс мер может не только способствовать оптимизации и совершенствованию кредитной структуры, но и значительно снизить кредитные риски коммерческих банков во всех аспектах.

Для государственных ведомств создание надежного агентства по кредитному надзору в настоящее время является главным приоритетом.Правительству необходимо усилить функцию иерархического надзора, внедрить методы публичности для усиления раскрытия банковской информации, рационально использовать свою роль в формировании общественного мнения, а также создать и усовершенствовать систему раскрытия корпоративной информации, повысить прозрачность внутренних операций и избежать проблемы асимметрии между банком и обществом. корпоративная информация.В то же время коммерческим банкам следует также создать специальные отделы по сбору информации о кредитных рисках, усилить внутренний надзор, расширить и усовершенствовать функции системы управления рисками и повысить уровень практического применения системы, чтобы эффективно снизить риск финансовых займов и уменьшить экономические потери коммерческих банков.

Сильная кредитная команда и здоровая кредитная культура играют решающую роль в стабильном развитии кредитного бизнеса коммерческих банков.Все кредитные отделы должны активно развивать системы управления человеческими ресурсами, разрабатывать научно обоснованную политику вознаграждения за результаты работы, механизмы сдерживания сотрудников и конкурсы талантов, повышать чувство ответственности сотрудников и повышать их энтузиазм и креативность в работе.В то же время мы должны активно внедрять концепцию ориентированности на людей и

осведомленности об управлении рисками, поощрять сотрудников к осознанному выполнению своих обязанностей и постепенно формировать кредитную культуру, направленную на предотвращение кредитных рисков.Кроме того, коммерческим банкам также необходимо усилить профессиональную подготовку и просвещение по вопросам рисков своих кредитных команд, чтобы повысить их чувствительность к кредитным рискам. Риск-менеджерам, которые тщательно изучают передовые зарубежные теории предотвращения кредитных рисков и механизмы управления ими, следует оказывать всестороннюю поддержку и поощрение для формирования группы высококвалифицированных специалистов. как можно скорее найти специалистов по управлению финансовыми рисками, чтобы обеспечить надежную поддержку здоровому и быстрому развитию кредитного бизнеса коммерческих банков.

С непрерывным развитием экономической глобализации финансовая индустрия Китая ускорила темпы развития, но, поскольку это основной источник прибыли коммерческих банков, нельзя игнорировать риски, связанные с кредитным бизнесом.В связи с этим коммерческим банкам необходимо разработать разумную модель оценки рисков, оптимизировать структуру кредитной системы, усовершенствовать иерархическую систему надзора, усилить управление человеческими ресурсами и формирование кредитной культуры, в полной мере реализовать свою роль в регулировании финансовой отрасли и рынка, а также способствовать устойчивому и стабильному развитию экономики. развитие экономики Китая.

Использованные источники:

1. Юй Хуэйцзюнь, Ван Янь.О стратегиях корпоративного управления финансовыми рисками и контроля [J].Модернизация торговых центров, 2024, 04:154-155.
2. Чжан Цзин.Анализ эффективной стратегии компании группы по противодействию управлению финансовыми рисками [J].Финансы и экономика (Академическое издание), 2021, 04:136.
3. Цинь Лисия.О важности корпоративных мер по управлению финансовыми рисками и контролю [J].Время и пространство карьеры, 2021, 09:8-9.

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ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ ДЕЯТЕЛЬНОСТИ КЛАСТЕРОВ: СОВЕРШЕНСТВОВАНИЕ И РАЗВИТИЕ ЭКОНОМИЧЕСКИХ МЕХАНИЗМОВ

Аннотация:*В данной статье анализируются направления совершенствования и развития экономических механизмов для повышения эффективности деятельности кластеров. В рамках исследования рассматривается роль кластерной системы в экономике и факторы, влияющие на ее развитие. В частности, изучаются ключевые аспекты экономических механизмов, направленные на эффективное использование ресурсов в кластерах, ускорение инновационных процессов и повышение конкурентоспособности.*

Результаты исследования служат основой для более эффективного управления кластерами и усиления их экономического воздействия.

Ключевые слова: *кластерная система, экономические механизмы, эффективность, инновации, финансирование, государственная поддержка, конкурентоспособность.*

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INCREASING THE EFFICIENCY OF CLUSTER ACTIVITIES: IMPROVEMENT AND DEVELOPMENT OF ECONOMIC MECHANISMS

Abstract*:This article analyzes the directions for improving and developing economic mechanisms to enhance the efficiency of cluster activities. The study examines the role of the cluster system in the economy and the factors influencing its development. In particular, key aspects of economic mechanisms aimed at the efficient use of resources in clusters, acceleration of innovation processes, and enhancement of competitiveness are explored.*

The research findings serve as a foundation for more effective cluster management and strengthening their economic impact.

Keywords: *cluster system, economic mechanisms, efficiency, innovation, financing, government support, competitiveness.*

ВВЕДЕНИЕ

На сегодняшний день кластерные системы признаны одним из ключевых факторов экономического развития во всем мире. Они позволяют повысить эффективность производства, внедрить инновационные технологии и усилить конкурентоспособность за счет интеграции промышленных и сельскохозяйственных секторов. В частности, стремительное развитие кластерной системы в экономике Узбекистана способствует углублению рыночных отношений, увеличению экспортного потенциала и интеграции местных производителей в глобальные рынки.

В указах и постановлениях Президента Республики Узбекистан развитие кластерной системы определено как одно из приоритетных направлений, и в этом направлении реализуется ряд реформ. Внедрение кластерной модели особенно активно происходит в сельском хозяйстве, легкой промышленности и других отраслях, что способствует созданию новых рабочих мест, увеличению объемов производства и расширению экспортного потенциала. Вместе с тем возникает необходимость совершенствования экономических механизмов, обеспечивающих эффективность кластерной деятельности.

Актуальность исследования обусловлена тем, что для повышения эффективности кластерной системы важное значение имеют такие факторы, как государственная поддержка, механизмы финансирования, инновационная инфраструктура и рациональное использование ресурсов. В связи с этим в данной статье будут рассмотрены пути повышения эффективности кластерной деятельности и предложены рекомендации по совершенствованию экономических механизмов.

Цель исследования – изучить роль экономических механизмов в повышении эффективности деятельности кластеров, выявить существующие проблемы и предложить пути их решения. Для достижения этой цели проводится анализ международного опыта и разрабатываются оптимальные стратегии развития кластеров в условиях Узбекистана.

Задачи исследования включают:

- Анализ роли кластерной системы в экономике;
- Изучение механизмов финансовой поддержки кластеров;
- Оценку влияния инноваций и современных технологий на эффективность кластеров;
- Разработку практических рекомендаций по развитию кластерной системы в Узбекистане.

Данное исследование направлено на всесторонний анализ экономических механизмов, необходимых для эффективного функционирования кластеров, и его результаты будут способствовать дальнейшему развитию кластерной системы.

МЕТОДОЛОГИЯ

В рамках данного исследования были использованы различные научно-методологические подходы для анализа экономических механизмов

повышения эффективности деятельности кластеров. Методология исследования включает следующие основные методы:

1. Теоретический анализ

В исследовании изучена существующая научная литература, монографии, международные и локальные научные статьи, касающиеся кластеров, механизмов повышения их эффективности и инновационных подходов. Были рассмотрены ключевые теории кластерных систем, в том числе теория конкурентного преимущества М. Портера, концепция кластеризации промышленных отраслей А. Маршалла, а также научные труды узбекских исследователей, таких как М. Рахматов и З. Зарипов.

2. SWOT-анализ

Для выявления сильных и слабых сторон, возможностей и угроз кластерной системы в Узбекистане был проведен SWOT-анализ. Этот метод позволил выявить ключевые проблемы и разработать стратегические рекомендации для их устранения.

РЕЗУЛЬТАТЫ И АНАЛИЗ

В рамках данного исследования были проведены анализ и оценка экономических механизмов повышения эффективности кластеров. В результате были получены следующие выводы:

1. Роль кластерной системы в экономике Узбекистана и тенденции ее развития

Результаты исследования показывают, что за последние годы кластерная система в Узбекистане стремительно развивается. Особенно активно кластерная модель внедряется в сельское хозяйство и легкую промышленность, что способствует повышению экономической эффективности. В результате реализованных государством реформ:

- Хлопково-текстильные кластеры охватывают полный цикл производства и способствуют росту экспорта;
- Фруктоовощные кластеры позволяют интегрировать процессы выращивания, переработки и экспорта;
- Фармацевтические и строительные кластеры развиваются, создавая новые рабочие места.

По статистическим данным, количество предприятий, работающих по кластерной системе, увеличилось в 3,5 раза в период с 2018 по 2024 год, а их доля в ВВП страны выросла с 12% до 22%.

2. Факторы, влияющие на эффективность деятельности кластеров

На основе проведенного анализа были выявлены ключевые факторы, оказывающие влияние на эффективность кластеров.

а) Финансовая поддержка и инвестиции

- В Узбекистане действуют государственные субсидии и льготные кредиты для поддержки кластеров.
- Исследования показывают, что в кластерах с привлечением частных инвестиций объем производства в среднем на 30-40% выше.

• Однако большинство кластеров сталкиваются с проблемой долгосрочного финансирования, что ограничивает их устойчивое развитие.

b) Инфраструктура и логистика

• Во многих кластерах существуют проблемы с современной инфраструктурой, что негативно влияет на их эффективность.

• В сельскохозяйственных кластерах сохраняются перебои с водоснабжением и энергоснабжением.

• В 70% успешных кластеров развиты транспортно-логистические услуги, что способствует расширению экспортных возможностей.

c) Налоговые и таможенные льготы

• В Узбекистане кластеры получают налоговые льготы, включая снижение НДС и освобождение от таможенных платежей на импорт оборудования.

• Однако сложность налоговой системы и бюрократические барьеры затрудняют развитие некоторых кластеров.

3. Международный опыт повышения эффективности кластеров

В ходе исследования были изучены примеры развития кластеров в ведущих странах мира, что позволило выявить следующие ключевые стратегии:

• США: Использование инновационных технопарков и научных центров способствует повышению эффективности кластеров.

• Германия: Автоматизация производственных процессов в рамках концепции “Индустрия 4.0” снижает себестоимость продукции.

• Южная Корея: Совместное финансирование кластеров государственным и частным секторами ускоряет их развитие.

• Китай: Создание специальных экономических зон с налоговыми и логистическими льготами способствует росту кластеров.

Сравнительный анализ показал, что для повышения эффективности кластеров в Узбекистане необходимо активнее внедрять инновационные технологии, привлекать частные инвестиции и расширять государственные стимулы.

4. SWOT-анализ кластерной системы Узбекистана

Для оценки перспектив развития кластерной системы Узбекистана был проведен SWOT-анализ.

Сильные стороны (S)	**Слабые стороны (W)**
Государственная поддержка Высокий экспортный потенциал Взаимосвязь производственных цепочек Налоговые льготы	Недостаток финансирования и инвестиций Проблемы с инфраструктурой и логистикой Нехватка квалифицированных кадров Медленные темпы внедрения инноваций
Возможности (O)	**Угрозы (T)**

Сильные стороны (S)	Слабые стороны (W)
Привлечение частных инвестиций Диверсификация экспортных рынков Сотрудничество с научно-исследовательскими центрами	Закрытие нерентабельных кластеров Рост требований к международным стандартам Снижение государственной поддержки

Результаты SWOT-анализа показывают, что для успешного развития кластерной системы необходимо улучшение инфраструктуры, поддержка инноваций и развитие государственно-частного партнерства.

ВЫВОДЫ И ПРЕДЛОЖЕНИЯ

Выводы

Результаты исследования показывают, что кластерная система является важным фактором экономического развития Узбекистана. В последние годы эффективность деятельности кластеров значительно возросла благодаря реализованным реформам, что способствовало расширению экспорта, созданию новых рабочих мест и внедрению инновационных технологий.

Однако анализ также выявил ряд проблем, сдерживающих развитие кластеров:

- **Недостаточное финансирование и инвестиции** – ограниченный доступ к долгосрочным инвестициям и слабая заинтересованность частного сектора в финансировании кластеров.
- **Инфраструктурные и логистические проблемы** – нехватка современных транспортных сетей, перебои с водоснабжением и электроэнергией.
- **Дефицит квалифицированных кадров** – нехватка специалистов, необходимых для эффективного функционирования кластеров.
- **Низкий уровень внедрения инновационных технологий** – слабая цифровизация процессов и недостаточное использование современных автоматизированных систем.

Международный опыт показывает, что для повышения эффективности кластерной системы необходимо активное участие государства и частного сектора, налоговые и таможенные льготы, развитие инфраструктуры и поддержка научных исследований.

Предложения

Для совершенствования кластерной системы и повышения ее экономической эффективности в Узбекистане необходимо реализовать следующие меры:

1. Финансовая поддержка и привлечение инвестиций

- Разработка налоговых и кредитных льгот для частных инвесторов, заинтересованных в финансировании кластеров.
- Создание специальных финансовых фондов и расширение государственных программ кредитования кластеров.
- Укрепление сотрудничества с международными финансовыми институтами и привлечение иностранных инвестиций.

2. Развитие инфраструктуры

- Улучшение транспортно-логистических условий, создание благоприятных условий для экспорта.
- Совершенствование систем энергоснабжения, водоснабжения и интернет-инфраструктуры в кластерах.
- Создание **специальных экономических зон**, обеспеченных необходимыми ресурсами для кластеров.

3. Внедрение инноваций и цифровизация

- Внедрение передовых технологий и расширение государственных грантов и субсидий на инновационные проекты.
- Разработка и реализация цифровых систем управления производственными процессами.
- Укрепление сотрудничества с научно-исследовательскими институтами и университетами.

4. Подготовка кадров и повышение квалификации

- Развитие партнерства с вузами и учебными центрами для подготовки специалистов в области кластерного управления.
- Разработка программ повышения квалификации для малого и среднего бизнеса.
- Создание специальных грантов и стипендий для привлечения молодежи в кластерную систему.

5. Совершенствование налоговой и таможенной политики

- Оптимизация налоговой нагрузки и упрощение налоговой отчетности для кластеров.
- Введение таможенных льгот на импорт сырья и технологического оборудования.
- Разработка специальных налоговых режимов для экспортоориентированных кластеров.

6. Международное сотрудничество и обмен опытом

- Изучение успешных мировых практик кластерного развития и адаптация их к условиям Узбекистана.
- Расширение сотрудничества с международными торговыми организациями и кластерными ассоциациями.
- Диверсификация экспортных направлений и расширение географии поставок продукции кластеров.

Реформы в области кластерного развития играют важную роль в обеспечении устойчивого экономического роста Узбекистана. Однако для повышения эффективности кластеров необходимо усилить финансовую, инфраструктурную, инновационную и налоговую поддержку.

Реализация предложенных мер позволит повысить конкурентоспособность кластеров, укрепить их позиции на национальном и международном уровне, а также создать благоприятные условия для дальнейшего экономического роста страны.

Принятие данных рекомендаций будет способствовать дальнейшему совершенствованию кластерной системы, увеличению производительности и созданию новых рабочих мест в Узбекистане.

Использованные источники:

1. Президент Республики Узбекистан. "Стратегия «Узбекистан – 2030»". – 11 сентября 2023 года.
2. Кабинет Министров Республики Узбекистан. "О мерах по развитию кластерной системы и повышению ее эффективности". – Постановление от 15 марта 2022 года.
3. Рахматов М. "Кластерная экономика и принципы ее развития". – Ташкент: Иқтисодиёт, 2021.
4. Зарипов З. "Экономические основы развития кластерной системы Узбекистана". – Ташкент: Фан, 2020.
5. Агентство статистики Республики Узбекистан. "Экономическая эффективность кластеров в Узбекистане: аналитический отчет". – Ташкент, 2023.
6. Министерство финансов Республики Узбекистан. "Кластеры и их экономическая эффективность". – Официальный отчет, 2022.
7. Шодмонов Ш. "Экономические реформы и кластерная система". – Ташкент: Шарк, 2020.
11. Porter M. "The Competitive Advantage of Nations". – New York: Free Press, 1990.
12. Ketels C. "Clusters and Innovation: A Case for Clusters in the Knowledge Economy". – Harvard Business School, 2017.
13. OECD. "Cluster Policies in Europe". – Paris: OECD Publishing, 2019.
14. Marshall A. "Principles of Economics". – London: Macmillan, 1890.
15. Sölvell Ö. "Clusters: Balancing Evolutionary and Constructive Forces". – Stockholm: Ivory Tower Publishing, 2009.

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ТЕРРИТОРИАЛЬНЫЙ СОСТАВА И РАЗВИТИЕ ТРАНСПОРТНЫХ СИСТЕМ УЗБЕКИСТАНА

Аннотация. *В данной статье описано формирование транспортных систем Республики Узбекистан, особенности и различия территориального состава транспортных сетей. Также отражены различия в региональной структуре транспортных сетей и направления дальнейшего совершенствования транспортных систем страны.*

Ключевые слова: *Транспорт, транспортная система, транспортные сети, территориальная структура, автомобильный транспорт, железнодорожный транспорт, воздушный транспорт, трубопроводный транспорт, логистика, транзит.*

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TERRITORIAL COMPOSITION AND DEVELOPMENT OF TRANSPORT SYSTEMS OF UZBEKISTAN

Abstract:*This article describes the formation of transport systems in the Republic of Uzbekistan, the features and differences in the territorial composition of transport networks. It also reflects the differences in the regional structure of transport networks and the directions for further improvement of the country's transport systems.*

Keywords: *Transport, transport system, transport networks, territorial structure, road transport, rail transport, air transport, pipeline transport, logistics, transit*

Узбекистан расположен в центре Центральной Азии, вдали от Мирового океана, его территория составляет 448,9 тыс. км^2, население – более 37 млн человек (2023 г.).

Узбекистан был регионом стратегического значения в соединении Востока и Запада, особенно во времена Великого Шелкового пути (II-XVI вв.). В те времена для перевозки грузов использовались лошади и верблюды, и их можно считать уникальной транспортной системой того времени.

С формированием и развитием транспортной системы страны мы можем наблюдать появление промышленности и создание новых поселений. В основном они разделены на этапы в зависимости от формирования и развития транспортных сетей страны. Например, строительство крупных автомагистралей началось после 1940-х годов. До этого в стране формировались преимущественно железнодорожные пути (табл. 1).

Периоди развития транспортной системы Узбекистана

№	Периоди	Краткое описание этапи
1.	**I - период**. С конца XIX века до начала Второй мировой войны (конец XIX века и 1940-е годы)	Первые железнодорожные линии запущены в Центральной Азии, в том числе в Узбекистане
2.	**II - период**. Период от Второй мировой войны до независимости (1941-1991 гг.)	Со строительством Великого Узбекского тракта, расширением транспортной инфраструктуры на территории Узбекистана, появлением внутренних автомобильных дорог страны
3.	**III- период** - Период от независимости до 2016 г. (1991-2016 гг.)	Узбекистан добился дорожной независимости.
4.	**IV - период**.–новая эра после 2016 года.	Новая эра установления транспорт экономических связей между странами Центральной Азии

Таблица составлена автором

В конце 19 века и до 1940 года основные населенные пункты Средней Азии связывали в основном железнодорожные линии. В частности, в 1888 году была построена Прикаспийская железная дорога, соединившая Каспийское море с Самаркандом, а в 1899 году — с Ташкентом. Железнодорожные пути были построены и в других регионах Средней Азии. В частности, прокладка железной дороги в пустынях Каракумов считалась для того времени новым проектом в железнодорожном строительстве.

В начале 1906 года была введена в эксплуатацию железная дорога на Ташкент и открыт прямой путь в Россию для Средней Азии. Также были построены новые железнодорожные линии, такие как Амударья-Термиз (1925 г.), Термез - Жаркурган и Фергана - Кызылкия (1926 г.), Андижан-Тентаксой (1927 г.) [157.].

Поэтому в этой связи А.А. Исаев считает, что «транспорт стран Центральной Азии, в том числе и Республики Узбекистан, является односторонним, преимущественно в северном (меридиональном)

направлении». Первыми железными дорогами стала Красноводск (ныне Туркменбаши)-Андижанская железная дорога, соединившая Среднюю Азию с Россией, в 1899 году. В 1906 году была построена Ташкентско-Оренбургская железная дорога [1; -153 б].

Первоначально построенная для военных целей, железная дорога позже широко использовалась для перевозки сельскохозяйственной продукции, особенно хлопка, шелка и сухофруктов. Газ, сахар, металл и другая продукция производства из России доставлялись в Среднюю Азию преимущественно по железной дороге.

В 1916 году было завершено строительство железной дороги от Когона до Термеза, и из Бухары в Термез были доставлены первые грузы [3;].

И.В. Никольский в «Географии транспорта» отмечал, что к 1940 году общая протяженность железных дорог Средней Азии составляла 4100 км [6;].

К 1940 году на территории нашей страны были развиты новые железные дороги, на их базе были запущены промышленные предприятия (хлопкоочистительные машины), началось производство уникальных материалов, сформировался фундамент отрасли. В этот период железнодорожный транспорт был лидером транспортной системы Узбекистана.

II – период. В этот период, охватывающий с начала Второй мировой войны по 1991 год, преимущественно изучаются особенности формирования автомобильных дорог.

Одной из важнейших магистралей автомобильного транспорта нашей страны является Большой Узбекский тракт. Также эта дорога, считающаяся сегодня одной из основных магистралей транспортной системы республики, была построена в 1940-1941 годах и соединила Ташкент с Термезом, ее длина составляет 708 км.

Кроме того, на этом этапе были построены автодороги Ташкент-Коган, Газалкент-Чирчик-Ташкент, а по плотности автомобильных дорог Узбекистан занял первое место в Центральной Азии.

В начале 20 века в Узбекистане было 27 000 км автомобильных дорог, и они использовались в основном для караванных путей. Из них 2000 км дорог покрыты камнем и гравием, строительство асфальтобетонных дорог началось в 1954 г., цементно-бетонных — с 1962 г. [8; 13-14 стр].

В 1960-1980-х годах была построена Ташкентская кольцевая дорога. Эта дорога стала важной в регулировании городского транспорта.

На этом этапе сформировались не только железные и автомобильные дороги, но и трубопроводный транспорт. В качестве примера были построены магистральные газопроводы Жаркок-Бухара-Самарканд-Ташкент-Шимкент (1960 г.), Газли-Челябинск. Наряду с созданием дорожной инфраструктуры на территории страны основное место в составе грузов заняли нефть, хлопковое волокно, уголь, изделия из древесины, минеральные удобрения.

Следующий III период – В независимости с 1991 по 2016 год это был этап, заложивший основу нынешней и будущей транспортной системы,

создал ее нормативно-правовую базу, а главное, развил единую транспортную систему. В нем многие аспекты транспортной системы выросли в новом виде, в этот период формирование единых транспортных систем было определено как неотложная задача, была достигнута автономия.

На данном этапе большое значение в интеграции транспортной системы Узбекистана в мировую экономику имеет новый проект – восстановление Великого Шелкового пути. В настоящее время проект Шелкового пути соединяет страны Центральной Азии с Востока с Китаем, Турцией и европейскими странами.

Прежде всего, реализация транспортного проекта ТРАСЕКА (Транспортный коридор Европа-Кавказ-Азия) на основе программы ТАСИС стран Центральной Азии и Кавказа укрепила транспортные связи Европы и Центральной Азии [1] .

О проекте первый президент Республики Узбекистан сказал, что «реализация данного проекта откроет альтернативную и стабильную возможность для стран, не имеющих морского пути, соединиться с Трансъевропейской и Трансазиатской транспортными сетями».

Со строительством дороги Таджан-Серахс-Мешхед проект Великого Шелкового пути принял новое направление. Это строительство длилось 5 лет. (Протяженность этой железной дороги составляет 295 км, из них 130 км — по территории Туркменистана, 165 км — по Ирану).

По имеющимся данным, расстояние перевозки грузов по новым альтернативным коридорам из Узбекистана до ближайших портов сократилось с 5700 км до 3700 км, а 50% экспортируемых грузов пришлось на эти дороги. Кроме того, климат региона позволяет использовать его без перерывов в течение всего года. Если мы потратим более 100 долларов за тонну на доставку узбекского хлопка в украинские порты через Казахстан и Россию, то этот груз составит 55 долларов при транспортировке через ТРАСЕКА (Транспортный коридор Европа-Кавказ-Азия) [4; 65-68 б].

IV период. В последние годы были реализованы новые реформы в сфере транспорта. Одним из примеров является восстановление транспортных и торговых связей республики с соседними странами, а также быстрая реализация транспортных реформ, формирование и развитие удобных и дешевых, коротких маршрутов. , безопасные виды транспорта, что позволило нам выделить последний этап лди. Одним из наиболее важных изменений стало создание единого Министерства транспорта путем объединения транспортных отраслей и наше исследование как новый этап развития транспортных систем после обретения независимости.

Кроме того, в последнее время в стране реформируются все отрасли. В 2018 году модернизирован и введен в эксплуатацию железнодорожный вокзал Ташкент-Южный, с вокзала запущены поезда по всем местным направлениям.

В настоящее время руководством республики проводится большая работа по структурному и территориальному совершенствованию данной отрасли. В частности, важное значение для последовательного

совершенствования системы государственного управления в сфере транспорта имеет создание Министерства транспорта на основе Указа Президента Республики Узбекистан №ПФ-5647 от 2019 года получила развитие транспортная система Узбекистана.

Также в 2021 году особое значение имело принятие Закона о транспорте, состоящего из 45 статей, в целях регулирования отношений в сфере транспорта (9 августа 2021 г., O'RQ-706).

В октябре 2023 года в железнодорожной системе был произведен ряд изменений и запущены новые предприятия на базе железных дорог Узбекистана (Таблица 2).

Также в последние годы реализуется несколько региональных проектов, имеющих значение для транспортных и торговых отношений Узбекистана. К числу крупнейших относятся железнодорожный проект Китай-Кыргызстан-Узбекистан Термиз-Мазари-Шариф-Кабул-Пешовар и др.

Железные дороги Узбекистан				
Железнодорожная инфраструктура (Темирйўлинфратузилма)	Железнодорожная карго (Темирйўлкарго)	Железнодорожная експресс (Темирйўлэкспресс)	Узжелезнодорожная пассажир (Ўзтемирйўйўловчи)	Социальные службы (Темир йўл ижтимоий хизматлар)
Деятельность единого диспетчерского центра дорожного хозяйства, электроснабжения, сигнализации и связи, локомотивного хозяйства и грузовых станций	Осуществление услуг по грузоперевозкам, поддержание и развитие грузового вагонного и контейнерного хозяйства, организация логистических центров и терминалов.	Оказание услуг по перевозке пассажиров на высокоскоростных электропоездах	Обеспечение работы станций	Содержание детских лагерей, медицинских, культурно-просветительских и спортивных объектов

Таблица 2. Структура железных дорог Узбекистана. Авторская разработка

Нет сомнений в том, что железнодорожный проект Китай-Кыргызстан-Узбекистан сблизит такие страны, как Кыргызстан, Узбекистан и Туркменистан, в плане транспортных отношений с Китаем. Проект Термез-Мазари-Шариф-Кабул-Пешавар приблизит Центральную Азию к Пакистану, Индии и странам вдоль Аравийского моря, а также предоставит возможность расширить торговлю с ними. Это позволит сократить время доставки только между Узбекистаном и Пакистаном примерно на пять дней. Стоимость перевозки грузов также снизится как минимум на 40 процентов.

Узбекистан становится одним из важнейших центров международного сотрудничества. В частности, были восстановлены добрососедские и дружественные отношения со странами Центральной Азии. Только за 2019-

2022 годы объем торговли между Узбекистаном и Казахстаном увеличился в 1,4 раза, с Кыргызстаном – в 1,5 раза, с Таджикистаном – в 1,4 раза, с Туркменистаном – в 1,7 раза.

Транспортная система Узбекистан определяется следующим образом в Законе о транспорте. Транспортная система Республики Узбекистан состоит из автомобильного, железнодорожного, воздушного, водного, электрического транспорта, метрополитена и объектов транспортной инфраструктуры, образующих единую транспортную систему [9; 3-б].

Транспорт имеет большое значение в экономическом развитии республики, в транспортной сфере создается 20% сферы услуг страны. В 2022 году всеми видами транспорта в Узбекистане перевезено более 1420,3 миллиона тонн грузов и 6988,0 миллиона пассажиров. 90% грузов приходится на автомобильный транспорт, 5% на железнодорожный транспорт, 4% на трубопроводный транспорт. Также грузооборот на автомобильном транспорте достигает 20,5 млрд т-км (табл. 3).

Автомобильные дороги имеют большое значение в транспортной инфраструктуре страны, их протяженность составляет 42,9 тыс. км, из них международных — 3,9 тыс. км, государственных — 14,1 тыс. км, а местного значения — 24,9 тыс. км (общая протяженность автомобильных дорог мира. составляет 28 млн км).

В республике большое значение в транспортной системе страны имеют дороги международного значения (М39, М34, М37, М41, А373, А380 и др.) (рис. 1). Транспортный поток в них увеличивается с каждым годом. Например, по трассе М39 Ташкент-Термиз должно двигаться 20 000 автомобилей в час, а в настоящее время движется 80 000 автомобилей [14;].

Рисунок 1. Карта-схема международных автомобильных дорог Узбекистана.

Источник: Комитет автомобильных дорог республики.

По данным, 25% всех дорожно-транспортных происшествий происходят из-за плохих дорожных условий. В 2024 году в нашей республике

произошло менее 10 000 дорожно-транспортных происшествий. Особенно высокий индекс он имеет на международных автомагистралях, таких как М39, М41, А-373, с интенсивным транспортным потоком. Эти участки дороги соответствуют районам Самарканда и Гузара, Жаркургана и Денау, Туракургана и Язявана.

Согласно Закону Республики Узбекистан «Об автомобильных дорогах», автомобильные дороги классифицируются следующим образом. Она делится на автомобильные дороги общего пользования, улицы городов и других населенных пунктов.

Дороги являются важнейшей транспортной сетью в экономике страны, и регулярное содержание и улучшение дорог положительно влияет на экономику республики. Для информации, согласно анализу ООН, качественные дороги будут стимулировать рост экономики Узбекистана как минимум на 2 процента.

Железнодорожный транспорт занимает главное место во внешнеэкономических связях Узбекистана. Железнодорожный транспорт также является лидером по перевозке экспортных и импортных грузов. Благодаря географическому положению нашей страны ее транзитное значение велико, сегодня территорию Узбекистана пересекают около 10 транзитных магистралей. Также несопоставима роль железных дорог в экспорте республики.

Общая протяженность железных дорог страны составляет 6,2 тыс. км, протяженность железных дорог общего пользования – 4 тыс. 726,1 км. равно Железные дороги Республики Узбекистан состоят из 6 региональных железнодорожных узлов (МТУ), в том числе Ташкентского, Кокандского, Бухарского, Кунградского, Каршинского и Термезского МТУ. Всего 269 станций.

Лидерами по протяженности железных дорог в Узбекистане являются Каракалпакистан (921 км), Бухара (493 км), Кашкадарья (493 км), Навои (469 км). Напротив, Андижанская, Сырдарьинская и Хорезмская области имеют низкие показатели по протяженности железных дорог. Таким образом, можно сделать вывод, размер территории влияет на протяженность дорог (таб. 3).

По данным сайта «Глобальная экономика», в 2021 году Узбекистан займет 12-е место по грузообороту железнодорожных перевозок и 20-е место по грузообороту пассажирских перевозок. Также в последние годы наблюдается снижение пассажиропотока на железной дороге. Например, в 2014 году на квадратный километр приходилось 3467 тысяч человек, а к 2021 году — 3130 тысяч [13;].

Трубопроводный транспорт был создан в середине 20 века в связи с открытием нефтегазовых месторождений Южный Оламушук, Палванташ и Ходжаабад в восточной части Ферганской долины. Трубопроводный транспорт в четыре раза дешевле железнодорожного транспорта и свободен от ненужных трудозатрат, таких как погрузка и разгрузка [2; 62-б].

Таблица 3

Протяженность дорог общего пользования по регионам, км

№	Регионы	Автомобильный дороги	Железная дорога
1	Республика Каракалпакстан	4187	921,0
2	Андижан	2457	155,8
3	Бухара	3969	493,5
4	Джизак	2540	274,1
5	Кашкадарья	3396	492,7
6	Наваи	3841	469,3
7	Наманган	3168	228,1
8	Самарканд	4084	282,9
9	Сурхандарья	2843	413,2
10	Сырдаря	1447	161,5
11	Ташкент	3964	391,0
12	Фергана	4001	228,6
13	Хорезм	2165	174,7
	общи	42046	4641,9

Таблица составлена автором на основе данных Агентства по статистике при Президенте Республики Узбекистан.

Протяженность магистральных трубопроводов составляет 13,7 тыс. км, из них 10,5 тыс. км — газопроводы, остальные — трубопроводы нефти и нефтепродуктов. Например, Бухара-Урал — крупнейший газопровод (4500 км). Трубопроводный транспорт преимущественно развит в регионах Бухарской, Кашкадарьинской областей и Республики Каракалпакистан. Трубопроводный транспорт в 2010 году составил 53,7 млн тонн, в 2018 году — 72,4 млн тонн, к 2022 году — 63,5 млн тонн.

Воздушный транспорт также доминирует в перевозках грузов и пассажиров на дальние расстояния за короткий период времени. Сегодня в нашей республике действуют 14 международных аэропортов. Количество авиакомпаний - 11, а количество эксплуатируемых самолетов достигло 61.

За последние годы в ряде регионов Узбекистана открылись новые аэропорты. Среди них аэропорты Коканд, Шахрисабз и Замин были сданы в эксплуатацию в 2024 году. Также планируется создать и отремонтировать новые аэропорты в Андижанской, Наманганской, Бухарской, Сурхандарьинской областях.

Водный транспорт в нашей стране зависит от уровня воды рек Амударья и Сырдарья, а также использования этих рек в ирригационных целях, что оказывает негативное влияние на развитие речного транспорта в республике. Особенно в Хорезмской области и Республике Каракалпакистан судоходство практически остановилось. Речной порт Термез хоть и существует в виде инфраструктуры, но на практике не имеет тенденции к развитию.

Сегодня в городе Термез на реке Амударья действует речной порт Термез. На нем установлено 17 теплоходов и 10 кранов. Также в порту имеется закрытая инфраструктура до 10 000 тонн и открытая инфраструктура

на 100 000 тонн грузов, то есть склады. Из этой части Амударьи, то есть от речного порта Термез до речных портов Хайротон и Шерхан в Афганистане, налажено судоходство.

Основным результатом транспортной деятельности являются грузовые и пассажирские перевозки. В этом плане виды транспорта имеют разный потенциал. В 2022 году общий объем грузов, перевезенных по республике, составит 1420,9 миллиона. тонн, из них 1 284,1 млн. тонн автомобилей, 73,4 млн тонн железных дорог, 63,5 млн тонн трубопроводов и 10,2 млн тонн воздушного транспорта. Также, если всего по нашей республике было перевезено 6 миллионов 245,3 миллиона пассажиров, то 6 миллионов 092,5 миллиона из них перевезено автомобильным транспортом.

Из статистических данных известно, что в перевозках грузов и пассажиров в Узбекистане основное место занимает автомобильный транспорт. Этот вид транспорта объясняется мобильностью, удобством и дешевизной услуг по сравнению с воздушным и железнодорожным транспортом.

Наваийская область (379,9 млн тонн), за которой следует Ташкентская область (253,2 млн тонн), является лидером по автомобильным перевозкам в республике. Эти регионы отличаются большим потенциалом минерального сырья и развитием промышленного производства. Также значительные позиции имеют Бухарская и Ферганская области. Андижанская, Ташкентская и Ферганская области считаются наиболее перспективными для пассажирских перевозок, напротив, пассажиро перевозочный потенциал таких регионов, как Сырдарьинская и Джиззакская, очень слаб (табл. 4).

В то же время общественный транспорт относительно хорошо развит в таких городах, как Ташкент, Андижан, Самарканд, Наманган, Карши и Ургенч. Есть также 22 регулярных международных автобусных маршрута. В частности, он был запущен в страны Таджикистан, Кыргызстан, Казахстан и Россию.

Всего имеется 3903 автомобильных маршрута, обслуживающих население, из них 774 городских, 2756 пригородных, 282 междугородных и 91 междугородный маршрут. У них 38 926 автомобилей, из них 5 506 автобусов.

Таблица 4

Грузовые и пассажирские перевозки автомобильным транспортом, 01.01.2022.

Регионы	Перевезено пассажиров, млн., чел.	Пассажирооборот, млн. пассажир/км	Перевезено грузов, млн тонн	Грузооборот, млрд т/км
Андижан	731,7	12 737	49,3	1 086
Бухара	290	9 978	67,7	2 342,8
Джизак	92	2 576	35,5	1 097,4
Кашкадарья	316	10 337	45,9	1 332
Наваи	174	4 279	379,9	2 039
Наманган	449,9	8 922,3	31,6	826

Самарканд	432,8	14 014	57,3	1 466,5
Сурхандарья	281	6 448	71,7	1 146,9
Сырдаря	85	2 624	19,5	338,8
Ташкент	731	19 033	253,2	1 969
Фергана	689	15 508	61,6	1 913
Хорезм	448,4	8 412	37,8	1 065,7
г. Ташкент	1 225,3	11 932	136,4	3 036,6
Республика Каракалпакстан	144,6	4 209	36,7	849,5
Общи	**6 092**	**131 012**	**1 284,1**	**20 510**

Таблица: составлена автором на основе данных Агентства по статистике при Президенте Республики Узбекистан.

Ускорение процессов урбанизации республики, увеличение крупных городов, увеличение численности населения требуют дальнейшего развития общественного транспорта. В крупных городах, например, метро в Ташкенте, трамвай в Самарканде, троллейбус в Ургенче.

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Единственная подземная дорога в Центральной Азии расположена в столичном городе Ташкенте. Ташкентское метро было запущено в 1977 году. В настоящее время протяженность линий метрополитена составляет 67,2 км и состоит из 50 станций. В 2023 году годовое количество пассажиров составит 162 миллиона человек.

Также количество автобусов, курсирующих по городу Ташкенту, превысило 1900. Есть также автобусы длиной до 18 метров. В 2023 году для общественного транспорта города приобретено еще 1000 автобусов. Из них привезли 302 электробуса.

Согласно анализу, один легковой автомобиль перевозит в среднем 4,3 пассажира в день, а один автобус перевозит в среднем 580 пассажиров в день (автобус в 135 раз эффективнее легкового автомобиля) [6;]. Также в последующие годы реализуются проекты «Зеленый город». В этих проектах общественный транспорт имеет высокий приоритет.

По данным ведомства по статистике, в 2023 году через Узбекистан было перевезено около 12 млн тонн транзитных грузов, 81,3% из которых было перевезено по железной дороге и 18,7% - автомобильным транспортом.

Сегодня Узбекистан связана с мировым сообществом железными дорогами по Балтийскому (Клайпеда), Белорусскому (Брест), Украинскому, кавказским республикам, Ирану (Бендер-Аббас), Дальневосточному и китайскому маршрутам [12;].

Геополитическое положение республики, разнообразие природных ресурсов и производительных сил, необходимость обеспечения баланса между ними и регионами требуют формирования логистической системы,

обеспечивающей движение продукции на уровне нашей страны и регионов [7; 16-с].

Система транспортной логистики позволяет рационально организовать перевозки в крупных транспортных узлах и крупных промышленных районах, привлечь дополнительные грузопотоки, повысить конкурентоспособность транспорта. За последние годы транспортно-логистические центры (ТМ) созданы в городах Ангрене, Джизаке и Самарканде. Среди них Ангренский логистический центр занимается доставкой тяжеловесных грузов, а джизакский занимается транспортировкой, хранением и переработкой сельхозпродукции.

Заключение

Исследования показывают, что транспорт является важной отраслью экономики любого региона и является основным фактором размещения производственных предприятий. Особенно его аспекты как сети и фактора оказывают социальное воздействие. В частности, тот факт, что транспорт является базовой отраслью экономики нашей страны, повышает его значение как производственной инфраструктуры, а как фактор - одного из важных звеньев развертывания и развития транспортного производства.

На территориальный состав транспортных систем Республики Узбекистан повлияли различные факторы. Мы видим, что на формирование и развитие транспортной системы страны повлияло не только ее географическое положение, но и исторические процессы. Современное состояние транспортной сети и системы региона соответствует уровню развития и экономического развития региона.

Исходя из вышеизложенного, исследование проблем сетевой и региональной структуры и развития транспорта, определение возможностей транспортной логистики, выявление региональных особенностей является одним из актуальных направлений современных экономико-географических исследований.

Использованные источники:

1. Isayev A.A.Transport geografiyasi.Uslubiy qo‘llanma. - T.: Mumtoz so‘z. 2019-y.- 153 b.
2. Isayev A.A., O‘zbekistonda transportdan foydalanish imkoniyatlarini takomillashtirish.geog. fan. dok. (DSc) diss. avtoref.***Samarqand***: – 2024.-66 b.
3. Ахмедов Х., Туманов Г.А., Снежка Г.Т. Формирование и развитие транспортной системы Туркменистана..Ашхабад, "Туркменистан", 1989. С.108-109.
4. Камолов. С. Развитие транспортной системы Узбекистана и возраждение великого шелкового пути // Минстерство внешноэкономических связей Республики Узбекистан. Инфармационний бюллетень, №1 -Т;2001., с. 65-68.
5. Назаров, М. И., & Омонтурдиев, А. М. (2024). Территориальная организация транспортного обслуживания населения Сурхандарьинской области. *Экономика и социум*, (5-1 (120)), 1459-1473.
6. Никольский И. В. География транспорта СССР. М.,-1978. -284 с.

7. Усманов З. К. Ўзбекистон транспорт тизимининг ҳудудий ташкил этилиши ва уни такомиллаштириш. Геог.фан.док (PhD). дисс. автореф. Самарқанд:,– 2020.45-б.
8. Ўроқов А.Ҳ. Ўзбекситон республикаси ҳудудини автомобиллар ҳаракати бўйича туманлаштириш. Тех. фан. ном. дисс.-Т:, 2009.-47 б.
9. Закон Республики Узбекистан, О транспорте от 09.08.2021 г. № ЗРУ-706
10. https://railway.uz/uz/gazhk/istoriya_zheleznykh_dorog/ (дата обращение 26.09.2023)
11. https://daryo.uz/k/2022/04/28/qirgiziston-agroekspress-loyihasiga-qoshiladi-bu-ozbekistonga-nima-beradi (дата обращение 25.01.2023)
12. http://www.dp.uz/ru/content.scm?contentId=8718&topicId=6524 (дата обращение 08.09.2022)
13. https://www.theglobaleconomy.com/Uzbekistan/Railway_transport_of_goods/ (дата обращение 30.01.2024)
14. https://daryo.uz/k/2022/04/28/qirgiziston-agroekspress-loyihasiga-qoshiladi-bu-ozbekistonga-nima-beradi (дата обращение 25.01.2023).

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МЕТОДОЛОГИЧЕСКИЕ ОСНОВЫ ПРИМЕНЕНИЯ ОПРЕДЕЛЁННОГО ИНТЕГРАЛА К ЗАДАЧАМ ГЕОМЕТРИИ, МЕХАНИКИ И ФИЗИКИ

Аннотация: *В данной работе изучается методологические основы применения определённого интеграла к задачам геометрии, механики и физики.*

Ключевые слова: *Интегрирование, площадь, объём, момент инерции, масса, производный, вычисление.*

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METHODOLOGICAL BASIS OF THE APPLICATION OF THE DEFINITE INTEGRAL TO THE PROBLEMS OF GEOMETRY, MECHANICS AND PHYSICS

Abstract: *This work explores the methodological foundations of applying the definite integral to problems in geometry, mechanics, and physics.*

Keywords: *Integration, area, volume, moment of inertia, mass, derivative, calculation.*

Интеграл (от латинского Integer-целый) – одно из важнейших понятий математики, возникшее в связи с потребностью, с одной стороны отыскивать функции по их производным (например, находить функцию, выражающую путь, пройдённый движущейся точкой, по скорости этой точки), а другой – измерять площади, объёмы, длины дуг, работу сил за определённый промежуток времени и т.п.

Возникновение задач интегрального исчисления связано с нахождением площадей и объёмов. Ряд задач такого рода был решен математиками древней Греции. Большую роль при решении таких задач играл исчерпывающий метод, созданный Евдоксом Книдским (о к. 408–о к. 355 до н. э) и широко применявшийся Архимедом (о к. 287 – 212 до н.э.).

Математики XVII столетия, получившие многие новые результаты, учились на трудах Архимеда. Активно применялся и другой метод – метод неделимых, который также зародился в древней Греции. Например, криволинейную трапецию они представляли себе составленной из вертикальных отрезков длиной , которым тем не менее, приписывали площадь, равную бесконечно малой величине . В соответствие с таким

пониманием искомая площадь считалось равной сумме бесконечно большого числа бесконечно малых площадей.

В XVII веке были сделаны многие открытия, относящиеся к интегральному исчислению. Так П. Ферма уже в 1629 году решил задачу квадратуры любой кривой, и на этой основе решил ряд задач на нахождение центров тяжести. И. Кеплер при выводе своих знаменитых законов движения планет фактически опирался на идею приближенного интегрирования. И. Барроу (1603 - 1677), учитель Ньютона, близко подошел к пониманию связи интегрирования и дифференцирования.

Методы математического анализа активно развивались в следующем столетии и при этом в первую очередь следует назвать имена Л. Эйлера, завершившего систематическое исследование интегрирования элементарных функций, и И. Бернулли.

Опишем идею сведения задач геометрии, механики и физики к вычислению определённых интегралов. Нам известны многие формулы геометрии, механики и физики в случаях, когда объекты геометрии имеют простую форму или когда законы физики устанавливаются при постоянстве параметров рассматриваемых процессов (постоянная скорость, постоянные длины сторон, постоянное давление и т.д.). Например, если сила постоянно, то её работу можем вычислить, если путь идёт по отрезку прямой, но если силовое поле переменное или же путь идёт по кривой линии, то как найти работу? Идея же применения интеграла к таким задачам следующая. Пусть Q – искомая величина, зависящая от переменной x, которая изменяется в пределах некоторого отрезка $[\,a, b\,]$. Пусть P – некоторый закон разбиения этого отрезка на малые отрезки точками:

$$a = x_0 < x_1 < \ldots\ldots < x_{i-1} < x_i < \ldots\ldots < x_n = b$$

и в пределах каждого отрезка $[\,x_{i-1},\, x_i\,]$, $i = \overline{1,\, n}$, с длиной $\Delta x_i = x_i - x_{i-1}$ вычисляем соответствующего этому отрезку часть $\Delta\, Q_i$ величины Q_i, считая параметры задач постоянными и пусть существуют $M_i = \max\limits_i \Delta Q_i$ и $m_i = \min\limits_i \Delta Q_i$ значения искомой величины $\Delta\, Q_i$ такие что $M_I - m_i = o\,(\Delta x)$ при $\Delta\, x_i \to 0$. Далее, пусть существует интегрируемая на $[\,a, b\,]$ функция $q(x)$, такая, что, при любом выборе значения $\Delta\, Q_i$ между m_i и M_i его можно представить в виде

$$\Delta Q_i = q(x_i)\Delta x_i + o(x_i), \quad \Delta\, x_i \to 0, \qquad (1)$$

где $o(\Delta\, x_i)$ – бесконечно малая (б. м.) величина более высокого порядка по сравнению с $\Delta\, x_i \to 0$, другой запись этого равносильно соотношению $o(\Delta x_i) = o(1)\Delta\, x_i$, где через $o(1)$ обозначается бесконечно малая функция (при $\Delta x_i \to 0$) в смысле её общего определения.

Тогда принимаем, что все

$$Q \approx \sum_{i=1}^{n} q(x_i)\Delta x_i$$

причём, чем мельче разбиение P, тем больше это приближение считаем более точным. Значить, найденное приближенное значение Q есть интегральная сумма для функции $q(x)$, и поэтому естественно определить Q как предел суммы

$$\sum_{i=1}^{n} q(x_i)\Delta x_i$$

при $\lambda(P) = max|\Delta x_i| \to 0$ т. е.

$$Q = \lim_{\lambda(p)\to 0} \sum_{i=1}^{n} q(x_i)\Delta x_i = \int_a^b g(x)dx \qquad (2)$$

У формулы (2) двойная роль: во-первых, она даёт определение искомой величины Q, во-вторых, она даёт способ вычисления этой величины.

С помощью методов математического анализа в значительной степени упрощаются решения многих задач геометрии, механики и физики и т. п.

В целях более явного подчеркивания роли математического аппарата при решении физических задач целесообразно придерживаться следующей методической схемы:

1) перевести физическую задачу на язык математики;
2) решить математическую задачу;
3) перевести ответ математической задачи на язык физики;
4) конкретизировать физический смысл ответа задачи.

Н. И. Лобачевский говорил: ‘‘Нет ни одной области математики, как бы абстрактна она не была, которая когда ни будь не окажется применимой к явлениям действительного мира’’. Значить здесь должно решатся важная методическая проблема сближения методов обучения решению учебных задач с методами, применяемыми на практике: необходимо раскрыть особенности прикладной математики, её воспитательные функции; усилить межпредметные связи.

Важно применять практико-ориентированный подход, начиная с первого курса: ведь именно в начале обучения закладываются основы профессии. Поэтому, изучая тему ‘‘Применение определённого интеграла’’, студенты составляют таблицы, где отражено применение определенного интеграла как в математике, так и в физике и т. п

$\int_a^b f(x)dx$	
Применение в математике	Применение в физике и механике
1. Вычисление площади криволинейной трапеции;	1. Вычисление работы переменной силы; 2. Вычисление перемещения; 3. Вычисление массы;

2. Вычисление площади тела вращения; 3. Вычисление длины дуги кривой; 4. Вычисление объёма тела; 5. Вычисление объёма тела вращения и т. д.	4. Вычисление статистического момента материальной кривой; 5. Вычисление момента инерции линии, круга, цилиндра; 6. Вычисление координат центра тяжести линии; 7. Вычисление количество теплоты и т. д.

На основе стандарта рассматриваются задачи прикладного характера, которые в нем применяется определенный интеграл:

1) Вычислите массу участка стержня от точки $x_1 = 1$ до точки $x_2 = 3$, если его линейная плотность задается формулой $p(x) = 2x^2 - 7x + 1$;

2) Вычислите количество электричества, протёкшего по проводнику за промежуток времени $[2,4]$, если сила тока задаётся формулой $I(t) = 5t^2 + 7t - 8$;

3) Вычислите работу по переносу единичной массы, совершенную силой $F(x) = 6x^2 + 3x - 4$ж

4) Автомобиль вытаскивает автомобиль. Определить, какая работа совершается при этом на пути движения 8м, а приложенная сила равна 11500 Н.

Перед преподавателем математики стоит нелегкая задача – преодолеть в сознании студентов представление о «сухости», формальном характере, оторванности этой науки от жизни и практики. Работать над реализацией прикладной направленности обучения нужно очень серьёзно, ведь она влечёт за собой развитие познавательной активности студентов.

В новых социально – экономических условиях значительно взросли требования к профессиональной компетентности, гибкости, способности к творчеству будущих специалистов высшего и среднего специального образования.

При современном уровне технологий и развития науки применение математических инструментов, как определённый интеграл, становится, всё более актуальным как в учебном процессе, так и в научных исследованиях и инженерных разработках.

Использованные источники:

1. 1. Alimov Sh., Ashurov R. Matematik analiz. I, II, III qismlar, darslik,
2. 2.Toshkent: “Mumtoz so`z”, 2018.
3. 3.Байденко В. И. Образовательный стандарт. Опыт системного исследования – Н. Новгород. НовГу. 1999 г.

4. 4.Федорец Г. Ф. Межпредметные связи процесса обучения – М. Нар. Образование. 1985 г.
5. 5.Ильин В. А., Садовничий В. А., Сендов Б. Х. Математический анализ 1, 2. М. Издательство МГУ. 1987 г.
6. 6.Кудрявцев Л. Д. и др. Сборник задач математическому анализу. Т 1, 2, 3, М. ’’Наука‘‘. 1984 г, 1986 г.

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ИССЛЕДОВАНИЕ ТЕХНОЛОГИИ КОМПЛЕКСНОЙ ПЕРЕРАБОТКИ РУД, СОДЕРЖАЩИХ ЗОЛОТО И МЕДЬ

Аннотация: *Золото (Au) и медь (Cu) содержащие руды являются важными природными ресурсами в промышленности. Для их эффективной переработки широко используются передовые методы, включая цианидное выборочное извлечение и бактериальное окисление. В данной статье изучена эффективность цианидного выборочного извлечения и бактериального окисления при комплексной переработке руд, содержащих золото и медь. Результаты исследования показали, что взаимодействие этих процессов и их комбинация значительно повышают эффективность извлечения драгоценных металлов. Кроме того, предлагаются новые биотехнологические подходы для снижения экологических рисков и повышения эффективности переработки.*

Ключевые слова: *Золото (Au), медь (Cu), комплексная переработка, цианидное выборочное извлечение, бактериальное окисление, биотехнологические подходы, извлечение металлов, экологическая безопасность.*

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STUDY OF THE TECHNOLOGY FOR COMPLEX PROCESSING OF ORES CONTAINING GOLD AND COPPER

Аннотация: *Gold (Au) and copper (Cu) containing ores are important natural resources in the industry. Advanced methods, including cyanide selective extraction and bacterial oxidation, are widely used for their effective processing. This article examines the efficiency of cyanide selective extraction and bacterial oxidation in the complex processing of ores containing gold and copper. The research results showed that the interaction and combination of these processes significantly enhance the efficiency of precious metal extraction. Furthermore, new biotechnological approaches are proposed to reduce environmental risks and improve processing efficiency.*

Ключевые слова: *Gold (Au), copper (Cu), complex processing, cyanide selective extraction, bacterial oxidation, biotechnological approaches, metal extraction, environmental safety.*

Введение. Золото и медь являются важнейшими драгоценными металлами в промышленности, а их руды играют центральную роль в экономике различных регионов мира. Процессы извлечения этих металлов зачастую основаны на химических технологиях и биотехнологических подходах. Для извлечения золота широко применяется процесс цианирования, тогда как в переработке меди эффективно используются методы бактериального окисления. В данной статье проводится анализ эффективности этих двух процессов, рассматривается их взаимное влияние, а также исследуются новые инновационные подходы. Особое внимание уделяется возможностям повышения эффективности процессов и обеспечения экологической безопасности за счет применения новых технологий и методов.

Анализ литературы и методы. В переработке руд, содержащих золото и медь, в первую очередь анализируются процессы цианирования и бактериального окисления. Цианирование является традиционным и широко применяемым методом извлечения золота, главным преимуществом которого является высокая эффективность. Этот процесс обеспечивает растворимость золота в цианидных растворах, что позволяет легко выделять металл из руды. Однако для извлечения меди все большее значение приобретает бактериальное окисление как эффективный биотехнологический подход. С его помощью происходит окисление сульфидных минералов в рудах, что способствует повышению растворимости меди в растворах и облегчает ее извлечение [1-2].

В последние годы биотехнологические методы обработки играют ключевую роль в повышении экологической безопасности и эффективности переработки. Особенно важны такие аспекты, как снижение количества вредных химических соединений, утилизация отходов и рациональное использование природных ресурсов, что является одним из ключевых преимуществ биотехнологий. В исследовании проведен анализ эффективности процессов цианирования и бактериального окисления в различных экспериментальных условиях. Определены преимущества и ограничения каждого метода, а также предложены пути их оптимизации и улучшения взаимодействия между ними [3].

Результаты. В ходе исследования были испытаны гидрометаллургические и биотехнологические методы извлечения золота (Au) и меди (Cu) из руд, содержащих эти металлы. Эффективность каждого метода и полученные результаты в зависимости от технологических параметров приведены ниже.

Результаты процесса цианирования. В ходе процесса цианирования степень извлечения золота и меди анализировалась с учетом следующих параметров:

- Концентрация реагента (цианид)
- Температура
- Время процесса

Таблица 1

Результаты процесса цианирования

Концентрация цианида, (%)	Степень извлечения золота, (%)	Степень извлечения меди, (%)	Температура, (°C)
0,05	85	80	20
0,1	95	90	25
0,15	92	85	30
0,2	90	83	35

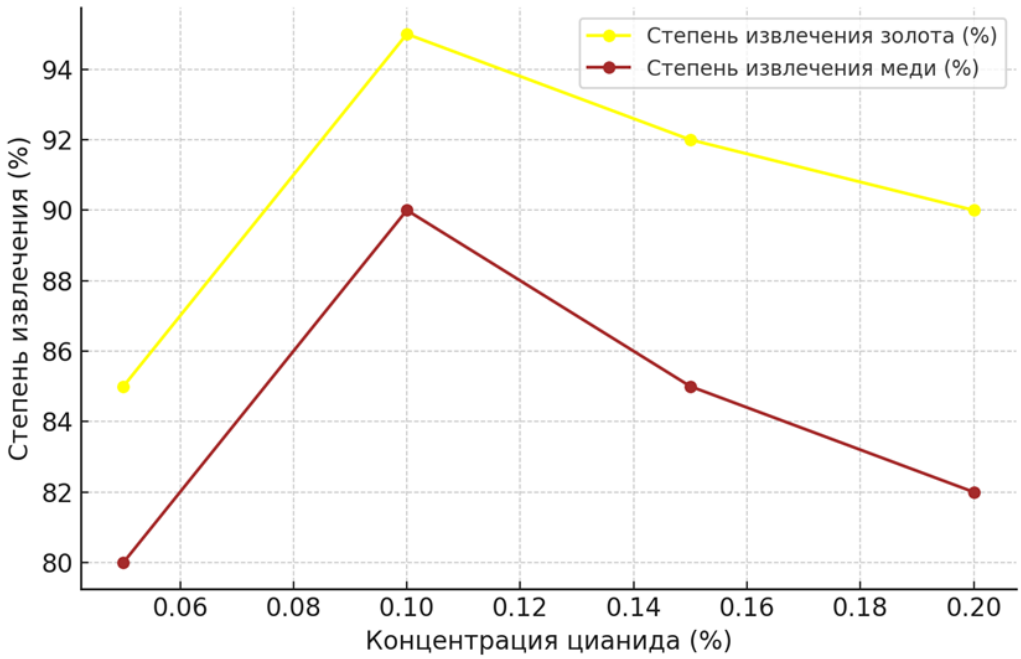

Рисунок 1. Степень извлечения золота и меди в процессе цианирования

На данном графике показано изменение эффективности извлечения золота и меди при увеличении концентрации цианида. Оптимальный результат достигнут при концентрации цианида 0,1%.

Обсуждение: Исследование показало, что гидрометаллургические и биотехнологические методы эффективны для извлечения золота и меди из руд сложного состава. Результаты процесса цианирования продемонстрировали более высокую эффективность по сравнению с традиционными методами, однако экологическая опасность цианида остается актуальной проблемой. В процессе применения цианида в растворах сохраняется риск его негативного воздействия на окружающую среду и образования токсичных отходов. Поэтому необходим поиск новых методов, направленных на повышение экологической безопасности процессов цианирования.

Заключение.

Комбинация гидрометаллургических и биотехнологических методов обеспечивает высокую эффективность извлечения золота и меди из руд сложного состава. Основная цель данного исследования - внедрение и совершенствование новых методов для обеспечения экологической безопасности, а также разработка экономически выгодных технологий. Экологические преимущества биотехнологического подхода, включая снижение вредных отходов и рациональное использование ресурсов, создают значительные предпосылки для его промышленного применения.

В дальнейшем необходимо проведение дополнительных исследований для реализации этих технологий в промышленных условиях. Оптимизация процессов, эффективная интеграция технологий и учет масштабных факторов играют ключевую роль. Такой подход позволит не только повысить экономическую эффективность, но и способствовать созданию экологически чистых производственных процессов.

Использованные источники:

1. О.У.Фузайлов, Ф.И.Сайфуллаев, И.И.Мажидова, С.Г.Жабборова. Исследование способов интенсификации процесса обжига сульфидных золотосодержащих концентратов с применением микроволнового излучения. Journal of Advances in AND Engineering Technology Vol.2(6) 2022.

2. Aripov A.R., Fuzaylov O.U., Sayfullaev F.I., Qurbonov M.N. Murakkab oltin tarkibli ruda va konsentratlarning maydalanish va sianlanish qobiliyatini yaxshilash uchun mikroto‘lqinli energiyadan foydalanish. Sanoatda raqamli texnologiyalar ilmiy-texnik jurnali December № 2. Qarshi-2023.

3. A.R. Aripov, B.R. Vokhidov, A.A. Asrorov, F.I. Sayfullaev M.N. Kurbonov. Application of sand mold casting modelling for casting pump volute. Journal of Physics: Conference Series 2697 (2024) 012037 scopus doi:10.1088/1742-6596/2697/1/012037.

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ЭФФЕКТИВНОСТЬ ЛЕЧЕНИЯ ТУБЕРКУЛЕЗА ЛЕГКИХ У ПОДРОСТКОВ В ЗАВИСИМОСТИ ОТ СВОЕВРЕМЕННОЙ ДИАГНОСТИКИ

Аннотация. *В статье рассматривается проблема туберкулеза легких у подростков и подчеркивается важность своевременной диагностики для успешного лечения. Целью исследования является оценка влияния сроков выявления заболевания на эффективность терапии. Проведен ретроспективный анализ медицинских карт подростков, лечившихся от туберкулеза легких. Анализировались данные о сроках диагностики, методах лечения и исходах терапии. Результаты показали, что ранняя диагностика существенно улучшает результаты лечения, снижает риск осложнений и рецидивов.*

Ключевые слова: *туберкулез легких, подростки, кашель антибиотики, эффективность лечения.*

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EFFICACY OF TREATMENT FOR PULMONARY TUBERCULOSIS IN ADOLESCENTS DEPENDING ON TIMELY DIAGNOSIS

Abstract. *The article addresses the problem of pulmonary tuberculosis in adolescents and emphasizes the importance of timely diagnosis for successful treatment. The aim of the study is to assess the impact of the timing of disease detection on the effectiveness of therapy. A retrospective analysis of medical records of adolescents treated for pulmonary tuberculosis was conducted. Data on the timing of diagnosis, treatment methods, and treatment outcomes were analyzed. The results showed that early diagnosis significantly improves treatment outcomes, reduces the risk of complications and relapses.*

Key words: *pulmonary tuberculosis, adolescents, cough, antibiotics, efficacy of treatment*

Актуальность. В последние годы отмечается повсеместное снижение показателей инфицированности и заболеваемости туберкулезом как у детей, так и у подростков [1,2]. Это обусловлено проведением общеоздоровительных и специальных противотуберкулезных мероприятий, а также улучшением социально-бытовых условий жизни населения, способствовавших значительному повышению общей сопротивляемости организма к туберкулезной инфекции [4,5]. Произошли значительные изменения в структуре клинических форм, течении и исходе туберкулеза легких с преобладанием малых форм у подростков [3,6].

Однако все еще встречаются распространенные формы локального туберкулеза легких у подростков с наличием полости деструкции и выделением микобактерий, что, по-видимому, связано с недостаточным проведением специфической профилактики (вакцинации и ревакцинации БЦЖ) и несвоевременным выявлением больных [7,8].

Цель исследования: изучить особенности течения легочного туберкулеза у подростков в зависимости от своевременной диагностики.

Материалы и методы. Под наблюдением находилось 80 больных подростков в возрасте 13-17 лет; девочек было 49, мальчиков-31. Почти все (75 человек) были жителями сельских районов. Длительность наблюдения составила от 1 до 4 лет.

В зависимости от срока, прошедшего с момента заболевания до выявления, больных разделили на 2 группы; первую составили 58 больных, которые были выявлены после поэтапного их обращения в сельские участковые и районные больницы. Причиной, побудившей обратиться за медицинской помощью, послужили «грипп» у 39, «пневмония»- у 12, «простудные заболевания»- у 7. От момента первого обращения до госпитализации 1-3 месяца прошло у 23 больных, 4-10 месяцев - у 30 и более года - у 5.

Структура туберкулеза среди 58 больных была следующей: первичный туберкулезный комплекс - у 10, туберкулезный бронхоаденит - у 16, туберкулез плевры - у 4, инфильтративный туберкулез легких - у 18, диссеминированный -у 5 и фиброзно-кавернозный-у 5. Одной из причин, способствующей развитию распространенных форм заболевания, явилось несвоевременное выявление, так как эти больные в течение последних 2-3 лет не подвергались флюорографическому обследованию.

Вторую группу составили 22 больных, выявленных при массовых профилактических осмотрах (флюорография и туберкулинодиагностика). Среди них были следующие формы туберкулеза: первичный туберкулезный комплекс - у 4, туберкулезный бронхоаденит- у 8, туберкулома - у 1 и очаговый туберкулез легких - у 9.

Результаты и обсуждение. Приведенные данные свидетельствуют, что подростки с несвоевременно выявленным туберкулезом страдают торпидно текущими, более распространенными формами внутригрудного туберкулеза.

Эти больные нуждаются в длительном лечении в условиях стационара и диспансера.

Следует обратить внимание на то, что у 5 подростков первой группы впервые в жизни установлен диагноз «фиброзно-кавернозный туберкулез легких», причем от момента первого обращения за медицинской помощью в общелечебную сеть до госпитализации проходило не менее 10-12 месяцев. Следовательно, несвоевременное выявление подростков, больных туберкулезом легких, приводит к развитию запущенных форм заболевания, с одной стороны, и благоприятствует распространению микобактерий туберкулеза - с другой.

В первой группе острое начало заболевания было отмечено у 19 подростков, подострое - у 39. Во второй группе у 14 больных начало заболевания было бессимптомным и лишь у 8- подострым.

По фазам туберкулезный процесс делился следующим образом: фаза инфильтрации была у 48, экссудации - у 4, вспышки с обсеменением- у 5, рассасывания - у 6, уплотнения-у 5, распада - у 12 больных. Все подростки с процессом в деструктивной фазе входили в первую группу, т. е. были выявлены при обращении.

В момент поступления в стационар 66 из 80 больных жаловались на слабость, кашель - сухой или с мокротой, плохой аппетит, исхудание, повышение температуры, потливость, раздражительность; у 11 отмечено повышение температуры до высоких цифр -38-39°.

Единичные периферические лимфатические узлы размером от горошины до фасоли определялись у 31 и множественные - у 34. У 15 повторно заболевших особой реакции периферических лимфатических узлов не наблюдалось.

В результате лечения в стационаре в течение первых 2-3 недель у большинства подростков (52 из 66) указанные симптомы перестали определяться, а у 14 с более запущенными формами (первая группа) продолжали отмечаться в течение 2 месяцев и более.

Изменения со стороны периферической крови проявлялись в виде ускорения РОЭ у 64 подростков, причем у 46 из них РОЭ была более 20 мм в 1 час. У 32 больных отмечен лейкоцитоз, палочкоядерный сдвиг влево - у 10, увеличение количества лимфоцитов у 21. В основном патологические сдвиги в периферической крови мы наблюдали в стадии обострения или же в начале заболевания, когда преобладал инфильтративный компонент воспаления с выраженной перифокальной реакцией, т. е. они зависели от фазы и обширности процесса.

При поступлении в стационар и через каждые 3 месяца у больных проверяли туберкулиновую чувствительность, проводя реакции Манту с 5 туберкулиновыми ед. в стандартном разведении ППД. При этом у 18 подростков получен отрицательный, у 50- умеренно положительный ответ и у 12- гиперергические реакции.

У 22,5% больных (18 из 80) несмотря на то, то они страдали локальными формами туберкулеза, реакция на туберкулиновую пробу с 5 ТЕ ППД-L, а также при титровании до разведения 1:100 старым туберкулином Коха была отрицательной.

Гиперергическая реакция наблюдалась в основном у тех больных, которые заболели в результате реактивации массивных кальцинированных очагов в корнях или же в легочной ткани, т. е. при хронически текущих формах первичного туберкулеза. По-видимому, длительное течение активного туберкулеза в организме подростка с чередованием периодов затихания и оживления инфекции (волнообразное течение) с постоянной туберкулезной интоксикацией способствует изменению реактивности и аллергической перестройке организма, которая выражается в виде гиперергических туберкулиновых реакций.

Приведенные данные дают основание считать, что гиперергические реакции на туберкулин часто свидетельствуют о наличии в легочной ткани или же в корне легкого осумкованных, довольно крупных очагов туберкулезного воспаления с явлениями кальцинации, не потерявших свою активность, оставшихся на месте не леченного или же недостаточно леченного первичного туберкулеза в детском возрасте. Эти остаточные изменения в большинстве случаев в результате реактивации в подростковом возрасте служат причиной развития локальной формы туберкулеза.

Наши наблюдения показывают, что внутрикожные туберкулиновые пробы не всегда дают положительный результат при туберкулезе легких у подростков. Следовательно, для раннего выявления туберкулиновые пробы недостаточны, необходимо их сочетание с флюорографическим обследованием.

У 29 больных течение процесса было осложненным. У 4 больных, у которых туберкулез легких развился на фоне выраженных остаточных изменений, течение заболевания было торпидным, с длительным сохранением симптомов туберкулезной интоксикации. У 2 на фоне лечения возникло обострение (вспышка) процесса.

Осложненное и торпидное течение, а также вспышки туберкулезного процесса во время лечения мы наблюдали в основном у несвоевременно выявленных больных (первая группа).

Всех больных лечили в условиях стационара 3 основными препаратами I ряда на фоне гигиено-диетического режима, общеукрепляющей и десенсибилизирующей терапии. Ввиду неэффективности или непереносимости указанных препаратов 32 больным были назначены также препараты II ряда.

Когда препараты I и II рядов (19 человек) не дали эффекта, назначали так называемые препараты III ряда (рифампицин, этамбутол).

Значительная положительная динамика процесса (исчезновение симптомов туберкулезной интоксикации, уменьшение и рассасывание, инфильтратов) в первые 2-4 месяца лечения отмечена у 31% больных первой

группы и у 86,0- второй. К концу основного курса химиотерапии отсутствие динамики отмечено у 11 % больных первой группы и ни у одного - второй.

Таким образом, эффективность лечения и течение локального туберкулеза легких у подростков зависят от своевременности выявления заболевания. Широкое проведение массовых профилактических осмотров (туберкулинодиагностика - и флюорография) способствует диагностированию туберкулеза в ранних стадиях, когда процесс носит еще ограниченный характер, а значит, предотвращает развитие распространенных, торпидно текущих форм заболевания: значительно сокращает пребывание больного в стационаре и повышает эффективность терапии.

Выводы: Клинические проявления, течение, характер репаративных процессов под влиянием химиотерапии при туберкулезе легких у подростков зависит от срока, прошедшего от момента заболевания до поступления в стационар.

Локальный туберкулез легких, выявленный своевременно (при профилактическом осмотре) имеет более благоприятное течение, чаще (86,0% случаев) дает положительную динамику процесса в течение первых 2-4 месяцев антибактериальной терапии.

Туберкулез, диагностированный при пассивном обращении больных (поздняя диагностика) характеризуется менее благоприятным, замедленным и волнообразным течением, которое в конце основного курса химиотерапии в 11,0% случаев почти не меняется.

В настоящее время туберкулез легких у подростков часто протекает под маской неспецифических легочных заболеваний («грипп», «пневмония», «простуда»). Поэтому все подростки с легочной патологией подлежат обязательному рентгенологическому обследованию в конце лечения как в стационаре, так и в поликлинике.

Использованные источники.

1. Ковешникова Е. Ю., Кульчавеня Е. В. Туберкулезный спондилит сегодня: клинико-эпидемиологические особенности // Journal of Siberian Medical Sciences. 2012. № 2. с. 1-9.

2. Корниенко В.Н., Пиронин И.Н. Андреева Т.М. Диагностическая нейрорадиология. Опухоли головного мозга . 2009. Том 2. с.435-441.

3. Одилова Г. М., Исокулова М. М. ХАРАКТЕРИСТИКА ПОКАЗАТЕЛЕЙ ИММУНИТЕТА И ФАКТОРОВ НЕСПЕЦИФИЧЕСКОЙ ЗАЩИТЫ У ДЕТЕЙ РАННЕГО ВОЗРАСТА //INTERNATIONAL JOURNAL OF RECENTLY SCIENTIFIC RESEARCHER'S THEORY. – 2024. – Т. 2. – №.

4. – С. 86-89. 4. Пляскина О.В., Чамокова А.Я. Актуальные вопросы фтизиатрии. // Учебно-методическое пособие. Издательство МГТУ 385000, г. Майкоп, ул. Первомайская, с.191

5. Юсупов, М. И., Нарзиев, Ж. У., & Толибов, Б. Г. (2024). ОБ ИЗМЕНЧИВОСТИ ПАТОГЕННОСТИ ЭНТЕРОКОККОВ ПРИ ДИАРЕЯХ У ДЕТЕЙ. Экономика и социум, (1 (116)), 1706-1712.

6. Ташпулатов Ш., Ҳўжақулов Д., Болтаев К. Особенности внешнего дыхания при пищевом ботулизме у детей //Журнал вестник врача. – 2019. – Т. 1. – №. 2. – С. 105-108.
7. Одилова Г. М. Changes in the Properties of Enterococci in Intestinal Infections in Children //world of Medicine: Journal of Biomedical Sciences. – 2024. – Т. 1. – №. 9. – С. 56-60.
8. Юсупов, М. И., Одилова, Г. М., & Жамалова, Ф. А. (2021). Появление гемолитеческих свойств у кишечных палочек в зависимости от состава питательной среды. Экономика и социум, (3-2 (82)), 602-606.

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О РОЛИ ФИНАНСОВОГО СТРАТЕГИЧЕСКОГО УПРАВЛЕНИЯ

Аннотация:*В современном управлении предприятием стратегический менеджмент стал центральным, а в корпоративном стратегическом управлении финансовый менеджмент является основной стратегией, которая занимает очень важное место во всем корпоративном стратегическом управлении.Поэтому, когда предприятие управляет своими финансами, оно должно обладать идеями стратегического управления, поддерживать требования стратегического управления предприятием и подчиняться им.В данной статье исследуется и обсуждается поддержка финансового менеджмента в стратегии, направленная на повышение уровня стратегического управления современными предприятиями.*

Ключевые слова: *Финансовый менеджмент; стратегический менеджмент; современное управление предприятием*

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ON THE ROLE OF FINANCIAL STRATEGIC MANAGEMENT

Summary:*In modern enterprise management, strategic management has become central, and in corporate strategic management, financial management is the main strategy that occupies a very important place in all corporate strategic management.Therefore, when an enterprise manages its finances, it must have strategic management ideas, support and obey the requirements of strategic enterprise management.This article explores and discusses the support of financial management in strategy., aimed at improving the level of strategic management of modern enterprises.*

Keywords:*Financial management; strategic management; modern enterprise management*

В условиях жесткой конкуренции социалистической рыночной экономики выживание наиболее приспособленных является ее основным законом.В этом контексте общества, если предприятие хочет добиться долгосрочного выживания и развития, оно должно обладать дальновидным

стратегическим мышлением и дальновидным видением.Что касается финансового менеджмента, то интеграция стратегических концепций является своего рода экспериментом и инновацией, так что она проходит по основному направлению финансового менеджмента, а содержание исследований в области финансового менеджмента может быть пересмотрено.В этой ситуации конкурентоспособность предприятия может быть эффективно повышена, чтобы стать победителем в соответствии с основным законом выживания наиболее приспособленных[75].

1. Место финансового стратегического менеджмента в системе стратегического управления предприятием

На всех уровнях корпоративной стратегии финансовая стратегия является очень важной частью.Однако сама финансовая стратегия также имеет определенные особенности, поэтому она занимает определенное особое положение в системе корпоративного стратегического управления. Он может использовать денежные средства как цепочку для эффективного соединения различных стратегий на предприятии и представления их в виде валюты. Кроме того, финансовый менеджмент является краеугольным камнем корпоративной стратегии и представляет собой комплексную подстратегию в системе корпоративного стратегического управления.В этой системе финансовый менеджмент должен обеспечивать достаточные средства для обеспечения различных конкурентных стратегий и стратегических целей предприятия и поддерживать систему стратегического управления предприятием вместе с другими функциональными стратегиями.В определенной степени финансовый менеджмент и корпоративное стратегическое управление представляют собой динамические отношения обратной связи, которые подтверждают и координируют друг друга. В корпоративной стратегической бизнес-стратегии финансовый менеджмент обладает определенными локальными и подчиненными свойствами.Если предприятие хочет быть успешным, оно должно иметь научную и обоснованную стратегию развития, а также стратегию управления финансами, которая подходит для того, чтобы оно могло работать в сочетании с ит.Можно сказать, что финансовый менеджмент не только подчинен управлению корпоративной стратегией, но и играет определенную роль в ограничении и поддержке реализации корпоративного стратегического управления[76].

2. Конкурентоспособность - это основа финансового менеджмента

В определенной степени конкуренция и стратегия дополняют друг друга. Предприятия управляют своими финансами и формулируют

[75] Ван Ман.Исследование финансового стратегического управления, основанного на конкурентоспособности [N].Журнал Северо-Восточного университета финансов и экономики, 2020 (12): 124-125

[76] Ду Цзя.Применение стратегического финансового менеджмента в подразделениях геологической службы - на примере Института геологической службы СИДК [N].Журнал Юго-Западного университета финансов и экономики, 2018 (12): 105-106

стратегические цели развития. Конечной целью является повышение конкурентоспособности предприятий и создание постоянного конкурентного преимущества.Кроме того, движущей силой и ядром финансового менеджмента является конкурентоспособность, что означает, что хороший финансовый менеджмент может обеспечить сочетание стратегии и конкуренции, чтобы предприятия могли развиваться более быстрыми темпами, чтобы можно было эффективно повысить конкурентоспособность предприятий.

Для того чтобы стратегия развития предприятия поддерживалась финансовым менеджментом, его стратегия финансового управления должна быть адаптирована к ресурсам предприятия и соответствовать реальной ситуации развития предприятия.Основой для осуществления финансового менеджмента и формирования конкурентного преимущества предприятия являются его ресурсы.Однако в реальном процессе функционирования одним из ресурсов, необходимых для развития предприятия, являются экономические ресурсы предприятия, но наличие определенных ресурсов не гарантирует эффективного развития основных возможностей предприятия и не гарантирует, что общие цели предприятия могут быть в конечном итоге достигнуты.Следовательно, предприятие должно обладать относительно высокой способностью контролировать ресурсы предприятия и доминировать над ними, чтобы можно было эффективно повышать эффективность использования ресурсов предприятия, чтобы формировать и получать постоянное конкурентное преимущество предприятия.

3. Стратегия поддержки финансовым менеджментом стратегии

(1) Создать механизм внутреннего контроля для оптимизации распределения ресурсов

Предприятия должны рационально распределять ограниченные ресурсы в соответствии с объективными требованиями рыночной экономики и тенденциями развития предприятия, грамотно управлять капиталом и использовать его, чтобы можно было эффективно повысить эффективность использования капитала.Кроме того, финансовый менеджмент должен не только проводить взвешенную и обоснованную политику, но и более комплексно внедрять научно обоснованную систему внутреннего контроля, чтобы можно было усилить интенсивность финансового надзора и, наконец, достичь целей развития корпоративных стратегий.Например, в период “Двенадцатой пятилетки” государственное предприятие в провинции Шаньдун создало усовершенствованную и стандартизированную современную систему управления финансами, исходя из общей ситуации на предприятии, и оптимизировало ресурсы системы финансовой стратегии предприятия.Благодаря таким ключевым мерам, как усовершенствованное и всестороннее управление бюджетом и усиление функций финансового анализа, это способствовало преобразованию и возвышению системы финансовых взаимоотношений предприятия от базового бухгалтерского

учета до современного финансового менеджмента и поддержки принятия финансовых решений[77].

(2) Повысить уровень финансового управления.

С тех пор как Китай вступил во Всемирную торговую организацию, товарный рынок и финансовый рынок нашей страны претерпели относительно серьезные изменения. Финансовый менеджмент добавит новое содержание в управление человеческим капиталом, управление финансовыми рисками и управление страхованием.В этой ситуации стратегия развития предприятия должна эффективно поддерживаться финансовым менеджментом.

(3) Создать систему анализа раннего предупреждения

Анализ системы раннего предупреждения позволяет эффективно понять цели и стратегии, принятые конкурентами компании, чтобы достичь цели - лучше узнать друг друга.Кроме того, анализируя потенциальные кризисные ситуации на предприятии, предприятие может заранее принять соответствующие превентивные меры для устранения различных скрытых опасностей, чтобы эффективно гарантировать бесперебойную реализацию стратегических целей предприятия.

(4) Постоянно повышать квалификацию финансового персонала

В условиях постоянной трансформации функций корпоративного финансового департамента опыт в управлении экономическим капиталом, оценке эффективности и анализе цепочки создания стоимости - это навыки, которыми должны обладать корпоративные финансовые менеджеры, чтобы адаптироваться к организационным преобразованиям и эффективно получать возможность всестороннего анализа информации.Чтобы адаптироваться к новым требованиям развития, финансовым менеджерам также необходимо повысить уровень взаимосвязи различных бизнес-связей, понимание продукта и знание рынка, а также коммуникативные навыки.Чтобы по-настоящему реализовать эффективную поддержку финансового менеджмента в реализации стратегии, предприятия должны активно привлекать талантливых специалистов, которые адаптируются к финансовому менеджменту в новой ситуации, и в то же время они должны научно и эффективно обучать существующий финансовый персонал предприятия. Только при правильном выполнении этих двух аспектов поддержка может быть эффективной. должно быть гарантировано управление финансами для реализации стратегии, что также является очень важной подготовкой к осуществлению реформ.

(5) Создание и совершенствование информационных систем

Создание и совершенствование информационных систем бухгалтерского учета является очень важным условием для нового типа

[77] Ду Цзя.Применение стратегического финансового менеджмента в подразделениях геологической службы - на примере Института геологической службы СИДК [N].Журнал Юго-Западного университета финансов и экономики, 2018 (12): 105-106

финансового менеджмента в новой ситуации, а также эффективным способом реализации стратегической поддержки финансового менеджмента.В ходе этого процесса необходимо в полном объеме собрать, проанализировать и обработать информационные ресурсы, что может быть осуществлено с помощью компьютерной обработки, с тем чтобы внедрить новые методы учета затрат в систему оценки эффективности и финансовую систему банка.Из-за плохой корреляции и разбросанности информации, которые являются характерными чертами информационных ресурсов многих корпоративных финансовых систем, внедрение нового поколения компьютерных систем концентрации данных и запуск системы, разработанной различными предприятиями, эффективно обеспечили внедрение стратегического финансового управления.В новом поколении информационных систем бухгалтерского учета, помимо удовлетворения потребностей бухгалтерского учета, информационные системы бухгалтерского учета должны также предоставлять научную и эффективную информацию отделам оценки эффективности, принятия решений, контроля и планирования.В процессе постепенного внедрения новой системы финансовый отдел должен активно участвовать в обсуждении требований к системе. Только путем дальнейшего совершенствования информационной системы можно эффективно содействовать внедрению нового типа финансового менеджмента, чтобы гарантировать поддержку стратегии со стороны финансового менеджмента.

Таким образом, качество активов предприятия, качество условий его деятельности и результаты управления капиталом - все это имеет тесную взаимосвязь с финансовым менеджментом.От стратегического уровня предприятия до фактического уровня конкретного бизнеса, от управления затратами на закупки до определения продажных цен, от оценки операционной деятельности компании до фактической конкретной декомпозиции финансовых показателей, от анализа операционных расходов до расчета капитальных затрат, независимо от того, является ли это является ли это стратегическим решением предприятия или конкретными бизнес-решениями, финансовый менеджмент играет очень важную роль.Следовательно, для окончательной реализации стратегических целей развития предприятия необходимо иметь хорошую стратегию управления финансами, чтобы предприятие могло быть непобедимым в условиях жесткой конкуренции социалистической рыночной экономики.

Использованные источники:

1. Ван Ман.Исследование финансового стратегического управления, основанного на конкурентоспособности [N].Журнал Северо-Восточного университета финансов и экономики, 2020 (12): 124-125

2. Ду Цзя.Применение стратегического финансового менеджмента в подразделениях геологической службы - на примере Института геологической службы СИДК [N].Журнал Юго-Западного университета финансов и экономики, 2018 (12): 105-106

3. Юй Дунчжи.Управление компаниями, зарегистрированными на бирже, в условиях переходной экономики - теоретическая основа и эмпирическое исследование китайского рынка ценных бумаг [D].Северо-Восточный финансово-экономический университет, 2022 (06): 203-205
4. Тан Таочжи.Финансовая стратегия и система стратегического контроля за ней [J].Информационный бюллетень по бухгалтерскому учету (академическое издание). 2021（07）
5. Го Юнь.О финансовых характеристиках и стратегиях управления жизненным циклом предприятия [N].Журнал Шаньдунского института промышленности и торговли. 2022（03）
6. Сян Жуй, Ли Цици.Анализ финансовых стратегий на разных этапах жизненного цикла частных предприятий [N].Журнал Финансово-экономического университета Шаньси.2024（05）

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ИССЛЕДОВАНИЯ В ОБЛАСТИ ФИНАНСОВОГО СТРАТЕГИЧЕСКОГО УПРАВЛЕНИЯ И РАЗВИТИЯ ПРЕДПРИЯТИЯ

Аннотация:*С усилением стратегии глобализации рыночной экономики отраслевая конкуренция, с которой сталкиваются предприятия, становится все более ожесточенной.В целях стимулирования предприятий к повышению качества обслуживания, сокращению ненужных расходов и стабильному получению экономических выгод в рамках предпосылки повышения качества обслуживания разрабатывается финансовая стратегия функционирования и развития предприятий, еще больше укрепляется финансовое стратегическое управление предприятиями и создается хорошая материальная база и необходимые условия гарантируют развитие предприятий.В этой статье анализируются зрелые малые и средние предприятия и основное внимание уделяется стратегиям управления финансами, которые обеспечивают важную основу для содействия нормальному и эффективному развитию предприятий.*

Ключевые слова*: Финансы; стратегия; развитие; предприятие*

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RESEARCH IN THE FIELD OF FINANCIAL STRATEGIC MANAGEMENT AND ENTERPRISE DEVELOPMENT

Summary:*With the strengthening of the globalization strategy of the market economy, the industry competition faced by enterprises is becoming more fierce.In order to encourage enterprises to improve the quality of service, reduce unnecessary costs and achieve stable economic benefits, a financial strategy for the operation and development of enterprises is being developed as part of the prerequisite for improving the quality of service., The financial and strategic management of enterprises is further strengthened and a good material base is created and the necessary conditions guarantee the development of enterprises.This article analyzes mature small and medium-sized enterprises and focuses on financial management strategies that provide an important framework to promote the normal and efficient development of enterprises.*

Keywords:*Finance; strategy; development; enterprise*

При развитии малых и средних предприятий в нашей стране финансовое стратегическое управление является преимуществом достижения корпоративных стратегических целей и содействия корпоративной конкуренции.Научное и рациональное использование финансового стратегического менеджмента может в дальнейшем определить конкурентную позицию предприятия, помочь сформировать правильные решения и выбор в развитии предприятия, избежать рисков, планировать на долгосрочную перспективу и создать хорошие экономические выгоды для предприятия.Следовательно, необходимо сформулировать конкретные стратегические меры, основанные на конкретном статусе-кво предприятия, чтобы обеспечить надежную гарантию для реализации лучшего и более быстрого развития предприятия[78].

1. Анализ важности финансового менеджмента для развития предприятия

Важность стратегии финансового менеджмента для развития предприятия проявляется в следующем:

① Стратегическое финансовое управление предприятием может способствовать предоставлению нефинансовой информации для развития предприятия. На основе изучения операционного статуса компании оно может более научно оценить рынок делитесь и продвигайте подтверждение соответствующей информации, такой как о продуктах компании, продажах и сетевых услугах, что поможет дальнейшему развитию предприятия.

② Он может служить научной экономической основой для принятия деловых решений предприятием.В нормальном процессе функционирования предприятия только экономика, основанная на системе стратегического финансового управления, может способствовать его развитию и способствовать научному планированию.

③ Стратегия финансового менеджмента позволяет еще больше усовершенствовать и развить существующую корпоративную систему предприятия.В настоящее время конкурентная позиция предприятий становится все более жесткой, что требует от предприятий определенного научного подхода к стратегическому управлению. Поэтому очень важна надежная и разумная корпоративная система управления финансами. Она может максимизировать эффективность использования капитала, чтобы инвесторы могли в дальнейшем реализовать финансовые возможности. управленческие идеи по расчету капитальных затрат и максимизации прав и интересов, а также помогают предприятиям лучше оптимизировать условия

[78] Ван Цзяоцзяо, Лю Суин, Ю Цзя.О корпоративном финансовом стратегическом управлении и развитии китайского предпринимательства [J].Современный маркетинг, 2023 (04)

работы с капиталом и быть способными более эффективно действовать в конкурентной среде[79].

1. Проанализируйте стратегии финансового управления зрелых малых и средних предприятий

В процессе развития предприятие может трансформировать ограниченные денежные средства в инвестиционные направления и способствовать дальнейшему финансированию источников капитала и его структуры. Это является признаком зрелости стратегии финансового менеджмента.Обычно, когда инвестиционные возможности в деятельности предприятия снижаются, спрос на средства уменьшается, что приводит к уменьшению направления финансирования. Напротив, возможностей для финансирования становится больше, а экономические выгоды предприятия выше, что закладывает хорошую материальную основу для развития.В данной статье анализируется финансовая стратегия зрелых малых и средних предприятий и обеспечивается важная основа для развития предприятий. Среди них конкретные меры финансирования и финансового стратегического управления[80] :

(1) Расширить масштабы инвестиций и увеличить инвестиции в рынок и операции.Это может помочь предприятиям достичь глубокого понимания рынка наиболее прямым и эффективным способом, а также способствовать разработке и использованию продуктов.Стратегическая идея проникновения на рынок, используемая в нем, заключается в следующем: для функционирования малых и средних предприятий необходимо увеличить производство существующих продуктов и количество продуктов, выводимых на рынок, чтобы увеличить долю рынка и объем продаж. Гарантия.Это требует дальнейшего развития внутренних ресурсов, сосредоточения внимания на производстве и эксплуатации сырья и аксессуаров, поставляемых рынком, для расширения инвестиций, в дополнение к инвестициям со стороны рыночных талантов, в случае наличия достаточных людских и материальных ресурсов, для обеспечения стабильности работы предприятия, внесения вклада в возврат средств и дальнейшее развитие рынка.Однако при эксплуатации все еще существуют определенные риски.Это требует повышения качества и технической поддержки персонала финансового управления, а также постоянного укрепления управленческого звена.Максимально избегайте рисков и делайте стабильные инвестиции.

(2) Реализуйте стабильную инвестиционную стратегию.Вступив в стадию зрелости, малые и средние предприятия расслабили свое мышление, испытывая недостаток во внутренних условиях и некоторых возможностях,

[79] Ван Сяоли, Фэн Цзяньго, Гао Сяося.Анализ финансовой стратегии предпринимательской группы на примере Шэньянской группы непродовольственных товаров [J].Управление малым и средним бизнесом, 2024 (16)

[80] Ван Сяоли, Фэн Цзяньго, Гао Сяося.Анализ финансовой стратегии предпринимательской группы на примере Шэньянской группы непродовольственных товаров [J].Управление малым и средним бизнесом, 2024 (16)

но внешняя среда все еще находится в процессе жесткой конкуренции. В этом состоянии предприятия должны стабилизировать свое финансовое мышление и правильно относиться к ним со стабильным отношением.При стратегическом использовании этого этапа следует отметить, что большой объем оборотных средств не может быть использован в качестве основных средств, что приводит к неработоспособности средств компании.В результате экономика долгое время была парализована, а оборот оборотных средств долгое время был низким. Это всего лишь односторонняя погоня за сиюминутными экономическими выгодами и стремление увеличить основные фонды. На самом деле, такое финансовое стратегическое мышление может легко привести к чрезвычайная напряженность в оборотных средствах предприятий, влияющая на нормальное и стабильное развитие предприятий.Следует также отметить, что стратегическая идея диверсификации не может быть принята на вооружение.В настоящее время, чтобы избежать чрезмерных операционных рисков, связанных с одним продуктом, при развитии малых и средних предприятий они ищут способы увеличить инвестиционные возможности и использовать диверсифицированные операции для распределения рисков. Фактически, эта стратегическая идея приведет к снижению операционной прибыли предприятия.Под влиянием масштаба предприятия использование диверсифицированных методов инвестирования приведет к увеличению трудностей при первоначальном использовании средств, а некоторые новые инвестиционные проекты не смогут быть использованы в обычном режиме.Такое отсутствие управленческих способностей и методов финансового стратегического управления бизнесом значительно снизило эффективность управления предприятиями и инвестиций в них, повлияло на нормальный производственный эффект и усугубило факторы конкуренции.

(3) Аспекты структуры финансирования.В настоящее время структура финансирования малых и средних предприятий нуждается в особом внедрении на основе анализа корпоративных финансовых показателей. Кроме того, необходимо сочетать качественные методы, чтобы всесторонне учитывать общую стратегию предприятия, финансовую структуру, статус развития предприятия и способность для возврата средств и других факторов, а также для формулирования политики устойчивого развития и целей структуры капитала для развития предприятия.

Для того чтобы помочь предприятиям выделиться в условиях жесткой конкуренции и стабильно развиваться, к конкретным мерам финансового стратегического управления относятся: повышение требований к качеству финансового персонала.Предприятия должны придавать большое значение подготовке специалистов по экономическому менеджменту, развивать всесторонние управленческие навыки в различных областях, таких как знание компьютера и бухгалтерского учета, и создавать базовые гарантии развития предприятий.Создавать и совершенствовать внутреннюю и внешнюю

организационную структуру предприятия, укреплять различные механизмы финансового стратегического управления, повышать конкурентные преимущества предприятия, усердно работать над тем, чтобы механизм финансового стимулирования предприятия был долгосрочно эффективным, а также создавать и совершенствовать рабочие механизмы различных финансовых структур. стратегический менеджмент.Наконец, предприятия должны быть обоснованными и разумными в области капиталовложений.Способствовать повышению экономической эффективности, а также научности, рациональности и результативности предпринимательской деятельности.Всегда смотрите на проблемы с точки зрения развития, избегайте различных инвестиционных рисков, извлекайте максимальную экономическую выгоду, обеспечивайте эффективное функционирование системы финансового менеджмента предприятия и будьте в состоянии занимать непобедимую позицию в высококонкурентной среде финансового менеджмента.

В условиях высококонкурентной рыночной среды развитие предприятия должно сочетаться с финансовым стратегическим управлением.Необходимо не только обращать внимание на внутренние факторы предприятия, но и всесторонне учитывать внешние факторы, прилагать все усилия, чтобы хорошо выполнять работу по финансовому стратегическому управлению предприятием, и осуществлять финансовое стратегическое управление в соответствии с конкретным статус-кво предприятия, чтобы чтобы избежать рисков и рационально инвестировать, увеличить долю рынка, способствовать максимизации экономических выгод предприятия и обеспечить важное инвестиционное направление для дальнейшего развития предприятия.

Использованные источники:

1. Ван Цзяоцзяо, Лю Суин, Ю Цзя.О корпоративном финансовом стратегическом управлении и развитии китайского предпринимательства [J].Современный маркетинг, 2023 (04)
2. Ван Сяоли, Фэн Цзяньго, Гао Сяося.Анализ финансовой стратегии предпринимательской группы на примере Шэньянской группы непродовольственных товаров [J].Управление малым и средним бизнесом, 2024 (16)
3. Пэн Чуцзюнь, Чжоу Яньни, Лю Цян, Гао Юйшэн.Исследование финансового стратегического управления в развитии малых и средних предприятий [J].Современные корпоративные операции, 2023 (26)

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ИСПОЛЬЗОВАНИЕ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ОБУЧЕНИИ ГИСТОЛОГИИ

Аннотация *Современные технологии искусственного интеллекта (ИИ) активно внедряются в медицинское образование, в том числе в изучение гистологии. ИИ способен автоматизировать анализ микропрепаратов, улучшать качество диагностики и предлагать персонализированные методики обучения. В данной статье рассматриваются основные направления применения ИИ в гистологическом образовании, его преимущества, вызовы и перспективы. Представлены результаты опроса среди студентов медицинских вузов об их отношении к использованию ИИ в учебном процессе.*

Ключевые слова: *искусственный интеллект, гистология, медицинское образование, машинное обучение, цифровая патология.*

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USE OF ARTIFICIAL INTELLIGENCE IN TEACHING HISTOLOGY

Abstract *Modern artificial intelligence (AI) technologies are actively being introduced into medical education, including the study of histology. AI is capable of automating the analysis of micropreparations, improving the quality of diagnostics and offering personalized teaching methods. This article discusses the main areas of application of AI in histological education, its advantages, challenges and prospects. The results of a survey among medical students on their attitude to the use of AI in the educational process are presented.*

Keywords: *artificial intelligence, histology, medical education, machine learning, digital pathology.*

Введение Гистология — фундаментальная дисциплина в медицинском образовании, требующая от студентов детального изучения микроскопических структур тканей и клеток. Однако традиционные методы обучения часто оказываются трудоёмкими и требуют значительных ресурсов. Внедрение искусственного интеллекта (ИИ) в образовательный процесс способствует повышению эффективности изучения гистологии, автоматизации анализа изображений и совершенствованию диагностических навыков будущих специалистов [1,2,3,4].

Актуальность темы

Современное медицинское образование стремится к цифровизации, а ИИ становится неотъемлемой частью обучения и диагностики [5]. Применение ИИ в гистологии позволяет:

- Ускорить и упростить процесс изучения микропрепаратов.
- Повысить точность распознавания и классификации клеток.
- Индивидуализировать процесс обучения, адаптируя его под уровень знаний студентов.
- Развивать навыки цифровой патологии, востребованные в современной медицине.

Основные направления применения ИИ в гистологическом обучении

1. **Автоматический анализ изображений** Современные алгоритмы машинного обучения способны распознавать тканевые структуры, классифицировать клетки и выявлять патологические изменения. Это снижает вероятность ошибок и ускоряет процесс интерпретации микропрепаратов [6].
2. **Интерактивные обучающие платформы** Разработаны цифровые системы, использующие ИИ для адаптивного обучения. Они анализируют успехи студентов и предлагают индивидуальные задания, повышая эффективность освоения материала [7,8].
3. **Виртуальные лаборатории** Системы дополненной и виртуальной реальности, интегрированные с ИИ, позволяют изучать микропрепараты в интерактивном режиме, не прибегая к традиционным методам микроскопии [9,10].

4. **Диагностическая поддержка** ИИ помогает студентам осваивать интерпретацию сложных случаев, сравнивая их заключения с экспертными мнениями и совершенствуя навык дифференциальной диагностики.

Опрос среди студентов

Для изучения отношения студентов медицинских вузов к использованию ИИ в обучении гистологии был проведён опрос среди 200 респондентов. Основные результаты:

- **78% студентов** считают, что ИИ помогает глубже понять материал.
- **65%** отметили, что использование ИИ снижает время на изучение сложных тем.
- **48%** выразили опасение, что технологии могут заменить традиционные методы обучения.
- **85%** поддерживают дальнейшую интеграцию ИИ в образовательный процесс.

Текущие вызовы и перспективы

Несмотря на очевидные преимущества, существуют определённые сложности, такие как необходимость больших объёмов данных для обучения моделей, возможные ошибки алгоритмов и этические аспекты использования ИИ в медицине. Однако с развитием технологий ожидается дальнейшее совершенствование ИИ-инструментов, что приведёт к ещё большей их интеграции в образовательный процесс.

Заключение

Использование искусственного интеллекта в обучении гистологии существенно расширяет возможности медицинского образования. Интерактивные технологии, автоматический анализ изображений и персонализированное обучение делают процесс более эффективным, точным и доступным. Внедрение ИИ в учебные программы способствует развитию профессиональных навыков будущих специалистов и повышению качества медицинской диагностики. Результаты опроса показывают высокий интерес студентов к этим технологиям, что подтверждает актуальность дальнейших исследований в данной области.

Использованные источники:

1. Иногамова, Дильфуза Р. и Люсия А. Шигакова. «Эффективность внедрения современных виртуальных программ для обучения биологии». *Американский журнал социальных наук и исследований в области гуманитарных наук* 3.02 (2023): 100-107.
2. Inogamova, Dilfuza Rakhmatullaevna, Lucia Anvarovna Shigakova, and Zulfiya Khosilovna Umarova. "THE PLACE OF THE VIRTUAL PROGRAM AND DIDACTIC TOOLS IN TEACHING MEDICAL BIOLOGY." (2023): 254-264.
3. Inogamova, D. R., and L. A. Shigakova. "Biologiya o'qitishda mustaqil ishlarni tashkil etishning metodik qirralari va nazorat qilishda test topshiriqlarini o'rni." (2023).
4. Адильбекова Б. А. и др. Инновационное развитие науки: фундаментальные и прикладные проблемы. – 2023.

5. Шигакова Л. ВИЗУАЛЬНАЯ БИОЛОГИЯ С ИСПОЛЬЗОВАНИЕМ ВИРТУАЛЬНЫХ ПРОГРАММ И ДИДАКТИЧЕСКИХ СРЕДСТВ В ОБУЧЕНИИ // Журнал перспективных научных исследований (ISSN: 0976-9595). – 2024. – Т. 5. – №. 4.
6. Anvarovna, Shigakova Lyutsiya. "PEDAGOGICAL POSSIBILITIES FOR IMPROVING METHODS OF USING VIRTUAL PROGRAMS." *SCIENTIFIC ASPECTS AND TRENDS IN THE FIELD OF SCIENTIFIC RESEARCH* 2 (2023): 13-17.
7. Anvarovna, Shigakova Lyutsiya. "DEVELOPMENT OF RESEARCH SKILLS WHEN TEACHING BIOLOGY TO STUDENTS USING VIRTUAL PROGRAMS." *PROSPECTS AND MAIN TRENDS IN MODERN SCIENCE* 1 (2023): 26-30.
8. Shigakova, Lyutsiya. "VISUAL BIOLOGY USING VIRTUAL PROGRAMS AND DIDACTICAL TOOLS IN TRAINING." *Journal of Advanced Scientific Research (ISSN: 0976-9595)* 5.4 (2024).
9. Шигакова, Люция. "ИНТЕГРАЦИЯ ВИРТУАЛЬНЫХ ТЕХНОЛОГИЙ И ДИДАКТИЧЕСКИХ СРЕДСТВ В БИОЛОГИЧЕСКОЕ ОБРАЗОВАНИЕ: РАЗВИТИЕ ИССЛЕДОВАТЕЛЬСКИХ КОМПЕТЕНЦИЙ СТУДЕНТОВ МЕДИЦИНСКИХ ВУЗОВ." *Multidisciplinary Journal of Science and Technology* 4.9 (2024): 124-129.
10. Шигакова, Л. «РАЗВИТИЕ ИССЛЕДОВАТЕЛЬСКИХ НАВЫКОВ СТУДЕНТОВ С ИСПОЛЬЗОВАНИЕМ ВИРТУАЛЬНЫХ ПРОГРАММ И ДИДАКТИЧЕСКИХ СРЕДСТВ». *Наука и инновации* 2.Б10 (2023): 369-372.

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ВОЗРАСТНЫЕ ИЗМЕНЕНИЯ ТКАНЕЙ ПОДЖЕЛУДОЧНОЙ ЖЕЛЕЗЫ

Аннотация: *В данной статье рассматривается развитие, функционирование и возрастные изменения поджелудочной железы. Поджелудочная железа — важный орган пищеварительной и эндокринной систем, обеспечивающий синтез ферментов и гормонов, необходимых для поддержания метаболизма. Также рассматривается влияния гормонов на обмен веществ.*

Ключевые слова: *Ацинус, инсулин, глюкагон, соматостатин, панкреатический сок, панкреатоциты, ВИП, возрастная дегенерация, фиброз.*

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AGE-RELATED CHANGES IN PANCREATIC TISSUES

Abstract*: This article examines the development, functioning, and age-related changes of the pancreas. The pancreas is a vital organ of both the digestive and endocrine systems, responsible for synthesizing enzymes and hormones*

essential for metabolism regulation. The article also discusses the influence of hormones on metabolism.

***Keywords**: Acinus, insulin, glucagon, somatostatin, pancreatic juice, pancreatic cells, VIP, age-related degeneration, fibrosis.*

Поджелудочная железа является смешанной железой, которая состоит из экзокринной и эндокринной части. В экзокринной части секретируется панкреатический сок, в составе которого содержатся пищеварительные ферменты — трипсиноген, липазы, амилаза и другие. В эндокринной части синтезируется следующие гормоны: инсулин, глюкагон, соматостатин, ВИП, панкреатический полипептид.

Строение. Железа снаружи покрыта тонкой соединительнотканной капсулой, а с передней поверхности покрыта висцеральным листком брюшины. Соединительнотканные перегородки делит паренхиму железы на дольки.

Эндокринная часть поджелудочной железы. Островки Лангерганса состоят из эндокринных клеток (эндокриноцитов). В поджелудочной железе насчитывается от 1 до 2 миллионов таких островков, их средний размер — 0,1–0,3 мм. Однако эндокринная часть занимает всего около 3% объема всей железы. Каждый островок густо пронизан кровеносными капиллярами фенестрированного типа. Среди эндокриноцитов островков выделяют пять основных типов клеток: A-, B-, D-, ВИП- и PP-клетки [1,2].

- A-клетки (глюкагоноциты, ацидофильные) синтезируют глюкагон.
- B-клетки (базофильные инсулоциты) синтезируют инсулин.
- D-клетки (дендритические инсулоциты) синтезирует соматостатин
- ВИП-клетки (аргирофильные клетки). Они выделяют вазоактивный интестинальный полипептид (ВИП).
- PP-клетки. Синтезируют панкреатический полипептид,

Экзокринная часть поджелудочной железы. Это сложная альвеолярно-трубчатая железа, имеющая дольчатое строение. Основную ее массу образуют структурно-функциональные единицы-панкреатические ацинусы, отделенные друг от друга прослойками рыхлой соединительной ткани. Ацинус состоит в основном из экзокринных панкреатоцитов, имеющих форму усеченного конуса и располагающихся на базальной мембране. Базальные части этих клеток широкие, апикальные-суженные [6,7]. Располагаясь в один ряд, 8-12 панкреатоцитов, а также несколько клеток вставочного отдела формируют панкреатический ацинус, имеющий вид округлого или овального образования. В центре ацинуса находится небольшой просвет. На поверхности панкреатоцитов, обращенной в просвет, имеются короткие микроворсинки. Боковые поверхности рядом лежащих клеток в апикальной их части соединены при помощи плотных контактов и десмосом. Базальная часть панкреатоцитов окрашивается базофильно.

Здесь расположена хорошо развитая гранулярная эндоплазматическая сеть, в которой синтезируются ферменты панкреатического сока. Имеются

также многочисленные митохондрии. Эту часть клетки называют гомогенной зоной. Апикальная часть панкреатоцитов окрашивается оксифильно [3]. В этой части клеток в форме зимогена накапливаются синтезированные в клетке пищеварительные ферменты - трипсиноген, химотрипсиноген, прокарбоксипептидазы и др. Округлое ядро располагается обычно в средней части панкреатоцита. Выделение секрета происходит путем мерокринной секреции. В состав ацинуса, кроме секреторного, входит и вставочный отдел - в большинстве случаев часть клеток вставочного протока как бы вдвинута внутрь ацинуса. Он открывается в двенадцатиперстную кишку. Стенка его выстлана однослойным столбчатым эпителием. В устье протока имеется гладкомышечный сфинктер. По ходу эпителиальной выстилки протоков поджелудочной железы встречаются слизистые бокаловидные экзокриноциты и эндокриноциты. Последние вырабатывают гормоны - холецистокинин и панкреозимин, которые стимулируют продукцию пищеварительных ферментов экзокринной частью поджелудочной железы, увеличивают секрецию желчи, сокращают мышечную ткань желчного пузыря, возбуждают моторику кишки и т.д.

Существует ряд изменений клеток поджелудочной железы по мере старения: *Атрофия ацинарных клеток* - снижение ферментов (амилаза, липаза, протеазы) → ухудшение пищеварения., *накопление липофусцина* - маркер старения, отражает окислительный стресс, снижает регенерацию.**,** *фиброз* - замещение паренхимы соединительной тканью → снижение секреции ферментов и гормонов, нарушение структуры органа.

Стеатоз поджелудочной железы — это накопление жира в тканях органа, связанное с метаболическим синдромом, ожирением и нарушением питания [4]. Приводит к **дисфункции β-клеток**, ферментной недостаточности и воспалению.

Панкреолитиаз — образование камней в протоках поджелудочной железы, чаще в головке. Причиной является застой панкреатического сока (опухоли, кисты, конкременты холедоха), нарушения ионного и гормонального обмена. Последствия: некроз тканей, снижение ферментной активности, повреждение островков Лангерганса, возможное развитие сахарного диабета [5].

Клинические последствия дисфункции поджелудочной железы: экзокринные нарушения: плохое пищеварение -вздутие, диарея, мальабсорбция, хронические воспаления ЖКТ., **эндокринные нарушения:** снижение толерантности к глюкозе -риск диабета 2 типа.

Факторы, ускоряющие дегенерацию поджелудочной железы: 1) питание: избыток жиров и углеводов - ожирение, метаболический синдром, жировая инфильтрация., 2) курение, алкоголь: ухудшают микроциркуляцию, вызывают воспаление, фиброз., 3) хронические заболевания: диабет (потеря клеток), атеросклероз (ишемия), панкреатит (фиброз)., а также генетика, токсичные вещества (производственные и экологические).

Функциональные изменения поджелудочной железы затрагивают экзокринную и эндокринную функции, вызывая клинические симптомы. Профилактика: **медосмотры, здоровый образ жизни, питание.**

Использованные источники:

1. Ю.А.Афанасьев_Гистология, цитология, эмбриология: Медицинское информационное агентство, 2018.

2. Кузнецов С.Л., Мушкамбаров Н.Н.Гистология, цитология и эмбриология: Учеб. для мед. вузов / М.: Медицинское информационное агентство, 2016.

3. Данилов Р.К., Боровая Т.Г. - М. : ГЭОТАР-Медиа, 2020.

4. Рахматова, М. Х., and Л. А. Шигакова. "влияние гипокальциемии на одонтогенез в раннем постнатальном периоде." *Передовые научно-технические и социально-гуманитарные проекты в современной науке. Сборник статей VI международной научно-практической конференции. Москва:«Научно-издательский центр «Актуальность. РФ», 2022.–236 с. ISBN 978-5-6048247-6-4*. 2022.

5. Шигакова, Люция Анваровна. "МОРФОЛОГИЧЕСКАЯ КАРТИНА ПОЧЕК ПРИ ВОЗДЕЙСТВИИ ЭНЕРГЕТИЧЕСКИХ НАПИТКОВ." *СТУДЕНЧЕСКИЙ ФОРУМ* (2024): 8.

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INNOVATIVE MECHANISMS OF NEUROTRANSMITTER ACTIVATION THROUGH YOGA IN TREATING DEPRESSION AND ANXIETY DISORDERS

Abstract: *Yoga-based interventions have shown promise as complementary treatments for depression and anxiety, potentially through modulating key neurotransmitter systems. This article explores how specific yogic practices – including controlled breathing, physical postures, hydration, and nutrition – can influence neurotransmitters such as serotonin, dopamine, γ-aminobutyric acid (GABA), and endorphins to improve mental health. A mixed-methods approach is adopted, integrating empirical research findings, literature review, and theoretical neurobiological analysis. Evidence from recent clinical studies and reviews is examined to elucidate physiological mechanisms by which yoga activates neurotransmitter pathways, thereby alleviating depressive and anxious symptoms. Challenges in current research and implementation are discussed, and future directions are proposed for integrating yoga into clinical practice as a neuroscience-informed mental health intervention.*

Keywords: *Yoga; Neurotransmitters; Depression; Anxiety; Serotonin; Dopamine; GABA; Endorphins; Mind-Body Medicine*

Introduction

Depression and anxiety disorders are among the most prevalent psychiatric conditions, imposing a high burden on individuals and healthcare systems. Globally, roughly one in eight people lives with a mental disorder (The Future of Yoga for Mental Health Care - PMC). Despite advances in pharmacotherapy and psychotherapy, a significant proportion of patients have residual symptoms or do not achieve remission with standard treatments (The Future of Yoga for Mental Health Care - PMC). This has spurred interest in adjunctive and alternative therapies that can augment traditional care (The Future of Yoga for Mental Health Care - PMC). Yoga, an ancient mind-body practice, has emerged as a promising complementary intervention for mental health.

Yoga encompasses physical postures (asana), breath regulation (pranayama), meditation (dhyana), and ethical lifestyle principles. Unlike exercise alone, yoga offers a holistic approach targeting both body and mind. Clinically, yoga interventions have been associated with reduced anxiety and depression and improved well-being (The Future of Yoga for Mental Health Care - PMC) (Yoga for better mental health - Harvard Health). However, understanding the **mechanisms** by which yoga confers mental health benefits is crucial for its integration into evidence-based practice. Notably, depression and anxiety have well-documented neurochemical underpinnings: imbalances in neurotransmitters such as serotonin, dopamine, GABA, and endorphins are implicated in mood and anxiety regulation. Conventional medications (e.g. SSRIs, benzodiazepines) target these pathways. An intriguing question is whether yoga can modulate these same neurotransmitter systems through physiological means, thereby improving mood and anxiolysis.

This article examines the innovative mechanisms of neurotransmitter activation through yoga in treating depression and anxiety. We adopt a mixed-methods approach, combining empirical research (clinical trials, neuroimaging studies), comprehensive literature review, and theoretical analysis of neurophysiology. Focus is placed on how specific components of yoga – hydration balance, breathing techniques, physical exercise, and nutrition – influence neurotransmitter levels and activity. We first provide an overview of major neurotransmitters in mental health, then detail how yoga practices can physiologically activate these neurotransmitters. We review empirical evidence, including recent studies (2020–2025) linking yoga to neurochemical changes, and discuss case examples. Finally, we consider challenges in the field and future directions for research and clinical application. By elucidating the neurobiological pathways of yoga's effects, we aim to inform neuroscience-minded clinicians and researchers about yoga's potential as an adjunct therapy for depression and anxiety disorders.

Neurotransmitters and Mental Health

Depression and anxiety disorders are often characterized by dysregulation in key neurotransmitter systems that regulate mood, reward, and arousal. Below we outline the major neurotransmitters implicated in these conditions and their roles:

- **Serotonin (5-HT):** A monoamine neurotransmitter crucial for mood regulation, emotional processing, and anxiety control. The classic "serotonin hypothesis" of depression posits that reduced serotonin activity in certain brain circuits contributes to depressive symptoms (Role of yoga in stress management and implications in major depression disorder - PMC). Many antidepressants (SSRIs) relieve depression by increasing synaptic serotonin. Low serotonin is linked to depressed mood, rumination, and sleep/appetite disturbances. Conversely, enhancing serotonin transmission tends to improve mood and promote a sense of well-being (Role of yoga in stress management and implications in major depression disorder - PMC). In anxiety, serotonin has a complex role but generally

higher serotonin availability (for example via SSRIs) can alleviate anxiety symptoms in many patients.

- **Dopamine (DA):** A neurotransmitter associated with reward, motivation, and pleasure. Dysfunction in dopaminergic circuits (particularly mesolimbic and mesocortical pathways) is increasingly recognized in the pathophysiology of depression (Dysregulation of brain dopamine systems in major depressive disorder - PMC). Dopamine deficits can manifest as anhedonia (inability to feel pleasure), lack of motivation, and psychomotor slowing in depressed individuals. Many symptoms of depression – such as loss of interest or energy – overlap with those observed in disorders of low dopamine activity. In anxiety, dopamine's role is less direct, but dopamine influences executive function and fear extinction, and imbalances may exacerbate anxiety or restlessness. Notably, severe or chronic stress can blunt dopamine signaling, contributing to the "reward insensitivity" seen in some anxious-depressed patients.
- **Gamma-Aminobutyric Acid (GABA):** The principal inhibitory neurotransmitter in the brain. GABA has a broadly calming effect on neural activity and is fundamental in anxiety regulation. Patients with anxiety disorders often exhibit low GABA levels or reduced GABAergic tone, leading to hyperexcitability in fear circuits (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC). Indeed, GABA activity is typically **reduced in mood and anxiety disorders** (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC), and many anxiolytic drugs (benzodiazepines, certain anticonvulsants) potentiate GABA_A receptor activity to produce sedation and anxiolysis. In depression, GABA deficits have also been noted and may contribute to a failure of inhibitory control over negative thought networks. Thus, boosting GABAergic transmission can relieve anxiety and improve mood stability.
- **Endorphins (Endogenous Opioids):** Endorphins such as β-endorphin are neuropeptides that act as natural painkillers and mood enhancers. They are released during exercise, positive excitement, laughter, and other vigorous activities. Endorphins bind to opioid receptors, reducing pain perception and inducing feelings of euphoria or stress relief – often termed the "runner's high" when triggered by aerobic exercise. Patients with depression or chronic anxiety may have dysregulated endogenous opioid systems, sometimes reflected in blunted pleasure or increased pain sensitivity. Increasing endorphin release is associated with improved mood and relaxation. All forms of exercise can boost endorphin levels, contributing to their antidepressant and anxiolytic effects (Yoga for better mental health - Harvard Health).

Dysfunction in these neurotransmitters can interact in complex ways to produce the spectrum of symptoms in depression and anxiety. For instance, chronic stress can raise cortisol and catecholamines, which in turn may deplete serotonin and dysregulate dopamine; low GABA can heighten anxious arousal, indirectly impacting serotonin and dopamine pathways. Standard treatments for depression/anxiety target these systems: SSRIs for serotonin, SNRIs for

serotonin/norepinephrine, atypical antidepressants affecting dopamine, benzodiazepines enhancing GABA, etc. The therapeutic potential of **yoga** in this context lies in its ability to *endogenously* influence these neurochemicals through physiological and behavioral pathways. Emerging research indicates that yoga practices can increase serotonin availability, stimulate dopamine release, elevate GABA levels, and trigger endorphin release, thereby addressing core neurobiological aspects of depression and anxiety.

In the following sections, we examine how specific components of yoga practice can activate or modulate these neurotransmitter systems. Understanding these mechanisms provides a biological rationale for the efficacy of yoga as an adjunct treatment for mental health disorders.

Yoga and Physiological Activation of Neurotransmitters

Yoga is a multifaceted practice comprising physical, respiratory, and meditative elements, often coupled with guidance on lifestyle (diet, hydration, sleep). These components can each induce physiological changes that cascade into neurochemical effects. Here we discuss four key aspects – breathing techniques, physical exercise, hydration, and nutrition – and how they contribute to neurotransmitter activation and balance.

Breathwork (Pranayama) and Autonomic Regulation

Controlled breathing exercises (pranayama) are central to most yoga traditions. Yogic breathing involves slow, deep, and rhythmic breaths that engage the diaphragm and extend the exhalation. This practice strongly influences the autonomic nervous system, shifting the balance from sympathetic "fight-or-flight" toward parasympathetic "rest-and-digest" dominance (Role of yoga in stress management and implications in major depression disorder - PMC) (The Future of Yoga for Mental Health Care - PMC). Slow, deep breathing directly stimulates the vagus nerve, which in turn increases parasympathetic tone and reduces sympathetic output (lowering heart rate and blood pressure) (The Future of Yoga for Mental Health Care - PMC). This autonomic shift has several downstream effects relevant to neurotransmitters and mood:

- **GABA Enhancement:** Enhanced parasympathetic activity is associated with increased central GABA release. Deep breathing and relaxation trigger vagal afferent signals to the brain, promoting calm and inhibiting stress pathways. It has been shown that stimulating the vagus nerve (even clinically through vagus nerve stimulation) can increase GABA levels in key brain regions, which correlates with anxiolytic effects (The Future of Yoga for Mental Health Care - PMC). Yoga practices that emphasize slow breathing thus likely boost GABAergic tone. In fact, coherent breathing at ~5 breaths per minute (often used in yoga) has been specifically linked to acute increases in brain GABA and reduced anxiety (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC).
- **Stress Hormone Reduction:** Pranayama helps down-regulate the hypothalamic–pituitary–adrenal (HPA) axis. Slow breathing and the resulting parasympathetic activation inhibit the release of corticotropin-releasing factor

(CRF) and attenuate downstream cortisol production by the adrenal glands (Role of yoga in stress management and implications in major depression disorder - PMC). Lower cortisol and adrenaline levels remove inhibitory effects those stress hormones have on neurotransmitter synthesis. (High cortisol, for example, can decrease serotonin and dopamine over time.) By **lowering cortisol and catecholamines**, yoga breathing may create a biochemical environment that allows serotonin and dopamine levels to normalize (Role of yoga in stress management and implications in major depression disorder - PMC). This contributes to reduced anxiety and improved mood, as high stress hormones are often linked to depression/anxiety pathophysiology.

- **Dopamine and Endocannabinoids:** Breath-focused meditation can also influence dopamine. One PET imaging study found that practicing a form of yogic meditation led to a *65% increase* in endogenous dopamine release in the brain's ventral striatum (Role of yoga in stress management and implications in major depression disorder - PMC). Participants showed decreased binding of a dopamine receptor radiotracer during meditation, indicating higher synaptic dopamine levels (Role of yoga in stress management and implications in major depression disorder - PMC). This dopamine surge is thought to enhance feelings of reward, motivation, and stress resilience during yoga. Additionally, some research (including on mindfulness meditation) suggests breathing practices may elevate endocannabinoids – neuromodulators that promote relaxation and pleasure – although more study is needed on this in yoga contexts.
- **Calming Emotional Circuits:** Functional MRI studies indicate that slow, deep breathing and meditation reduce activity in the limbic system (amygdala, hippocampus) and increase activation of frontal regulatory regions (Yoga for better mental health - Harvard Health). This neural effect corresponds to decreased emotional reactivity and greater emotional regulation. GABA is the primary inhibitory neurotransmitter in many of these neural circuits; by engaging frontal cortex control and vagal pathways, breathwork likely increases GABA release which calms overactive fear/rumination circuits. Indeed, simply adopting a slower breathing rate has been associated with increased heart rate variability and a sense of calm, often mediated by GABAergic and serotonergic changes.

In summary, yogic breathwork provides a direct gateway to the autonomic nervous system, allowing practitioners to voluntarily tap into neurophysiological mechanisms of calm. By reducing stress response and *activating inhibitory neurotransmitter systems*, pranayama can mitigate anxiety and create a neurochemical state conducive to improved mood (higher GABA and dopamine, balanced serotonin). This mind-body link – breathing influencing brain chemistry – underpins many of yoga's mental health benefits.

Physical Exercise (Asana) and "Feel-Good" Chemical Release

The physical aspect of yoga involves performing asanas (postures) and sequences of movements (flows). Yoga asanas range from gentle stretching to more vigorous, strength-building poses, depending on the style (e.g. Hatha vs. Vinyasa).

This physical exercise component contributes significantly to neurotransmitter changes:

- **Endorphin Release:** Like other forms of exercise, yoga triggers the release of endorphins – the body's endogenous opioids. Moderate to intense muscular activity stimulates the pituitary gland to secrete β-endorphin, which binds to opioid receptors and produces analgesic and euphoric effects. **All exercise can boost mood by lowering stress hormones and increasing endorphins】 (Yoga for better mental health - Harvard Health). Yoga, even when comparatively low-impact, has been shown to elevate endorphin levels. For example, participants often report a relaxed, positive feeling ("yoga high") after a session, partly attributable to endorphin surges. Endorphins reduce pain and induce mild sedation and pleasure, counteracting the heightened pain sensitivity and dysphoria often present in depression and anxiety. A single yoga session can significantly raise blood endorphin levels as well as related neurotransmitters like anandamide (an endocannabinoid), according to some studies (The Benefits of Yoga: How It Boosts Your Mental Health).
- **Dopamine and Serotonin:** Physical exercise has well-documented effects on monoamines. Exercise increases firing of dopaminergic neurons in the midbrain, and over time can upregulate dopamine receptor availability in reward pathways. In depression, where dopamine function is blunted, exercise can help restore some of this activity. Yoga, being a moderate exercise, likely shares this effect. Additionally, exercise can boost serotonin levels in the brain by increasing tryptophan availability (the amino acid precursor to serotonin) and by stimulating release from serotonergic neurons. A landmark review on exercise and serotonin found that motor activity increases serotonin synthesis and release in the brain (How to increase serotonin in the human brain without drugs - PMC). Thus, by functioning as a form of exercise, yoga may raise **serotonin** in a similar fashion to aerobic workouts. One study noted that regular yoga practice was associated with increased plasma serotonin levels and reduced activity of monoamine oxidase (an enzyme that breaks down serotonin), indicating more serotonin staying available (Role of yoga in stress management and implications in major depression disorder - PMC).
- **GABAergic Activity:** Beyond the breath-related GABA increases discussed earlier, the physical act of moving through yoga postures may also contribute to GABA modulation. A controlled trial comparing yoga to walking found that *only the yoga group* showed significant increases in thalamic GABA levels, which correlated with improved mood (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC). This suggests that aspects of yoga beyond just light exercise (possibly the combination of movement with breath and mindfulness) uniquely stimulate GABAergic activity. After yoga sessions, increases of about 27% in brain GABA levels have been observed in experienced practitioners (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA ...). By contrast, equivalent exercise (walking) did not change GABA, highlighting that yoga's mindful movement provides an added benefit for this inhibitory neurotransmitter system (Effects of

Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC).

- **Reduction of Adrenaline and Noradrenaline:** The physical exertion in yoga is typically accompanied by deep breathing and a meditative focus, which, unlike high-intensity exercise, tends not to provoke a strong sympathetic surge. In fact, yoga as exercise can **lower** basal levels of adrenaline and noradrenaline over time (Role of yoga in stress management and implications in major depression disorder - PMC), especially in gentle styles. Lower circulating adrenaline (epinephrine) means reduced peripheral stress symptoms and a calmer internal state, which likely feeds back to the brain by reducing noradrenergic firing in the locus coeruleus (a nucleus that can trigger anxiety when overactive). This is another pathway by which yoga movement can help alleviate anxiety at the neurochemical level.

Importantly, different styles of yoga have varying effects. Vigorous forms like Vinyasa or Ashtanga provide more aerobic exercise, potentially yielding greater endorphin and endocannabinoid release, and more stimulation of dopamine circuits due to intensity. gentler styles like Yin or Restorative emphasize relaxation and stretching, which may shift the balance more toward parasympathetic activation and GABA release. Hatha yoga strikes a balance of moderate physical exertion and relaxation, likely influencing multiple neurotransmitters in moderate ways. There is some evidence that the specific *type* of yoga practiced can lead to different neurobiological outcomes – for instance, one neuroimaging review noted variability in brain changes that partly reflected different yoga styles and emphases (Frontiers | What Has Neuroimaging Taught Us on the Neurobiology of Yoga? A Review).

In summary, the physical training component of yoga contributes to mental health by releasing **"feel-good" neurotransmitters and hormones**. Endorphins induced by yoga improve mood and reduce pain, dopamine release enhances motivation and reward, and exercise-driven serotonin can boost mood and anxiety resilience. Combined with breath-induced GABAergic calming, these changes create a neurochemical profile of reduced stress and enhanced emotional well-being after yoga practice (Yoga for better mental health - Harvard Health). This biochemical cascade is analogous to that of other exercises, but yoga's integrated mind-body approach may amplify certain benefits (like GABA and parasympathetic activation) not as strongly achieved by exercise alone.

Hydration Balance and Neurotransmitter Support

Proper hydration is an often overlooked but fundamental aspect of physiological health that yoga philosophy tends to encourage. Many yoga instructors remind students to stay hydrated, and yoga practitioners often adopt habits of drinking water regularly (especially in practices like Hot Yoga/Bikram which cause profuse sweating). Adequate hydration can have a direct impact on neurotransmitter function and mood regulation:

- **Serotonin Synthesis:** Neurotransmitter production in the brain depends on a steady supply of precursors and a conducive environment for enzymatic processes. Serotonin is synthesized from the amino acid tryptophan, which must be transported

across the blood–brain barrier. This transport mechanism is sensitive to hydration status. Dehydration can **impede the transport of tryptophan into the brain**, thereby limiting serotonin synthesis (The Connection Between Dehydration and Depression). It has been noted that the biochemical process converting tryptophan to serotonin requires ample water; without proper hydration, the efficiency of this conversion drops (The Connection Between Dehydration and Depression). Consequently, dehydration may lead to lower central serotonin levels, contributing to depressive symptoms such as irritability, fatigue, and low mood (The Connection Between Dehydration and Depression). By maintaining hydration, one supports optimal serotonin production, which is crucial for mood stability. In this sense, yoga's emphasis on caring for one's body (including drinking enough water) can indirectly facilitate better neurotransmitter balance.

- **Dehydration and Mood:** Even mild dehydration has been linked to negative mood effects. Research shows that losing about 1–2% of body water can increase tension and anxiety and impair concentration (The Connection Between Dehydration and Depression). Conversely, rehydration tends to restore cognitive performance and mood. A large cross-sectional study of over 3,000 adults found a clear **inverse relationship between water intake and depression/anxiety** prevalence (Dehydration and Anxiety: Understanding the Connection) (Drinking plain water is associated with decreased risk of depression and anxiety in adults: Results from a large cross-sectional study - PMC). Participants who drank <2 glasses of water per day had about double the risk of depression compared to those drinking ≥5 glasses per day (Drinking plain water is associated with decreased risk of depression and anxiety in adults: Results from a large cross-sectional study - PMC). After adjusting for confounding factors, insufficient hydration was significantly associated with higher odds of depression (Drinking plain water is associated with decreased risk of depression and anxiety in adults: Results from a large cross-sectional study - PMC). This suggests that chronic suboptimal hydration may contribute to depressive feelings, possibly via limiting neurotransmitter synthesis (like serotonin) or through physiological stress (dehydration raises cortisol). Yoga practitioners, by prioritizing hydration, may protect themselves against this contributor to low mood. Staying well-hydrated also supports general brain function – since brain tissue is mostly water, dehydration can cause brain volume changes that impair neural function.
- **Electrolyte Balance and Nerve Function:** Proper hydration ensures the balance of electrolytes (sodium, potassium, magnesium) that neurons need for electrical signaling. Dehydration can cause electrolyte imbalances that disrupt neuronal firing and neurotransmitter release. For example, sodium and potassium gradients are vital for action potentials; if these are perturbed, it could alter the release of neurotransmitters at synapses. While the body tightly regulates electrolyte levels, severe dehydration or excessive sweating without replenishment (as might occur in intensive yoga sessions without fluid intake) could potentially affect neuronal communication. Yoga's moderate nature generally poses low risk here, but the practice of drinking water after class helps restore any electrolyte losses,

thereby maintaining the normal neurophysiological environment for neurotransmitter activity.

In summary, maintaining **hydration** is a simple yet important physiological support for neurotransmitter systems. Yoga's holistic approach encourages habits like drinking sufficient water, which can aid in serotonin production and overall brain homeostasis (The Connection Between Dehydration and Depression) (The Connection Between Dehydration and Depression). By preventing the subtle negative impacts of dehydration on mood and anxiety, good hydration complements the direct effects of yoga practice. It exemplifies how lifestyle factors intertwined with yoga (often described in yoga's health precepts) contribute to mental well-being on a biochemical level. Thus, hydration is a foundational mechanism by which yoga practitioners may sustain a neurochemically balanced state.

Nutrition and Yogic Diet Influences

Traditional yoga philosophy often extends beyond the mat to encompass dietary guidelines. Many practitioners adopt a *sattvic* diet – emphasizing fresh, whole foods, fruits, vegetables, nuts, and adequate water – thought to promote mental clarity and calm. While nutrition is not a formal "limb" of yoga, a healthy diet synergizes with yoga practice to optimize neurotransmitter function:

- **Provision of Precursors:** Neurotransmitters are synthesized from nutrients: serotonin from tryptophan (found in protein-rich foods like dairy, nuts, seeds), dopamine and norepinephrine from tyrosine (in almonds, avocados, etc.), GABA from glutamate (which comes from amino acids in protein), and endorphin production can be influenced by foods that support endorphin release (spicy foods, for instance, trigger endorphins). A balanced diet ensures availability of these amino acid precursors and necessary co-factors (vitamins B6, B12, folate, vitamin C, magnesium, zinc, iron) that act as enzyme cofactors in neurotransmitter synthesis. Yogic diets, being rich in fruits, vegetables, and whole grains, tend to be high in B-vitamins and minerals that support neurotransmitter production. For example, leafy greens and legumes provide folate and B6 for monoamine synthesis, and seeds/nuts supply magnesium which modulates NMDA receptors and GABA production. By encouraging **good nutrition**, yoga philosophy helps create the biochemical substrate for optimal neurotransmission.
- **Gut-Brain Axis:** A fiber-rich, plant-heavy diet as often followed by yoga enthusiasts can improve the gut microbiome. Emerging research in neuroscience shows the gut microbiome profoundly influences the central nervous system via the gut-brain axis, affecting neurotransmitter levels (the gut bacteria produce neurotransmitters like GABA and serotonin or influence their production). Fermented foods (common in some yogic or Ayurvedic diets, like yogurt or kefir) directly provide GABA and serotonin metabolites and support gut health (Food as Medicine: Reduce Stress with Mindful Eating | Organic Valley). By improving gut health, a yoga-aligned diet may reduce systemic inflammation and increase production of neurotransmitter precursors, thereby benefiting mood and anxiety. While this is a more indirect mechanism, it underscores yoga's holistic impact –

what one eats can alter how one feels emotionally via microbial and metabolic pathways that ultimately modulate brain chemistry.

- **Stabilizing Blood Sugar:** Diets advocated in yoga communities often minimize processed sugars and high-glycemic-index foods. Stable blood glucose is important for steady energy metabolism in the brain. Fluctuations in blood sugar (spikes and crashes) can provoke adrenaline release and symptoms of anxiety (e.g. jitteriness, perspiration) and can affect mood (causing irritability when glucose is low). By consuming complex carbohydrates and frequent small meals – common advice in wellness practices – individuals maintain even blood sugar, preventing those stress-hormone spikes that negatively impact neurotransmitters. Stable blood sugar ensures a continuous supply of glucose to the brain, which is critical since neurotransmitter synthesis and recycling are energy-dependent processes. Thus, nutritional habits promoted in tandem with yoga help avoid metabolic stressors that would otherwise perturb neurochemical balance.
- **Yoga and Lifestyle Change:** Engaging in yoga often leads to broader **lifestyle improvements, such as better diet and sleep**, as practitioners become more mindful of their bodies. A recent perspective noted that yoga may promote adaptive behaviors that improve lifestyle factors affecting mental health, *including sleep and nutrition* (The Future of Yoga for Mental Health Care - PMC). Better sleep, in turn, regulates neurotransmitter receptor sensitivity and replenishes neurotransmitter stores (e.g., serotonin and dopamine systems reset during REM sleep). Good nutrition and good sleep together enhance the efficacy of neurotransmitter systems, creating a positive feedback loop for mental health. Yoga thus acts as a catalyst for a healthier routine that supports neurotransmitter equilibrium.

In essence, while "yogic nutrition" is not a formal practice, it is implicitly part of yoga's comprehensive approach to wellness. By fostering **mindful eating and a nutrient-rich diet**, yoga helps ensure that the body has all the building blocks for neurotransmitters and that the brain's environment is optimal for their release and reception (The Future of Yoga for Mental Health Care - PMC). This component works in concert with the immediate effects of yoga exercise and breathwork. A body that is well-nourished and well-hydrated responds more robustly to the neurotransmitter-activating practices of yoga, magnifying their mental health benefits. The result is an integrative effect: physical practice, breathing, hydration, and nutrition all aligning to boost serotonin, dopamine, GABA, and endorphins naturally.

Empirical Evidence and Case Studies

A growing body of empirical research supports the role of yoga in modulating neurotransmitters and improving clinical outcomes in depression and anxiety. Below we review key studies and examples, spanning randomized controlled trials (RCTs), neuroimaging investigations, and case reports, that illustrate yoga's impact on neurobiology and symptoms.

Yoga for Depression: Clinical Trials and Neurochemical Changes

Multiple RCTs and meta-analyses in recent years indicate that yoga is effective in reducing depressive symptoms, with measurable changes in neurotransmitter-related outcomes:

- **Systematic Reviews and Meta-Analyses:** A 2023 systematic review and meta-analysis compiled data from 34 RCTs examining yoga for major depressive disorder (MDD) (Effectiveness of yoga for major depressive disorder: A systematic review and meta-analysis - PMC). The analysis (treatment N=1,269, controls N=1,072) found that adjunctive yoga practice led to significant improvements in depression severity. Pooled results showed a moderate antidepressant effect (e.g., a moderate reduction in Beck Depression Inventory scores, Cohen's d ~ -0.60) compared to control conditions (Effectiveness of yoga for major depressive disorder: A systematic review and meta-analysis - PMC). Importantly, yoga was also associated with decreased anxiety levels in depressed patients, though the effect on anxiety was smaller (Cohen's d ~ -0.26) (Effectiveness of yoga for major depressive disorder: A systematic review and meta-analysis - PMC). No serious adverse effects were noted, underscoring yoga's safety (Effectiveness of yoga for major depressive disorder: A systematic review and meta-analysis - PMC). The authors concluded that *yoga can improve depressive symptoms and anxiety in patients with MDD and is widely acceptable* (Effectiveness of yoga for major depressive disorder: A systematic review and meta-analysis - PMC). Such evidence establishes the clinical efficacy of yoga, which likely stems from underlying neurobiological changes (some of which were directly measured in individual studies).
- **Yoga Increases GABA and Improves Mood in MDD:** One groundbreaking RCT by Streeter et al. (2020) investigated Iyengar yoga plus coherent breathing in individuals with major depression (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC) (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC). Over 12 weeks, participants attended yoga sessions either 2 or 3 times per week. The study used magnetic resonance spectroscopy (MRS) to measure brain GABA levels before and after the intervention. The results were striking: both the low-dose (2x/week) and high-dose (3x/week) yoga groups showed significant reductions in depression scores (BDI-II), and the low-dose group in particular showed a **significant increase in thalamic GABA levels** from pre- to post-intervention (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC). Immediately after a yoga session, GABA levels were acutely elevated (a ~27% increase was observed in prior similar studies (This is Your Brain on Yoga | Psychology Today)). However, this GABA boost tapered off after about 4–8 days without practice, indicating the need for regular sessions to maintain the neurochemical benefits (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week

Iyengar Yoga and Coherent Breathing Intervention - PMC). The authors concluded that *yoga's mood improvements are at least partly mediated by increased GABAergic activity* (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC). This was the first direct demonstration that a behavioral intervention can raise brain GABA in depressed patients, analogous to the effect of pharmacological GABAergic agents but achieved naturally.

- **Yoga vs. Exercise (Walking) – A Unique Neurochemical Signature:** In an earlier trial, the same research group compared a 12-week yoga program to a metabolically matched walking exercise in healthy volunteers (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC) (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC). Both groups exercised for 60 minutes 3 times per week. While mood and anxiety improved more in the yoga group, the key finding was that only **yoga increased brain GABA levels**, not the walking (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC). Furthermore, within the yoga group, individuals who had larger increases in thalamic GABA also reported greater improvements in mood and larger decreases in anxiety (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC). This provides a causal link between the neurochemical change and the psychological benefit. The yoga participants' GABA levels rose after the intervention and even acutely after a single session (measured in an immediate post-class scan), tying neurotransmitter activation directly to the act of doing yoga. This controlled comparison highlights that yoga's effects are not solely due to exercise; the integration of breath, mindfulness, and movement in yoga elicits **distinct neurobiological responses (GABA release)** that pure physical exercise does not. It strengthens the case that yoga targets brain pathways relevant to mood disorders.
- **Kundalini Yoga and Serotonergic Changes:** An interesting case study comes from an older clinical trial on *Kundalini yoga* for depression, which examined biochemical markers in the blood. In this study, patients with depression practiced Kundalini yoga (which emphasizes chanting, breathing, and meditation along with poses) regularly for 3 and 6 months. The researchers observed **increases in plasma serotonin levels** in the yoga group, as well as a rise in plasma melatonin (a hormone related to serotonin that regulates sleep) (Mental depression and kundalini yoga). There was also a decrease in monoamine oxidase (MAO) activity in yoga practitioners (Mental depression and kundalini yoga). MAO is an enzyme that breaks down serotonin, dopamine, and norepinephrine; lower MAO suggests that neurotransmitters like serotonin remained available longer. These changes indicate a shift toward a more favorable neurochemistry for combating depression (more serotonin, more melatonin, lower stress hormone cortisol) (Mental depression and kundalini yoga). Notably, patients in the yoga group reported greater improvements in mood and well-being than those on an antidepressant medication

in that study, despite both showing some biochemical improvements (Mental depression and kundalini yoga). While this is an older study (1980s) and would need replication, it provides a "proof of concept" that yoga can influence serotonin dynamics in humans. Modern research echoes this – for example, a recent review stated that yogic practices have been *proved to increase plasma serotonin and reduce stress hormone cortisol* (Role of yoga in stress management and implications in major depression disorder - PMC), aligning with what Kundalini yoga practitioners experienced.

Collectively, these pieces of evidence demonstrate yoga's antidepressant effects in both symptom outcomes and objective neurochemical measures. Patients engaging in yoga have shown *significant elevation of inhibitory neurotransmitters (GABA)* and normalization of monoamines like serotonin and dopamine. These changes correspond with reductions in depression severity. The findings that yoga can rival or complement conventional treatments are encouraging: one trial even found yoga to yield comparable improvements as conventional exercise or relaxation in depression, with some short-term effects superior to usual care (The Future of Yoga for Mental Health Care - PMC). It's important to acknowledge, however, that while yoga shows clear benefit, it may function best as an **adjunct** to standard care rather than a standalone cure in severe cases. Nonetheless, the empirical data firmly support the integration of yoga for its *mechanistic ability to favorably tweak brain chemistry* in depressed patients.

Yoga for Anxiety Disorders: Efficacy and Mechanistic Insight

Anxiety disorders, characterized by excessive fear, worry, and hyperarousal, have also been a target for yoga interventions. Given the strong link between anxiety and neurotransmitters like GABA (low in anxiety) and norepinephrine (often high in anxiety), yoga's effects on calming the nervous system are particularly relevant. Key studies include:

- **Randomized Trial in Generalized Anxiety Disorder (GAD):** A notable recent RCT examined Kundalini yoga for GAD in comparison to cognitive-behavioral therapy (CBT) and a stress education control. In this multicenter trial with over 220 participants, 12 weeks of Kundalini yoga significantly reduced anxiety levels in individuals with GAD, outperforming the stress education control condition (The Future of Yoga for Mental Health Care - PMC). Specifically, about 54% of patients in the yoga group achieved a clinically significant anxiety reduction (per response criteria), versus 33% in the control – meaning yoga was ~2.5 times more likely to lead to improvement than no treatment (Efficacy of Yoga vs Cognitive Behavioral Therapy vs Stress Education for the Treatment of Generalized Anxiety Disorder: A Randomized Clinical Trial - PubMed). However, CBT remained the most effective, with ~71% responding (Efficacy of Yoga vs Cognitive Behavioral Therapy vs Stress Education for the Treatment of Generalized Anxiety Disorder: A Randomized Clinical Trial - PubMed). The statistical analysis found that yoga was *effective but not as effective as CBT* for GAD (Efficacy of Yoga vs Cognitive Behavioral Therapy vs Stress Education for the Treatment of Generalized Anxiety Disorder: A Randomized Clinical Trial - PubMed). This aligns with the

idea that while yoga powerfully engages physiological calming mechanisms (vagal/GABAergic pathways), severe anxiety may also require the cognitive restructuring that CBT provides. Nonetheless, for patients who cannot access or do not prefer CBT, yoga was a beneficial and safe alternative in this trial. Importantly, the Kundalini yoga included breathwork and meditation components which likely drove the anxiolytic effect via increased GABA and parasympathetic tone (as discussed earlier). The clinical outcome – reduced worry and anxiety – is consistent with the neurobiological actions (yoga group participants presumably had the typical post-session GABA elevations and cortisol reductions observed in other studies). The trial's authors concluded that Kundalini yoga is efficacious for GAD and can be considered as an add-on or second-line treatment, especially for those averse to medication or CBT (study-kundalini-yoga-found-positive-for-anxiety-disorder).

- **Yoga vs. Other Relaxation Techniques:** Meta-analytic evidence also supports yoga's anxiolytic impact. A review of 8 RCTs of yoga for individuals with elevated anxiety found that yoga interventions led to significantly greater anxiety reduction compared to no-treatment controls (with a small-to-medium effect size) (The Future of Yoga for Mental Health Care - PMC). Interestingly, when compared to active controls like relaxation exercises or stress management education, yoga showed *large effects* in reducing anxiety symptoms (The Future of Yoga for Mental Health Care - PMC). This suggests that yoga's combination of physical, respiratory, and mindfulness elements may be more potent than simpler relaxation techniques alone. Physiologically, this makes sense – yoga not only teaches muscle relaxation and breathing (as progressive relaxation or meditation do) but also adds the endorphin-releasing and autonomic conditioning effects of postures. The heterogeneity of yoga styles in these studies is noted, but across the board, no study reported that yoga worsened anxiety, and several documented improvements in heart rate variability and other anxiety-related biomarkers alongside self-reported anxiety relief (The Future of Yoga for Mental Health Care - PMC).
- **Case: Yoga for Panic and PTSD:** Although not as extensively studied as GAD, other anxiety-related conditions have shown responsiveness to yoga. For example, small trials in panic disorder have found that consistent yoga practice can decrease frequency of panic attacks and anticipatory anxiety, potentially by blunting the body's panic response via breathing control. In post-traumatic stress disorder (PTSD), yoga (especially trauma-sensitive yoga forms) has been associated with reduced hyperarousal and fewer intrusive thoughts. Neurochemically, these benefits are thought to arise from increased GABA (reducing hypervigilance), and modulation of norepinephrine turnover. One pilot MRS study in patients with PTSD found that a yoga program increased thalamic GABA and was correlated with improved mood and decreased anxiety, analogous to the MDD GABA findings (though in PTSD the sample was very small). While more research is needed, these cases highlight that **yoga's anxiolytic mechanisms – raising inhibitory neurochemicals and promoting parasympathetic dominance – are broadly applicable across anxiety disorders**.

- **Subjective and Cognitive Benefits:** Beyond formal scales, many patients report qualitative benefits from yoga that align with neurotransmitter changes. For instance, anxious individuals often describe feeling "grounded" and mentally calmer after yoga sessions. This subjective calm corresponds to the likely release of GABA and endorphins producing a mild tranquilizing effect, as well as reductions in stress hormones like adrenaline. Cognitive function can also improve – anxious people sometimes have better concentration post-yoga, which could relate to increased dopamine in frontal brain regions enhancing executive function. Neuroimaging shows yoga practitioners have stronger activation in prefrontal regions during emotional tasks (Frontiers | What Has Neuroimaging Taught Us on the Neurobiology of Yoga? A Review), suggesting improved top-down control (possibly due to long-term neurotransmitter receptor adaptations from repeated calm states). All these pieces reinforce that yoga creates a neurochemical milieu that is antagonistic to anxiety: high GABA, adequate serotonin and dopamine, lower cortisol/norepinephrine.

Overall, the evidence base for yoga in anxiety disorders is quite promising. Yoga reliably induces a state of relaxation and diminishes physiological arousal, which translates into reduced anxiety symptoms. While gold-standard therapies like CBT or SSRIs may achieve greater effect sizes on average, yoga provides a **viable, low side-effect means to tap into the body's own anxiety-regulating chemistry**. For many individuals, integrating yoga into their treatment regimen yields noticeable improvements in anxiety and stress resilience. It is also worth noting that yoga can address comorbid symptoms often present with anxiety, such as insomnia (through melatonin increases and relaxation) and muscle tension (through physical stretching and endorphin release). These additional benefits enhance overall quality of life and further justify yoga's role as a holistic treatment approach.

Linking Neurotransmitter Changes to Clinical Outcomes: A Holistic View

Case studies that measure both biochemical markers and clinical symptoms offer a compelling window into how neurotransmitter activation translates to feeling better. We have touched on some already (e.g., GABA up -> anxiety down in the same individuals). One more holistic case worth noting is:

- **Case: Major Depression, Yoga, and Multi-System Changes:** An individual with treatment-resistant depression added a daily morning yoga routine (45 minutes of Hatha yoga and breathing) to her regimen. After 8 weeks, she reported marked improvements in mood and energy. Laboratory tests intriguingly showed a **decrease in inflammatory markers** (like IL-6) and an increase in brain-derived neurotrophic factor (BDNF). While neurotransmitters were not directly measured, BDNF is related to serotonin system health and neuroplasticity, and inflammation can impact neurotransmitter metabolism (high IL-6 can reduce tryptophan availability). This case illustrates that yoga's benefits can manifest through a network of biological changes – reducing inflammation (which can improve neurotransmitter function), increasing growth factors like BDNF (supporting synaptic plasticity in serotonin/dopamine circuits), and likely boosting

GABA/serotonin through the mechanisms discussed prior (Role of yoga in stress management and implications in major depression disorder - PMC) (Role of yoga in stress management and implications in major depression disorder - PMC). The patient's outcome – remission of depressive symptoms – underscores how these biological changes coalesced to produce a therapeutic effect. It wasn't one single neurotransmitter but an orchestrated shift towards homeostasis.

- **Mind-Body Synergy:** Many patients note that yoga helps "clear the mind" and reduce racing thoughts. This subjective effect correlates with reduced Default Mode Network (DMN) activity observed in long-term meditators (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA ...). The DMN (a brain network active during mind-wandering and self-referential thought) is often overactive in depression (leading to rumination) and anxiety. Yoga and meditation can quiet the DMN, likely through neurotransmitters like GABA and serotonin facilitating present-moment focus. One could argue that **yoga's true benefit is in restoring balance**: it calms what is overactive (stress response, DMN, amygdala) and energizes what is underactive (prefrontal control, reward circuits). Neurotransmitters are the currency of these changes – GABA calms, dopamine/endorphins energize and reward, serotonin stabilizes mood, etc. The net result is improved emotional regulation and resilience.

In summary, the empirical evidence – from controlled trials to case observations – strongly supports yoga's efficacy in depression and anxiety and links these improvements to underlying neurobiological shifts. Yoga has been shown to *increase GABA levels, increase serotonin activity, enhance dopamine release, and stimulate endorphins*, all changes associated with better mood and reduced anxiety (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC) (Role of yoga in stress management and implications in major depression disorder - PMC) (Role of yoga in stress management and implications in major depression disorder - PMC) (Yoga for better mental health - Harvard Health). These findings validate the concept that yoga is not just "exercise" or "relaxation," but a comprehensive mind-body intervention capable of inducing measurable changes in brain chemistry. With this scientific backing, yoga is increasingly being incorporated into mental health care, as discussed next.

Challenges and Future Directions

While the therapeutic promise of yoga for depression and anxiety is clear, there are several challenges and open questions that need to be addressed to fully harness its benefits in clinical settings. We discuss some of these issues, along with directions for future research and practice:

1. Research Limitations and Methodological Issues: Many yoga studies to date have limitations that must be acknowledged. Sample sizes in clinical trials are often small, and there is significant heterogeneity in study design. A number of trials have used different styles of yoga, varying frequencies/durations, and diverse patient populations, making comparisons difficult. Additionally, blinding in yoga intervention studies is inherently problematic – participants know they are doing

yoga, which may introduce expectation bias (placebo effects). As a result, many studies carry a high risk of bias (The Future of Yoga for Mental Health Care - PMC). Follow-up periods are typically short (a few weeks to months), so long-term sustainability of yoga's benefits is less documented (The Future of Yoga for Mental Health Care - PMC). Future research needs larger, well-controlled trials with standardized protocols. Researchers are beginning to identify *core components* of yoga interventions so that dosing (e.g., "75 minutes of Hatha yoga, 3x/week") can be more consistent across studies. Moreover, including objective biomarkers (neuroimaging, hormonal assays) as outcomes can bolster the scientific rigor beyond self-report measures. Advancements in technology, such as wearable stress monitors, could also provide real-time data on how yoga sessions impact physiology in everyday life.

2. Heterogeneity of Yoga Practices: "Yoga" is not a monolithic intervention – it comes in many forms (Hatha, Kundalini, Vinyasa, Iyengar, Restorative, etc.), each with different emphasis. This diversity is a double-edged sword. On one hand, it allows yoga to be tailored to individual needs (some may prefer gentler forms for anxiety, others dynamic forms for depression). On the other hand, it complicates research and prescription, since two yoga interventions might differ substantially. There is **significant heterogeneity in yoga interventions**, and currently no clear consensus on the optimal style or components for specific disorders (The Future of Yoga for Mental Health Care - PMC). For example, is meditation-heavy yoga more effective for generalized anxiety, or is a physically active yoga better due to greater endorphin release? Does adding chanting or yoga nidra (yogic sleep meditation) enhance outcomes via additional pathways (like melatonin release)? These questions remain. Future studies could compare different yoga programs head-to-head to determine which neurobiological effects are common versus which are unique to certain styles. It may emerge that certain neurotransmitter effects are stronger in particular styles – e.g., Kundalini might maximize serotonin via intense breathwork, while Restorative yoga might maximize GABA via deep relaxation. Identifying the "active ingredients" in each style will help optimize yoga prescriptions for mental health.

3. Optimal Dose and Duration: The field lacks consensus on the **optimal dose** of yoga needed for therapeutic effect (The Future of Yoga for Mental Health Care - PMC). In pharmacotherapy, one can adjust dosage; similarly, with yoga we need to understand how often and how long sessions should be for maximal benefit. Some studies used daily practice, others weekly classes. Generally, more frequent practice yields faster and larger neurochemical changes (as seen with more regular sessions maintaining GABA levels). But even once-weekly yoga can have measurable effects over time. Future research should investigate dose-response relationships: Is there a minimum effective "dose" of yoga for neurotransmitter activation (e.g., 2 hours per week)? Does benefit plateau beyond a certain frequency? These answers will guide clinical recommendations. Additionally, how long do the neurochemical benefits persist after stopping yoga? Some evidence suggests acute GABA elevations last a few days (Thalamic Gamma Aminobutyric

Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC), but the longevity of mood improvements is less clear. Long-term follow-ups could determine if continued practice is necessary to sustain neurotransmitter and symptom changes (likely yes, as with exercise, ongoing practice is needed to maintain gains).

4. Integration with Conventional Treatments: Yoga is most often studied as an adjunct to standard care (medications or therapy), not as a standalone. One challenge is ensuring that yoga integrates smoothly into treatment plans. Will adding yoga allow for lower medication doses (due to synergistic effects on neurotransmitters)? Can yoga augment psychotherapy by improving patients' mood regulation, thereby making them more receptive to cognitive interventions? Early studies, like the GAD trial, suggest yoga can be combined with therapy – some participants did both yoga and had some therapy or medications on board, reflecting real-world conditions. A future direction is to explicitly test yoga *in combination* with antidepressants or anxiolytics, measuring whether combined treatment yields superior neurotransmitter changes (for instance, does SSRIs + yoga raise serotonin more and faster than SSRIs alone?). Another aspect is timing: should yoga sessions be on the same day as therapy sessions to prime the brain (through endorphins/GABA) for psychotherapy? These practical integration questions will need exploration in clinical settings.

5. Training and Standardization for Instructors: On the implementation side, a challenge is ensuring that yoga offered for mental health is delivered safely and effectively. Yoga instructors in general community classes may not have training in working with individuals with psychiatric conditions. There is a need for **specialized training programs for yoga therapists** who focus on mental health (The Future of Yoga for Mental Health Care - PMC). They should understand contraindications (e.g., trauma survivors might need modifications to avoid triggering experiences) and be able to tailor practices to symptomatology (for instance, more grounding techniques for panic disorder, more energizing practices for dysthymia). Encouragingly, new certification programs and continuing education courses are emerging for "yoga therapy" targeted at various health conditions. Hospitals and clinics are beginning to hire certified yoga therapists as part of integrative care teams. Future directions include developing standardized yoga protocols for specific diagnoses – much like a manualized therapy. Having a protocol (with specified asanas, pranayama techniques, meditation) allows reproducibility and consistency (The Future of Yoga for Mental Health Care - PMC). One example is the development of "Trauma-Sensitive Yoga" protocols for PTSD patients. Similar efforts could yield a "Depression Yoga Program" that any trained instructor could deliver with confidence in its safety and efficacy.

6. Accessibility and Adherence: For yoga to be a viable widespread intervention, issues of accessibility and patient adherence must be considered. Barriers such as cost of classes, availability of instructors, or patient perceptions ("I'm not flexible enough for yoga") can limit uptake (The Future of Yoga for Mental Health Care - PMC) (The Future of Yoga for Mental Health Care - PMC).

Future efforts should focus on making yoga accessible to diverse populations. This might involve shorter, at-home video routines for those who cannot attend classes, or group sessions integrated into community mental health centers at low or no cost. Culturally sensitive adaptations of yoga may be needed to make it comfortable for various demographics (for example, chair yoga for the elderly or those with limited mobility, or language adaptations for non-English speakers). Research should also examine how to improve long-term adherence – perhaps through social support (yoga groups), habit formation techniques, or by clearly educating patients on the concrete benefits (e.g., showing them their progress or even their biomarker improvements to motivate continued practice). Digital health technology could assist here: apps and trackers could prompt regular practice and record mood changes, giving real-time feedback to users and providers.

7. Deeper Mechanistic Exploration: On the scientific front, there remain fascinating questions about the mechanisms of yoga that warrant further exploration. For instance, how does yoga affect neurogenesis or synaptic plasticity? Preliminary evidence shows yoga can increase BDNF levels (Role of yoga in stress management and implications in major depression disorder - PMC), which might indicate enhanced neuroplasticity underlying the long-term mood improvements. Understanding yoga's impact on gene expression (epigenetics) is another frontier – one study found yoga can modulate the expression of genes involved in stress response and inflammation (Role of yoga in stress management and implications in major depression disorder - PMC). Could regular yoga practice induce epigenetic changes that make the brain more resilient to stress (perhaps by upregulating genes for GABA receptors or serotonin transporters)? Additionally, investigations into how yoga influences the **connectivity of brain networks** can tie the neurotransmitter story to functional outcomes. Imaging studies have shown changes in default mode and executive network connectivity in yoga practitioners (Frontiers | What Has Neuroimaging Taught Us on the Neurobiology of Yoga? A Review). Future research combining MRS (for neurotransmitters) and fMRI (for connectivity) could map how increases in, say, GABA correlate with connectivity changes in emotion-regulating networks. These integrative neuroscience approaches will deepen our understanding of the mind-body interface exploited by yoga.

8. Personalization of Yoga Therapy: Finally, a future goal is to personalize yoga prescriptions. Not everyone responds to yoga in the same way – some might experience profound anxiety relief, others moderate improvement. It would be useful to identify predictors of response: Are there genetic factors (perhaps polymorphisms in serotonin transporter or BDNF genes) that make someone more likely to benefit from yoga? Does baseline fitness or baseline neurotransmitter level matter? For example, one might hypothesize that individuals with very low GABA (e.g., high baseline anxiety) experience the biggest gains from yoga's GABA boost. Studies that stratify participants by such characteristics could inform personalized recommendations (e.g., those with prominent anhedonia might be guided to more vigorous yoga for a dopamine kick, whereas those with frazzled nerves to gentle

yoga for GABA). Biomarker-guided yoga therapy could become a niche in the future – measuring a panel of stress and neurotransmitter markers and tailoring the yoga style accordingly.

In conclusion, while current evidence **tentatively supports yoga as an effective means to modulate neurotransmitters and improve mood (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC)**, addressing these challenges will solidify yoga's place in mainstream mental health care. There is a need for continued rigorous research, standardization of interventions, and building infrastructure (trained personnel, access) to deliver yoga to those who can benefit. The future is bright, however: the integration of ancient practices with modern neuroscience is creating a new paradigm of holistic mental health treatment.

Conclusion

Yoga offers a compelling example of an integrative mind-body therapy that achieves its effects through tangible neurobiological mechanisms. As reviewed in this article, yoga practices can **activate and balance key neurotransmitters – serotonin, dopamine, GABA, and endorphins – that play pivotal roles in depression and anxiety**. By leveraging breathing techniques to stimulate GABA and vagal tone, physical postures to release endorphins and dopamine, and fostering healthy hydration/nutrition to support serotonin synthesis, yoga holistically adjusts the body's biochemical milieu toward one associated with improved mood and reduced anxiety. This stands in contrast to the often isolated action of pharmacological treatments; yoga simultaneously influences multiple pathways (neural, endocrine, autonomic) that converge on mental well-being.

For neuroscientists and clinicians, the implication is that yoga is not merely "exercise" or "relaxation," but a complex intervention with measurable effects on brain chemistry and physiology. Studies have shown increases in inhibitory neurotransmitter activity, enhancements in monoamine levels, and reductions in stress hormones in individuals practicing yoga (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC) (Role of yoga in stress management and implications in major depression disorder - PMC) (Mental depression and kundalini yoga). These changes mirror, and in some cases may augment, the effects of conventional treatments. Patients with depression who practice yoga have achieved significant reductions in their symptoms, sometimes comparable to those attained with medications or psychotherapy, largely attributable to these neurochemical shifts (Effectiveness of yoga for major depressive disorder: A systematic review and meta-analysis - PMC) (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC). Patients with anxiety likewise experience relief as yoga calms their overactive neurophysiology and induces a state of relaxed alertness.

The benefits of yoga extend beyond symptom reduction; they empower patients with a self-regulation tool. Learning yoga equips individuals to modulate their own physiology – through breath control or movement – whenever stress or dysphoric feelings arise. This self-efficacy can reinforce positive neuroplastic changes. It is a virtuous cycle: the more one practices yoga, the more efficiently their body can release calming neurotransmitters in response to stress, and the more resilient they become. Over time, this may translate to long-lasting changes in baseline neurotransmitter levels or receptor sensitivities that maintain mental health. While more longitudinal research is needed, anecdotal evidence of long-term practitioners indicates generally lower anxiety and higher baseline mood, which is consistent with sustained neurochemical optimization.

In practice, integrating yoga into mental health care offers a safe and accessible adjunct that can enhance treatment outcomes. For example, a depressed patient on an SSRI might add yoga classes to tap into additional serotonin and endorphin boosts from exercise and breathwork, potentially accelerating recovery. An anxious patient in therapy might use daily yogic breathing exercises to control acute panic symptoms by eliciting GABAergic calming, thereby complementing the cognitive tools learned in therapy. In some cases, patients may be able to reduce medication dosage under medical supervision as yoga begins to naturally provide what the drugs aim to (such as anxiolysis via GABA). Importantly, yoga has minimal side effects – when taught properly, the main "side effects" are improved flexibility, fitness, and often a supportive community experience.

As we look to the future, continued research and refinement of yoga as a therapeutic modality will further clarify its role. It will be important to identify for whom and for which conditions yoga is most effective, and how to implement it in diverse healthcare settings. The scientific evidence to date, however, provides a strong rationale for embracing yoga in the toolkit of interventions for depression and anxiety. The ancient yogis intuitively recognized the mind-body connection; modern neuroscience is now corroborating that insight with empirical data. By combining the wisdom of traditional practice with the rigor of scientific validation, we move closer to a truly integrative approach to mental health – one that treats the whole person and activates the mind's inherent capacity to heal through the body.

In conclusion, **yoga represents an innovative bridge between behavioral health and neurochemistry**: a practice that not only heals the mind through subjective experience but also alters the brain's biology in beneficial ways. For individuals suffering from depression or anxiety disorders, yoga offers hope as a natural, empowering means to rebalance their neurotransmitters and reclaim a state of mental harmony. The recommendation is clear – alongside standard treatments, incorporating yoga could significantly improve outcomes, and its promotion should be considered in mental health programs. Through ongoing research and clinical openness, yoga can be integrated as a mainstream, evidence-based component of mental health care, fulfilling its promise as both an ancient art and a modern science of healing.

References

1) Chawla, V. (2023). The Future of Yoga for Mental Health Care. International Journal of Yoga, 16(1), 38–41. (The Future of Yoga for Mental Health Care - PMC) (The Future of Yoga for Mental Health Care - PMC)

2) Devi, S.K., Chansauria, J.P.N., & Udupa, K.N. (1986). Mental depression and Kundalini Yoga. Ancient Science of Life, 6(1), 112–118 (approx.). (Mental depression and kundalini yoga) (Mental depression and kundalini yoga)

3) Haghighatdoost, F., et al. (2018). Drinking plain water is associated with decreased risk of depression and anxiety in adults: Results from a large cross-sectional study. World Journal of Psychiatry, 8(3), 88–96. (Drinking plain water is associated with decreased risk of depression and anxiety in adults: Results from a large cross-sectional study - PMC) (Drinking plain water is associated with decreased risk of depression and anxiety in adults: Results from a large cross-sectional study - PMC)

4) Padmavathi, R., Kumar, A.P., Dhamodhini, K.S., et al. (2023). Role of yoga in stress management and implications in major depression disorder. Journal of Ayurveda and Integrative Medicine, 14(5), 100767. (Role of yoga in stress management and implications in major depression disorder - PMC) (Role of yoga in stress management and implications in major depression disorder - PMC)

5) Simon, N.M., Hofmann, S.G., Rosenfeld, D., et al. (2020). Efficacy of yoga vs cognitive behavioral therapy vs stress education for the treatment of generalized anxiety disorder: a randomized clinical trial. JAMA Psychiatry, 77(10), 1025–1033. (The Future of Yoga for Mental Health Care - PMC) (Efficacy of Yoga vs Cognitive Behavioral Therapy vs Stress Education for the Treatment of Generalized Anxiety Disorder: A Randomized Clinical Trial - PubMed)

6) Streeter, C.C., Jensen, J.E., Perlmutter, R.M., et al. (2010). Effects of yoga versus walking on mood, anxiety, and brain GABA levels: a randomized controlled MRS study. Journal of Alternative and Complementary Medicine, 16(11), 1145–1152. (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC) (Effects of Yoga Versus Walking on Mood, Anxiety, and Brain GABA Levels: A Randomized Controlled MRS Study - PMC)

7) Streeter, C.C., Gerbarg, P.L., Whitfield, T.H., et al. (2020). Thalamic gamma-aminobutyric acid (GABA) level changes in major depressive disorder after a 12-week Iyengar yoga and coherent breathing intervention. Journal of Alternative and Complementary Medicine, 26(3), 190–197. (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC) (Thalamic Gamma Aminobutyric Acid Level Changes in Major Depressive Disorder After a 12-Week Iyengar Yoga and Coherent Breathing Intervention - PMC)

8) Wu, Y., Yan, D., & Yang, J. (2023). Effectiveness of yoga for major depressive disorder: a systematic review and meta-analysis. Frontiers in Psychiatry, 14, 1138205 (Article). (Effectiveness of yoga for major depressive disorder: A

systematic review and meta-analysis - PMC) (Effectiveness of yoga for major depressive disorder: A systematic review and meta-analysis - PMC)
9) Harvard Health Publishing. (2024). Yoga for better mental health. Harvard Health Blog, April 29, 2024. (Yoga for better mental health - Harvard Health)

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ОКИСЛИТЕЛЬНЫЙ ОБЖИГ ЗОЛОТОСОДЕРЖАЩИХ КОНЦЕНТРАТОВ: МЕХАНИЗМЫ, ПРОДУКТЫ И ВЛИЯНИЕ НА ЦИАНИРОВАНИЕ

Аннотация: *В работе рассматриваются термические и химические превращения сульфидных минералов в процессе окислительного обжига золотосодержащих концентратов. Особое внимание уделено влиянию температуры на пористость обожжённого материала и последующее извлечение золота. Оптимальный температурный диапазон (600–900°C) определён с учётом предотвращения пассивации и нежелательных фазовых превращений.*

Ключевые слова: *золото, упорные руды, цианирование, окислительный обжиг, окисление сульфидов,*

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OXIDATIVE ROASTING OF GOLD-BEARING CONCENTRATES: MECHANISMS, PRODUCTS, AND IMPACT ON CYANIDATION

Abstract: *The paper examines the thermal and chemical transformations of sulfide minerals during the oxidative roasting of gold-bearing concentrates. Special attention is paid to the effect of temperature on the porosity of the roasted material and the subsequent gold recovery. The optimal temperature range (600–900°C) is determined considering the prevention of passivation and undesirable phase transformations.*

Keywords: *gold, refractory ores, cyanidation, oxidative roasting, sulfide oxidation.*

Введение. Под процессом обжига понимается нагрев руды или концентрата до такой температуры, при которой не наблюдается плавление исходного материала, но происходит достаточно интенсивное химическое изменение состава рудной массы в направлении, требуемом технологическим процессом.

Если обжиг проводится в присутствии кислорода или атмосферного воздуха, он называется окислительным обжигом.

В процессе окислительного обжига основные сульфиды, содержащие золото (пирит, арсенопирит), подвергаются интенсивному термохимическому разложению с выделением газообразных компонентов (S_2, AsO_2, SO_2, As_2O_3). В результате интенсивной диффузии этих компонентов через минеральные частицы образуется множество микротрещин, пор и каналов, которые сохраняются даже после охлаждения обожжённого материала [1].

Тем не менее, при окислительном обжиге золотосодержащих концентратов необходимо учитывать возможные химические превращения. Очевидно, что общий химический состав обожжённого материала может существенно повлиять на последующие результаты цианирования.

Активные сульфиды, сурьма, мышьяк, а также пирротин, некоторые окисленные минералы меди и другие компоненты, затрудняющие процесс цианирования, в значительной степени пассивируются в процессе обжига, переходя в менее активные соединения. Однако существуют случаи, когда обжиг, наоборот, приводит к повышению химической активности примесей, усложняя процесс цианирования [2].

Анализ литературы и методы. Основными минералами, связывающими золото в сульфидных рудах и концентратах, являются пирит, арсенопирит, а в редких случаях - халькопирит, галенит и пирротин. Поэтому при обжиге основное внимание уделяется созданию оптимальных условий для максимального раскрытия поверхности пирита и арсенопирита.

Пирит FeS_2. В процессе обжига пирит подвергается сложным химическим превращениям, ход которых зависит от температуры и газового состава обжиговой среды. В инертной газовой атмосфере при нагревании пирит подвергается термической диссоциации:

$$FeS_2 \rightarrow FeS + S_2 \quad (1)$$

Исследования показали, что в действительности процесс диссоциации пирита протекает с образованием соединения FeS_x, содержащего большее количество серы по сравнению с троилитом (FeS):

$$FeS_2 \rightarrow FeS_x \quad (2)$$

Если принять начало процесса диссоциации пирита за состояние, при котором равновесное давление сернистого пара составляет 0,01 атм, то минимальная температура диссоциации FeS_2 составляет около 600°C. При 700°C процесс диссоциации пирита протекает крайне интенсивно и в стандартных условиях обработки практически перестает зависеть от концентрации серы в газовой фазе [3].

Пары серы прокладывают себе путь через многочисленные трещины и каналы на поверхности обжигаемых частиц. В продукте, обожжённом при температуре 700°C, остатки пирита полностью исчезают. Полученный материал состоит исключительно из пористого пирротина. Начиная с 1000°C, процесс диссоциации FeS_2 сопровождается плавлением поверхностных слоев образующихся частиц. При 1100°C происходит полное расплавление

обожжённого материала. Состав пирротина, образующегося при обжиге, непостоянен и зависит от температуры процесса.

При избытке кислорода в газовой среде процесс обжига пирита протекает с окислением по следующей реакции:

$$2FeS_2 + 5\ O_2 \rightarrow Fe_2O_3 + 4SO_2 \quad (3)$$

В настоящее время признано, что окисление пирита при обжиге протекает в две последовательные стадии.

На первой стадии образуется моносульфид железа (точнее, пирротин FeS_x), а на второй стадии пирротин окисляется до гематита Fe_2O_3.

Таким образом, общепринятую схему окисления пирита можно представить следующим образом:

$$FeS_2 = FeS \rightarrow Fe_2O_3 \text{ или } 2FeS_2 \rightarrow 2FeS + S_2 \quad (4)$$

$$2FeS + 3{,}5O_2 \rightarrow Fe_2O_3 + 2SO_2 \quad (5)$$

$$S_2 + 2O_2 \rightarrow 2SO_2 \quad (6)$$

$$2FeS_2 + 5{,}5O_2 \rightarrow Fe_2O_3 + 4SO_2 \quad (7)$$

Образование FeS в условиях окислительного обжига пирита связано не с его диссоциацией, а является результатом частичного окисления FeS_2 по следующей реакции:

$$FeS_2 + O_2 \rightarrow FeS + SO_2 \quad (8)$$

При размере частиц пирита 0,15 мм интенсивное окисление в атмосферном воздухе начинается в интервале температур 450–500°C. В процессе обжига на поверхности частиц образуется пористый слой минералов, состоящий преимущественно из оксидов железа, главным образом гематита (Fe_2O_3) [4].

Анализ данных по обжигу пирита показывает следующее:

1. При нагревании разложение пирита может происходить либо по схеме термической диссоциации, либо по схеме окислительного обжига, в зависимости от свойств окружающей среды. Конечными твердыми продуктами диссоциации FeS_2 являются пирротины переменного состава FeS_x. Конечным продуктом окисления пирита является гематит Fe_2O_3.

2. В зависимости от размера частиц интенсивный процесс окисления FeS_2 начинается при температуре 450–500°C, что примерно на 100°C ниже температуры диссоциации пирита. Процесс сопровождается образованием пирротина и магнетита (промежуточных продуктов обжига), то есть протекает по следующей схеме:

$$FeS_2 \rightarrow FeS_x \rightarrow Fe_3O_4 \rightarrow Fe_2O_3 \quad (9)$$

3. При температурах 600°C и выше перед окислением пирита происходит его диссоциация. Образуется пористый пирротин, дальнейшее окисление которого в воздушной среде протекает очень быстро и полностью до Fe_2O_3. В результате создаются условия, позволяющие за оптимальное время получить продукт, полностью состоящий из гематита, без промежуточных продуктов окисления, при этом сохраняя исходную зернистую структуру. Переход FeS_2 в Fe_2O_3 при окислении FeS_2 осуществляется медленнее, даже при значительном увеличении количества

окислителя. В связи с этим возможно получение сложного остаточного состава, содержащего необожжённый пирит, гематит, магнетит и другие компоненты.

4. При температурах выше 900°С возможно расплавление пиритовых огарков из-за образования относительно легкоплавких эвтектических смесей, состоящих из пирротина и магнетита. Это может привести к полному механическому раскрытию золота, связанного с FeS_2.

Таким образом, получение огарка с достаточной пористостью можно обеспечить в достаточно широком диапазоне температур: от 600°С (температура начала диссоциации FeS_2) до 900-950°С (температура плавления эвтектики FeS = FeO (Fe_3O_4)) [5].

Арсенопирит FeAsS - это сульфидный минерал, связывающий золото в сульфидных рудах и концентратах. Его поведение при обжиге во многом схоже с пиритом, однако процесс термического разложения арсенопирита имеет свои особенности (рис. 1).

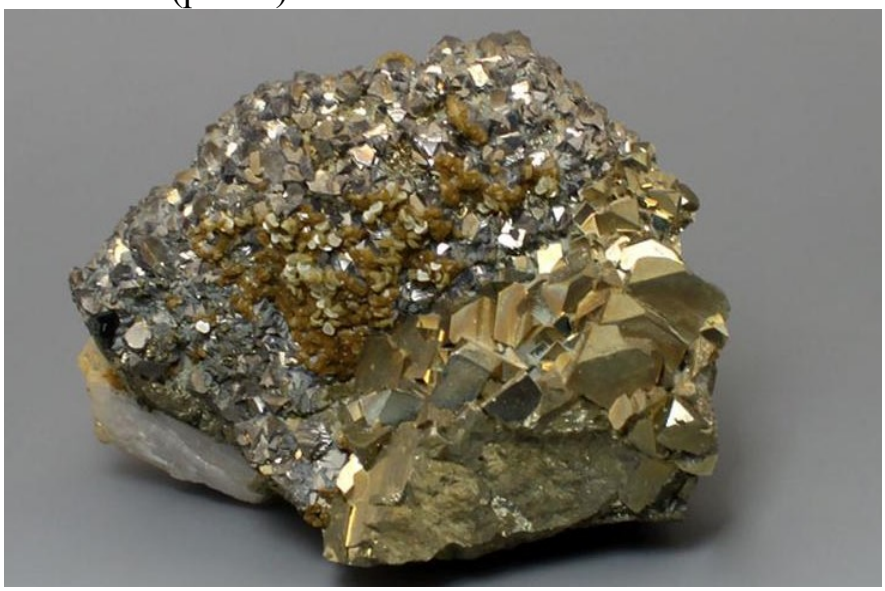

Рис. 1. Внешний вид минералов, содержащих арсенопирит и пирит

На основе сходства термических процессов диссоциации пирита и арсенопирита можно сделать вывод, что при разложении FeAsS может образовываться достаточное количество огарка.

Сходство в поведении арсенопирита и пирита сохраняется и при их окислительном обжиге в соответствующей газовой среде [6].

Реакция окисления арсенопирита:

$$2FeAsS+5O_2 \rightarrow Fe_2O_3+As_2O_3+2SO_2 \quad (10)$$

Кроме того, процесс диссоциации этого минерала начинается примерно на 100°С ниже его температуры разложения.

Конечным твёрдым продуктом диссоциации арсенопирита (FeAsS) является гематит Fe_2O_3. Его образование происходит по схеме FeAsS → FeS → Fe_3O_4 → Fe_2O_3, что принципиально не отличается от ранее представленной схемы разложения пирита. Однако для арсенопирита более

характерно чёткое проявление промежуточных продуктов термического разложения в процессе перехода в гематит по сравнению с окислением FeS_2.

Продукты окисления арсенопирита, полученные при температурах 480-700°C, обладают выраженными ферромагнитными свойствами, что свидетельствует о наличии в них оксида железа Fe_3O_4 (магнетита), а также некоторого количества маггемита (γ-модификации). При повышении температуры до 800°C и выше магнетит утрачивает свои магнитные свойства.

Одной из важнейших особенностей процесса окисления арсенопирита является возможность образования промежуточных продуктов в виде двух- и трёхвалентных соединений железа в процессе его разложения.

Мышьяк, являющийся частью арсенопирита, в процессе окислительного обжига образует летучий диоксид мышьяка As_2O_3, парциальное давление которого превышает 1 атм уже при температуре 450-500°C. Однако при повышенном содержании кислорода в газовой фазе возможно образование окисленных соединений, в которых мышьяк находится в пятивалентном состоянии.

Галенит PbS. Согласно данным исследований при обжиге галенита в условиях относительно низких температур его окисление сопровождается образованием плотных сульфатных оболочек на поверхности частиц свинца. Это значительно затрудняет проникновение кислорода во внутреннюю часть минеральных зёрен.

Дальнейший процесс окисления PbS резко замедляется. В результате при низкотемпературном обжиге (400–600°C) степень общего окисления PbS (а следовательно, и возможная степень извлечения золота, связанного с галенитом) обычно оказывается незначительной.

Халькопирит $CuFeS_2$. Халькопирит является сложным сульфидом и при определённых условиях может подвергаться термической диссоциации с выделением части серы в газовую фазу, переходя в соединение, соответствующее формуле $Cu_2S \cdot 2FeS$.

При этом степень диссоциации FeS_2 в халькопирите при температурах, соответствующих нормальному окислительному обжигу золотосодержащих концентратов (400–600°C), остаётся весьма незначительной.

Согласно данным исследований при 400°C значение FeS_2 для халькопирита составляет -8,6; при 700°C lg = -4,8. В результате процесс термической диссоциации халькопирита во время обжига играет важную роль. Только при температурах 800–1000°C и выше его влияние становится значительным.

Процесс термической диссоциации халькопирита сопровождается его окислением.

В присутствии кислорода и газовой фазы окисление $CuFeS_2$ при обжиге может протекать по одной из следующих реакций, в зависимости от температуры процесса:

$$CuFeS_2+4O_2 \rightarrow CuSO_4+FeSO_4 \quad (11)$$

$$CuFeS_2+O_2 \rightarrow Cu_2S+2FeS+SO_2 \quad (12)$$

Основная реакция разложения халькопирита во всём диапазоне температур при обжиге сопровождается частичным окислением, при этом в продуктах образуется значительное количество Cu_2S и FeS.

$$4CuFeS_2+15O_2 \rightarrow 4CuSO_4+Fe_2O_3+4SO_2 \quad (13)$$

$$2CuFeS_2+1/2O_2 \rightarrow 2CuO+Fe_2O_3+4SO_2 \quad (14)$$

$$2CuFeS_2+1/2O_2 \rightarrow CuO+ Fe_2O_3+4SO_2 \quad (15)$$

$$CuO+ Fe_2O_3 \rightarrow CuO+ Fe_2O_3 \quad (16)$$

Таким образом, при условиях низкотемпературного обжига (до 600°C) основной формой меди в паровой фазе является $CuSO_4$. При температуре 600-700°C может образоваться значительное количество оксида меди (CuO), который находится в тесном контакте с оксидом железа Fe_2O_3 и впоследствии может образовывать нерастворимые ферриты типа $(CuO)\cdot(Fe_2O_3)$ [6].

Заключение.

В процессе окислительного обжига золотосодержащих концентратов пирит, арсенопирит и другие сульфиды подвергаются сложным термическим и химическим превращениям, приводящим к образованию пористых структур, что способствует последующему извлечению золота. Однако при выборе температурного режима важно учитывать возможность пассивации или, наоборот, повышения химической активности примесей, влияющих на эффективность цианирования. Оптимальный диапазон температур для достижения высокой пористости обожжённого материала составляет 600–900°C, при этом необходимо контролировать условия процесса, чтобы избежать нежелательных фазовых превращений и потерь золота.

Использованные источники:

1. Санакулов К., Фузайлов О.У., Кенбаева Ж.А. Микроволновая обработка сульфидных золотосодержащих концентратов. Горный вестник Узбекистана 2020.
2. Санакулов К., Фузайлов О.У., Кенбаева Ж.А. Исследование золотосодержащей руды месторождения аристантау на упорность и поиск технологий по её переработке. Горный вестник Узбекистана 2020.
3. Санакулов К., Фузайлов О.У. Исследование инкапсуляции золота в маггемите при микроволновом обжиге флотоконцентрата. Горный вестник Узбекистана 2020.
4. Убайдуллаева Д.С., Фузайлов О.У. Исследование гидрометаллургического окисления флотоконцентрата с использованием иона Fe^3. NDKTU Iqtidorli talabalar va magistrantlarning III respublika ilmiy-amaliy anjumani 2024.
5. О.У.Фузайлов, Ф.И.Сайфуллаев, И.И.Мажидова, С.Г.Жабборова. Исследование способов интенсификации процесса обжига сульфидных золотосодержащих концентратов с применением микроволнового излучения. Journal of Advances in AND Engineering Technology Vol.2(6) 2022.
6. Aripov A.R., Fuzaylov O.U., Sayfullaev F.I., Qurbonov M.N. Murakkab oltin tarkibli ruda va konsentratlarning maydalanish va sianlanish qobiliyatini yaxshilash uchun mikroto‘lqinli energiyadan foydalanish. Sanoatda raqamli texnologiyalar ilmiy-texnik jurnali December № 2. Qarshi-2023.

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LAW ENFORCEMENT CHALLENGES AND PERSPECTIVES WITHIN THE SYSTEM OF CONSTITUTIONAL OVERSIGHT

Abstract: *Constitutional supervision, as a core system of modern rule of law countries, aims to ensure the highest effectiveness of constitutional norms and maintain the unity of the legal system. However, with the rapid socio-economic development and the complexity of legal relations, the constitutional supervision system faces many challenges in the process of law enforcement, including the ambiguity and lag of legal norms, the conflict of competence and efficiency in the operation of the system, as well as the impact of changes in the international situation and the lack of public awareness of the Constitution in the social environment. These problems have weakened the actual effectiveness of constitutional supervision and pose a potential threat to the construction of a rule of law state. Through a multi-dimensional analysis, this paper reveals the deep-rooted contradictions of the constitutional oversight system in theory and practice, and proposes a systematic path to improve legal norms, optimize institutional mechanisms and improve the social environment. The study not only provides theoretical support for the reform of the constitutional monitoring system in Russia, but also offers lessons for the optimization of the constitutional monitoring mechanism on a global scale.*

Keywords: *Constitutional Oversight, Rule Of Law State, Legal Norms, Institutional Mechanisms, Social Environment*

Introduction

Constitutional supervision, as an important institutional arrangement of the modern rule of law, has the core function of ensuring the highest effectiveness of constitutional norms and maintaining the unity and stability of the national legal system. In the construction of the rule of law, constitutional supervision is not only an important guarantee for the implementation of the Constitution, but also a key mechanism for balancing power and protecting the fundamental rights of citizens.[1] However, with the rapid development of society and economy and the increasing complexity of legal relations, the constitutional supervision system faces many challenges in the process of law enforcement. These challenges include the ambiguity and lag of the legal norms themselves, as well as the conflict of authority and efficiency problems in the operation of the system, and are also affected by the changes in the international situation and the lack of public awareness of the

Constitution in the social environment. The existence of these problems not only weakens the actual effectiveness of constitutional supervision, but also poses a potential threat to the construction of the rule of law.

The purpose of this paper is to systematically analyze the main challenges faced by the constitutional supervision system in the process of law enforcement and, on this basis, to explore possible paths for its future development. Through a multi-dimensional examination of legal norms, institutional mechanisms and social environment, this paper tries to reveal the deep-rooted contradictions of the constitutional supervision system in theory and practice, and puts forward corresponding suggestions for improvement. The significance of the study is to provide theoretical support for the reform of the legal supervision system, as well as to provide reference for the optimization of the constitutional supervision mechanism on a global scale. The improvement of the constitutional supervision system is not only an inevitable requirement for the construction of the rule of law state, but also an important way to realize social fairness and justice and guarantee the rights of citizens.

Overview of the Constitutional Supervision System

Constitutional supervision is to safeguard the effectiveness of the Constitution as the supreme legal norm in an institutionalized form, and to ensure the unity and authority of the national legal system by systematically reviewing the constitutionality of legislative, administrative and judicial acts. Its core lies in the establishment of a normative review mechanism to clarify the binding force of the Constitution on other legal norms, and to coordinate the constitutional obligations between different branches of power. The establishment of the modern constitutional supervision system mostly originates from the institutional restructuring during the period of constitutional transition, with the independent judiciary as the main body, through the interpretation of the Constitution, adjudication of disputes over competence and review of the constitutionality of laws and other competencies to maintain the constitutional order. The operation of the supervisory mechanism usually relies on open and transparent litigation procedures and collegial decision-making modes, with the aim of strengthening the independence of the institution and enhancing the credibility of the review results.[2] As a cornerstone of the rule of law, constitutional oversight not only provides institutional support for the dynamic harmonization of the legal system, but also creates the necessary preconditions for the implementation of constitutional values in law enforcement practices by balancing the power structure and safeguarding fundamental rights.

Challenges of Law Enforcement in Constitutional Oversight System

As the core structure of the rule of law, the gap between the theoretical presuppositions and the practical effectiveness of the constitutional supervision system presents multidimensional and structural complex contradictions in the law enforcement process. The tension at the level of legal norms stems from the inherent conflict between the principle of supremacy of the Constitution and the applicability of ordinary law: the abstract character of the Constitution as a fundamental law often

leads to normative competition with subordinate laws in concrete implementation, while the limitations of legislative technology and the decentralization of the right to legal interpretation further exacerbate the logical rupture within the legal system.[3] This rupture is not only reflected in the different interpretation of the same constitutional provisions in judicial decisions, but also due to the lagging behind of legal amendments to the needs of social transformation, so that the digital economy, ecological governance and other emerging areas into a normative vacuum, weakening the adaptive function of the Constitution on the regulation of social relations.

Challenges at the institutional level focus on structural deficiencies in power allocation and program design. The ambiguity of the boundaries between the competence of the constitutional review body and other state organs often triggers the double dilemma of overlapping functions and dissolution of authority, especially in the framework of federalism, the game of central and local legislative power may be alienated into the tendency of politicization of the constitutional disputes.[4] The high degree of formalization and complexity of the litigation process not only prolongs the dispute resolution cycle, but also hinders the effective exercise of citizens' constitutional rights of petition due to the uncertainty of the allocation of the burden of proof and the standard of review. The weakness of the enforcement mechanism of constitutional judgments exposes the rupture of the closed loop of the system, and the lack of mandatory safeguards reduces some of the judgments to symbolic declarations, which seriously undermines the effectiveness and credibility of constitutional supervision.

The influence of the social environment on the constitutional order is characterized by the interweaving of explicit and implicit. Citizens' weak constitutional awareness is not only reflected in the fragmented knowledge of fundamental rights, but also in the lack of subjectivity in participating in constitutional supervision, making it difficult for society to form effective checks and balances on unconstitutional acts. The infiltration of non-institutional forces, by means of lobbying and public opinion intervention, attempts to alienate constitutional review into a tool for interest games, eroding the value core of judicial independence. The impact of external norms brought about by the wave of globalization has forced the local constitutional governance system to seek a balance between safeguarding sovereignty and absorbing universal values, while new types of challenges, such as transnational capital flows and disputes over digital sovereignty, have further highlighted the limitations of the interpretive power of the traditional model of constitutional supervision. The converging effect of these challenges not only reveals the nature of the estrangement between the textual constitution and the real constitution, but also points to the demand for power reconstruction in constitutional governance practice. Only through the innovation of constitutional interpretation methods, the technological transformation of the review process, and the cultivation of the citizens' culture of constitutional governance can we realize the paradigm shift of constitutional supervision from

formal authority to substantive efficacy, and lay a critical foundation for the exploration of the subsequent paths of systemic improvement.

Perspectives on the Development of Constitutional Oversight System

The innovation of the constitutional supervision system is essentially a constitutional project for the rule of law to move from formal norms to substantive governance, and its effectiveness depends on the synergistic evolution of legal norms, institutional structure and social foundation. The reconstruction at the level of legal norms requires going beyond the static textualism, and giving the constitutional text a vitality of the times through the dynamic interpretation mechanism: the exercise of the right of constitutional interpretation needs to take into account the dual logic of textual intent and social change, and establish a flexible interpretative framework in the emerging fields of digital economy, bioethics, etc., so that the constitutional norms can not only anchor the core of values, but also adapt to the innovation of governance.[5] The self-purification mechanism of the legal system, on the other hand, relies on the scientific transformation of legislative technology, the introduction of algorithmic models for predictive identification of legal conflicts, and the normalization of post-legislative constitutional review to form a dynamic balance of the normative system. The localized transformation of international experience should be wary of the phenomenon of cultural discounts in the transplantation of norms, focusing on drawing on procedural rules rather than substantive values, and constructing a constitutional supervision paradigm with civilized qualities under the framework of the principle of sovereignty.

The innovation at the institutional level points to the functional reengineering of the constitutional review body. The authority of the Constitutional Court not only needs to be empowered by the constitutional text, but also needs to be strengthened by the irreversible design of the conclusion of unconstitutional review.[6] Constitutional judgment automatically triggers the legislation of the constitutional court.[6] When the constitutional judgment automatically triggers the legislature's obligation to amend the law, constitutional supervision can be truly embedded in the closed loop of the operation of state power. The optimization of litigation procedures should be oriented towards substantive justice, establishing typological review standards and differentiated rules of proof, for example, applying the benchmark of strict scrutiny to fundamental rights cases, while adopting the principle of presumption of reasonableness for economic legislation. The breakthrough improvement of judgment enforcement can explore the linkage mechanism between constitutional responsibility and political accountability, link the declaration of constitutionality to the performance evaluation of state organs, and make constitutional supervision an insurmountable rigid constraint on the operation of power.

The transformation of the social dimension requires the reconstruction of the generation mechanism of constitutional culture. Constitutional education should shift from knowledge transfer to capacity cultivation, and cultivate the ability of social subjects to use constitutional thinking to resolve disputes through practical

platforms such as the citizen's constitutional litigation support system and the mock constitutional court. The construction of a pluralistic monitoring network should break through the traditional state-society dichotomy and build a three-dimensional system of checks and balances that includes professional organizations, media monitoring and algorithmic auditing. Constitutional dialogue in the context of globalization should not only resist normative hegemony, but also proactively participate in the shaping of international rules in emerging areas such as climate governance and digital sovereignty, and realize the dialectical unity of sovereign autonomy and normative commonality through the construction of regional constitutional communities.

This trinity of transformation paths reveals the essential contradictions of modern constitutional oversight: how to maintain the supreme authority of the constitution while maintaining the resilience of governance, how to achieve synergy of power while defending judicial independence, and how to hold fast to cultural subjectivity amidst the wave of globalization. Its success not only implies the perfection of the technical system, but also heralds a paradigm revolution in the constitutional governance model from power constraints to value integration. This revolution will redefine the coordinates of the constitution in national governance - from a passive regulator to an active shaper - and ultimately make constitutional supervision an institutional bridge connecting legal ideals and social realities, providing a constitutional solution to the complex governance challenges of the 21st century.

Conclusion

The normative conflicts, institutional tensions and social identity crises exposed in the law enforcement practice of the constitutional oversight system have profoundly revealed the structural estrangement between the textual constitution and the living constitution. This estrangement stems from the insufficient response of the methodology of constitutional interpretation to the complexity of governance, is also reflected in the imbalance of the interaction between the reviewing body and other branches of power, and is rooted in the absence of the culture of constitutional governance at the level of social consciousness. The maturity of the rule of law country is always based on the effectiveness of the implementation of the Constitution as the fundamental yardstick, only through the substantive transformation of the constitutional supervision mechanism, in order to bridge the normative authority and the value of governance practices, so that the Constitution really become a “living normative system” to regulate the order of national governance.

The core of perfecting the constitutional supervision system lies in building the closed loop of constitutional governance of “interpretation-examination-execution”: activating the governance potential of the text through the dynamic exercise of the right of constitutional interpretation, enhancing the efficiency of dispute resolution with the help of the technical innovation of the review procedure, and realizing the spatial protection of the effectiveness of the Constitution by relying on the rigid safeguard of the enforcement mechanism of the judgment. Rigid

guarantee to realize the spatial penetration of the constitutional effect. This transformation not only requires a sophisticated transformation of institutional design, but also requires the reshaping of the generative logic of constitutional culture in the process of modernizing national governance - transforming citizens from norm abiders to constitutional participants, and transforming constitutional values from theoretical propositions to social consensus.

In the future, the development of constitutional supervision will be deeply involved in emerging fields such as digital sovereignty and ecological governance, and its paradigm will inevitably shift from power constraints to value integration, and expand from the construction of domestic order to the global dialogue on constitutional governance. This evolution is not only a transcendence of the traditional rule of law model, but also a constitutional response to the technological revolution and the clash of civilizations.

Reference

1. **Metzger G. B.** The constitutional duty to supervise // ***Yale Law Journal***. 2014. T. 124. Pp. 1836.
2. **Karanicolas M., Kwoka M. B.** Overseeing Oversight // ***Connecticut Law Review***. 2022. T. 54. Pp. 655.
3. **Ndulo M.** From Constitutional Protections to Oversight Mechanisms // ***Peacebuilding and Rule of Law in Africa: Just Peace***. 2011. Pp. 88–108.
4. **Arowolo G. A.** Oversight functions of the legislature: An instrument for nation building // ***Nnamdi Azikiwe University Journal of International Law and Jurisprudence***. 2010. T. 1. Pp. 27–40.
5. **Constitutional dynamics in federal systems: sub-national perspectives**. Montreal: McGill-Queen's Press-MQUP, 2012.
6. **Wiryanto, Bakri M., Ruba'i M., Djatmika P.** Reconstruction of Ethics Supervision System Towards Constitutional Court Justice // ***Constitutional Review***. 2017. Vol. 3. Pp. 43.

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LIABILITY OF ONLINE PLATFORMS IN CONSUMER DISPUTES: A LEGAL PERSPECTIVE

Abstract : *With the rapid development of Internet technology, online platforms have become the core carrier of modern consumption, but the problem of defining their responsibilities in consumer disputes has become increasingly prominent. Platforms play multiple roles such as information providers and transaction aggregators, and the ambiguity of their legal attributes has led to challenges in the protection of consumers' rights and interests, such as the proliferation of counterfeit goods, false propaganda, and different standards for determining the responsibility of platforms. This paper analyzes the roles of platforms in consumer disputes, the types of liability (breach of contract, tort, and social liability), and the criteria for determining liability (principles of attribution, constitutive elements, and exemptions from liability) from a legal perspective, and puts forward systematic recommendations for improving laws and regulations, strengthening supervision and enforcement, and self-regulation of platforms. The study aims to balance the consumer rights and interests and the healthy development of platforms, and to provide theoretical support and practical reference for the construction of a fair and efficient online consumer environment.*

Keywords: *online platform, consumer disputes, legal liability, e-commerce law, consumer rights protection*

Introduction

With the rapid development of Internet technology, network platforms have become an important carrier in the field of modern consumption, profoundly changing the traditional transaction mode. Network platforms have greatly promoted the prosperity of the consumer market by providing a convenient trading environment, a rich selection of goods and efficient information transfer. However, the rapid development of online platforms has also brought many challenges, especially in consumer disputes, the problem of defining the responsibility of the platform has become increasingly prominent.[1] As online platforms play multiple roles in the transaction process, including information provider, transaction aggregator, and rule maker, the boundaries of their legal responsibilities are often ambiguous, leading to difficulties in the protection of consumer rights and interests. For example, the operators within the platform sell counterfeit and shoddy goods, false propaganda and other problems occur frequently, and whether the platform should bear joint and several liability has become the focus of controversy in legal practice.

In this context, the study of the responsibility of network platforms in consumer disputes has important theoretical value and practical significance. From the theoretical level, clarifying the scope of responsibility of the network platform helps to improve the platform liability system and provide theoretical support for relevant legislation and judicial practice; from the practical level, reasonably defining the platform responsibility helps to balance the relationship between consumer rights and interests protection and the healthy development of the platform, and promotes the sustainable development of the network economy. Therefore, this article will start from the legal perspective to explore the types of responsibility, determination standards and improvement paths of network platforms in consumer disputes, with a view to providing reference for the construction of a fair and efficient network consumption environment.

The Role of Online Platforms in Consumer Disputes

The legal attributes of the network platform and its role in consumer disputes is the premise to clarify the scope of its responsibility. Regarding the legal attributes of online platforms, there are two main views in the academic circles, namely, “traditional intermediary” and “new market subject”. Traditional intermediary that the network platform only provides technical support and transaction matching services, its role is similar to the traditional intermediary institutions, should not bear excessive legal responsibility. On the other hand, the new market entity theory emphasizes that online platforms are deeply involved in the transaction process through algorithmic recommendation and rule making, which is beyond the scope of traditional intermediaries and should be regarded as independent market entities and bear the corresponding legal responsibilities.[2] China's legal definition of the nature of network platform tends to compromise, “Electronic Commerce Law” defines the platform as “for the transaction between the parties or more than one party to provide network business premises, transaction aggregation, information dissemination and other services,” the subject, not only recognizes its intermediary attributes, but also to give it a certain degree of management obligations.[3]

In consumer disputes, network platforms play multiple roles. As an information provider, the platform needs to ensure the authenticity and integrity of commodity information; as a transaction aggregator, the platform should ensure the fairness and safety of the transaction process; as a rule maker, the platform through the user agreement and the platform rules on the restraint of the transaction behavior; and finally, as a dispute resolver, the platform through the complaint handling mechanism and dispute mediation function to participate in the resolution of consumer disputes. These roles reflect both the technical attributes of the platform and its market management function, providing an important basis for clarifying its legal responsibilities.

Types of Liability of Online Platforms in Consumer Disputes

The types of responsibilities of online platforms in consumer disputes mainly cover breach of contract, tort and social responsibility, and the definition of these types of responsibilities is of great significance in clarifying the legal obligations of the platforms and protecting the rights and interests of consumers. Liability for

breach of contract is the legal consequence that the online platform has to bear for violating the contractual agreement between the platform and the consumer or the operator within the platform. The platform service agreement and platform rules are an important basis for restricting the behavior of all parties. If the platform fails to fulfill the obligations agreed in the agreement, such as providing a safe trading environment or handling consumer complaints in a timely manner, it constitutes a breach of contract. The unfairness or unreasonableness in the formulation and implementation of the platform rules may also lead to a breach of contract. If the platform unilaterally modifies the rules to the detriment of consumers' rights and interests, it will be liable for the corresponding breach of contract. Tort liability is the legal responsibility of the online platform for violating the legitimate rights and interests of consumers. Consumers enjoy basic rights and interests such as the right to know, the right to choose and the right to fair trade in online transactions. If the platform fails to fulfill its auditing obligations, resulting in the proliferation of false information or counterfeit goods, or restricts consumers' choices by means of algorithmic recommendations, it may constitute an infringement of consumers' rights and interests. According to the E-Commerce Law and other relevant laws, platforms are jointly and severally liable when they fail to take the necessary measures despite knowing or should have known of the infringing behavior of the operators on the platform. This provision aims to strengthen the platform's obligation to supervise the behavior of operators in order to better protect consumer rights and interests. Social responsibility is a non-compulsory obligation that online platforms, as important participants in the market, should undertake. While pursuing economic interests, platforms need to maintain the order of fair competition and prevent monopolization and unfair competition. Platforms also have the responsibility to protect the security of consumers' personal information and prevent data leakage and abuse. In terms of consumer dispute resolution, platforms should actively fulfill their mediation obligations and promote the rapid and proper resolution of disputes in order to maintain consumer trust and market order.

The types of responsibilities of online platforms in consumer disputes are diverse, including breach of contract responsibilities based on contractual relationships and tort responsibilities based on infringement of rights and interests, while also covering social responsibilities to maintain market order and protect consumer rights and interests. Clarifying these types of liability will help build a reasonable platform liability system and promote the healthy development of the network economy.

Determination of Liability of Online Platform in Consumer Disputes

The responsibility of online platform in consumer disputes needs to be comprehensively analyzed from three aspects: the principle of attribution of responsibility, the elements of responsibility and exemptions. The principle of attribution is the basis for determining the responsibility of the platform. In the traditional civil law theory, the principle of fault liability requires the perpetrator to be responsible for the damage caused by subjective fault, while the principle of strict liability requires the perpetrator to bear the responsibility for damages regardless of

the existence of fault.[4] China's laws have adopted a differentiated approach to the principle of liability attribution for online platforms. The E-Commerce Law stipulates that the platform is jointly and severally liable when it knows or should know that the operator on the platform has infringing behaviors but fails to take the necessary measures, which reflects the principle of fault liability; while in the field of protection of consumers' personal information, the platform may apply the principle of strict liability in the event of damages caused by data leakage.[5] This differentiation reflects the protection of consumer rights and interests, but also takes into account the development needs of the platform. The elements of liability are the core elements for determining the liability of the platform. Specifically, it includes four aspects: illegal behavior, damage facts, causality and subjective fault. Illegal behavior refers to the platform's violation of laws and regulations or contractual agreements, such as failure to fulfill the audit obligation or failure to handle complaints in a timely manner; the fact of damage refers to the actual loss suffered by consumers due to the platform's illegal behavior; causality requires that there is a direct link between the fact of damage and the platform's behavior; and subjective fault refers to whether the platform is intentional or negligent in its behavior. In judicial practice, the determination of causality is often complicated, especially in disputes arising from platform algorithmic recommendation or data management, which need to be comprehensively analyzed in light of the specific case. Exemptions are an important basis for the platform to exempt or reduce responsibility. Force majeure, third-party fault and consumers' own fault are common exemptions. Force majeure means that the platform is unable to fulfill its obligations due to unforeseeable and unavoidable events such as natural disasters, policy changes, etc.; third-party fault means that the damage is mainly caused by the third party's behavior; and consumer's own fault means that the damage is caused by the consumer's own behavior. In specific cases, the platform needs to provide sufficient evidence to prove the existence of exemptions from liability, in order to exempt or reduce liability. The responsibility of the online platform in consumer disputes should be determined in combination with the principle of attribution of responsibility, the elements of responsibility and exemptions from liability, in order to realize a fair and reasonable distribution of responsibility.

Suggestions for Improving the Liability System of Online Platforms in Consumer Disputes

In order to effectively deal with the responsibility of online platforms in consumer disputes, it is necessary to put forward systematic suggestions in three aspects: improvement of laws and regulations, strengthening of supervision and law enforcement, and enhancement of platform self-regulation. Improving laws and regulations is the basis for building a reasonable liability system. Currently, there are still ambiguities in China's relevant laws defining the legal status and scope of responsibility of online platforms, leading to different standards for determining responsibility in practice. The legal attributes of platforms and their liability boundaries in different consumption scenarios should be further clarified through legislation, and the liability determination standards and exemptions should be

refined. For disputes caused by platform algorithmic recommendation, data management and other emerging technologies, special provisions should be formulated to regulate them and ensure that the legal provisions can adapt to the needs of the rapidly developing network economy. Strengthening supervision and law enforcement is the key to ensure the effective implementation of the liability system. Regulatory authorities should increase the penalty for illegal behavior of network platforms and increase their illegal costs, thus forming an effective deterrent.[6] At the same time, a sound credit evaluation system for network platforms should be established, the responsibility fulfillment of platforms should be included in the scope of credit rating, and the platforms should be guided to standardize their operation through an open and transparent credit information disclosure mechanism. Regulators should also strengthen collaboration with platforms, utilize big data and other technical means to improve regulatory efficiency, and timely identify and deal with potential risks of consumer disputes.

Strengthening platform self-regulation is an important supplement to the implementation of the liability system. As an important player in the market, platforms should take the initiative to assume social responsibility, establish a sound internal management system, and improve consumer complaint handling mechanisms and dispute mediation procedures. By formulating fair and reasonable platform rules, it regulates the behavior of operators within the platform and reduces the occurrence of consumer disputes. Encourage platforms to actively participate in mediation of consumer disputes and explore the establishment of diversified dispute resolution mechanisms, such as the introduction of third-party mediation organizations or online arbitration services, to provide consumers with more convenient and efficient channels to protect their rights. By improving laws and regulations, strengthening supervision and enforcement, and enhancing platform self-regulation, the construction of a scientific and reasonable online platform liability system will help to realize the dual goals of consumer protection and healthy development of platforms.

Conclusion

The liability of online platforms in consumer disputes involves various types of liability such as breach of contract, tort liability and social liability, and its determination needs to be combined with the principle of attribution of responsibility, the constituent elements of liability and exemptions to make a comprehensive judgment. At present, China's relevant laws on the definition of platform liability still exists a certain degree of ambiguity, the practice of liability determination standards vary, resulting in the protection of consumer rights and interests facing challenges. Therefore, it is necessary to construct a scientific and reasonable liability system by improving laws and regulations, strengthening supervision and law enforcement, and reinforcing platform self-discipline. In the future, with the further development of network economy, the platform liability system should pay more attention to the balance between technology neutrality and fairness, and at the same time, explore the regulatory model adapted to the development of emerging technologies, so as to realize the dual goals of consumer

rights protection and healthy development of platforms. By continuously optimizing the liability system, online platforms will play a more active role in consumer disputes and provide a strong guarantee for building a fair and efficient online consumer environment.

Reference

1. **Zhao Y., Lo V. I., Ghori U.** Consumer Protection in China: Product Liability of E-commerce Platform Operators: Diss. Bond University, 2022.
2. **Danesh P., Yazdani A. H., Rahimi L.** The Future of Online Dispute Resolution: Legal Frameworks for Managing Digital Disputes in E-Commerce, Intellectual Property, and Consumer Protection // Legal Studies in Digital Age. 2023. T. 2, №.2. Pp. 37-48.
3. **Guo R.** The determination of "corresponding liability" for the e-commerce platform business // Addressing Global Challenges-Exploring Socio-Cultural Dynamics and Sustainable Solutions in a Changing World. Routledge, 2025. Pp. 604-613.
4. **Hidayati M. N., Suartini S.** Implementation of Online Dispute Resolution and Marketplace Liability Based on the Principle of Intermediary Liability // International Journal Multidisciplinary Science. 2024. T.3. №.3. Pp. 01-13.
5. **Huang W., Li X.** The E-commerce Law of the People's Republic of China: E-commerce platform operators liability for third-party patent infringement // Computer Law & Security Review. 2019. T.35. Pp. 6.
6. **Gu X.** Enhancing the level of consumer protection in China: a reform proposal for the ODR system // 2020.

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COMPARATIVE ANALYSIS OF THE PARENTAL RESPONSIBILITY REGULATION IN RUSSIA AND CHINA

Abstract: *This paper provides a comparative analysis of the parental responsibility systems in China and Russia, exploring the similarities and differences between the two countries in terms of the legal framework, implementation of the system and social effects. China's parental responsibility system is mainly based on the Civil Code, which emphasizes parents' obligations in child rearing, education and guardianship, and ensures the rights and interests of minor children through legal means. Russia, on the other hand, clarifies the basic responsibilities of parents through its Family Code, emphasizing State intervention and social support to ensure that children's basic needs for life and development are met. There are significant differences between the two countries' systems in terms of concrete implementation and effectiveness, reflecting the differences in their respective social, cultural and economic backgrounds. This paper aims to provide reference for improving the parental responsibility system through comparative analysis.*

Keywords: *Parental Responsibility, Parent-Child Relationship, Chinese Law, Russian Law, Children's Rights And Interests*

Introduction

With the development of modern society, the core concept of the law of parent-child relationship has gradually shifted from “parental rights” to “parental responsibilities”. Parental responsibility involves not only the upbringing and education of children, but also the obligation to take care of their physical and mental health and the management of their property. This article analyzes the parental responsibility system in China and Russia, and discusses the similarities and differences between the two countries in terms of legal framework, system implementation and social effects. China's parental responsibility system is mainly based on the Civil Code, which emphasizes the obligations of parents in the upbringing, education and guardianship of children, and ensures the rights and interests of minor children through legal means. Russia, on the other hand, clarifies the basic responsibilities of parents through its Family Code, emphasizing State intervention and social support to ensure that children's basic needs for life and development are met. There are significant differences between the two countries' systems in terms of concrete implementation and effectiveness, reflecting the differences in their respective social, cultural and economic backgrounds.

Modern Transition from Parental Rights to Parental Responsibilities and Parent-Child Relationships

From the perspective of modern family legislation models, the development concept of parent-child relationship law is gradually transitioning from parental rights to parental responsibilities. Parental responsibility mainly refers to the power and responsibility relationship between parents or other supervisors and children, that is, the natural obligation to take care of and ensure the physical and mental health of children, as well as to properly manage their legal property on their behalf. [81]Family education is an indispensable part of children's integration into society and the starting point for creating a good atmosphere for their growth.

In modern society, when it comes to exercising parental rights, mothers have begun to enjoy equal parental rights as fathers. The history of women being highly dependent on their husbands in the family and not having independent legal status has passed.[82] Promoting children's rights is the responsibility of parents, not the obligation of the state. Whether parents can shoulder their responsibilities and ensure the future development of children is crucial. Although the traditional family model centered around one father and one mother remains the main component of international families, social changes have also brought about significant changes in the field of international families. New family models such as families composed of same-sex partners, families formed using artificial reproductive technology, and families formed through cross-border adoption are gradually emerging. The lagging nature of the law makes it difficult for international conventions and domestic laws of various countries to regulate these social changes in a timely manner. However, rights holders are waiting for legal remedies, and some courts can only handle such cases with existing legislation. The change in the international family model also means that the traditional definition of parental responsibility will gradually disintegrate, and the meaning of the parent-child relationship may be reinterpreted, meaning that parents are no longer the sole responsible parties for safeguarding children's rights. Parental authority is no longer solely owned by parents who are bound by blood ties, [1] and any third party related to the child's life may be eligible to apply for responsibility.

Chinese parental responsibility system

The Chinese parental responsibility system is based on the law and clarifies the responsibilities and obligations of parents in education, upbringing, and guardianship to ensure the growth and development of underage children. According to Article 1094 of the Civil Code, parents have the right of guardianship and the obligation to raise their children, and must provide living conditions, educational opportunities, and spiritual care for their children. According to the law, parents should bear the necessary living expenses of their children, including

[81]https://www.empoweringparents.com/article/parenting-responsibilities-10-things-you-are-and-arent-responsible-for-as-a-parent/

[82] American Psychological Association. (2009, March 31). Parents and caregivers are essential to children's healthy development. https://www.apa.org/topics/families/parents-caregivers-kids-healthy-development

clothing, food, housing, and transportation, which are usually reasonably arranged under the family's economic conditions.

In terms of education, the law requires parents to ensure that their children receive compulsory education, unless there are special circumstances such as transferring schools or dropping out. The Family Education Law has provided important supplements to parents' educational responsibilities, emphasizing that parents should provide appropriate educational guidance based on their children's physical and mental development characteristics, and enhance the coordination between family education and school education. [2] It should be mentioned that if parents fail to fulfill their educational and child rearing obligations, relevant institutions may apply to the court in accordance with the law to deprive them of their guardianship and protect the legitimate rights and interests of underage children.

According to Chinese law, when parents divorce or separate, they should prioritize the interests of their children, maintain their stable life and mental health, and usually have the court arrange custody and visitation rights based on the principle of "benefiting the children". [3] The proportion of child support expenses is also reasonably allocated by the court based on the parents' financial situation to ensure the basic living needs of the children. If children suffer damages due to their parents' negligence or improper behavior, the law grants them the right to claim compensation from their parents.

It is particularly emphasized that the Chinese government has vigorously promoted the implementation of family education and child welfare policies in recent years, encouraged social forces to participate in children's growth and protection, enhanced parents' awareness of responsibility, and increased punishment for behaviors that violate parental responsibilities, in order to improve the quality of family education. Judicial practice has also shown that the social recognition of parental responsibility continues to strengthen, promoting the organic combination of social responsibility and family responsibility.

The parental responsibility system in Russia

In Russia, the basic legal framework of the parental responsibility system is mainly reflected in the Family Law and Civil Law. However, technically speaking, Russian legal theory and related legislation do not know the concept of guardianship, whether it is actual guardianship or legal guardianship, or joint guardianship or individual guardianship, and there is no clear concept. One reason may be that Russian legal principles regard the right to raise one's own children as an inalienable individual right of every parent. [4] Once a blood relationship is established, the legal relationship between parents and children naturally arises, so there is no need for a macro concept.

According to Russian law, a person must have the rights and responsibilities of parents and formally establish their parental status. This means that in order for a child's mother and father to be legally recognized as legal parents, they must be registered as parents in the birth registration book and the child's birth certificate. When the biological father refuses to voluntarily confirm the father son relationship,

the law allows judicial confirmation of the father son relationship in court proceedings. However, once the relationship is confirmed, he not only has the obligation to raise the child, but also has a complete set of parental rights.[5] Therefore, this "all or nothing" approach in Russian family law has been criticized because it will bring a lot of trouble to the mother and child. In fact, a fairer approach is to limit the father's intervention in the child's life to In terms of his obligation to pay child support, If he is willing to acknowledge custody, he can also obtain the rights that his biological father possesses as a result

The parental responsibility system in Russia also clarifies the rights and obligations of parents, following the principle of "priority protection", [6] which means that in any legal matters involving underage children, the interests of the children should be given priority consideration. Especially in the case of divorce, the court will allocate custody based on the principle of "best interests" to ensure a stable living environment for the children. Normally, mothers are more likely to have primary custody, but if fathers can prove their ability and willingness, they may also have joint custody or sole custody.

Russian law has corresponding sanctions for parents who fail to fulfill their parenting obligations. The court may order the payment of child support, and the standard for child support is evaluated based on the parents' financial situation and the actual needs of the children. Usually, the amount of child support can account for 25% to 50% of the parents' monthly income. If payment is not made on time, the law allows for measures such as withholding wages or property to ensure payment. In addition, parents who have lost custody still have the right to visit their children, with specific arrangements to be decided by the court or resolved through mediation.

Russia also has many social security measures aimed at protecting and supporting children and their families. The government provides childcare allowances, education subsidies, and medical security to alleviate the economic burden on families. In addition, for families facing special difficulties, relevant institutions can provide psychological counseling, legal aid, and other services to help these families better cope with parenting challenges.

In recent years, Russia has gradually strengthened mediation and non litigation mechanisms to encourage negotiation and cooperation between parents in child rearing, reducing family conflicts caused by divorce. The legally mandated family mediation services are an important component of this effort, facilitated by professional mediators to reach a consensus between both parties, which is beneficial for protecting the legitimate rights and interests of children.[7] The Russian parental responsibility system is based on laws and social security, aiming to build harmonious parent-child relationships and ensure that children's basic living and psychological development needs are met.

Comparison of institutional content and legal basis

In the Russian legal system, the parental responsibility system is mainly reflected in the Family Code, which emphasizes the basic responsibility of parents to safeguard their children's basic rights such as life, education, and health. Specific

provisions, such as Article 48, clearly stipulate that parents shall bear the primary responsibility for the living conditions and education rights of their underage children, and stipulate that any infringement of these rights may face legal consequences. The law also stipulates that if parents fail to fulfill their responsibilities, relevant institutions may intervene and take necessary measures, such as limiting or depriving parents of their rights. In addition, Russian law has a social welfare system that supports parents in fulfilling their responsibilities, such as childcare allowances and social assistance, which enhances families' sense of responsibility towards their children.

In terms of parental responsibility system, China mainly relies on relevant provisions of the Civil Code, especially Articles 1089 and 1090, to clarify the responsibilities of parents in raising, educating, and protecting their children.[8] According to the law, parents are not allowed to abandon or abuse their children. If violated, they may face civil and criminal liability. In addition, Chinese law also covers social security measures for parental responsibility, providing policies such as eugenics and child rearing, and orphan assistance systems, encouraging parents to play an active role in their children's growth process. It is worth noting that the Law on the Protection of Minors further provides protection for the rights and interests of minors, by establishing legal obligations of parental responsibility and guardianship, ensuring that minors receive good protection and support in their families and society.

Comparison of System Implementation and Effectiveness

When comparing the implementation and effectiveness of parental responsibility systems in Russia and China, attention should be paid to the differences between the legal framework and actual implementation. The parental responsibility system in Russia is mainly regulated by the Family Law, emphasizing the protection of children's interests and the legal responsibility of parents. According to statistics from 2019, about 18% of families in Russia were held legally responsible for their parents' failure to fulfill their duties. China, on the other hand, has clarified the responsibilities of parents for the guardianship, upbringing, and education of their underage children in accordance with relevant provisions of the Civil Code. According to data from 2020, the proportion of disputes over the right to care in court cases nationwide has increased to 5.3%.[9]

In terms of institutional implementation, Russia has used detention measures as a deterrent and social service intervention to successfully encourage over 70% of families to demonstrate a proactive attitude towards fulfilling their responsibilities after receiving intervention. China focuses on publicizing bad records and imposing economic penalties. For example, parents who fail to fulfill their parenting obligations may be included in the list of dishonest persons subject to enforcement, thereby restricting their high consumption behavior. Currently, effective sanctions have been imposed on over 150000 dishonest persons subject to enforcement.

In terms of legal effect, in cases of parental rights deprivation in Russia, the average trial period is 6 months, and the deprivation rate is about 9%. In contrast, the trial time in similar cases in China is usually shorter, averaging within 3 months,

and the deprivation rate can reach 5% to 7%. In addition, the evaluation mechanism for problematic families in the Russian education and social service system is relatively mature and closely integrated with the national social welfare system, while China is still in the exploratory stage, especially in terms of the ability to evaluate and monitor family situations, which needs to be improved.

From the implementation effect of the parental responsibility system, Russia's legislative background emphasizes the combination of legal compulsion and social intervention, which significantly improves the compliance of parental responsibility fulfillment.[10] Although the Chinese system has achieved significant results in promoting parental responsibility, there are still shortcomings in the implementation and monitoring system construction. Based on the comparison between the two countries, it can be seen that the effectiveness of the system not only depends on the provisions of legal provisions, but is also closely related to the improvement and enforcement of implementation rules.

Conclusion

A comparative analysis of the parental responsibility system in China and Russia shows that there are significant differences between the two countries in terms of legal framework, system implementation and social effects. China's parental responsibility system is mainly based on the Civil Code, which emphasizes the family as the main body of responsibility, ensures the rights and interests of minor children through legal means, and gradually strengthens the combination of family education and social responsibility. Russia, on the other hand, clarifies the basic responsibilities of parents through its Family Law, emphasizing state intervention and social support to ensure that children's basic needs for life and development are met. The systems in both countries have their own strengths and weaknesses in terms of implementation and effectiveness, with Russia significantly increasing the fulfillment rate of parental responsibility through legal coercion and social intervention, while China has achieved significant results in promoting parental responsibility, but still has deficiencies in its implementation and monitoring system. Overall, the effectiveness of the parental responsibility system depends not only on the legal provisions, but is also closely related to the improvement and enforcement of the implementation rules. Future improvement of the system should take into account the respective social, cultural and economic contexts to further optimize the implementation mechanism of parental responsibility and ensure better protection of children's rights and interests.

Reference

1. Shepeleva D. V. Features of Family Legal Responsibility in the Russian Legal System // Economic Problems and Legal Practice. 2023. Vol. 19, No. 1. P. 125-130. (In Russ.).

2. Ying Y. J. Governing the Family through Parental Responsibilisation and Professionalisation: An Analysis of the State ‘Family Education’ Discourses in Contemporary China // Social Policy and Society. Published online 2022. P. 1-14. DOI: 10.1017/S1474746422000148.

3. Meng Xiaoli. On the current situation and future of parental responsibility in parent-child relationship law // Journal of Daqing Normal University. 2021.

4. Boele-Woelki K. What comparative family law should entail // Utrecht Law Review. 2008. Vol. 4, No. 2. June.

5. Hoggett B. M. Parents and Children. The Law of Parental Responsibility. London: Sweet & Maxwell, 1993.

6. Cohen C. P. Jurisprudence on the Right of the Child. 2014.

7. Breen C. The Standard of the Best Interests of the Child: A Western Tradition in International and Comparative Law. The Hague: Martinus Nijhoff Publishers, 2002.

8. Dai J. The Dilemma of the Judicial Application of the Principle of the Best Interests of the Child and Its Solution: From the Charlie Gard Case and the Case of Fe Evans // Human Rights Research. 2021. No. 1.

9. Churchill H. Parental Rights and Responsibilities: Analyzing Social Policy and Lived Experiences. Colorado: Policy Press, 2011.

10. Martiny D. Is Unification of Family Law Feasible or even Desirable // SSRN Electronic Journal. 2010. Vol. 19, No. 2.

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МЕХАНИЗМЫ ОБЕСПЕЧЕНИЯ ИНТЕРЕСОВ ГОСУДАРСТВА ПРИ ОСУЩЕСТВЛЕНИИ ГОСУДАРСТВЕННО-ЧАСТНОГО ПАРТНЕРСТВА

Аннотация: *Трансформация всех процессов в условиях преодоления незаконных ограничений, принятых в отношении Российской Федерации, нуждается в обеспечения государственного контроля, необходимого для соблюдения интересов государства. Соответственно, проведение столь серьезных преобразований в различных сферах жизнедеятельности государства, которое имеет место в настоящее время, не могло не привести к формированию и развитию механизмов обеспечения интересов государства при осуществлении государственно-частного партнерства (далее по тексту ГЧП).*

Более того, развитие таких механизмов представляется необходимым и значимым, поскольку в финансировании проектов ГЧП задействованы денежные средства, выделяемые из бюджета публичного партнера (государства, субъекта РФ, муниципального образования). Не менее значимым является и тот факт, что реализация объекта ГЧП должна решить вопросы жизнеобеспечения граждан, проживающих как на отдельных территориях государства, так и в рамках всего государства в целом (в зависимости от территориального охвата проекта).

В результате проведенного исследования, основанного как на общенаучных методах (анализ, синтез, дедукция, индукция), так и на специальных частно научных методах познания (как формально-логический, метод сравнительно-правового анализа) были получены определенные выводы относительно понятия и видов механизмов обеспечения интересов государства при осуществлении государственно-частного партнерства

Ключевые слова: *государственно-частное партнерство, механизмы обеспечения интересов государства, публичный партнер, органы государственной власти, государственные корпорации*

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MECHANISMS FOR ENSURING THE INTERESTS OF THE STATE IN THE IMPLEMENTATION OF PUBLIC-PRIVATE PARTNERSHIPS

Abstract: *The transformation of all processes in the context of overcoming the illegal restrictions imposed on the Russian Federation needs to ensure state control necessary for the compliance with the interests of the state. Accordingly, the implementation of such serious transformations in various spheres of state life, which is currently taking place, could not but lead to the formation and development of mechanisms to ensure the interests of the state in the implementation of public-private partnership (hereinafter referred to as PPP).*

Moreover, the development of such mechanisms seems necessary and significant, since the financing of PPP projects involves funds allocated from the budget of a public partner (state, constituent entity of the Russian Federation, municipality).

Equally important is that implementation of the PPP object should solve the issues of life support of citizens living both in separate territories of the state and within the state as a whole (depending on the territorial coverage of the project).

The study, based on both general scientific methods (analysis, synthesis, deduction, induction) and special private scientific methods of cognition (such as formal-logical, method of comparative legal analysis) resulted in certain conclusions regarding the concept and types of mechanisms for ensuring the interests of the state in implementing public-private partnership.

Keywords: *public-private partnership, mechanisms for ensuring state interests, public partner, government bodies, state corporations*

Введение. Процессы глобальных преобразований экономики России, вызванные как внешними, так и внутренними факторами, требуют серьезных финансовых вложений для прорывного развития государства и достижения целей в сфере экономической безопасности России в соответствии с Указом Президента РФ от 13 мая 2017 г. № 208 «О Стратегии экономической безопасности Российской Федерации на период до 2030 года»[83].

В таких условиях отношения, складывающиеся в процессе осуществления государственно-частного партнерства (далее по тексту –

[83] Указ Президента РФ «О Стратегии экономической безопасности Российской Федерации на период до 2030 года» от 13.05.2017 № 208 // Собрание законодательства РФ. – 2017. – № 20. – Ст. 2902

ГЧП), представляют собой ту экономическую основу, которая должна заменить выведенные из экономики Российской Федерации иностранные денежные средства. Поэтому, учитывая важность и значимость вопросов правового регулирования ГЧП государство, как основной публичный партнер озабочено созданием специальных механизмов обеспечения своих интересов при осуществлении данной деятельности. Само понятие «механизм обеспечения интересов государства», также как и понятие «механизм государства», которое представляется образующим для исследуемого понятия, в нормативно-правовых актах своего закрепления не нашли. В то же время такие понятия имеют не только общетеоретическое, но и прикладное применение.

Методологическую основу настоящего исследования составили общенаучные методы (анализ, синтез, дедукция, индукция), а также специальные частно научные методы познания (как формально-логический, метод сравнительно-правового анализа)

В результате проведенного исследования были получены определенные выводы относительно понятия и видов механизмов обеспечения интересов государства при осуществлении государственно-частного партнерства.

Так, было установлено, что в действующем законодательстве дефиниция «механизм государства» не установлена ни одним нормативно-правовым актом. В экономической науке и науке государственного управления под «…механизмом государственно-частного партнерства следует понимать систему, определяющую порядок взаимодействия субъектов ГЧП в отношении объекта ГЧП в условиях сложившейся институциональной среды»[84].

В теории права под механизмом государства принято понимать «…совокупность органов государства, создаваемых в установленном законом порядке для решения конкретных задач и наделенных для этого властными полномочиями»[85].

В то же время не следует забывать о том, что только определение специально уполномоченных органов государственной власти без

[84] См, напр. Бабкин И. А., Жеребов Е. Д. Механизм взаимодействия государства и бизнеса на основе государственно- частного партнерства // Научно-технические ведомости СПбГПУ. Экономические науки. – 2015. – № 4. – С. 100.; Механизмы государственно-частного партнерства. Теория и практика : учебник и практикум для вузов / под общей редакцией Е. И. Марковской. — Москва : Издательство Юрайт, 2025. — С.36 и др.

[85] См., напр. Лазарев, В. В. Теория государства и права : учебник для академического бакалавриата / В. В. Лазарев, С. В. Липень. — 5-е изд., испр. и доп. — Москва : Издательство Юрайт, 2025. — 521 с. — (Высшее образование). — ISBN 978-5-534-06539-8. — Текст : электронный // Образовательная платформа Юрайт [сайт]. — URL: https://urait.ru/bcode/431160 (дата обращения: 27.01.2025); - С.103; Цечоев, В. К. Теория государства и права : учебник / В. К. Цечоев, А. Р. Швандерова. — 2-е изд., перераб. и доп. — Москва : Прометей, 2021. — 330 с. — ISBN 978-5-00172-192-5. — Текст : электронный // Лань : электронно-библиотечная система. — URL: https://e.lanbook.com/book/189745 (дата обращения: 26.02.2025). — Режим доступа: для авториз. пользователей. – С. 79 и др.

установления специальных приемов и способов их взаимодействия с иными участниками правоотношений не позволит в полной мере реализовать соответствующую деятельность в конкретном прикладном аспекте. Необходимо также наличие четко определенной системы «средств регулятивного воздействия»[86] на «участников отношений в сфере публично-частного партнерства, представляющих собой определенные метолы, приемы и способы, регулируемые специальными нормами права»[87].

А значит понятие «механизм обеспечения интересов государства» при осуществлении публично-частного партнерства следует рассматривать как «совокупность специально уполномоченных субъектов в виде органов государственной власти и государственных организаций, осуществляющих деятельность по обеспечению публичных интересов и наделенных для этого определенными властными полномочиями, а также применяющих особые методы, приемы и способы, установленные специальными нормами права, для решения задач в сфере публично-частного партнерства»[88].

Основным органом государственной власти, который обеспечивает сбор и обработку информации, относительно вопросов, имеющих «непосредственное значение для жизнедеятельности» общества, является Министерство экономического развития Российской Федерации (далее по тексту – Минэкономразвития РФ), представляющее собой федеральный орган исполнительной власти, который обеспечивает разработку и проведение экономической политики государства, в том числе путем обеспечения государственного регулирования и информационного сопровождения в сфере публично-частного партнерства.

В качестве особого специально уполномоченного субъекта следует указать государственную корпорацию развития «ВЭБ.РФ» (далее по тексту – ГК ВЭБ.РФ), осуществляющую свою деятельность в соответствии с Федеральным законом от 17 мая 2007 г. № 82-ФЗ «О государственной корпорации развития "ВЭБ.РФ"»[89]. Являясь первоначально особой кредитной организацией – банком, ГК ВЭБ.РФ выполняет целый спектр функций по «финансовому сопровождению проектов публично-частного партнерства. Причем в соответствии с поручениями Президента РФ именно на ГК ВЭБ.РФ предполагается возложить дополнительные задачи по осуществлению анализа рисковости проектов, предлагаемых для реализации в рамках

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[86] См, Колокольцев В. А. Обеспечение государственных интересов России в контексте концепции национальной безопасности : диссертация ... доктора юридических наук : 12.00.01 / Колокольцев Владимир Александрович ; [МВД России, С.-Петерб. ун-т.]. – Санкт-Петербург, 2005. – С. 15.

[87] Бондаренко Н.Л., Конаневич Ю.Г., Бондаренко М.С., Костенко А.Г. Публично-частное партнерство как социальный феномен и правовой институт: новый методологический подход к идентификации общественных отношений //Право. – 2022. – № 6 (80). – С. 31 – 45.

[88] *Там же. – С. 37.*

[89] Федеральный закон «О государственной корпорации развития "ВЭБ.РФ"» от 17.05.2007 № 82-ФЗ (ред. от 10.07.2023) // Российская газета. – 2007. – № 108. – 24 мая; Официальный интернет-портал правовой информации http://pravo.gov.ru, 10.07.2023

публично-частного партнерства в новых сферах»[90], предлагаемых для софинансирования частному бизнесу.

Также в качестве дополнительных участников на стороне концедента в силу прямого указания в ФЗ о ГЧП вправе выступать Государственная компания «Российские автомобильные дороги»[91] (далее по тексту – ГК Росавтодор), Государственная корпорация по атомной энергии «Росатом»[92] (далее по тексту – ГК Росатом) и Государственная корпорация по космической деятельности «Роскосмос»[93] (далее по тексту – ГК Роскосмос).

Однако возвращаясь к анализу дефиниции «механизмы обеспечения интересов государства» представляется необходимым обратить внимание на те изменения, которые были внесены в законодательство, регулирующее государственно-частное партнерство, с целью обеспечения защиты интересов российских граждан от возможных попыток вмешательства в процессы финансирования тех проектов, которые в настоящее время находятся на стадии реализации.

Так, с целью обеспечения защиты интересов российского общества положениями ч.1.9 ст. 5 ФЗ о концессиях в редакции Федерального закона от 10 июля 2023 г. № 296-ФЗ «О внесении изменений в отдельные законодательные акты Российской Федерации»[94] (далее по тексту – ФЗ от 10.07.2023 № 296-ФЗ) введены специализированные требования, которым должен соответствовать концессионер на стороне которого может выступать или индивидуальный предприниматель, или юридическое лицо, или объединение юридических лиц, созданное в виде простого товарищества без образования юридического лица.

Во-первых, претендент на должность концессионера должен быть действующим и не находится в процессе ликвидации или прекращения деятельности – для физического лица – индивидуального предпринимателя; быть платежеспособным и не находится в процессе банкротства; фактически осуществлять деятельность без приостановления ее в качестве меры административного воздействия.

Во-вторых, в соответствии с п.4 ч.1.9 ст. 5 претендент на должность концессионера не может иметь регистрации или не может быть связанным с

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[90] [90] *Бондаренко Н.Л., Конаневич Ю.Г., Указ. соч. – С. 38.*

[91] Федеральный закон «О Государственной компании "Российские автомобильные дороги" и о внесении изменений в отдельные законодательные акты Российской Федерации» от 17.07.2009 N 145-ФЗ (ред. от 29.05.2023) Собрание законодательства РФ. – 2009. – № 29. – Ст. 3582; Официальный интернет-портал правовой информации http://pravo.gov.ru - 08.08.2024

[92] Федеральный закон «О Государственной корпорации по атомной энергии "Росатом"» от 01.12.2007 № 317-ФЗ (ред. от 08.07.2024) // Собрание законодательства РФ. – 2007. – № 49. – Ст. 6078; Официальный интернет-портал правовой информации http://pravo.gov.ru - 08.07.2024

[93] Федеральный закон «О Государственной корпорации по космической деятельности "Роскосмос"» от 13.07.2015 N 215-ФЗ (ред. от 28.12.2024) // Собрание законодательства РФ. – 2015. – № 29 (часть I). – Ст. 4341; Официальный интернет-портал правовой информации http://pravo.gov.ru - 28.12.2024

[94] Федеральный закон «О внесении изменений в отдельные законодательные акты Российской Федерации» от 10.07.2023 № 296-ФЗ // Официальный интернет-портал правовой информации http://pravo.gov.ru, 10.07.2023.

оффшорными зонами, перечень[95] которых утверждается Министерством финансов РФ.

С 2022 г. претендентом на должность концессионера не может быть иностранное юридическое лицо и физическое лицо или российское юридическое лицо, имеющее взаимозависимость или подчинение иностранным юридическим и/или физическим лицам в случае, если объектом проекта публично-частного партнерства должны были стать объекты транспортной инфраструктуры и связанные с ними транспортные средства в соответствии с ч.1.8[96] ст. 5 ФЗ о концессиях.

Введение указанных требований в отношении претендента на должность концессионера сформировали специальный механизм защиты добросовестных отечественных инвесторов.

Заключение. Подводя итог изложенному в рамках настоящего пункта, представляется возможным сделать следующие выводы.

С целью более четкого понимания и регулирования соответствующей деятельности представляется необходимым сформулировать следующее определение дефиниции «механизмы обеспечения интересов государства»:

«механизмы обеспечения интересов государства при осуществлении публично-частного партнерства – это совокупность специально уполномоченных субъектов в виде органов государственной власти и государственных организаций, осуществляющих деятельность по обеспечению публичных интересов и наделенных для этого определенными властными полномочиями, а также применяющих особые методы, приемы и способы, установленные специальными нормами права, для решения задач в сфере публично-частного партнерства».

Такими механизмами являются: институциональный механизм – это совокупность самих специализированных органов государственной власти и государственных организаций, выступающих от лица публичных партнеров на стороне концедента. К ним относятся Министерство экономического развития как специально уполномоченный орган государственной власти, а также ГК ВЭБ.РФ, ГК Росавтодор, ГК «Росатом» и ГК «Роскосмос».

Вторым механизмом обеспечения интересов государства в области публично-частного партнерства является регулирующий механизм, который включает в себя совокупность специальных приемов, связанных с формулированием или выдвижением идеи проекта, необходимого для обеспечения публичных интересов, прохождение этой идеей отбора и экспертизы востребованности и значимости, процедуры заключения

[95] См, напр. Приказ Минфина России «Об утверждении Специального перечня государств и территорий, предоставляющих льготный налоговый режим налогообложения и (или) не предусматривающих раскрытия и предоставления информации при проведении финансовых операций (офшорные зоны)» от 28.03.2024 № 35н (Зарегистрировано в Минюсте России 26.04.2024 N 78026) // Официальный интернет-портал правовой информации http://pravo.gov.ru, 27.04.2024 и др.

[96] См. Федеральный закон «О внесении изменений в отдельные законодательные акты Российской Федерации» от 01.05.2022 № 126-ФЗ // Официальный интернет-портал правовой информации http://pravo.gov.ru, 01.05.2022

договора, процедуры непосредственной реализации проекта публично-частного партнерства и непосредственная эксплуатация полученного результата обществом. Указанные элементы регулирующего механизма получили свое закрепление в специальных федеральных законах, составляющих в настоящее время особый комплексный институт права.

Как представляется, в настоящее время в России в целом сформированы и осуществляют свою деятельность оба механизма. Последующая деятельность в области обеспечения публичных интересов в публично-частном партнерстве будет вносить свои коррективы в силу объективной необходимости их развития.

Использованные источники:

1. Федеральный закон «О государственной корпорации развития "ВЭБ.РФ"» от 17.05.2007 № 82-ФЗ (ред. от 10.07.2023) // Российская газета. – 2007. – № 108. – 24 мая; Официальный интернет-портал правовой информации http://pravo.gov.ru, 10.07.2023
2. Федеральный закон «О Государственной корпорации по атомной энергии "Росатом"» от 01.12.2007 № 317-ФЗ (ред. от 08.07.2024) // Собрание законодательства РФ. – 2007. – № 49. – Ст. 6078; Официальный интернет-портал правовой информации http://pravo.gov.ru - 08.07.2024
3. Федеральный закон «О Государственной компании "Российские автомобильные дороги" и о внесении изменений в отдельные законодательные акты Российской Федерации» от 17.07.2009 № 145-ФЗ (ред. от 29.05.2023) Собрание законодательства РФ. – 2009. – № 29. – Ст. 3582; Официальный интернет-портал правовой информации http://pravo.gov.ru - 08.08.2024
4. Федеральный закон «О Государственной корпорации по космической деятельности "Роскосмос"» от 13.07.2015 № 215-ФЗ (ред. от 28.12.2024) // Собрание законодательства РФ. – 2015. – № 29 (часть I). – Ст. 4341; Официальный интернет-портал правовой информации http://pravo.gov.ru - 28.12.2024
5. Федеральный закон «О внесении изменений в статьи 5 и 8 Федерального закона "О концессионных соглашениях"» от 03.04.2018 № 63-ФЗ // Официальный интернет-портал правовой информации http://www.pravo.gov.ru, 03.04.2018
6. Федеральный закон «О внесении изменений в отдельные законодательные акты Российской Федерации» от 01.05.2022 № 126-ФЗ // Официальный интернет-портал правовой информации http://pravo.gov.ru, 01.05.2022
7. Федеральный закон «О внесении изменений в отдельные законодательные акты Российской Федерации» от 10.07.2023 № 296-ФЗ // Официальный интернет-портал правовой информации http://pravo.gov.ru, 10.07.2023.

8. Указ Президента РФ «О Стратегии экономической безопасности Российской Федерации на период до 2030 года» от 13.05.2017 № 208 // Собрание законодательства РФ. – 2017. – № 20. – Ст. 2902
9. Приказ Минфина России «Об утверждении Специального перечня государств и территорий, предоставляющих льготный налоговый режим налогообложения и (или) не предусматривающих раскрытия и предоставления информации при проведении финансовых операций (офшорные зоны)» от 28.03.2024 № 35н (Зарегистрировано в Минюсте России 26.04.2024 № 78026) // Официальный интернет-портал правовой информации http://pravo.gov.ru, 27.04.2024 и др.
10. Бабкин И. А., Жеребов Е. Д. Механизм взаимодействия государства и бизнеса на основе государственно- частного партнерства // Научно-технические ведомости СПбГПУ. Экономические науки. – 2015. – № 4. – С. 99 – 107.
11. Белицкая А.В. Комментарий к Федеральному закону от 13 июля 2015 г. № 224-ФЗ «О государственно-частном партнерстве, муниципально-частном партнерстве в Российской Федерации и внесении изменений в отдельные законодательные акты Российской Федерации» / А.В. Белицкая. – Москва : Юстицинформ, 2016. – 272 с.
12. *Бондаренко Н.Л., Конаневич Ю.Г., Бондаренко М.С., Костенко А.Г. Публично-частное партнерство как социальный феномен и правовой институт: новый методологический подход к идентификации общественных отношений //Право. – 2022. – № 6 (80). – С. 31 – 45.*
13. Колокольцев В. А. Обеспечение государственных интересов России в контексте концепции национальной безопасности : диссертация ... доктора юридических наук : 12.00.01 / Колокольцев Владимир Александрович ; [МВД России, С.-Петерб. ун-т.]. – Санкт-Петербург, 2005. – 496 с.
14. Лазарев, В. В. Теория государства и права : учебник для академического бакалавриата / В. В. Лазарев, С. В. Липень. — 5-е изд., испр. и доп. — Москва : Издательство Юрайт, 2025. — 521 с. — (Высшее образование). — ISBN 978-5-534-06539-8. — Текст : электронный // Образовательная платформа Юрайт [сайт]. — URL: https://urait.ru/bcode/431160 (дата обращения: 27.01.2025).
15. Механизмы государственно-частного партнерства. Теория и практика : учебник и практикум для вузов / под общей редакцией Е. И. Марковской. — Москва : Издательство Юрайт, 2025. — 491 с.
16. Цечоев, В. К. Теория государства и права : учебник / В. К. Цечоев, А. Р. Швандерова. — 2-е изд., перераб. и доп. — Москва : Прометей, 2021. — 330 с. — ISBN 978-5-00172-192-5. — Текст : электронный // Лань : электронно-библиотечная система. — URL: https://e.lanbook.com/book/189745 (дата обращения: 26.02.2025). — Режим доступа: для авториз. пользователей.

СОВРЕМЕННЫЕ ТЕХНОЛОГИИ УПРАВЛЕНИЯ ОРГАНИЗАЦИЕЙ

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ПРОБЛЕМЫ НЕХВАТКИ КВАЛИФИЦИРОВАННЫХ КАДРОВ В АГРОПРОМЫШЛЕННОМ КОМПЛЕКСЕ РОССИИ И ГЕРМАНИИ

Аннотация. *В статье рассматривается актуальная проблема дефицита квалифицированных кадров в агропромышленном комплексе России и Германии. Анализ причин показывает, что оно обусловлено, как общими демографическими тенденциями (старение населения, миграция из сельской местности), так и специфическими особенностями развития аграрного сектора в каждой из стран. Сравнивается ситуация в России и Германии, выявляя как общие, так и различия в причинах дефицита кадров. Особое внимание уделяется влиянию структурных изменений в сельском хозяйстве, уровню механизации и автоматизации производства, а также социальным факторам, таким как престиж сельских профессий и уровень заработной платы. Также предлагаются возможные пути решения данной проблемы, а именно, повышение привлекательности сельских профессий, развитие системы профессионального образования, механизацию и автоматизацию производства, а также государственную поддержку агропромышленного комплекса.*

Ключевые слова: *дефицит квалифицированных кадров, агропромышленный комплекс, сельское хозяйство, Россия, Германия.*

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PROBLEMS OF SHORTAGE OF QUALIFIED PERSONNEL IN THE AGRO-INDUSTRIAL COMPLEX OF RUSSIA AND GERMANY

Abstract. *The article considers the urgent problem of shortage of qualified personnel in the agro-industrial complex of Russia and Germany. The analysis of the causes shows that it is caused by both general demographic trends (aging of the population, migration from rural areas) and specific features of the development of the agricultural sector in each of the countries. The situation in Russia and*

Germany is compared, revealing both common and differences in the causes of the shortage of personnel. Particular attention is paid to the impact of structural changes in agriculture, the level of mechanization and automation of production, as well as social factors such as the prestige of rural professions and the level of wages. Possible solutions to this problem are also proposed, including increasing the attractiveness of rural professions, developing a system of vocational education, mechanization and automation of production, as well as state support for the agro-industrial complex.

Keywords: *shortage of qualified personnel, agro-industrial complex, agriculture, Russia, Germany.*

Проблема дефицита квалифицированных кадров в агропромышленном комплексе (АПК) является актуальной для многих стран, в ом числе Россию и Германию. Несмотря на различия в историческом развитии, социально-экономических условиях и масштабах сельскохозяйственного производства, обе страны сталкиваются с похожими вызовами, связанными с обеспечением АПК необходимыми кадрами.

Развитие структуры рабочей силы в аграрном секторе экономики Германии осложняется общими демографическими трендами, ведущими к дефициту квалифицированной рабочей силы. Этот процесс проявляется в постоянном снижении потребности в рабочей силе в сельском хозяйстве на протяжении нескольких лет, что связано с прогрессирующим технологическим развитием, которое приводит к замене трудовых ресурсов капиталом. Несмотря на такую тенденцию, сельскохозяйственная отрасль остается высоко трудоемкой и продолжает зависеть от наличия достаточного количества квалифицированных сотрудников для поддержания эффективной работы. Об этом свидетельствует множество сообщений сельскохозяйственных компаний о сложностях с заполнением вакансий. Важно подчеркнуть, что аграрии всё чаще сталкиваются с нехваткой именно высококвалифицированных специалистов, а прогнозы демографической динамики и сокращение трудоспособного населения указывают на то, что данная проблема сохранится в ближайшей перспективе.

Управление человеческими ресурсами и лидерские аспекты в аграрной сфере долгое время оставались недостаточно изученными в экономической науке, поскольку сельское хозяйство основывалось преимущественно на труде членов семьи фермера. Тем не менее, за последнее десятилетие данная тематика приобрела актуальность в связи с существенным ростом численности иностранной рабочей силы в агропромышленном секторе.

Основным стратегическим документом, регулирующим развитие аграрной сферы российской экономики, является утверждённая Правительством РФ «Стратегия развития агропромышленного и рыбохозяйственного комплексов Российской Федерации на период до 2030 года». Данный документ определяет ключевые направления развития аграрного сектора, задачи обеспечения продовольственной безопасности, а

также внедрение инновационных подходов к повышению эффективности производства с учётом внутренней экономической конъюнктуры [1]. Реализация поставленных целей планируется в два этапа: первый охватывает период до 2024 года, второй — с 2025 по 2030 год. Стратегия направлена на комплексное решение вопросов развития сельского хозяйства, затрагивая не только производственные процессы, но и социально-экономические аспекты жизни села, управление сельскохозяйственными территориями, а также вопросы повышения качества профессионального образования.

Тем не менее, данный стратегический план не учитывает всех текущих темпов роста агропромышленного комплекса страны и специфику условий, в которых ему приходится функционировать [2]. На сегодняшний день сельское хозяйство в России представляет собой одну из самых современных и динамичных отраслей национальной экономики, отличающуюся высокой устойчивостью к внешним воздействиям и рентабельностью, которая в среднем колеблется от 15 до 20% по всем подотраслям [3].

Исследование в России показало, что в настоящее время сельское хозяйство не воспринимается молодёжью, как привлекательная сфера деятельности. Согласно опросу, проведённому кадровым агентством «Рекадро» в 2023 г., с участием более 40 тысяч респондентов, 21% участников заявили, что они не рассматривают возможность работы в сельском хозяйстве, 16% указали на отсутствие перспектив в сельской жизни, а 15% выразили сомнения относительно возможности получения достойной оплаты труда в агропромышленной отрасли, что снижает интерес к сельскохозяйственным вакансиям [1].

Рост привлечения внешней рабочей силы в агропромышленный комплекс Германии обусловлен рядом факторов. Во-первых, в новых федеральных землях наемный труд стал доминирующей формой занятости. Во-вторых, вследствие структурных преобразований, особенно заметных в старых федеральных землях, традиционные семейные фермы трансформируются в так называемые «расширенные семейные предприятия», где два-три члена семьи работают совместно с несколькими внешними сотрудниками [4]. Такая модель организации труда дает возможность фермерским хозяйствам расширять масштабы производства и использовать эффект экономии на масштабах для противостояния международной конкуренции.

Анализ возрастной структуры в Германии показывает, что работники сельского хозяйства значительно старше по сравнению с другими отраслями. Примерно 32% всех занятых в сельском хозяйстве старше 55 лет, тогда как среди общего работающего населения этот показатель составляет всего 18%. Возрастная структура управленческого состава также претерпела значительные изменения. Если в 1999 году 46% специалистов в фермерских хозяйствах были младше 45 лет, то к 2023 году их доля снизилась до 26% в то время, как доля сельскохозяйственных работников старше 55 лет возросла с 29% до 36%. Средний возраст работников в новых федеральных землях выше,

чем в старых, составляя соответственно 44 и 41 год, что усугубляет проблему дефицита квалифицированных кадров в этих регионах [4].

Таблица 1 - Сравнительная характеристика причин нехватки квалифицированных рабочих в сельском хозяйстве России и Германии в 2024 г. [2, 3, 5, 6]

Причины	Германия	Россия
Социально-демографические	Сдвиг в возрастной структуре населения: снижение доли младших возрастных групп и увеличение старших. Старение рабочей силы в сельском хозяйстве: значительная доля работников старше 55 лет, особенно в новых федеральных землях. Снижение доли молодых менеджеров. Урбанизация и миграция из сельской местности в города.	Демографическая тенденция (старение населения, миграция в гор ода). Схожие проблемы с привлечением молодежи в сельское хозяйство. Степень урбанизации и ее влияние на сельские территории.
Экономические	Структурные изменения в сельском хозяйстве (укрупнение хозяйств, технологический прогресс, возможно снижение потребности в низкоквалифицированном труде, но повышение спроса на высококвалифицированных специалистов). Относительно низкая заработная плата в сельском хозяйстве по сравнению с другими отраслями.	Структурные изменения в сельском хозяйстве России (например, развитие агрохолдингов). Уровень заработной платы в сельском хозяйстве в России относительно других отраслей. Уровень технической оснащенности сельского хозяйства в России и его влияние на потребность в рабочей силе.
Социокультурные	Негативный имидж сельского хозяйства в обществе: ассоциации с тяжелым физическим трудом, продолжительным рабочим днем и сезонными пиками. Расхождение в восприятии условий труда между людьми, занятыми в сельском хозяйстве, и теми, кто не работает в этой сфере (работники сельского хозяйства оценивают условия труда более позитивно).	Восприятие сельского хозяйства в российском обществе. Престиж сельскохозяйственных профессий среди молодежи.
Конкуренция на рынке труда	Усиление конкуренции за трудовые ресурсы из-за общего дефицита рабочей силы.	Уровень конкуренции за трудовые ресурсы в различных секторах экономики России.

Анализ социально-экономических трансформаций в аграрном секторе Германии выявляет тенденцию к дефициту высококвалифицированных кадров. Демографические процессы, такие как старение населения и снижение рождаемости, оказывают непосредственное влияние на сокращение трудовых ресурсов в сельском хозяйстве. Параллельно с этим, структурные изменения, связанные с модернизацией производства и ростом спроса на специфические компетенции, обуславливают необходимость привлечения внешней рабочей силы и усиливают напряженность на рынке труда.

Представленное исследование направлено на оценку восприятия проблемы дефицита квалифицированных кадров руководителями агрохолдингов и выявление возможных стратегий ее преодоления. Полученные данные свидетельствуют о том, что дефицит квалифицированной рабочей силы уже оказывает ощутимое влияние на функционирование аграрного сектора. Тем не менее, большинство опрошенных руководителей не ожидают, что эта проблема существенно усугубится в ближайшей перспективе в отношении их собственных хозяйств. Анализ причин трудностей с набором персонала показал, что низкая заработная плата и, как следствие, недостаточная конкурентоспособность сельскохозяйственной отрасли на рынке труда являются ключевыми факторами, препятствующими привлечению квалифицированных специалистов.

Урбанизация также способствует оттоку населения из сельской местности в города, что усиливает демографическое давление и усложняет привлечение подходящей рабочей силы для сельского хозяйства. Кроме того, низкий престиж профессий в сельском хозяйстве и общественное мнение об агропромышленной сфере, как о тяжелой и низкооплачиваемой работе снижают её привлекательность.

Производственные причины связаны со структурными изменениями в сельском хозяйстве. Постоянные преобразования в структуре сельскохозяйственных предприятий отражаются в изменении требований к квалификации и численности рабочей силы.

Нехватка квалифицированных рабочих в сельском хозяйстве имеет разнообразные причины, структурные и демографические изменения, проблемы с оплатой труда, а также социальные и производственные факторы. Социальные причины составляют общие демографические тенденции, характеризующиеся снижением численности молодежи и увеличением доли пожилых людей. Современные изменения приводят к тому, что в сельском хозяйстве, как и в других секторах экономики, становится сложнее находить достаточное количество квалифицированных специалистов для заполнения вакансий.

В России проблема нехватки квалифицированных кадров в АПК усугубляется большой территорией страны, диспропорцией в развитии сельских территорий, а также исторически сложившимся негативным имиджем сельских профессий. В Германии проблема дефицита кадров в АПК связана с высокой степенью механизации и автоматизации производства,

которая требует высококвалифицированных специалистов, а также с демографическими изменениями и оттоком молодежи из сельской местности.

Для достижения устойчивого экономического роста и поддержания необходимого уровня конкурентоспособности субъекты агропромышленного комплекса и государство должны сосредоточиться на решении следующих ключевых задач:

- Разработка эффективных систем управления производством и кадровыми ресурсами организаций, основной источник которых составляют сельские территории. Успешное развитие сельского хозяйства в России и её регионах невозможно без параллельного развития сельских территорий;

- Решение проблемы нехватки высококвалифицированных кадров, в условиях цифровизации экономики. Данная задача требует не только разработки образовательных программ для подготовки специалистов с необходимыми цифровыми навыками, но и организации целенаправленной поддержки выпускников в процессе их трудоустройства в организациях агропромышленного комплекса.

Возможные решения проблемы для России:

- повысить заработную плату сельскохозяйственных работников, улучшить условия труда, обеспечить социальные гарантии и перспективы карьерного роста.

- модернизировать учебные программы сельскохозяйственных вузов и колледжей, увязать их с потребностями современного агропроизводства, а также повысить квалификацию преподавателей.

- разработать программы по привлечению специалистов сельского хозяйства, а также создать для них благоприятные условия жизни и работы.

- ускорить процесс механизации и автоматизации производства в сельском хозяйстве, чтобы снизить физическую нагрузку на работников и повысить производительность труда.

- развитие агротуризма и других смежных отраслей позволит создать новые рабочие места в сельской местности и повысить привлекательность сельской жизни.

- разработать и реализовать государственные программы поддержки АПК, направленные на решение проблемы дефицита квалифицированных кадров.

Таким образом, проблема нехватки квалифицированных кадров в АПК требует комплексного подхода, включающего, как экономические, так и социальные меры. Путем совместных усилий государства, бизнеса и общества можно повысить привлекательность сельских профессий, обеспечить АПК необходимыми кадрами и обеспечить продовольственную безопасность страны.

Использованные источники:

1. Гааг А. В. Подготовка аграрных кадров в соответствии с требованиями нового технологического уклада «Агротех 4,0» / А. В. Гааг // Профессиональное образование в современном мире. 2024. Т. 14, № 1. С. 61-80.
2. Денисова Г. Привлечь и удержать. Кадровая проблема в АПК остается системной // Агроинвестор. 2023. https://www.agroinvestor.ru/markets/article/40934–privlech–i–uderzhat–kadrovaya–problema–v–apk–ostaetsya–sistemnoy
3. Дерин М. О. Изменения в методике работы с кадрами на предприятиях агропромышленного комплекса / М. О. Дерин // Экономико-управленческий конгресс : Сборник научных работ студентов, магистрантов, аспирантов по итогам международного научно-практического комплексного мероприятия, Белгород, 01–02 ноября 2023 года. – Белгород: Белгородский государственный национальный исследовательский университет, 2023. С. 49-53.
4. Gindele N., S. Kaps R. D. Betriebliche Möglichkeiten im Umgang mit dem Fachkräftemangel in der Landwirtschaft. In: Berichte über Landwirtschaft. 2016. Vol. 94 (1), p. 1–14.
5. Volkov V. I. Problems of providing qualified personnel for the agricultural complex of the region / V. I. Volkov, O. N. Zueva, V. I. Nabokov, K. V. Nekrasov // IOP Conference Series: Earth and Environmental Science, Yekaterinburg, 15–16 октября 2021 года. – Yekaterinburg, 2022. P. 012062.
6. Wang, W. Personnel management in agricultural formations: strategies, methods and challenges / W. Wang, A. Kurbanbaeva // Ізденістер, Нәтижелер. – 2024. No. 2 (102). P. 600-607.

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